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1.0 SAFETY AND ENVIRONMENTAL POLICY STATEMENT

Top Grade Construction Ltd. is committed to strong Environmental, Safety and Loss Control Programs designed to protect people, property and the environment. These programs incorporate the following:

- The three R's: Reducing the amount of waste created, Reusing, and whenever possible, Recycling.
- Management support of the industry-wide Guiding Principles for Worker Safety, which outline safety responsibilities for the oil and gas industry.
- Employee responsibility and accountability for the Company's overall safety initiatives.
- Contractor requirements to comply with all Company safety and environmental policies and procedures.
- Striving to meet all Federal and Provincial legislative requirements, as well as currently accepted industry standards in the areas in which we operate.
- All employees are expected to be familiar with the legislative requirements, and participate on both individual and team levels in meeting these standards.

Complete and active participation by everyone, every day, in every job, is necessary for the safety and environmental excellence this company expects.

Our goals are an injury and accident free workplace and a cleaner, healthier planet. Through teamwork, and continuous improvement efforts we can accomplish this goal.

A handwritten signature in black ink, appearing to read "G. Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

TOP GRADE CONSTRUCTION COMPANY RULES

Top Grade Construction wants to encourage a safe and pleasant working atmosphere. This can only happen when everyone cooperates and commits to appropriate standards and behaviors.

The following list of behaviors that the company considers unacceptable. Any employee found engaging in these behaviors will be subject to disciplinary actions as outlined in the company enforcement policy.

1. Failing to refuse unsafe work.
2. Failure to be at the work place, ready and able to work, at the designated start time.
3. Willfully damaging, destroying, or stealing property belonging to fellow workers or Top Grade Construction and affiliated companies.
4. Fighting or engaging in horseplay or disorderly conduct.
5. Leaving the work site without prior approval from your immediate supervisor.
6. Failing to carry out work activities set out by supervisor.
7. Coming to the work site under the influence of alcohol or drugs and the possession of such substances on the work site.
8. Intentionally giving any false or misleading information to obtain employment or a leave of absence.
9. Using threatening or abusive language towards another worker.
10. Smoking contrary to designated smoking areas set out by supervisor and client.
11. Willfully or habitually violating health and safety regulations and company policy's.
12. Failing to wear personal protective equipment outlined by Top Grade Construction and clients.
13. Being tarty or unexcused absence for work.
14. Not taking proper care of, neglecting, or abusing company equipment, property and tools.
15. Using company equipment in an unauthorized manner.
16. Possessing firearms and weapons on work site.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President

February 2, 2015



2.0 SAFETY RESPONSIBILITIES

2.1 COMPANY MANAGEMENT

- Insistence of safe and competent performance by all employees, sub contractors & consultants.
- Implement, maintain and update safety program annually.
- Ensure safety program and operations comply with legislation and contractual requirements.
- Provide sufficient time for employees and contractors to do jobs properly.
- Only hire individuals who have good safety records and competent job performance records.
- Only hire subcontractors that have good safety records and competent job performance records.
- Prequalify all subcontractors prior to hiring to ensure acceptable safety programs, safety training and documents and safety statistics (records).
- Set an example of expectations and standards.
- Provide a healthy and safe workplace.
- Ensure regular inspections of work-sites are conducted and documented.
- Correct unsafe conditions.
- Establish an incident/accident and near miss investigation team.
- Ensure all incidents/accidents and near misses are promptly investigated.
- Management will review and sign all hazard assessments, inspection and investigation reports.
- Report all lost-time injuries promptly to WCB.
- Report required occurrences to Workplace Health and Safety.
- Ensure employees are properly trained.
- Verify employee competency.
- Ensure that all supervisors/foremen have taken and understood the Alberta Construction Safety Association's Leadership for Safety Excellence course.
- Ensure that required Personal Protective Equipment is available and used.
- Ensure that employees are properly trained in the use and maintenance of personal protective equipment.
- Ensure that first aid equipment, supplies and treatment are available.
- Ensure that employees and contractors comply with all applicable legislative regulations.
- Ensure that visitors to job sites are properly instructed as to safety requirements and their responsibilities.

The Manager's performance in the above section will be documented in his/her Performance Appraisal, which will be used to determine if the job requirements are being met.

2.2 SUPERVISORS / FOREMEN

- Set a good example.
- Promote health and safety awareness.
- Enforce safety rules.
- Conduct hazard assessments on sites.
- Ensure that written arrangements are in place to transport injured or ill workers from the work site to the nearest health care facility prior to starting work and documentation is accessible to the workers.
- Arrange for medical treatment when required (including transport).
- Establish a safe work plan.
- Conduct regular (i.e. minimum monthly) safety and tailgate meetings.
- Establish safe work procedures.
- Correct unsafe and substandard work practices and conditions.
- Instruct staff in safe work procedures and practices.
- Ensure all new employees have received a “New Hire Orientation” including a review of the company safety manual before allowing them to start work.
- Verify worker competency for work assigned.
- Detect troubled employees.
- Regularly inspect worksites for hazards.
- Report in detail all incidents/accidents and/or near misses to safety officer on required forms on a timely basis.
- Investigate all incidents/accidents and near misses.
- Ensure proper use and maintenance of equipment, tools and worksite.
- Enforce use of all protective devices, personal protective equipment and safety procedures.
- Follow-up on corrective actions identified during hazards assessments, inspections and investigations.
- Ensure all subcontractors are pre-qualified before allowing to work.
- Ensure and document that all subcontractors are included in pre-job and kick-off meetings and safety orientations.
- Ensure and document that all subcontractors are included in tailgate meetings, hazard assessments and site inspections.
- Complete a subcontractor post-job safety performance review and document.
- Comply with all legislative regulations.
- Ensure that visitors to job sites are properly instructed as to safety requirements and their responsibilities.

The Supervisor’s performance in the above section will be documented in his/her Performance Appraisal, which will be used to determine if the job requirements are being met.



2.3 EMPLOYEES / WORKERS

- Set a good example.
- Use safe work procedures and practices.
- Report unsafe or substandard practices, conditions, or hazards to Supervisor/Foreman/Management.
- Correct unsafe or substandard practices and conditions. Understand that you have the right to refuse unsafe work. (See section 2.6)
- Wear appropriate personal protective equipment.
- Comply with all applicable site rules and regulations.
- Comply with all company safety policies.
- Complete all required documentation from Daily Tailgate Meetings.
- Sign all Tailgate and Safety Meeting attended.
- Complete and document a visual inspection before operating any mobile powered equipment (including trucks) and the surrounding area to ensure everything and everyone is safe.
- A worker must not start any mobile powered equipment (including trucks) if the visual inspection is not completed.
- Workers must report and document any conditions effecting the safe operation of equipment to the foreman.
- Workers must operate equipment safely and maintain full control of the equipment at all times.
- Workers must not leave the controls of mobile powered equipment unless the equipment is secured against unintentional movement by an effective means of immobilizing it.
- While operating equipment, workers must use seat belts and other safety equipment and ensure any passengers in the equipment also use them.
- Cell phones and other portable devices are not to be used while operating mobile equipment and vehicles.
- Ensure that power mobile equipment (including trucks) are kept free of objects that could interfere with the operation or create a hazard. (No loose garbage or object)
- Workers must not operate powered mobile equipment (such as forklifts, post pounders, all terrain vehicles and tank trucks) unless competently trained.
- Workers must not smoke within 7.5 meters of a vehicle or equipment while it is being refueled or refuel within 7.5 meters of a source of ignition.
- Immediately report all injuries, incidents, accidents and/or near misses to Supervisor/Foreman/Management.
- Make safety suggestions.
- Cooperate with Supervisors, Foremen, and Management through involvement in all aspects of the health and safety program including attendance at Safety Meetings.
- Ensure that visitors to job sites are properly instructed as to our safety requirements and their responsibilities.

The employee's performance in the above section will be documented in his/her performance review, which will be used to determine if the job requirements are being met.

2.4 VISITORS

- Follow instructions given by escort/supervisor.
- To be always under the supervision of escort/supervisor
- Wear appropriate personal protective equipment when required.
- Obtain a site safety orientation.
- Comply with all applicable rules and regulations.
- Complete Visitor Orientation Sheets
 - Visitor Orientation
 - Review Visitor Orientation Review Sheet with Site Supervisor/Foreman
 - Visitor Safety Courses Checklist
 - Visitor Safety Orientation Questionnaire

Visitor compliance is mandatory in order to remain on site. Visitors who do not comply with these rules will be removed from site.



2.5 CONTRACTORS AND SUBCONTRACTORS

- Insist on safe performance throughout operations.
- Have an effective safety program.
- Prior to start work, complete Sub-Contractor Orientation Sheets
- Sub-Contractor Orientation
- Review Sub-Contractor Orientation Review Sheet with Site Supervisor/Foreman
- Sub-Contractor Safety Courses Checklist
- Sub-Contractor Safety Orientation Questionnaire
- Sub-Contractor Internal Safety Audit
- Provide pre-qualification information before being work (Safety programs, safety training documents and safety statistics).
- Ensure that employees and subcontractors meet the contractor's and operating company's safety expectations.
- Ensure that programs and operations comply with legislative regulations.
- Provide the time and resources required for employees and subcontractors to do their work both properly and safely.
- Present proof of Partnerships Certification (COR) or health and safety program.
- Have required personal protective equipment available for employees
- Fire retardant coveralls with striping
- Hard helmet
- Safety glasses
- Steel toed safety boots
- Ensure employees have been trained in use and maintenance of personal protective equipment.
- Ensure employees have been trained in all aspects of the work to be performed.
- Participate and sign off of all pre-job or kick off meetings and safety orientations.
- Participate and sign off in all tailgate meetings, hazard assessments and site inspections.
- Obtain a site safety orientation.
- Top Grade Construction must ensure they obtain proof of Workers Compensation coverage from the subcontractors. Subcontractors who are not required to have WCB coverage must obtain approval from their Client before they are allowed to enter the work site.
- Subcontractor must have a written health and safety manual. In the event that they do not have a health and safety manual, Top Grade Construction will be responsible for making sure the subcontractor is aware of applicable health and safety policies, procedures and regulations. Subcontractors will fall under the Top Grade Construction health and safety program and will be provided with an up to date manual that is to accompany all subcontractors working on and Top Grade Construction work site.

- Top Grade Construction will make aware and provide training and support to subcontractors the client's drug and alcohol policy. Subcontractors must adhere to the requirements of the drug and alcohol policy at all times while at the work site.
- Provide proof of insurance coverage.
- Participate in a post-job safety performance review with the site foreman/supervisors.
- Incident Reporting – Top Grade Construction will ensure that subcontractors are aware of incident reporting requirements. Subcontractors must report all incidents to the Top Grade Construction. If a subcontractor is involved in an incident, Top Grade Construction is responsible for reporting the incident to the Client. Top Grade Construction will ensure the incident is investigated.



2.6 RIGHT OF REFUSAL

Each worker has the right and responsibility to refuse to proceed with tasks he/she deems to be unsafe, and has a responsibility to co-workers to ensure they do not proceed with tasks they deem to be unsafe.

Follow these procedures:

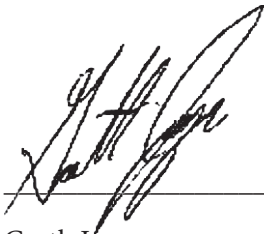
- Stop all operations and discuss the situation with your immediate supervisor in a professional manner. Most problems are due to a lack of communication and another procedure may be found to perform the task safely.
- If a safe procedure has not been agreed upon call the office. The Operations Manager will assist with communication between the office and the onsite supervisor. The onsite supervisor may not be able to communicate his situation to you but he may be able to discuss the situation with the Operations Manager. Under no circumstances shall any worker get into heated debates with supervisors or leave the lease. The only time a worker should leave an area is if there is imminent danger.
- If a solution has not been agreed upon, the office personnel will investigate the incident thoroughly and at that time will make a decision. All work will not continue until corrective actions have been made. Then work will resume. Workers shall conduct themselves in a professional manner. If a supervisor is causing unsafe working conditions he/she will be dealt with by the company he/she represents and/or the law.

OH&S Acts 32, 35: Existence of imminent danger.

2.7 ENFORCEMENT POLICY

The following is a system that Top Grade Construction Ltd. will implement for consistently enforcing our safety program. Before administering this enforcement policy, we will ensure that all employees are receiving adequate training in the areas that are to be enforced (i.e. rules, regulations, practices and procedures). Minor violations will be handled in an objective, but firm manner and employees will be instructed what the enforcement policy is upon commencement of employment. However, immediate dismissal may result if, in the opinion of the Operations Supervisor and/or Manager, the severity of the infraction warrants it.

1st Offense	-	reprimand
2nd Offense	-	one day suspension
3rd Offense	-	subject to dismissal



Garth Janzer
President & CEO

February 2, 2015

3.0 HAZARD CONTROL (RULES AND REGULATIONS)

3.1 HOUSEKEEPING

Good housekeeping in an individual shows that he or she cares about themselves, others, company property and the environment that they work in. A work site must be kept clean and free from waste, materials, or equipment that could cause workers to slip or trip.

- All tools should be stored in the toolbox when not in use.
- All equipment, materials and waste will be properly taken care of immediately after it has been consumed or used.
- All employees will maintain orderliness in their work.
- Returning things to where they belong – immediately.
- Picking up tools.
- Putting equipment and materials away.
- Putting garbage in a can or container.
- Moving equipment out of a walking path.
- Cleaning up oil and grease.
- Coiling up hoses and keeping them out of walking paths.
- Noticing clutter and doing something about it.
- Management will clearly communicate to their employees their expectations for housekeeping on site.
- Where equipment is dirty, consideration will be given to the type of work being performed for the customer.
- Management recognizes that the quality of housekeeping directly relates to the Operations Supervisor and his crew's ability to control all types of losses and improve efficiency and quality of workmanship.
- Related poor housekeeping will be considered grounds for a Performance Evaluation.
- The Field Foreman will dispose of garbage from the site so that there is no unsightly accumulation of waste debris.
- All employees will refrain from throwing garbage from their vehicles and they will secure their cargo so that it will not fly out of their vehicles and litter the environment.

3.2 PERSONAL PROTECTIVE EQUIPMENT POLICY

Top Grade Construction Ltd. supplies necessary personal protective equipment for its employees. Contractors and Sub Contractors are responsible for providing and maintaining personal protective equipment for their employees.

Personal protective equipment appropriate for the work to be done must be worn. Failure or refusal to use the proper protective equipment is cause for disciplinary action up to and including termination of employment.

The following will be observed and practiced by the company's employees, guests and visitors when in areas deemed to be hazardous:

- All employees, visitors and guests will wear CSA approved safety glasses, safety boots, long trousers, Fire retardant coveralls, hard hats, gloves, hearing protection and other specialty PPE as required and trained.
- Clothing worn beneath fire retardant coveralls and/or high visibility vests (job specific only) and against the skin must be made of flame resistant fabrics or natural fibers that will not melt when exposed to heat. Examples of natural fibers are wool, cotton and silk.
- Safety boots must meet CSA standard Z195-02 Protective Footwear. The boots must have a steel toe, puncture resistant sole, slipping, uneven terrain, abrasion, ankle protection and foot support, and temperature extremes.
- Hard Hats -CSA Standard CAN/CSA-Z94.1-92 (R1998) or ANSI Standard Z89.1-1997 & -2003 will be provided for you to wear and must be worn on the job site. If lateral impact hard hats are required on the site, these hard hats will be provided and must be worn. Hard hats may only be removed in the cab of a vehicle, equipment or office trailer that provides overhead protection. Bump hats may be worn in the shop while repairing vehicles and equipment.
- The appropriate gloves are to be worn to protection your hands and skin from hazards associated with your task.
- Leather aprons are to be worn when using the welder.
- All PPE used will meet CSA standards and Alberta Occupational Health and Safety Requirements. It will be in good condition and maintained according to manufacturer's instructions.
- Prescription eyewear may be worn if it is safety eyewear, meets the CSA Standard for Industrial Eye and Face Protectors (CAN/CSA-Z94.3-92 or Z94.3-99), or Eye and Face Protectors (Z94.3-02) and is appropriate to the work and the hazard involved.
- Prescription safety eyewear having bifocal, trifocal, or progressive glass lenses must no be used if there is danger of impact unless it is being worn behind equipment meeting the above CSA standards.
- If the use of plastic prescription lenses is impracticable, and there is not danger of impact, a worker may use lenses made of treated safety glass meeting the ANSI Standard Z87.1-1989 or Z87.1-2003 Practice for Occupational and Educational Eye and Face Protection.
- If wearing contact lenses poses a hazard to the worker's eyes during work, the workers will be advised of the hazards and the alternatives to wearing contact lenses. Safety glasses must still be worn to protect your eyes.



- PPE will be inspected and signed off by employees at time of issue. Employees will check PPE before each use to ensure that it is fit for use.
- Care and maintenance: Check PPE for: Hard hats: with cracks, dents. Safety glasses: scratched, broken. Coveralls: Rips, tears. Safety boots: no covering on steel toe. Gloves: ripped or torn.
- All PPE that is of questionable reliability, damaged, or in need of service or repairs will be removed from service immediately. Upon removal from service, PPE will be tagged "Out of Service". PPE that has been tagged will not be returned to service until repaired and inspected by qualified personnel.
- The company will maintain appropriate inspection service logs for specialized PPE.
- Due to the safety sensitive nature of our operation you must report to work free of facial hair that would adversely affect the use of respiratory equipment. Even ONE DAY'S hair growth reduces the effectiveness of the seal.
- Personnel working around rotating equipment or machinery must not wear loose-fitting or ragged clothing, jewelry, or watches, as these items may catch and cause serious harm.
- Do not wear soiled clothing in living quarters. Clothing soiled with hydrocarbons should not be kept in confined areas, as they may ignite spontaneously. Clothing contaminated with hydrocarbons should not be in contact with the skin for a prolonged period of time.

The following list represents the minimum PPE requirements at any operating site:

- Hard Hat
- Safety Glasses
- Face Shield (If working as ground man for Microenfractionator™)
- Fire Retardant Coveralls with Visibility Stripes (Proban or Proban Treated)
- High Visibility Vest may be worn Pending on Project (please contact company HS&E department for details)
- CSA Approved Work Boots (6 inch boot)
- Work Gloves (When changing blades on Microenfractionator™)

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

3.3 PERSONAL PROTECTIVE EQUIPMENT

Duty to Use Personal Protective Equipment

Top Grade Construction has a PPE program in place that is reviewed annually to ensure workers who wear personal protective equipment are instructed in the correct use, limitations and maintenance of the equipment. Employees/contractors are responsible for wearing PPE supplied to them by management. The PPE must be selected and used in accordance with recognized standards, provide effective protection, be compatible with other PPE items worn, be maintained in good working order and sanitary conditions and in itself not create a hazard to the wearer. Top Grade Construction will provide all PPE needed to perform the work safely and required by the provincial regulations at no cost to the worker except safety foot wear and fire retardant coveralls. The PPE will be at the worksite before work begins.

The employee must use the equipment in accordance with the training and instruction provided. The equipment must be inspected before use and the worker should refrain from wearing the PPE outside of the work area where required if in itself it would create a hazard. Persons responsible for maintaining or storing personal protective equipment must do so in accordance with training and instruction.

Employees/contractors are also responsible for preventing damage and reporting any defective PPE to their supervisor. The employer/contractor will immediately repair or replace any Personal Protective Equipment returned. The worker is responsible to supply proper clothing for protection against natural elements, safety foot wear and fire retardant coveralls. PPE required at company/client locations include, but is not limited to:

Eye Protection (Compliance with standards 229 (1) of the code)

Eye protection and/or face shields must be worn for the following tasks:

- All work areas (excluding office areas) in Top Grade Construction shop and yard areas (including walk through by company employees/contractors and visitors) – safety glasses;
- Machine repair work – safety glasses;
- Hand and power tool use – safety glasses with side shields or face shields;
- Chemical use – safety goggles and full face shield if using acids, caustic and dangerous chemicals;
- Water spray/steam cleaner use – safety goggles/full face shield;
- Welding/cutting – welding goggles and/or helmet (barriers shall also be used if non-welding personnel are located near the welding area);
- Outdoor maintenance (cleaning tracks, fueling) – safety glasses or goggles;
- Indoor maintenance (i.e. changing light bulbs, painting, plumbing, etc.) – safety glasses; and
- Any work using compressed air/gas – safety goggles and additional PPE for use of gas.
- Where a tool or equipment is under known pressure or suspected to be under pressure, the worker needs to wear both safety glasses and face shield.

Employees/contractors shall clean eye protection equipment regularly and check before every use for cracks, scratches, pits or fading. Badly chipped, scratched or pitted lenses indicate that the surface is broken and shall not be used.



Contact Lenses

- 230 An employer must ensure that, if wearing contact lenses poses a hazard to a worker's eyes during work, the worker is advised of the hazards and alternatives to wearing contact lenses.

Employees/contractors are prohibited from wearing contact lenses in areas where they may be exposed to fugitive emissions/vapors. (H2S environments etc.)

Top Grade Construction will provide nonprescription safety glasses for all employees to use on customer sites as required. (Through Company Benefits)

Flame Resistant Clothing

- 231 (1) If a worker may be exposed to a flash fire or electrical equipment flashover, an employer must ensure that the worker wears flame resistant outerwear and uses other protective equipment appropriate to the hazard.
- (2) A worker must ensure that clothing worn beneath flame resistant outerwear and against the skin is made of flame resistant fabric or natural fibres that will not melt when exposed to heat.

If the employee leaves Top Grade Construction, they must return their fire retardant clothing to their Forman/manager. No exceptions.

Outer Garments (Parkas, Jackets, etc. worn over FR Clothing) Any clothing worn over flame-retardant clothing/coveralls shall also be flame retardant. Outer garment types/materials, which are acceptable, are clothing made of flame-retardant material (Nomex IIIA, or Indura Ultra soft).

Special Clothing

Where a worker is welding, using a torch or other equipment where sparks, molten metal is a hazard. Special clothing, PPE, or other safeguards must be used to reduce the injury hazard.

Where there is a possibility of a puncture, irritation or abrasion to the lower body, lower body safety pants must be worn.

When a worker is working in an area where vehicles are travelling at speeds above 30 km/h, high visibility garments must be worn. These garments must have reflective striping that meets the provincial OHS regulations where the work is being completed. The Top Grade Construction coveralls meet these requirements.

Foot Protection (Foot wear)

- 233 (1) an employer must ensure that a worker uses footwear that is appropriate to the hazards associated with the work being performed at the worksite.

For protection of feet and legs from falling or rolling objects, sharp objects, hot/wet surfaces, Top Grade Construction workers shall be required to wear foot wear that meets the requirements of CSA Standard CAN/CSA-Z195-M92(R2000) which extend two inches (50mm) above the ankle to protect against ankle injury.

Protective footwear must be used anytime work is performed in all Top Grade Construction shop and client company work locations.

The worker is responsible to supply the safety foot wear.

Head Protection

Employees/contractors must wear protective headgear when working in industrial areas and wherever the field supervisor or Client Company deems appropriate.

- 234 (1) Subject to sections 235,236, and 237, if there is a foreseeable danger of injury to a worker's head at a work site and there is significant possibility of lateral impact to the head, an employer must ensure that the worker wears industrial protective headwear that is appropriate to the hazards and meets the requirements of
- a. CSA Standard CAN/CSA-Z94. 1-05, Industrial Protective Headwear or
 - b. ANSI Standard Z89.1-2003, American National Standard for Industrial Head protection for Type II head protection.

Top Grade Construction will supply a hard hat for employees who require one because they work at customer locations where hard hats are necessary.

Hand/Arm Protection

Many injuries in the workplace happen because hand/arm protection is either not worn or is inadequate for the type of hazard encountered. Tasks in which gloves shall be used include but are not limited to:

- Exposure to blood – latex gloves;
- Chemical use – chemical-resistant rubber gloves;
- General handiwork – leather or heavy canvas gloves;
- Steam cleaner use – rubber gloves;
- Scrapping off old stickers, logos or decals – leather gloves;
- Welding/cutting – approved welding gloves; and
- Outdoor maintenance (grounds keeping activities) – appropriate gloves (work or chemical resistant).

Make sure gloves fit properly and are free of rips and holes before using. Reusable gloves shall be cleaned often to prevent accumulation of flammable materials.

Hearing Protection

The purpose of the hearing protection standard is to protect employees and contractors from harmful noise exposure when sound levels exceed the Noise Permissible Exposure Limits.

Local Occupational Exposure Limits (OELs) in Table 1 of the OH&S Code Schedule 3 will be adhered to. Hearing protection identified in Table 2 will be utilized at all Top Grade Construction operating sites.



Local Occupational Exposure Limits define the maximum permitted daily exposure to noise without hearing protection. The Occupational Exposure Limits (OELs) adopted by Top Grade Construction are as follows:

Table 1 Personal Protective Equipment and It's Use

TABLE 1	
Exposure Level (dBA)	Maximum Permitted Duration (per day)
82	16 hours
83	12 hours and 41 minutes
84	10 hours and 4 minutes
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
106	4 minutes
109	2 minutes
112	56 seconds
115 and greater	no exposure allowed

Note: Exposure levels and exposure durations to be prorated if not specified.

The exposure levels shown in this section meet or exceed the requirements of Occupational Health and Safety and Worker's Compensation regulations in British Columbia, Alberta and Saskatchewan. These levels have been adopted to ensure program consistency throughout the organization.

Top Grade Construction shall stock foam fitting (ear plugs) at each base station. All line trucks shall carry hearing protection, plugs and muffs for use in areas above 80 dbA.

TABLE 2 Selection of Hearing Protection Devices [see subsection 222(1)]

Maximum Equivalent Noise Level (dBA L _{ex})	CSA Class of Hearing Protection	CSA Grade of Hearing Protection
≤ 90	C, B or A	1, 2, 3 or 4
≤ 95	B or A	2, 3 or 4
≤ 100	A	3 or 4
≤ 105	A	4
≤ 110	A ear plug + A or B earmuff	3 or 4 earplug + 2, 3 or 4 earmuff
>110	A plug + A or B earmuff and limited exposure time to keep sound reaching the worker's ear drum below 85 dBA L _{ex}	3 or 4 earplug + 2, 3 or 4 earmuff and limited exposure time to keep sound reaching the worker's ear drum below 85 dBA L _{ex}

“dBA Lex” means the level of a workers total exposure to noise in dBA, averaged over the entire workday and adjusted to an equivalent 8 hr. exposure based on a 3 decibel exchange rate and measured in accordance with section 227. All hearing protection devices must meet CSA Z94.2-02 and be cared and maintained to meet this standard.

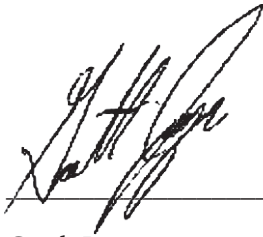
Equipment	To Be Used
Burning goggles	When oxy-acetylene welding, burning or cutting.
Chemical goggles	When handling hazardous chemicals which may splash or leak.
Chemical suits and/or aprons	When mixing corrosive chemicals.
Cold weather clothing	When working in extreme weather conditions.
Dust masks	When working around heavy concentrations of dust and other airborne particles.
Face Shields	When handling corrosive chemicals, inspecting fire boxes, working on pressurized equipment, using high pressure water, arch welding or performing any operation that may put the face at risk from flying objects, extreme temperatures, splashed acid or caustic substances.
Fire retardant clothing	When working in areas with potential for explosion or flash fire as defined by occupational health and safety regulations.
Gloves	When handling sharp objects, chemicals, hot or cold objects or ropes and cables.
Hard hats	On all worksites where overhead hazards exists.
High visibility safety vests	When working with traffic or around mobile equipment.
Hearing protection	When working at sites with noise levels greater than legislated limits for unprotected exposure.

Safety goggles	When welding, cutting, drilling, grinding or performing any operation with potential exposure to chemical splash or leak, flying objects or excessive heat or light.
Safety helmets	When riding all-terrain vehicles or snowmobiles.
Safety toed footwear	When feet are at risk from falling objects or other hazards at field/shop sites.
Oxygen and other monitors	When working in confined spaces or in areas with potential for explosion or flash fire.
Personal flotation devices	When working over water or on water, or near water's edge.
Respiratory protective equipment	When there is potential for exposure to oxygen deficiency or toxic gases exceeding regulated exposure limits.
Safety belts, lanyards and lifelines	When working from swinging scaffolds, boatswain's chair, suspended cages or at heights specified by occupational health and safety regulations.

3.4 DRUG AND ALCOHOL POLICY

Top Grade Construction Ltd. does not condone the use of alcoholic beverages or non-prescription drugs on any working site, or employees or visitors under the influence of these. The possession or use of these substances on the job will result in automatic dismissal. Employees are required to notify their supervisor of any medication they are taking which could affect their work performance.

(Refer to Drug and Alcohol Policy Below)

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer

President & CEO POLICY RELATED TO DRUGS AND ALCOHOL

February 2, 2015



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POLICY RELATED TO DRUGS AND ALCOHOL

Effective Date: April 2, 2012

SUBSTANCE ABUSE POLICY

1. POLICY STATEMENT

Top Grade Construction Ltd, (collectively referred to as the “Company”) is committed as a matter of policy to having a workforce and workplace that is free from unauthorized, prohibited, illegal or controlled substances, including alcohol, drugs, and other illegal or restricted chemicals.

Involvement with substances of abuse (i.e., alcohol, drugs or chemicals) does compromise employee safety, public safety, environmental safety, and the security of Company operations, take its toll on job performance and clients interest. The Company expects employees to perform their duties safely and efficiently. The Company encourages employees who have a substance abuse problem to seek assistance through a substance rehabilitation program. The program affords an opportunity for assistance to be provided on a confidential basis.

The Company is committed to informing employees of the existence of this policy and to taking such other steps as are reasonable to inform its employees of the risks associated with the use of alcohol and drugs and the assistance available by an approved rehabilitation program.

Accordingly, it is important to note the following:

1. Employees are prohibited from engaging in activity that would contradict the goals of this Policy.
2. All employees are expected to be fit for duty and in a condition to carry out their assignments and responsibilities. It is therefore a violation of this Policy for employees to work or to be on Company premises or assignment while under the influence of any substance in excess of the Threshold Detection Levels referenced to in Article 4 of this policy.
3. The consumption, use, manufacture, dispensation, possession, distribution, promotion, provision, purchase, sale, transportation, concealment, transfer or storage of unauthorized, prohibited, illegal, or controlled substances and/or substance-related paraphernalia while performing Company work, on Company assignment or on Company premises, is strictly prohibited.
4. Company employees shall not attempt to destroy or tamper with drug-testing specimens or records or adulterate specimens.
5. An employee must make sure that when he or she is using a prescription or over-the-counter product (whether physician-approved or not) that it doesn't affect work performance by altering the mind, mood, behavior, emotions, reasoning performance or physical job functions.
6. Right of access to search for any unauthorized, prohibited, illegal or controlled substances or paraphernalia found on Company property may be turned over to appropriate law enforcement authorities in lieu of searches.



7. All contractors, visitors, vendors, consultants or other individuals working on Company property or on Company assignment must comply with this Policy. While the Company has no direct control or direct interest in the personal actions or discipline of contractor employees or any outside vendors, these persons can affect Company employees and property. Any contractor employee, consultant or vendor found or suspected to be in violation of this Policy will be dealt with through the appropriate contractor management and will be denied access to the job site or work assignment by the Company. Visitors found or suspected to be in violation of this Policy will also be denied access to Company property.
8. Violations of this Policy may result in disciplinary action up to and including termination of employment.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

2. APPLICATION OF THE POLICY

APPLICANTS OR PROSPECTIVE EMPLOYEES

All new hires, persons transferring into a safety sensitive position, or being reinstated after a payroll separation of more than one month will be immediately subject to all of the terms and conditions of this Policy.

EXISTING EMPLOYEES

All persons who are Company employees on the effective date of this Policy will be subject to all of the terms and conditions of this Policy.

3. SUBSTANCE TESTING

PRE-ACCESS/PRE-EMPLOYMENT

All new hires will be subject to substance testing where the prospective employee has been offered a “safety-sensitive position” within the Company, or promoted, or transferred into a “safety-sensitive position”. Under some contractual conditions employees will be subject to alcohol and drug testing prior to entering or remaining on a clients assignment. Pre-access testing may be required to be repeated if employee access onto a client assignment has been more than six weeks or as per client’s request.

REASONABLE SUSPICION OR CAUSE

Positions within the Company where impairment clearly impacts the ability of an employee to safely complete their duties and there is a reasonable cause, suspicion or belief that an individual employee may be using illegal or controlled substances or when job performance appears to have changed, become erratic or impaired they may be subject to substance testing with 4 hours from the time of the observable suspicion.

POST INCIDENT/ACCIDENT

Any employee may be subject to drug and alcohol testing after a significant incident, accident, near miss or safety violation involving the employee. Any individual or individuals involved in an incident/accident/near miss, which, at the supervisors discretion could have contributed to the incident. Testing may also occur at the client’s discretion while on client property or assignment.

Testing will be conducted as soon as reasonably practicable following the incident. If the testing does not occur within four (4) hours after the incident it shall be documented with a valid reason for the delay.

RETURN TO WORK AND FOLLOW-UP

Any employee who has previously failed any drug or alcohol test administered by this Company and who has undergone a counseling or a rehabilitation program for substance or alcohol abuse, and has successfully completed such a program to the satisfaction of the substance abuse professional, and who then returns to employment with the Company shall be subject to a return-to-work test and follow-up testing as required by the substance abuse professional.



4. TESTING PROCEDURES AND CONFIRMATION TESTS

Test samples will be collected by qualified staff, reviewed by a Medical Review Officer/Physician and kept confidential with only the interpretation of the results to the appropriate company contact. Approved methods of Immunoassay screening testing with GC/MS confirmation of all positive tests by a designated, accredited and approved laboratory will be completed. A consent form will be obtained and stored in the employee's file.

SUBSTANCES AND THRESHOLD DETECTION LEVELS:

Substance	Detection Levels
1. Amphetamines	-1,000 ng/mL
2. Opiates	-2,000 ng/mL
3. Cannabinoids (THC metabolites)	-50 ng/mL
4. Cocaine	-300 ng/mL
5. Phencyclidine (PCP)	- 25 ng/mL
6. Alcohol	- 0.04 G/210L breath

5. CONSEQUENCES OF NON-COMPLIANCE WITH THIS POLICY

The Company will not permit any employee to perform safety-sensitive functions, if it has been determined that an employee has violated this Policy. When the employee violates this Policy he/she will be suspended immediately without pay and reinstated only after referral, evaluation and treatment are completed to the satisfaction of the Company and a negative substance test result and/or negative alcohol test result has been completed. In some cases the employee will be permanently removed from client assignment under certain contractual agreements.

The Company may discipline or terminate for cause the employment of an employee who fails to comply with the alcohol and drug policy. The appropriate consequence depends on the facts of the case, including the nature of the violation, the existence of prior violations, the response to prior correction programs and the seriousness of the violation.

6. REHABILITATION

COUNSELING AND REHABILITATION

Employees who voluntarily admit to having a substance problem or who test positive are required to enroll in a rehabilitation program approved by the Company, providing there are no other violations of this or any other Policy and providing that the employee has not previously been through a rehabilitation program while employed by the Company. This opportunity to treatment or rehabilitation should be commenced within thirty calendar days. Employees who participate in an approved rehabilitation program must provide proof of successful completion of their rehabilitation and a negative test (return-to-work) and follow-up substance tests as recommended by the substance abuse professional. Any failure to participate and complete the rehabilitation, and/or provide the appropriate test results may result in discipline or termination for cause due to the employee's failure to comply with the Alcohol and Drug Policy.

7. PRESCRIPTION AND OVER-THE-COUNTER MEDICINES

An employee in a safety-sensitive position must ask their doctor if any prescribed medication will affect their ability to perform their job safely. If any medication seems to be interfering with the employee's ability to perform the job, the employee must immediately cease their activity and report this to their immediate supervisor.

8. GLOSSARY OF TERMS

The following terms, which are used in the Policy, have generally accepted meanings. The definitions and examples below are illustrative. They are not intended to be, nor should they be, construed as exclusive of any other consistent interpretation.

“abuse”: The use of any substance in a manner that may tend to incapacitate, impair or influence an individual, or the use of any substance in a manner that deviates from the medical or legal norms or from Company rules, policies or expectations. This includes recreational use of a substance, as well as dependence or addiction to a substance. It also includes misuse of substances that are permitted legally authorized or uncontrolled.

“alcohol”: Any fermented or distilled spirits containing ethyl alcohol or other low molecular weight alcohol's including methyl and isopropyl alcohol, such as beer, wine, wine coolers, blended or distilled spirits, fermented ales, etc. Alcohol is generally included in the term “substance”.

“approved rehabilitation program”: A substance rehabilitation and maintenance program that is recognized and meets the criteria established by the “substance abuse professional”.

“Company”: Refers to “Top Grade Construction Ltd.”

“company premises”: Includes all property, offices, facilities, land, parking lots, buildings, structures, fixtures, installation, areas, boats, vessels, aircraft, automobiles, trucks and any other vehicles, equipment or property, whether owned, leased, used or controlled by a Company entity. Also includes all models of transportation whether owned, leased, provided by or rented by any Company entity or employee. Also includes an employee's private mode of transportation while used for Company work or located on Company premises.

“contractor”, “vendor”, “consultant”, “visitor” or “other individual”: All persons under the direction of or under contract to an independent contractor or subcontractor, including the owner or manager of the independent operations, and also including suppliers, visitors and other persons working on Company premises or performing Company work.

“possession”: Means to have either in or on the person or personal effects.

“safety sensitive position”: Means a position having duties, as defined by the employer, involving responsibilities affecting such matters as health, personal safety, safety of other people or of the environment, or other responsibilities requiring a high degree of trust and confidence or working in isolation with limited supervision.



“substance of abuse”: Alcohol, drug(s), chemical(s) or other substances. These terms may be generally used interchangeable and the term “substance” may be used to refer to alcohol, drugs, chemicals and substances in the Policy or in communications relating thereto.

“unauthorized prohibited, illegal or controlled substances”: Substances that may affect or may have the propensity to affect a user in a manner which will alter the minds, mood, behavior, emotions, reasoning, performance or physical functions of the user, whether or not such substances are restricted by the law.





Abuse Reporting Form

Complaint Information

Last Name	First Name	Phone Number
-----------	------------	--------------

Date / Month / Year of Incident: _____

Time of Day: _____

Alleged Abuser(s)

Name, if known: _____

Co-Worker Visitor Other: _____

Names of witnesses and/or those providing assistance

<input type="checkbox"/> Co-Worker	<input type="checkbox"/> Visitor	<input type="checkbox"/> Other:
------------------------------------	----------------------------------	---------------------------------

<input type="checkbox"/> Co-Worker	<input type="checkbox"/> Visitor	<input type="checkbox"/> Other:
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Description

Give a thorough description of the incident (what happened, where it occurred, what led up to the incident, who else was present, what action was taken at the time).

Medical Attention Required

Yes No

The purpose of this form is to document your claim to assist in a thorough investigation of the complaint.

Signature of person reporting incident Today's Date

Upon completion, please forward to: _____

Controlled Document: HSE Dept.

Last Reviewed by HS&E: January 2015



Abuse Data Reporting Form

The purpose of this form is to assist employers to gather statistical information. Standardize recording of this information can be used to track industry trends.

Complaint Information

Age: _____ Gender: Male Female

Years of experience: _____

Employment status: Full-time Part-time Relief / Casual

Shift Start Time: _____ Shift End Time: _____

Site / Department: _____

Alleged Abuser Data

Status: Co-Worker Visitor Other: _____

Age: _____ Gender: Male Female

Incident Data

Date of incident: _____ Date of reporting: _____

Type of incident: Verbal abuse e.g. yelling, swearing, name-calling _____

Physical aggression against objects _____

Physical abuse _____

Sexual harassment _____

Other (please specify) _____

What injury or trauma, if any, resulted from the incident?

Physical injury (describe) _____

Emotional injury e.g. fear, anger, humiliation _____

Other (please specify) _____

Medical attention required? Yes No

Action to prevent recurrence (to be completed by worker and supervisor)



Follow-up (established by worker / supervisor)

- | | | |
|--|-----------------------------|--|
| Lost time incident | <input type="checkbox"/> No | <input type="checkbox"/> Yes
- # of shifts missed |
| Advised of available counseling | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Advised of legal rights | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Comprehensive incident review completed
(if No, indicate date to be reviewed) | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Law enforcement involved | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Health and Safety Committee involved | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Workers' Compensation Board forms completed | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Short term disability claim | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Long term disability claim | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Evaluation of current policies / procedures | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| Investigation complete | <input type="checkbox"/> No | <input type="checkbox"/> Yes |

Other actions

Steps (if any) taken to accommodate:

Signature of Investigator

Date



Abuse Follow-up Questionnaire Sent to Victims One Month After Investigation

Date: _____

Dear: _____

You were recently involved in an assault or a traumatic situation and a member of the Assault Support Team talked with you about that event. We are interested in your perception of what benefits you were able to receive from the support provided to you. We would greatly appreciate your honest response to the following questions.

Thank you.

1. How many contacts have you had with the support person regarding the incident / assault?

_____ Number of contacts.

2. Did you have specific questions about company policy regarding your incident / assault?

Yes No

If so, was the support person able to direct you to the appropriate people to answer the questions?

Yes No

If no, explain

3. How Much time elapsed from the time of your assault / incident to when you met with the support person?

_____ Days _____ Hours _____ Minutes

Did you feel this was ideal for your situation? Yes No

If not, what would have been preferable?



4. In general, do you feel it is most helpful to be familiar with the support person who contacts you, or to see someone you don't know very well? It is most helpful to be contacted by;

- A familiar person
- Someone I don't know
- Doesn't matter to me

5. The purpose of the Assault Support Team is to help deal with feelings which accompany traumatic situations in a supportive, constructive manner. Do you feel this was accomplished in your case?

Absolutely Not

Absolutely Yes

1 2 3 4 5 6

Please offer suggestions:



3.5 PASSENGER POLICY

Passengers other than family members:

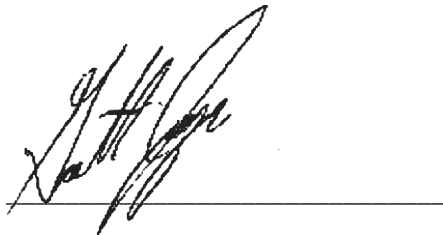
You must never allow a passenger other than a family member into a company unit or a leased vehicle unless you get permission from your immediate Supervisor.

Rides in emergencies:

We encourage you to give rides to anyone at an accident scene or in an emergency situation. Take the passenger to the nearest point of safety or the most practical destination.

Animals:

Pets or other animals are not allowed in the cab of vehicles due to safety issues. A slight distraction while driving can easily cause an accident. In the case of an emergency situation where you must give a ride to someone with a pet, you may do so to the nearest point of safety or most practical destination.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

3.6 FIREARMS

Firearms are strictly prohibited in vehicles or equipment on any job site. The possession of firearms on job sites will result in automatic dismissal.

3.7 SMOKING, MATCHES AND LIGHTERS

- a. Smoking is to be restricted to designated smoking locations.
- b. If in doubt ask your supervisor/foreman.
- c. Household matches and lighters are not to be carried with hazardous areas or work sites subjected to possible transient vapors.

3.8 GENERAL CONDUCT

Horseplay, fighting and disregard for the safety requirements may result in disciplinary action. Running is permitted only during a life-threatening situation.

All employees and management will follow all Occupational Health and Safety Rules and Regulation.

All employees will comply with company rules, job procedures, and maintenance procedures stated in this manual and advised by their supervisor/foreman.

3.9 WORKING ALONE POLICY

The working alone policy applies if a Worker is working alone at a work site and assistance is not readily available if there is an emergency or the worker is injured or ill.

Working alone can include the following people:

- a. Workers who travel away from their base office to meet clients.
- b. Workers who do hazardous work but have no routine interaction with clients, consultants, foremen, or the public.
- c. Workers who travel alone but have no routine interaction with clients, consultants, foremen, or the public. This includes truck drivers, operators and business people in transit.
- d. Workers who are at risk of a violent attack because their work site is isolated from public view.

If two or more workers of the same employer are working together, the working alone policy does not apply. If two or more workers of different employers are working together, the working alone policy does not apply as it is reasonable to expect that the workers can provide assistance to one another.

Readily available – assessment factors

The following factors must be assessed when determining if assistance is “readily available” in the event of an injury, illness or emergency.



- a. awareness – will other persons capable of providing assistance be aware of the worker’s needs?
- b. willingness – is it reasonable to expect that those other persons will provide helpful assistance?
- c. timeliness – will assistance be provided within a reasonable period of time?

The hazard assessment must consider the probability of injury associated with the type, location and hazards of the work. If the worker faces hazards that pose a high probability of injury, “readily available” may become “immediately available”.

Working alone is defined as a hazard for the purposes of legislation – OH&S Part 2 – Hazard Assessment, elimination and Control.

When workers are working alone the following shall be considered:

- a work site hazard assessment will be conducted prior to the Worker going out into the field ensuring that one person in an isolated location can complete the job safely.
- The hazards that are identified will first try to be eliminated and secondly controlled or reduced.
- When reasonably practicable, the worker affected will be involved in the hazard assessment and in the elimination, control or reduction of the hazards identified.
- Workers affected by the hazards identified will be informed of the hazards and the methods used to eliminate, control or reduce the hazards.
- Worksite hazard assessments reports will be in writing and available to the worker affected by it.
- The level of the hazard that workers are exposed to and the proximity of a response from the appropriate personnel in the event of an emergency will be considered.
- A new work site hazard assessment will be performed when the circumstances of the working alone situation change.

Precautions required

- Communication equipment will be used to enable the worker to communicate with outside resources. This equipment may include cell phones, two-way radios, &/or satellite radios as required.
- The communication equipment will be tested to be functional in the area where the worker is expected to work.

As an alternative to the above “effective means of communication”, a scheduled check-ins with other workers and designated persons will be pre-established as needed. The frequency of contact will be based on the hazard assessment.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

WORKING ALONE SAFE WORK PRACTICE

1. Anyone who works alone during the normal working day.
2. Anyone traveling to and from a job site alone during the day.
3. Anyone working in the office, shop or yard alone during the working day.
4. Anyone hauling equipment alone during the working day or night.

Truck Drivers:

1. To keep in communications with your job Foreman.
2. Phone Foreman when getting to the site and before loading or unloading equipment, leave message if no one answers with the time and date of call.
3. Phone Foreman's cell phone or mike them when equipment is loaded or unloaded and ready to go, again leave message with the time and date of your call if no one answers.
4. Leave your hours of moves, permit number and permit cost with the Foreman's when you leave your message that you got to your job site along with the time and date of you call.

Reclamation and Equipment Operators:

1. If you are not seeing your Foreman that day phone his/her cell phone to tell them that you have got to the site in the morning, left a message with the time and date of your call if no one answers.
2. Phone at the end of the day after all servicing is done and you are already on the road back to the hotel/shop. Phone after you have left the access roads and are on a main roadway, leave your hours with your Foreman, leave a message with the time and date of you call, if no one answers.
3. If you have a break down let your Foreman know by phoning the cell phone and if he/she does not answer leave a message with the time and date of your call, do this before you start any type of repair on the equipment. Then let them know when you are done with the repair by phoning them back that you are ready to go back to work. Again if no answers, leave a message and include the time and date of your call.

3.10 VIOLENCE AND HARASSMENT POLICY

Acts of violence can take the form of physical contact and/or verbal abuse. Abuse in any form weakens the mutual trust and confidence that are necessary to Top Grade Construction 's operational effectiveness. Acts of violence destroy individual dignity, lower morale, create fear and break down work unit cohesiveness.

Acts of violence may occur as a single event or may involve a continuing series of incidents. Violence or harassment can victimize both women and men, and can be directed by or towards Top Grade Construction's workers, visitors and members of the public.

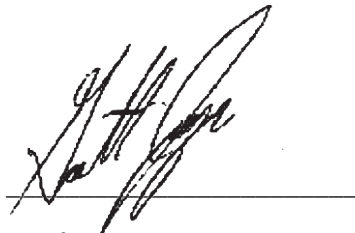
Top Grade Construction believes in the prevention of violence and harassment and promotes an abuse-free workplace in which all individuals respect one another and work together to achieve common goals. Any act of violence or harassment committed by or against any worker or member of the public is not acceptable conduct and will not be tolerated.

Top Grade Construction Environmental Ltd is committed to:

1. investigate reported occurrences of violence in an objective and timely manner;
2. taking necessary actions; and
3. providing appropriate support for victims.

No action will be taken against an individual for reporting a complaint unless the complaint is made maliciously or without probable or reasonable grounds.

No worker or any individual associated with this company shall subject any other person to violence.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

PREVENTING VIOLENCE AND HARASSMENT IN THE WORKPLACE

Senior Administration Responsibilities

1. Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,
 - a. the health and safety of:
 - ii. workers engaged in the work of that employer, and
 - iii. those workers not engaged in the work of that employer but present at the work site at which work is being carried out, and
 - b. that the workers engaged in the work of that employer are aware of their responsibilities and duties under the OH&S Act and the regulations and the adopted code.
2. Employers are responsible to maintain a work environment that is free of sexual harassment for all employees, customers and clients.

Supervisor's/ Foreman Responsibilities

- Assist the worker with incidents of violence or harassment
- Provide assistance for the worker to verbally speak with the alleged offender in regards to the offence.
- Advise and accompany the effected worker to seek medical treatment
- Assist the worker to complete the Abuse Reporting Form and the Abuse Data Reporting Form
- Discuss actions to prevent recurrences with the worker.
- Debrief the workers shortly after the incident and advise them that they are not to blame for aggressive behaviors directed at them.
- Be a member of the Assault Support Team along with the safety department to help complete the required documentation and assist the worker as necessary.
- Maintain strict confidentiality and not disclose details of the incident to any third party without prior consultation with the victim.

Worker's Responsibilities

Workers are responsible for the following:

- treating co-workers, clients, and the public with dignity and respect
- participating in the development and implementation of the violence and harassment policies and procedures
- participating the education programs
- reducing incidents of violence and harassment by using the principles of violence and harassment prevention.
- Reporting incidents of violence and harassment as described in the procedures.



Recognize Workplace Violence and Harassment

Any conduct which, on reasonable grounds, creates an intimidating, threatening or hostile work environment or any conduct, comment, gesture or contact of a sexual nature which caused a workers performance to be impaired or where their dignity or respect is denied.

- Written or verbal abuse, threats, bullying, or intimidation, emotional or psychological abuse
- Degrading comments about a person's body, attire, age, marital status, ethnic or racial origin, religion, disability or sexual orientation
- Sexual harassment
- Physical aggression
- Physical assault

Communicating the Company's Policy and Procedure Related to Workplace Violence

Top Grade Construction will train their management, supervisors, foreman and workers to:

- a. recognize workplace violence
- b. the employer's policy and procedures,
- c. the appropriate response to incidents, and
- d. the procedures for reporting, investigating and documenting incidents of workplace violence and harassment.

This training will be conducted at safety meetings to review and explain the company's Violence and Harassment Policy, responsibilities, and procedures.

Procedures to deal with a potentially violent person

There are steps that workers can take to reduce the incident of violence or harassment on the job. Suggestions are from "Violence in the Workplace" from the Canadian Center for OH&S (1999)

Tips for verbal communication

- Focus your attention on the other person to let them know you are interested in what they have to say.
- DO NOT glare or stare, which may be perceived as a challenge.
- Remain calm and try to calm the other person. DO NOT allow the other person's anger to become your anger.
- Remain conscious of how you are delivering your words.
- Speak slowly, quietly and confidently.
- Speak simply. DO NOT rely on official language or complex terminology.
- Avoid communicating a lot of technical or complicated information when emotions are high.
- Listen carefully. DO NOT interrupt or offer unsolicited advice or criticism.
- Encourage the person to talk. DO NOT tell the person to relax or calm down.
- Remain open-minded and objective.
- Use silence as a calming tool.
- Acknowledge the person's feelings. Indicate that you can see he or she is upset.

Tips for Non-Verbal Behaviour and Communication

- Use calm body language – relaxed posture with hands unclenched, attentive expression.
- Arrange yourself so that your exit is not blocked.
- Position yourself at a right angle rather than directly in front of the other person.
- Give the person enough physical space... this varies by culture, but normally 1-2 m is considered an adequate distance.
- Get on the other person's physical level. If they are seated try kneeling or bending over, rather than standing over them. DO NOT pose a challenging stance such as:
 - standing directly opposite someone
 - putting your hands on your hips
 - pointing your finger
 - waving your arms
 - crossing your arms
- DO NOT make sudden movements which can be seen as threatening.
- DO NOT fight. Walk or run away. Get assistance from security or police.

Responding to a Physical Attack

If you are attacked:

- Make a scene, yell or scream as loudly as possible. Try shouting words like STOP, FIRE or HELP.
- If you are being pulled along or dragged, fall to the ground and roll.
- Blow a whistle, activate your personal security alarm or push the security alarm.
- Give bystanders specific instructions to help you. Single someone out and send them for help. For example: "You in the yellow shirt, call the police."
- If someone grabs your purse, briefcase or other belonging, DO NOT resist. Throw the item to the ground several feet away from the thief and run in the opposite direction, yelling "help" or "fire".
- DO NOT chase a thief.
- Run to the nearest safe place, a safe office or an open store.
- Call security or the police immediately after the incident.
- If the attack does not warrant calling the police, inform your supervisors or the authorities at your workplace.
- File an incident report.

Be Prepared

- Take a self defense course
- Try to imagine yourself responding successfully to different types of attacks. Practice your responses.

Working Off-Site

If you work away from a traditional office setting you must exercise extra caution. In many cases you have less or no ability to control your work environment. You may require special training to avoid violence by using conflict resolution and mediation tactics. Nevertheless, the following specific preventive tactics or procedures will minimize or prevent risks associated with working off-site:

- Have access to a cellular telephone or similar means of communication.
- Use an established check-in procedure that allows you to manage typical situations you may encounter off-site.
- Prepare a daily work plan so that you and others know where and when you are expected somewhere.
- Arrange to meet in a safe environment.
- Be alert and make mental notes of your surroundings when you arrive at a new or different setting.
- Use the “buddy system”, especially when you feel your personal safety may be threatened.
- Determine under which circumstances unaccompanied visiting would involve unacceptable risk.
- Exercise your right to refuse to work in clearly hazardous situations.
- Disclose any feelings of discomfort or apprehension about an impending appointment to your supervisor.
- DO NOT enter any situation or location where you feel threatened or unsafe.
- Carry hand-held alarms, noise devices or other effective alarm devices.

When you are in unfamiliar premises:

- Check for escape routes and position yourself near an escape route.
- Mentally rehearse what you will do if an individual become aggressive or hostile. Decide what your best preventative tactic will be.
- Take control of the seating arrangements. If possible. Seat yourself near the door.
- Maintain a “reactionary gap” between you and the person – out of reach of the average person’s kicking distance. Increase the gap by sitting at a table. Be aware of the person’s proximity at all times.
- Be well prepared for an appointment. Review the available information about the individual(s) you are meeting.
- Terminate the appointment in a non-confrontational manner if the individual appears to be:
 - Intoxicated
 - Under the influence of drugs
 - Emotionally disturbed and threatening or out of control.
- DO NOT allow yourself to be backed into a corner. Leave a clear path to the exit.
- DO NOT venture too far into the premises e.g. remain near an exit.
- DO NOT turn your back on the person or enter a room first.

Terminating a Potentially Abusive Interaction

- Interrupt the conversation firmly but politely.
- Tell the person that you:
- Do not like the tone of the conversation
- Will not accept abusive treatment
- Will end the conversation if necessary.
- Tell the person that you will ask them to leave the building, or that you will leave (if working off-site).
- If the behaviour persists, end the conversation.
- Ask the person to leave the building or leave yourself.
- If the person does not agree to leave, remove yourself from the scene and inform your manager or supervisor immediately.
- DO NOT return to the person if you believe they pose a physical threat.
- Advise other staff and have them leave the immediate area.
- Call security or your local police.
- File an incident report.

Procedures for reporting, investigating and documenting incidents of workplace violence.

1. The victim should make his or her feelings known verbally to the alleged offender, directly or with the assistance of a third party. It is very important that the alleged offender immediately be made aware that the conduct is offensive to the victim.
2. Contact your supervisor immediately and advise of the incident.
3. The worker is to consult a health professional of the worker's choice for treatment or referral if the worker
 - a. Reports an injury or adverse symptom resulting from workplace violence, or
 - b. Is exposed to workplace violence.
 - c. Note - your supervisor/foreman is to accompany worker there
4. Worker to complete the incident report using the Abuse Reporting form and forward to your supervisor. (Part 12 at the back of your safety manual)
5. Complete Abuse Data Reporting Form with your supervisor. (Part 12 at the back of your safety manual)
6. Discuss actions to prevent recurrences with your supervisor.
7. Supervisors (or the Assault Support Team) is to debrief the victims of the violence shortly after the incident. Workers need to understand that they are not to blame for aggressive behaviors directed at them and that being the victim of violence does not reflect on them.
8. Assault Support Team (supervisor and safety department) is to send out Abuse Follow-up Questionnaire one month after incident. (Part 12 at the back of your safety manual)
9. Worker to complete this form – Abuse Follow-up Questionnaire –to assist with interventions and return to supervisor and safety department.



4.0 COMMUNICATION

4.1 SAFETY MEETINGS

Every month Top Grade Construction conducts a safety meeting with senior office staff, supervisors and foremen. All safety meeting minutes will be made available to the rest of company employees through daily toolbox meetings posted on the shop bulletin board.

Every 3 months, the company conducts a safety meeting for all field staff including supervisors, foremen, operators, workers, and laborers. Meeting dates will be set by supervisors &/or safety officer and communicated to all staff. Scheduled meetings between supervisors and management will take place prior to the start of all new projects. There will be a pre-job safety held prior to the start of every job, daily tail gate meetings will be held daily prior to commencing the daily tasks.

The agenda for the safety meeting will contain, but is not limited to the following:

- Review of minutes from the previous meeting, including status of any concerns raised.
- Review, if incidents were reported since the last meeting, including status of corrective action recommended and/or action taken.
- Review of planned inspections conducted since the last meeting, including status of corrective actions.
- Comments and concerns of employees.
- Presentation of a safety topic by an employee as designated at the previous meeting.

Attendance records are kept for each meeting. Minutes are taken at each meeting, submitted to management, and posted after each meeting.



Safety Meeting example.

General Safety Meeting

Date: _____

Location: _____

Topics Discussed:

Suggestions Offered:

Name and Signature of each Attendee:

1. _____	10. _____
2. _____	11. _____
3. _____	12. _____
4. _____	13. _____
5. _____	14. _____

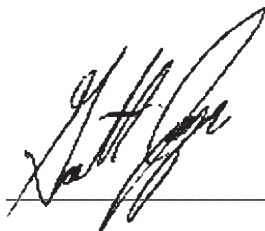
4.2 HAZARD ASSESSMENT / TAILGATE MEETINGS

Hazard Assessment Policy

Before hazards can be controlled or eliminated, a process of hazard identification must be followed. It is the policy of this company to perform hazard assessments when new hazards are identified due to a process change, new process, change in procedures, or any circumstance where the company is unfamiliar with an existing process.

Hazard assessments will be performed by a team of both management and/or supervisors/foremen and employees/workers. All hazard assessments must be completed before any work commences.

Supervisors/foremen and employees/workers will conduct regular inspections of equipment, worksite conditions, employee actions and job procedures to identify potential hazards, checking against standards set by regulatory bodies, industry and company standards.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

4.3 HAZARD ASSESSMENT, CONDUCTING A SAFETY MEETING

- Assemble the people that will be involved.
- Discuss possible hazards with employees and subcontractors.
- Tour the entire site.
- Look for possible hazards originating from environment, material, equipment and people.
- Keep asking “What if this happens?”
- Identify, prioritize, and document all items on the checklist (adding any additional ones) that need attention.
- Rank the items on a “worst first” basis. First rank the severity of the problem if it were to occur.
 1. Imminent Danger (i.e., causing deaths, widespread occupational illness, loss of property)
 2. Serious (i.e., severe injury, serious illness, property and/or equipment damage)
 3. Minor (i.e., non-serious injury, illness, or damage)
 4. O.K. (i.e., minor injury, requiring minimal first aid or less)
 5. Not Applicable (N/A)

Next rank the probability of the accident occurring:

- A. Probable – likely to occur immediately or soon
- B. Reasonably probable – likely to occur eventually
- C. Remote – could occur at some point
- D. Extremely remote – unlikely to occur

Each hazard is assigned the above ranking to determine priority for corrective actions.

- Review the findings with supervisors/foremen/workers/subcontractors and ask for their input for control measures.
- Take corrective action and make recommendations for the elimination and control of hazards

Elimination or control – Hazards should be eliminated or controlled at their source – as close to where the problem is created as possible – using engineering solutions. If not possible, controls should be placed between the source and the workers. Whatever control method is used, it should address the source of the hazard, not its outward sign (for example, the noise, vibration, fumes, or exhaust that it produces.) It is better to replace, redesign, isolate or quiet a noisy piece of equipment than it is to provide workers with hearing protection.

- Engineering controls include the following:
 - *Elimination* – getting rid of a hazardous job, tool, process, machine, equipment or substance to protect the workers. (i.e. using material handling equipment – cart – rather than having workers carry materials manually)
 - *Substitution* – if you cannot eliminate the hazard, try to substitute or replace one substance or process with another safer one



- *Redesign* – hazards can sometimes be “engineered out” by redesigning the work site, process or job. (i.e. installing guardrails around elevated work areas; providing non-slip working surfaces; controlling traffic to avoid collisions)
- *Isolation* – isolating hazards through containment or enclosure. (i.e. sound reducing enclosures for noisy equipment)

Administrative Controls – If engineering controls cannot eliminate or control a hazard, administrative controls can be used to control the hazard to a level that is as low as reasonably achievable.

- Safe Work Practices
- Safe Job Procedures
- Safe Work Policies
- Safe Work Rules
- Work/rest schedules to reduce the worker exposure to the hazard

Personal Protective Equipment – The last resort that workers may need to use is personal protective equipment to reduce the potentially harmful effect of the exposure to the identified hazard. PPE must be worn properly and consistently to be effective. In some cases, PPE can increase the likelihood of hazards such as heat stress and tripping and falling with awkward or bulky PPE.

Combination of control methods – Some hazards may require a combination of all three control methods to reduce it to the lowest level practicable or achievable.

- Complete the Work Site Hazard Assessment form including the date and Corrective Actions
- Monitor and follow up to ensure corrective action is taken.
- Repeat the hazard assessment and document
 - At reasonably practicable intervals to prevent the development of unsafe and unhealthy working conditions. Hazard assessments should be performed periodically, even when nothing has changed. This confirms that workers are continuing to follow the corrective procedures and that the equipment is in the proper working conditions.
 - When a new work process is introduced. A new process may involve the use of new materials, chemicals, equipment, etc. with which workers are unfamiliar.
 - When a work process or operation changes. A different process, operation or piece of equipment might influence the results of a previous hazard assessment or make it meaningless.
 - Before the construction of significant addition or alterations to the worksite. Assessing hazards in this case tries to anticipate potential problems and prevent those problems from being built into the worksite. This is to eliminate the problems at the design stage rather than having to modify the worksite later to eliminate or control a hazard.

EMERGENCY CONTROL OF HAZARD

If emergency action is required to control or eliminate a hazard that is dangerous to the safety or health of workers,

- Only workers competent in correcting the hazardous condition may be exposed to the hazard.
- Only the minimum number necessary to correct the condition, may be exposed to the hazard.
- Every reasonable effort must be made to control the hazard while the condition is being corrected (i.e. a pipe is releasing a toxic gas – prior to and during emergency entry into the worksite the flow of gas must be reduced before it reaches the worksite.)

SET UP A EMERGENCY RESCUE AND EVACUATION PLAN

1. After completing the hazard assessment and the “what if this happens” complete the Emergency Rescue and Evacuation Plan and document on the hazard assessment and the tailgate form.
2. Points to consider when developing the emergency transportation plan:
 - The types of injuries or illnesses likely to occur given the hazards associated with the work, the ages, condition, and limitations of the workers.
 - The number of workers at the worksite
 - The distance to be travelled to and from the work site to the health care facility
 - The availability of a local ambulance service
 - Ambulance or emergency transport vehicle response times
 - The time of day that the worksite is in operation
 - The means of transportation needed to get to the worksite
 - Transportation routes
 - Seasonal or weather changes that may affect the means or routes of transportation
 - Travel times.
3. Review the alarm system if an emergency occurs. (i.e. Air Horn, Truck horn, etc.)
4. Set up a muster point.
5. Review that workers have first aid training, or who is the assigned first aider on site.
6. Review the following steps to be taken if emergency transportation is required before calling the Emergency Link Center for an ambulance or Stars
 - Directions to worksite – an accurate description of the exact route to the site. (Have the ambulance, Stars or the 911 operator repeat back verbal directions to ensure accuracy.)
 - Location Conditions – Assess access to, and the condition of, location for communication to the responding emergency personnel. This will determine the right type of land based equipment that is dispatched. (Mud, ice, rough terrain, steep hills, etc.)
 - Weather conditions – Assess the weather conditions for communication to the responding emergency personnel. Document unusual conditions. (Storms, high winds, etc.)



- Communication Methods – Ensure the methods of communication are adequate and communicated to the emergency response personnel. (Cell phone numbers, Satellite radios numbers &/or radio frequencies)
 - Emergency Transportation – Communicate if an Emergency Transport Vehicle is on site. If an ambulance response is required. If the ambulance or emergency transportation vehicle cannot arrive within 40 minutes, it is recommended it to be met and the worker will be transported to the predetermined location. Communicate and document this location and the vehicle that will be used for transport. Remember the ambulance personnel may or may not be familiar with legal land descriptions.
 - Review what to do if another worker becomes injured while the first one is being transported to a health care facility. The remaining workers and first aiders at the site must know what to do and who to call if work continues and another injury occurs.
7. Review when calling the emergency centre – state the Nature of the Emergency (i.e. broken leg, chest pains) and relay the Status of the Worker (conscious, unconscious, bleeding, pain).
 8. Review to maintain Contact with the Emergency Link Center until you are told to hang-up.
 9. Advise to prepare for the arrival of the evacuation service. This may include meeting at an alternate site or ensuring that the evacuation vehicle can find the worksite. (i.e. meeting and directing the evacuation vehicle into the location)
 10. Advise to be prepared to assist the Emergency Medical Services upon arrival.
 11. Contact in advance the emergency services to find out the processes involved in responding to a call and expected response times. Response times may vary considerably. Determine the service's capabilities; do they have what you may need? (i.e. ambulance or helicopter)
 12. Ensure that the plan is written out, finalized and communicated, to all the applicable workers and a copy kept on site at all times.
 13. Brief and train workers in regards to their individual roles and expectations during an emergency.
 14. The written (on-site) Emergency transportation plan needs to include the following:
 - Who to call
 - How to call
 - Who makes the call
 - What to say
 - What to expect
 - Training, briefing and communication of the plan to workers
 - Date of plan completion

Note: Work cannot be performed unless adequate first aid and emergency rescue and evacuation plan is in place and available.

Ensure this plan is communicated/briefed to, and understood by all workers and subcontractors at the worksite prior to start work.

EXAMPLES OF HAZARDS AND CORRECTIVE ACTIONS

Hazard

Working around wellheads on lease sites with heavy equipment;
Working around buildings, shacks and drilling rigs.

Assessment

Use of safety fences or the use of safety flags that are attached to a pole that can be stuck in the ground around the hazard to make them visible;
All equipment will stay at least one meter away from such hazards. Also the use of personnel to stand watch.

Hazard

Backing up on heavy populated work sites with equipment;

Assessment

The use of backup alarms and mirrors.

Hazard

Working around creeks, rivers and running water with equipment;

Assessment

The use of safety fences.

Hazard

Slipping and Tripping;

Assessment

Use of handles and hand rails on equipment.

Hazard

Presence of dangerous gases;

Assessment

The use of the proper signs and safety equipment and proper training on dangerous gases.

Hazard

Faulty or missing emergency equipment;

Assessment

Regular inspection on emergency equipment on job sites, company shop and offices and inspect all emergency equipment that are on vehicles, heavy equipment and implement equipment regularly.

Hazard

Improper or missing signs;

Assessment

Making sure you use the right sign for the job being done and regular inspection to make sure signs are not missing.

Hazard

Poor housekeeping;

Assessment

Always keep a clean and tidy work site, equipment, vehicles, shop and office to prevent any hazards.



Hazard

Inadequate or missing personal protective equipment.

Assessment

Using the proper personal protective equipment for the right job,
Proper maintenance and care of personal protective equipment.

Hazard

Blocked exits;

Assessment

All exits are free and clear of objects,
Have the proper exit signs on all exits,
Train employee as to where all exits are on the job site.

Hazard

Overhead hazards;

Assessment

Having the proper signs in place indicating there is overhead hazards,
Showing employees, subcontractors, and all concerned all overhead hazards on the job site before starting work.

DEFINITIONS

The following terms and definitions for each are used throughout this manual:

Accident:

Any undesired event that results in physical harm to a person or damage to property.

Employee:

An individual employed by an organization/company (full-time, part-time, volunteer or on a contractual basis). This could include owners, management, sub-contractors, and workers.

Foreman:

An individual appointed by the company to direct worksite activities.

Hazard:

Any circumstance or condition which poses the risk of an accident.

Hazard Assessment:

A thorough examination of an operation, for the purpose of identifying what actual and potential hazards exist. A hazard assessment is conducted with the direct involvement of the Operations Supervisor and/or the Operations Manager.

Incident:

Any unplanned and unwanted event which results in personal harm or injury, property damage or loss; or which could have resulted in personal harm or injury, property damage or loss under slightly different circumstances.

Inspection:

An observation tour of the workplace for the specific purpose of determining the levels of compliance with established safe work practices, procedures and safety rules. Inspections are conducted on an ongoing basis to maintain the effectiveness of this safety program.

Job:

A segment of work, a specific work assignment, a set of actions required to complete a specific work objective. An accumulation of all tasks involved at the worksite.

Management:

Person engaged in the administration of business concerns.

Manager:

A person who has charge of a workplace or authority over an employee or worker.

Near Miss:

An undesired event that under slightly different circumstances, could have resulted in personal harm, property damage, or loss.

Rule:

Prescribed guide for conduct or action; by law governing procedure or controlling conduct, instituted by the organization/company.



Safe Job Procedure:

The step-by-step process of how to perform a task from start to finish.

Safe Work Practices:

A set of guidelines or “Do’s and Don’ts” on how to perform a specific task that may not always be done in a certain way.

Senior Management:

The person or persons with the authority to establish policies for the organization/company. Those responsible for the decision-making, financial planning, policymaking, etc.

Supervisor:

An individual appointed by the company to direct worksite activities.

Task:

A piece or work which requires a set of specific and distinct actions for its completion. Critical task is a task which has the potential to produce major loss or people, equipment, process, and/or environment.

Visitor:

Any person temporarily on the worksite who is not regularly involved in the daily worksite activities. This includes, but is not limited to, delivery personnel, invited guests, the general public, etc.

Worker:

An individual who does not have management, supervisor, or foremen responsibilities.

4.4 TAILGATE MEETINGS

At the beginning of every day, at every new site, and before every change in job scope a tailgate safety meeting will be held by the foreman on site with everyone on site in attendance. The meeting agenda will contain, but is not limited to the following:

- Identification of all potential hazards on site and preventative measures to avoid incidents involving each hazard.
- Personal protective equipment required on site.
- Identify a course of action in the event of an emergency.
- List up to date Emergency Directions to Site
- List the daily designated workers to provide rescue services under - On-Site First-Aid Attendant(s)
- List the daily designated worker to supervise evacuation procedures under the verification – Foreman / Supervisor. If the event that the foreman / supervisor is down or away, this responsibility is assumed by the On-Site First-Aid Attendant listed under the Emergency Response section.
- List of Emergency Response Information: Ambulance, police, fire numbers, nearest hospital (km) and muster station location.

The content of the meeting will be recorded and handed in to supervisors on a regular basis. Each person who is in attendance will sign the tailgate meeting form to acknowledge their attendance and their understanding of the topics discussed.

4.5 OBSERVATION REPORTING PROGRAM

A Near-miss is an incident that is unexpected and undesirable, and although a near-miss does not result with an injury, loss or damage – it could, if not corrected.

A Hazard ID is a danger or risk that could result in an injury, loss or damage if not corrected.

An Observation is an action or process of someone doing a task in a safe or unsafe manner. All Top Grade employees will be required to do formal job observations.

In order for everyone to improve on our safe operating practices and ensure that mistakes are not repeated, it is important that all near-misses / hazard ID's / and observation's (safe or unsafe) are performed for company's employees. Reporting can be in the form of a verbal report to the supervisor or a written report submitted to the supervisor then forwarded to the safety department.

Upon new employees being hired they will be instructed on how to observe a hazard and the corresponding risks with that hazard and how to eliminate/control the hazards through conducting effective job observations. All Top Grade employee's will be instructed to fill out observation reports whenever they have a near-miss / see a hazard or observe a safe or unsafe act.

ALL observation reports will be reviewed at safety meetings, so all employees can learn from actions safe or unsafe, so not to be repeated in future.

All observation reports will be documented and analyzed to identify any problems in workplace, at this time new safe work practices and procedures will be put in place, to improve safety for all Top Grade employees.

Near Miss, Hazard ID, Behavior Observation Report			Risk Ranking Check One	
Near Miss <input type="checkbox"/>	Hazard ID <input type="checkbox"/>	Observation <input type="checkbox"/>	High	<input type="checkbox"/>
Employee: _____			Medium	<input type="checkbox"/>
Client: _____			Low	<input type="checkbox"/>
Date: _____			No Risk	<input type="checkbox"/>
Details:				
Follow-Up By: _____			Date: _____	

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HOW TO MAKE GOOD OBSERVATIONS

Observations are the cornerstone of a successful Health Safety & Environment inspection process. However unless the observers can make correct observations, the process will not work properly.

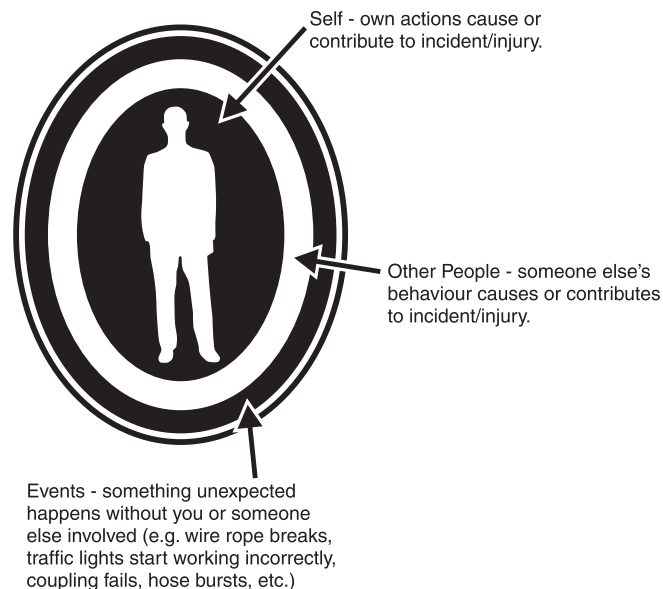
An inspection process to work properly must have a steering committee, management support, proper training for the observers and above all else employee buy-in. Over eighty percent of the value (of the whole process) is doing the observations. Statistics have found that an increased number of observations tended to correlate more consistently with injury reductions than do other metrics like percent safe, number of at-risks, etc.

Some employee's comments have been "You know, I think I get more out of doing observations in terms of keeping safety in mind than I do when I'm being observed."

Certainly, one of the main benefits of a successful behaviour based safety process is that people tend to develop an increased sense of awareness for critical behaviours both on and off the job, not just while they're being observed. To this end, making an observation probably would help you keep safety in mind a bit more than when you were being observed. It would also explain, why increased participation correlated so well with injury reductions.

However, increased awareness is just one of the objectives you have in mind when making an observation. Depending on what you see, you might also want to correct an at-risk behaviour positively. Or, you might want to say thanks without being condescending, for the safe work you observed. A good observation will need to support at least one of the three main goals or expected benefits, which are to:

1. **Change at-risk behaviour to safe behaviour.**
2. **Keep safe behaviour from becoming at-risk behaviour.**
3. **Increase awareness in order to stop complacency.**



In order for the process to be as successful as possible, the observers must have both the **observation skills** and **communications skills** to achieve these objectives.

CHANGING AT-RISK BEHAVIOUR TO SAFE BEHAVIOUR

First of all, you've got to be able to see if anything is unsafe, which could be either a critical behaviour from your inspection checklist or from your knowledge of the job.

As you approach the person or job site you want to observe, what initial actions do you see? Are employees rushing, are they watching what they're doing or where they're going? Are they in the line of fire (hit by something or caught in something)? Is there anything that could cause them to lose their balance, traction or grip?

What about **body mechanics**: Do you see any lifting, pulling, pushing or reaching with excessive force? Remember to look for these things first. You'll have more time to observe for other things such as repetitive motions and unsafe equipment, so you can look for those types of things later.

As you reach the person you were planning to observe, ask permission to conduct the observation. After observing the task or job for a few minutes, ask the person if they can stop and talk for a minute or two. If you happen to see an at-risk behaviour or something that you thought might be at-risk, it's usually a good idea to ask them questions instead of telling them what they did wrong.

Since there's usually a number of other factors that would also have to be present or lined up in order for an injury to occur, it's a good idea to talk about all the factors, not just the at-risk behaviour. Questioning them about the consequences if something unexpected happens can also be very effective.

Three Sources of Unexpected Events:

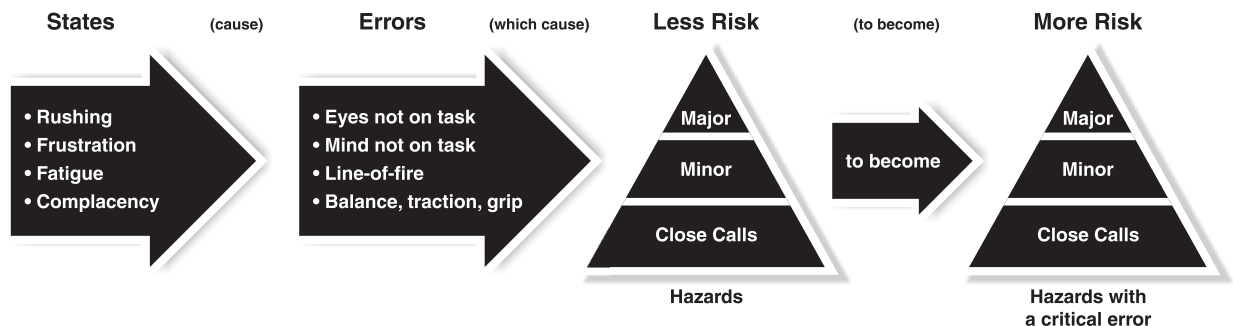
1. **Self** - own actions cause or contribute to incident/injury.
2. **Other People** - someone else's behaviour causes or contributes to incident/injury.
3. **Events** - something unexpected happens without you or someone else involved (i.e. rope breaks, coupling fails, hose bursts, etc.)

There are three sources of unexpected events: the equipment you're using does something unexpectedly (i.e., when driving, the brakes failed); the "other guy" does something unexpectedly (i.e., a co-worker starts up a forklift and begins to move forward without signalling people standing in front of it); or you do something unexpectedly (i.e., lose your balance and fall).

Generally speaking, people are more receptive to the "other guy" making a mistake or the equipment doing something unexpectedly than they are to the possibility of making a mistake themselves, so you can use these areas without the potential for conflict.

Keeping in mind, most injuries aren't caused by equipment failure or the other guy. If you're asking someone about the possibility of making a mistake that could get him or her hurt, don't just say, "sooner or later you're going to make a mistake." Instead, try making it a little more plausible by putting in a state or human factor. For example, "what if you were in a real rush, or you were really tired?"

THE FOUR STATES THAT CONTRIBUTE TO INJURIES



There are four states that contribute to a high percentage of all injuries. They are rushing, frustration, fatigue, and complacency. The errors they cause that can get you hurt are eyes not on task, mind not on task, moving into or being in the line-of-fire, and somehow losing your balance, traction, or grip. Learning how to ask questions that tie a state to an error is much better than saying, “Sooner or later, you’re going to make a mistake.”

POSITIVE REINFORCEMENT & IMPROVING AWARENESS

Saying, “thanks for working safely” can sometimes sound a little condescending or patronizing. Especially if what you’re saying “thank you” for is covered by rules or procedures. For instance, saying “thanks for locking this out” when the company has a “**zero tolerance**” policy for lockout might very well elicit a response like, you’re welcome. Are you going to thank me for showing up for work today too! One of the easiest ways to overcome this is to tackle positive reinforcement and improving awareness at the same time.

Instead of observing critical behaviours being performed safely and just saying thanks, try asking a few questions designed to get the person thinking. For instance, you could ask them, “What’s the most important thing to keep in mind from a safety perspective while doing this job?” Or you might even ask them some questions about off-the-job safety such as, “Between here and your house, what’s the most dangerous intersection or stretch of highway?” If they say the on-ramp to the freeway because of the construction, that just might be enough to keep them thinking on their way to work versus driving on “auto-pilot” when they get to that section of highway.

You could ask employees questions about knowledge and training, attitude, perspective and judgement, ergonomics and repetitive strain, and co-worker communication. Any questions that get the person thinking a bit more about **safety** are good questions.

When you’ve discussed the job, the risks and potential for injury for about five to ten minutes, you can say, “thanks for your time” as you’re wrapping up. It has the same effect as saying, “thanks for working safely,” but it doesn’t have the same condescending ring to it. In addition, you’ll probably get some good ideas from these discussions, in which case you can say, “Thanks for your input or suggestion” and again, providing it was a good suggestion, there’s nothing phony or condescending about your response.

Although everyone has a different style, as long as the observers can correct at-risk behaviour positively, reinforce safe behaviours effectively, and increase awareness, then safety performance will most likely improve.

Just like any other skill, making good observations takes time and practice. However, the return on investment, in terms of injury reductions, is well worth the effort.

4.6 SAFETY PROGRAM INTERNAL REVIEW PROCESS

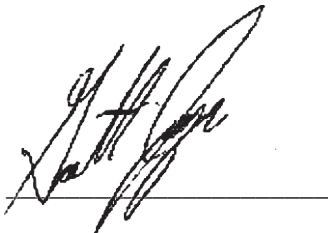
To ensure implementation and compliance of the Top Grade Construction Safety System an annual review of all documentation and practice will be conducted.

The internal review process will be conducted using the ACSA auditing protocol. Audit findings will be presented to upper management at close out meeting for review, corrective action(s) and implementation of changes.

On an annual basis senior management must review and amend the current safety manual. Management will be required to sign and date to indicate the expectance of such said documents.

Conflict of information: Should a conflict of standards, procedures, practices or policies be found during the internal review, the highest standards will be adhered to and implemented.

Implementation of Change: Any and all changes to the Top Grade Construction Safety System resulting from annual review must be communicated to all workers along with any additional training that may be required to ensure compliance with the program.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

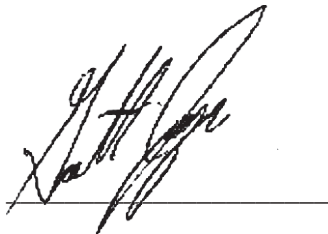
SAFE WORK PROCEDURES

Safe Work Procedures is defined as a series of specific steps that guide a worker through a task from start to finish in a chronological order.

Safe Work Procedures have been developed by management and workers as a result of a Hazard Assessment, accident investigation and/or as a supplement to a safe work practice. Workers are required to take part in the daily tailgate/hazard assessment to insure that they have reviewed and fully understand the safe work procedures which will be used for a specific job task(s).

It is the workers responsibility to understand that these procedures have been established, are in effect, are written down and must be followed. If the worker(s) require addition clarification to perform the task they must contact the company HSE department and/or their direct supervisor/foreman. Any deviation from a safe work procedure will require the approval from the HSE department and/or senior management prior to start of task. It is the responsibility of the supervisor/foreman to obtain this approval prior to starting the task.

Guidelines – Is defined as An indication or outline of policy or conduct.

A handwritten signature in black ink, appearing to read "G. Janzer", is written over a horizontal line.

February 2, 2015

Garth Janzer
President & CEO



5.0 SAFE WORK PROCEDURES & OPERATING GUIDELINES

5.1 FIRE EXTINGUISHERS

Good housekeeping is essential in the prevention of fires. Fires can start anywhere and at any time. This is why it is important to know how to fight each type of fire.

Always keep fire extinguishers visible and easy to get at. Fire extinguishers have to be properly maintained to do the job effectively.

Types of Fires:

Class A:

These fires consist of wood, paper, rags, rubbish and other ordinary combustible materials. To fight these fires soak the fire completely – even the smoking embers.

Class B:

Flammable liquids, oil and grease. To fight these fires, start at the base of the fire and use a sweeping motion from left to right, always keeping the fire in front of you.

Class C:

Electrical Equipment. To fight these fires, use short bursts on the fire. When the electrical current is shut off on a Class C fire, it can then be treated as a Class A fire if the materials around the electrical fire are ignited.

Class D:

Combustible metals (magnesium, titanium, potassium, etc.) A class D extinguisher uses dry powder or other special sodium-extinguishing agents.

5.2 OVERHEAD POWER LINES – WORKING NEAR

Injuries and deaths near power lines are all too common. Near misses are frequent.

- Before operating equipment, make a safety plan (hazard assessment) that prevents contact with lines.

The following are some safety precautions that can eliminate accidents:

- If work is done or equipment is operated within 7 meters of an energized overhead power line, the power line operator or owner (i.e. Atco Electric) must be contacted to determine the voltage of the power line. Until the voltage is verified, the workers must maintain a safe clearance distance of 7 meters.
- When the voltage is determined the safe approach distance in the following schedule are to apply.

SAFE LIMIT OF APPROACH DISTANCES FROM OVERHEAD POWER LINES FOR PERSONS AND EQUIPMENT	
Operating voltage between conductors of overhead power line	Safe limit of approach distance for persons and equipment
0-750 volts Insulated or polyethylene covered conductors (1)	300 millimeters
0-750 volts Bare, uninsulated	1.0 meter
Above 750 volts Insulated conductors (1) (2)	1.0 meter
750 volts – 40 kilovolts	3.0 meters
69 kilovolts, 72 kilovolts	3.5 meters
138 kilovolts, 144 kilovolts	4.0 meters
230 kilovolts, 260 kilovolts	5.0 meters
500 kilovolts	7.0 meters
Notes:	
(1) Conductors must be insulated or covered throughout their entire length to comply with this group.	
(2) Conductors must be manufactured to rated and tested insulation levels.	
Table as per OH&S Schedule 4 Safe Limit of Approach Distance dated 2006	

- Keep a safe working distance between your equipment and power lines, the employer and worker must ensure that earth or other materials are not placed under or beside an overhead power line if doing so reduces the safe clearance to less than the safe limit of approach distances listed in the above table.

- If a situation arises in which work must be done or equipment operated near an energized power line at distances less than the safe limit of approach distance the employer must notify the operator of the power line before beginning work to obtain the power line operator's assistance in protecting workers. The operator may protect workers by de-energizing the power line, relocating it, isolating it, or performing some other effective action, or by getting the high voltage equipment to be locked out/tagged out before a worker may work within safe limit of approach distance.
- When parts cannot be de-energized, tagging must be applied in any event and barriers such as insulated blankets must be used to protect against accidental contact, arc flash PPE must be worn.
- The safe distances always apply when loads and equipment are moved about on a work site when "work: is being done."
- Examples include a dump truck loading or unloading gravel, a hoe moving from one location to another at a work site.
- Take extra care and precautions.

Precautions to take when working near overhead lines

1. Work near high voltage electrical lines must be performed by Qualified Equipment Operators and must respect the safe limit of approach distances as listed in above Table.
2. A competent signaler/spotter should be used. The signaler's/spotter's only responsibility is to make sure that the equipment operator does not get closer than the safe limit of approach distance.
3. No one should be allowed to touch the load or any part of the equipment until the signaler/spotter indicates it is safe to do so.
4. Other workers not directly involved in the work being performed should be kept away from equipment when it is being used near overhead power lines.
5. Equipment operators must always be aware of the position of their equipment in relation to overhead power lines. Look up and Live. They should not depend on safety devices to alert them.
6. Equipment operators should be aware that a long span of power line can rise and fall as the ambient temperature changes, this will effect the safe limit of approach distances, Wind-induced swing can also change the distances.
7. Grounding equipment in the area of the power line is not a safe practice.
8. The route that a crane, hoe or similar equipment will follow should be marked out before it is moved. Uneven terrain can cause the boom or other structure to bob or weave, increasing the likelihood of power line contact.
9. When using tag lines to control an elevated load, the tag lines should be made of a non-conducting material such as dry rope.
10. Before any work near high voltage lines, all employees involved in work will be provided training for working near high voltage electricity.

In an Emergency:

- Stay in the vehicle until help arrives – this is the safest place.
- Stay away and/or keep other people away from the area.
- Try to break contact with the lines by moving the vehicle at least 10 meters away.
- Don't try to break contact if the cable or equipment appears to be welded to the line – this could cause the line to snap.
- Contact the Power Company to turn off the power.
- If you don't have a cell phone or radio and are alone, stay in the vehicle and wait.

5.2 A OVERHEAD POWER LINES – TRANSPORTED LOADS, EQUIPMENT & BUILDINGS

- The safe limit of approach distances listed in the above Table (previous page) do not apply to a load, equipment or building that is transported under energized overhead power lines if the total height, including the equipment transporting it, is less than 4.15 meters.
- The safe limit of approach distances do not apply because the clearance distance does not vary during transportation and “work” is not being performed.
- Vehicles and their loads must not exceed this height (4.15 meters) when operating on a highway unless Alberta Transportation has granted a special permit to do so.

MINIMUM HEIGHT ABOVE GROUND OF OVERHEAD POWER LINES	
Location of overhead power line	Height above ground
Areas normally accessible to pedestrians only	3.6 m
Driveways to residences or residential garages	4.1 m
Areas where agricultural equipment is normally used	4.2 m
Lanes, alleys or entrances to commercial or industrial premises	4.8 m
Roads and highways	5.3 m
Right-of-ways of underground pipelines	5.4 m
Table 17.2 as per OH&S Code 2006 – Explanation Guide	

- Equipment, buildings or objects exceeding the heights listed in the above Table must not be moved under an overhead power line until the operator of the line is contacted and takes whatever steps necessary to protect the power line and the workers.
- The power line operator must be contacted before the move begins and the operator is required to provide assistance as soon as possible.

5.3 STARTING EQUIPMENT – COLD STARTS

Prior to starting any piece of equipment, the operator is responsible for performing a Pre-Start Inspection of the equipment as laid out in the appropriate check sheet. Once the checks are complete and the sheet has been signed off, the equipment is ready to be started.

In colder temperatures, it is extremely important to allow the equipment time to warm up prior to operation. The following chart outlines suggested warm-up times along with associated temperatures:

Temperature (°C)	Warm-Up Time (minutes)
>0	5
<0	10
<-10	15
<-20	20+

When starting equipment the following procedure will be followed:

- Go through the entire Pre-Start Checklist and perform all checks as outlined on the sheet. Only if everything is operational, proceed to the next steps.
- Turn battery switch to the “on” position.
- Check switches in the cab before engine start. Park brake must be “on”
- If equipped, push and hold “low engine oil pressure bypass switch,” until engine oil pressure reaches normal operating range, when cranking engine.
- After starting engine, assure all gages are working properly and are in the correct operating ranges.

5.4 OPERATION GUIDELINES FOR RECLAMATION EQUIPMENT

The foreman’s will instruct each employee on the proper care and safe operation of the reclamation equipment. It is the employees responsibility to tell a foreman:

- When he/she does not know how to operate any of the equipment.
- When he/she has forgotten how to properly maintain any of the equipment.
- When there may be something mechanically wrong with the equipment.

“Equipment Walk Around” - Before a person begins operation of any of the equipment, they must walk around the equipment. They must make note and correct any problems, and perform the daily service tasks.

NOTE: When an employee is assigned to operate a piece of equipment, the equipment then becomes the employees responsibility. Failure to care for the reclamation equipment will result in disciplinary action. This could include termination of employment.

RECLAMATION TRACTORS

An employee will find an operator's manual behind the seat of each tractor.

These manuals provide information to an employee for such things as: detailed information of service schedules, trouble shooting, safe operation, etc.. THESE MANUALS ARE NOT TO LEAVE THE TRACTORS.

Daily or 10 Hour Service

- Check engine oil level and coolant level.
- Drain water separator (if equipped).
- Check Transmission-Hydraulic oil level. Make sure the loader is lowered and in the working position, the three-point hitch is lowered, and the engine is shut off.
- Check all tires.
- Lubricate Mechanical Front-Wheel Drive (MFWD) kingpins, tie rod ends, and axle pivots when operating in extremely wet or dusty conditions. Otherwise they can be lubricated every 250 hours.

* In addition to the points listed above, the employee must ensure that the interior and exterior of the tractor is kept clean.

250 Hour Service

This service is performed by the Top Grade Construction mechanic, or someone under supervision of the mechanic. It is the employee's responsibility to notify their foreman when a tractor they are operating is close to having a 250 hour service.

- Always use 4 way flashers when traveling down roads.
- Give right of way to road traffic at all times.

GREAT PLAINS SEED DRILLS

When an employee goes out to perform a seeding job, they will be given a seeding kit. This kit will include an operator's manual. This manual contains information such as: safety rules, operating check lists, calibration, trouble shooting, etc..

Again, the foreman will assist the employees when they need it.

Daily or 12-15 Hour Service

- Check all bolts to ensure they are tight.
- Lubricate the wheel arm pivot castings. Grease fittings are located at the end of each wheel arm pivot tube.
- Lubricate the 2 lube fittings on the coulters. One on the hub and one on the main mounting casting. NOTE: The one fitting on the mounting casting should be greased every half of a day.
- Inspect the disks and check to see if the disk scrapers are properly adjusted.
- Always maintain 40 PSI air pressure in the rib implement tires.



Field Operations Notes

- NEVER back up with the coulters in the ground.
- ALWAYS seed in straight lines. The drill is not designed to seed while turning sharply. Lift the drill out of the ground when turning to avoid breaking the disk openers.
- NEVER transport the drill with just the rear loading wheels. Leave the majority of the weight on the main end wheels. Also, do not exceed speeds of 20 MPH.
- Check seeding calibration periodically to determine accurate seeding rates.
- Continuously monitor the seed cups to ensure that the drill is working.
- Use caution when unloading the seed drills so that the drill openers do not get caught on the trailer.
- Remember to record the start and finish readings from the acre meter.

ROTOSPICKS

Operator manuals for both the Kuhn EL 121 and the Muratori Rotospicks can be found behind the seat of the tractors that run them. This includes the JD 7320's and the JD 7720. THESE MANUALS ARE NOT TO LEAVE THE TRACTORS.

Maintenance

- Lubricate the PTO shaft telescopic tubes, the universal joint bearings, and the guard tubes daily or every 10 hours.
- Lubricate the bearing housings at each end of the roller every 20 hours.
- Check the oil level of the gear boxes regularly (at least once a week).
- Check tightness of nuts and bolts regularly.
- Ensure the rotor is free of materials such as wire and baler twine.

Field Operation Notes

- Allow the rotor to rotate at its working speed before putting it in the soil. Remember not to engage the PTO when the machine is high out of the ground. The tractor PTO stud and the Rotospick PTO shaft should be close to parallel. Gradually lower the rootstock while pulling forward with the tractor.
- Do not disengage the PTO unless the rootstock has been lifted out of the work.
- Always work in straight lines. If you have to turn, lift the rootstock out of the ground.
- Never work in reverse. Damage will result if worked in reverse.
- To obtain fine clods:
 - Use a high rotor speed (no more than 1000 rpm PTO speed).
 - Lower the hoods
 - Use a low forward speed
- To obtain coarse clods:
 - Use a lower rotor speed
 - Raise the hoods
 - Use a high forward speed

BALE SPREADERS

The bale spreaders will almost always be run by the JD7320's. Each JD7320 is equipped with an operator's manual for the bale spreaders. The manuals contain information like troubleshooting, machine setup and maintenance, operating instructions, etc. THESE MANUALS ARE NOT TO LEAVE THE TRACTORS.

Daily or 15 Hour Service

- There are 13 nipples to grease at least every 15 hours of operation time. This includes the cylinder bearings, the PTO universal joints and telescope shaft, the main frame pivot bushings, the swivel wheel pivots, and the counter shaft bearings.
- Check for worn or loose bolts.
- Check for worn or loose hydraulic hoses.
- Check air tire pressure - 40 PSI.
- Inspect rotor and rotor parts, and remove any twine from the rotor.

Field Operation Notes

- Because the spreaders connect to the 3-point hitch of the tractor, they will always turn with the tractor and not independently. Because of this, always make sure the turning area around the buster is free of obstructions.
- Always try to cut the strings on each bale that is spread. This will minimize the amount of twine buildup to the rotor.
- Spread straw on oil and gas company property ONLY. If you go off the surveyed areas, it will have to be cleaned up.
- When loading broken bales in buster with front end loader, make sure nobody in within the danger zone area. A spotter must be used if operator is unable to clearly see what he/she is doing when loading.

PARATILL

The Paratill can only be run by the JD7720. No manuals will accompany these tractors. Servicing and operation notes can be found below. These notes will also be located behind the tractor seats. DO NOT REMOVE.

Daily or 10 Hour Service

- Check for worn or loose bolts. Especially the bolts that are used for attaching the 3-point hitch connections.
- Lubricate the coulters and the mechanical trips on the legs.
- Inspect the teeth, shin guards, and shatter plates for excess wear.
- Check tire pressure of depth wheels.



Field Operation Notes

- ALWAYS run the Paratill in straight lines. Turning corners with the Paratill in the ground will result in mechanical failure.
- NEVER run the Paratill in reverse while the Paratill is in the ground. Mechanical failure will result.
- Lower the Paratill into the ground as the tractor is moving forward.
- Remove the Paratill from the ground with the tractor still moving forward. This will prevent the machine from admixing soils and prevent excessive wear on the machine.
- Avoid rocky conditions.
- Ensure that the teeth are not worn out. The Paratill may have a difficult time penetrating the ground if the teeth are dull.
- Ensure the Paratill is level along its length, and is slightly tilted to the front of the tractor. Use the lower draft links and the top link on the tractor to adjust.
- Always observe the legs to ensure they have not tripped during operation.
- Prior to starting, insure that all underground facilities are clearly marked and exposed. Paratill must be lifted out of ground when crossing any lines.

Drill Seeder Calibration

1. Facing the rear of the drill, fill the left section of the seed box with your grass seed.
2. Lift the drill off the ground using the rear loading wheels. Lower the drill end wheels so that the drill is engaged to seed.
3. Remove the hose clamps from the 3 left side seed hoses.
4. Put the 3 hoses into the container, and rotate the left tire for 10 revolutions.
5. Weigh the container and the seed (make sure your scale is reset and set to grams). Take the weight of the container and the seed, and subtract the weight of the container. Divide the weight of the seed by 2 and you will have your seeding rate in Lb./acre.
6. If the seeding rate has to be adjusted, open the seed feeder cups for higher seeding rates, and close the seed feeder cups for lower seeding rates. If you find that the cups won't open or close using the seed rate adjustment handle, use the punch and hammer on the ends of the feeder cup drive shaft. Repeat steps 4 and 5.

NOTE: If the drill cannot be calibrated by opening and closing the feeder cups, try using a different gear speed on the gear box. There is a handle for adjustment located on top of the gear box.

7. Once you have the drill set to the seeding rate that you require, tighten everything up and fill the rest of the drill with seed.

5.5 SAFE OPERATING GUIDELINES FOR ALL TERRAIN VEHICLES

- Never Carry a passenger on an ATV
- Never operate an ATV on any paved surfaces
- Never operate an ATV on any public street, road or highway.
- Never operate an ATV without wearing an approved motorcycle helmet, that fits properly. You should also wear eye protection (goggles or face shield) gloves, boots, and the light clothing for the condition you are working in.
- Never consume alcohol or drugs before or while operating ATV's.
- Never operate at excessive speeds. Always go at a speed that is proper for the terrain, visibility, operating conditions, and your experience.
- Never attempt wheelies, jumps or other stunts.
- Always inspect your ATV each time you use it to make sure it is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in the owner's manual.
- Always keep both hands on the handlebars and both feet on the foot pegs of the ATV during operation.
- Always go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating ATV's.
- Never operate on excessively rough, slippery or loose terrain until you have learned and practiced the skills necessary to control the ATV on such terrain.
- Never operate ATV's on hills too steep for the ATV, or for your abilities.
- Be sure you know the locations and operation of all the controls which your
- ATV may have, brakes, engine, stop switch, throttle, shifter, clutch and parking brake. Learn how to find and use the controls without looking down at them. If you switch to another ATV, take the time to familiarize yourself with its controls. Control locations vary from ATV to ATV.
- All Employee's that will be operating ATV's will be trained in the safe operation of ATV's, by certified All Terrain Vehicle Rider's instructor, before being allowed to operate ATVs.

5.6 WORKING ON & NEAR ROADWAYS

Flagging

1. All jobs working on or near roadways must have two trained flag persons on site and the proper signage or barricades as an advance warning.
2. Traffic accommodations including the flagging operations must be pre-planned.
3. The flag person is responsible to stop or reduce the speed of the traffic through the work zone for the protection of the work crew and the general public (motorists/pedestrians).
4. OH & S regulations state flaggers must wear fluorescent orange hard hats, appropriate protective footwear and a traffic safety vest with reflective strips on the front and back.

5. It is recommended that flag persons also wear white coveralls, CSA approved eye protection, have a log book and pen, an air horn/whistle, barrier creams (For sun and bugs) and have a two way radio and be trained in it's use. Night operations required an additional flashlight with a semi-transparent red cone. All flag stations shall be illuminated for planned nighttime operations.
6. STOP/SLOW paddles are used to help control traffic in a work zone.
7. Flags should be used only in an emergency situation.
8. All flag person must be trained with ACSA Flag person Training.
9. Document all incidents.
10. The flag person's daily checklist is as follows:
 - Verify that FLAGPERSON AHEAD warning signs have been placed on the roadway in the correct positions.
 - Pre-arrange your 15 minute break times with your supervisor. Never leave your post until a relief trained flag person arrives to take over.
 - Verify that you have all the necessary supplies and equipment – drinking water, logbook, PPE, flashlight and extra batteries if night time operations.
 - Ensure that the STOP/SLOW paddle is clean and undamaged.
 - Remove or cover the FLAGPERSON AHEAD warning signs on the roadway when not in use.
 - If two-way radios are used, charges batteries at the end of your shift and have spare batteries on hand.

Flag persons Rules of Conduct

1. Be clearly visible to approaching traffic at all times. At highway speeds, motorists should be able to see you from at least 150M away.
2. Stand on the shoulder of the road facing approaching traffic.
3. Choose a flagging position that will provide the greatest color contrast between you and the background.
4. Never stand in a shadow.
5. Never flag from inside a vehicle.
6. Stand alone. Do not permit a group of worker to congregate around you.
7. Be able to answer motorists' questions. Familiarize yourself with the nature of the work being performed.
8. Verify with the work crew the warning signal that will be used in case of an emergency.
9. Plan an escape route.
10. Stay alert! Be ready to respond to any situation.
11. When anything unusual occurs, the flag person should note the incident in a logbook as soon as possible after the incident.

12. Be courteous and professional.
13. Keep your mind on your job.
14. Cover, turn, or remove the FLAGPERSON AHEAD sign when a flag person is no longer required.
15. Do not involve yourself in unnecessary conversation with motorists, co-workers or pedestrians.
16. Do not lean, sit or lie on a vehicle.
17. Do not step into, or turn your back to the traffic.
18. Do not leave your station until you are replaced by a properly attired and qualified flag person.
19. Do not wear earphones (radio/tape recorder/CD)

5.7 BARRICADES AND FENCES

Fences and barricades are to be erected in all areas where there is a potential risk to the general public.

5.8 WELDING SERVICES GUIDELINES

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 the work.

- Always ensure that adequate ventilation is supplied since hazardous fumes can be created during welding, burning and cutting.
- Where other workers may also be exposed to the hazards created by welding, burning and cutting, they must be alerted to these hazards or protected from them by use of “screens”.
- Never start work without proper authorization.
- Always have fire fighting or prevention equipment on hand before starting welding, burning or cutting.
- Check the work area for combustible materials 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 line, 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 with proper gas tests and a required safety lookout.
- When working overhead, use fire resistant materials to control or contain slag and sparks (blanket, tarps)
- 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.

5.9 RIGGING GUIDELINES

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 men have lost fingers or hands or have suffered more serious injuries because they thought "Anybody can do that". Here are some do's and don'ts:

- 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" signal from each crewmember.
- Each rigger must be sure he's in the clear before he 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. (Frayed cables should be replaced right away)
- Watch out for the roll or swing of the load. Since it's almost impossible to position the hook exactly over the load center, there will almost always be a swing or rill. Anticipate the direction of the swing or roll and work away from it.
- Never place yourself between material, equipment or any stationary object and the load swing. Also, stay away from stacked material that may be knocked over by a swinging load.
- Never stand under the load, and keep from under the boom as much as possible.
- 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, be 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 slow shift that you can get away from.
- Identify the designated signalman by the use of distinctive vests, armllets, etc. Review all signals before starting the operation.
- Use tag lines to control leads.

5.10 WASTE DISPOSAL HAULS GUIDELINES

1. Wearing Personal Protective Equipment is compulsory.
2. Be cautious when arriving at waste haul loading sites. Follow all posted rules.
3. Apply unloading aids to box. e.g. Straw, poly, etc. to prevent loads from sticking.
4. When clean material is being hauled immediately after contaminated material, poly must be used to line the box prior to loading contaminated soils to prevent any risk of cross contamination.
5. Secure tailgates
6. Supervise loading – you are responsible for hauling legal loads.

7. Clean any spillage from tailgates, hitches and sideboards.
8. Be alert at judging weight or use portable scales or air bag pressure.
9. Adjust load in case of overload or under load.
10. Tarp load
11. Proceed with trip obeying all Federal, Provincial and Municipal Laws.
12. In the case of regulated waste, a roadside equipment inspection shall be required every 2 hours.
13. Be aware of procedure requirements at waste dumping stations.
14. Avoid personal contact with contaminated soil when unloading.
15. Placards/manifests will be supplied.
16. Housekeeping – maintain a clean site – keep unloading aids, straw, poly organized and confined to designated area.
17. When tipping loads maintain a safe radius from structures, other trucks and equipment.
 - End dumps – 75 feet radius
 - Tandem dump truck – 35 feet radius
18. You are responsible for your load – ensure level, safe dumping area before proceeding. It may be necessary in some conditions to do a quick walk around to access site conditions (soft soil, uneven terrain, blow outs, etc.) before proceeding to unload.
19. Drivers have the right to refuse to dump load if conditions are unsafe, continue when problems are corrected.
20. Ensure box is clean before going to next project.

5.11 AEUB MANIFEST GUIDELINES

See G-58: Oilfield Waste Management Requirements for the Upstream Oil and Gas Industry Attachments Figure 8.1, 8.2, 8.3

- a. *Company information:* This includes the company name address and city.
- b. *Operator Code (Generator):* A three-digit number specific to each oil company. The generator operator code needs to be on the manifest prior to moving the waste.
- c. *Source site location:* This is the specific site from which the waste is generated. The LSD must also be recorded on this line.
- d. *Battery/Facility Code (source):* Each upstream oil and gas facility in Alberta has a unique battery or facility code assigned to them by the AEUB. If this information is known, please ensure that it is on the manifest. The required number will generally be 4 numbers for facilities or 5,6,7 numbers for batteries.
- e. *Operator Code (Facility):* This will generally be the same as the Operator Code (Generator).

- f. *Battery/Facility Code (receiver):* Each oilfield processing facility regulated by the AEUB will have a unique code assigned to it. Prior to shipping materials to these facilities, ensure that this information is on the manifest. When shipping to a facility such as Safety-Kleen which is regulated by AEP and not by the AEUB, use their AB Receiver # in this area of the manifest.
- g. *Transporter Information:* Similar to the TDG manifest, the company name and address must be shown. When moving DOW's, an AB Generator # is required - ensure that it appears within this section of the manifest. Contact the individual trucking company to determine all the required information.
- h. *Receiver Information:* The receiver name, address and site location must be recorded in this section of the manifest.
- i. *N or D:* This area shows whether you are shipping a D = DOW (Dangerous Oilfield Waste), or an N = Non DOW (non-Dangerous Oilfield Waste.) A waste is D if it is TDG regulated and N if it is non-regulated. Manifests from shipments of non-DOWs are not required to be forwarded to the AEUB.
- j. *TDG Information:* Shipping name, PIN, Class, P.G. - the TDG information must be correct as per federal regulations. Placards are required for most shipments (with the exception of 9.2) and labels are required on every container.
- k. *Waste Code:* This is the specific waste code that the AEUB has assigned to each waste stream. Some of the common ones are attached. If shipping wastes with unknown AEUB codes, call AEUB for the proper Waste Code prior to moving it.
- l. *Handling Code:* This is shown on the back of the manifests, and it indicates the proposed method of handling the waste. For wastes going to an upstream oil and gas processing facility the code is 03.
- m. *Quantity Shipped:* Indicate cubic meter or tonne as amount of waste to be shipped. For small containers, quantity may be reported in kg and L.
- n. *Oil / Water / Solid %:* Complete with an estimate of the percentages of each component in the waste stream indicated.
- o. *Special Handling/Emergency Instructions:* A 24-hour emergency number must be shown in this area. Any other relevant information can also be indicated in this section of the manifest.
- p. *Authorized Person:* This area requires the signature of a TDG certified person.
- q. *Quantity Received:* The information to be completed by the receiver of the wastes. Amounts should match the quantity shipped.
- r. *Handling Code 02 /21:* This information to be completed by the receiver.
- s. *Discrepancies:* If any discrepancies with the wastes the receiver will complete this section of the manifest. The receiver then has 30 days to notify the generator of any discrepancy. Major discrepancies require immediate AEUB notification.
- t. *Authorized Person:* This should be signed by the original shipper of the waste, prior to forwarding distribution of Manifest copies to applicable parties.

Manifest distribution

For wastes which Top Grade Construction handles directly, manifests will be completed, distributed and filed according to the following:

- Blue will be left at the generating location
- Goldenrod, Pink, White & Yellow will accompany the load, and will be turned into Top Grade Construction for distribution. Information will be checked to ensure accuracy and discrepancies reconciled as required.
- Goldenrod and Pink will be retained in Top Grade Construction files
- White copy will be sent by Top Grade Construction to the AEUB
- Yellow copy will be returned to generating location (with invoice)

5.12 TRACKHOE MAINTENANCE – CHANGING BUCKET TEETH

Tools Required:

- Hammer
- Punch

Materials Required:

- Bucket replacement teeth
- Replacement pins and washers, if old pins are worn

PPE Required:

- Hard hat, steel toes boots, coveralls, and gloves
- Safety glasses and face shields are mandatory to protect eyes from flying debris

Job Steps:

1. Lower bucket to the ground in a stable area with teeth positioned parallel to the grounds. Teeth only should be raised approx. one inch off the ground.
2. Disengage hydraulic controls in the trackhoe cab
3. Shut down the trackhoe
4. Lock out the equipment by having the worker performing the maintenance remove the unit's key to ensure the equipment will not move. The key must be kept on the worker and retained until the maintenance is complete.
5. Remove the pins with the hammer and punch.
6. Remove the worn teeth.
7. Replace with new teeth.
8. Replace worn pins and washers as necessary

9. Reinstall pins and washers.
10. Upon completion of the maintenance the workers performing the maintenance shall then return the key to the unit.

5.13 TRACKHOE MAINTENANCE – CHANGING BUCKET CUTTING EDGE

Tools Required:

- Cutting torch
- Strong Arm
- 1 ½ socket
- Two 2x4 blocks

Materials Required:

- New cutting edge if both sides have been already used
- Replacement bolts and nuts

PPE Required:

- Hard hat, steel toes boots, coveralls, and gloves
- Safety glasses are mandatory to protect eyes from flying debris

Job Steps:

1. Lower bucket to the ground in a stable area with cutting edge positioned parallel to the ground. Set the cutting edge of the bucket down on two 2x4 blocks. The blocks are to be placed at each edge of the cutting edge, ensuring that the blocks do not rest under any of the bolts.
2. Disengage hydraulic controls in the trackhoe cab
3. Shut down the trackhoe
4. Lock out the equipment by having the worker performing the maintenance remove the unit's key to ensure the equipment will not move. The key must be kept on the worker and retained until the maintenance is complete.
5. Remove the bolts with the cutting torch.
6. Remove 2x4 blocks ensuring that feet or fingers are not under the cutting edge.
7. Remove the old cutting edge to the ground. If a sledge hammer is needed to loosen the cutting edge ensure feet remain clear of the cutting edge.
8. Reverse the cutting edge to the unused side or replace it with a new cutting edge.
9. Re-support the cutting edge with the 2x4 blocks.
10. Secure the cutting edge in place with the nuts and bolts and tighten securely.
11. Upon completion of the maintenance the workers performing the maintenance shall then return the key to the unit.

5.14 CAT MAINTENANCE – CHANGING CUTTING EDGES

Tools Required:

- Strong Arm
- 1 1/8 socket
- Impact wrench
- Blocking stand 3-4 feet high
- Screwdriver
- Sledge Hammer
- Cutting torch

Materials Required:

- New cutting edge
- Replacement bolts and nuts

PPE Required:

- Hard hat, steel toes boots, coveralls, and gloves
- Safety glasses are mandatory to protect eyes from flying debris

Job Steps:

1. Raise the blade on the cat into the air.
2. Carefully position a blocking stand directly under the C-Frame.
3. Lower the blade onto the stand.
4. Disengage hydraulic controls in the cat cab.
5. Shut down the cat.
6. Lock out the equipment by having the worker performing the maintenance remove the unit's key to ensure the equipment will not move. The key must be kept on the worker and retained until the maintenance is complete.
7. Clean the dirt and mud out from the area around the bolts on the back side of the blade with a screwdriver.
8. Remove all the bolts with the impact wrench and 1 1/8 socket.
9. Some bolts may be damaged due to wear and require a cutting torch for removal.
10. Remove the old sections of cutting edges to the ground.
11. If a sledge hammer is needed to loosen the cutting edge ensure worker's feet and body parts remain clear of the cutting edge and the area of impact.
12. Reverse the center three cutting edges to the unused side or replace each section with a new cutting edge.

13. Replace the two corner pieces with new cutting edges.
14. Secure the sections of cutting edges in place with the nuts and bolts and tighten securely with the impact wrench.
15. Worker performing the maintenance then restarts the cat with the key he has and lifts the blade.
16. Remove the blocking stand.
17. Lower the blade back to the ground.
18. Shut down the cat.

5.15 GRADER MAINTENANCE – CHANGING CUTTING EDGES

Tools Required:

- Two blocking stands 3-4 feet high
- Strong Arm
- 1 1/8 socket
- Impact wrench
- Screwdriver
- Sledge Hammer
- Cutting torch

Materials Required:

- New cutting edge
- Replacement bolts and nuts

PPE Required:

- Hard hat, steel toes boots, coveralls, and gloves
- Safety glasses are mandatory to protect eyes from flying debris

Job Steps:

1. Raise the grader blade up into the air.
2. Carefully position the two blocking stands directly under the circle.
3. Lower the blade on the grader to approx. one inch above the ground and the circle resting on the stands.
4. Shut down the grader
5. Lock out the equipment by having the worker performing the maintenance remove the unit's key to ensure the equipment will not move. The key must be kept on the worker and retained until the maintenance is complete.
6. Clean the dirt and mud out from the area around the bolts on the back side of the blade with a screwdriver.

7. Remove all the bolts with the impact wrench and 1 1/8 socket.
8. Some bolts may be damaged due to wear and require a cutting torch for removal.
9. Remove the old sections of cutting edges to the ground.
10. If a sledge hammer is needed to loosen the cutting edge ensure worker's feet and body parts remain clear of the cutting edge and the area of impact.
11. Replace with the new cutting edge.
12. Note: the worker may have to restart the grader and raise the blade 2-3 inches in the air if the old blade was worn sufficiently. This allows for clearance of the new cutting edge which may be wider than the old edge.
13. Raise the blocking stands under the circle to allow for the blade height adjustment, if the blade needed raising.
14. Secure the sections of cutting edges in place with the nuts and bolts and tighten securely with the impact wrench.
15. The worker performing the maintenance then restarts and grader with the key he has to lower the blade back to the ground.
16. Shut down the grader.

5.16 PERMITS - OBTAINING ALBERTA PERMIT

Alberta Permits

If equipment move is in Alberta call office (Cheri, Susan or Carolyn) with your information and they will get your permit.

The office will need to know the following information:

- Which truck and trailer is to haul the equipment
 - i.e. Gord with 05 Kenworth
 - Unit 024 Blue Peterbilt
- What machine you are hauling
 - i.e. Unit 102 06 Kobelco SK250LC Hoe
- Previous permit number and date if known on this equipment
- Starting location (where your trucker is picking up the machine)
 - i.e. 5-10-34-10-W4th
- Ending location (where your having the machine delivered to)
 - i.e. 8-9-22-4-W4th
- Highways the trucker will be traveling on
 - i.e. 49, 2, 33

- Is your move traveling on any Grid road, if yes – what is the Country or MD the Grid road is in
 - MD of Acadia
 - Country of Painted Earth
- Your loaded weight per axle
 - i.e. 5,500kg steering
 - 18,500kg drives
 - 24,500kg tri-axle
 - 48,500kg Total Weight
- Project number i.e. 2181

The office will call you back with the Permit number and the Cost of the permit. Write this information on the operator time ticket with the trucking hours.

5.17 EMERGENCY TRANSPORTATION PLAN - SETTING UP

1. After completing the hazard assessment and the “what if this happens” complete the Emergency Medical Response Transportation Plan and document on the hazard assessment and the tailgate form.
2. Points to consider when developing the emergency transportation plan:
 - The types of injuries or illnesses likely to occur given the hazards associated with the work, the ages, condition, and limitations of the workers.
 - The number of workers at the worksite
 - The distance to be travelled to and from the work site to the health care facility
 - The availability of a local ambulance service
 - Ambulance or emergency transport vehicle response times
 - The time of day that the worksite is in operation
 - The means of transportation needed to get to the worksite
 - Transportation routes
 - Seasonal or weather changes that may affect the means or routes of transportation
 - Travel times.
3. Review the alarm system if an emergency occurs. (i.e. Air Horn, Truck horn, etc.)
4. Set up a muster point.
5. Review that workers have first aid training, or who is the assigned first aider on site.
6. Review the following steps to be taken if emergency transportation is required before calling the Emergency Link Center for an ambulance or Stars
 - Directions to worksite – an accurate description of the exact route to the site. (Have the ambulance, Stars or the 911 operator repeat back verbal directions to ensure accuracy.)

- Location Conditions – Assess access to, and the condition of, location for communication to the responding emergency personnel. This will determine the right type of land based equipment that is dispatched. (Mud, ice, rough terrain, steep hills, etc.)
 - Weather conditions – Assess the weather conditions for communication to the responding emergency personnel. Document unusual conditions. (Storms, high winds, etc.)
 - Communication Methods – Ensure the methods of communication are adequate and communicated to the emergency response personnel. (Cell phone numbers, Satellite radios numbers &/or radio frequencies)
 - Emergency Transportation – Communicate if an Emergency Transport Vehicle is on site. If an ambulance response is required. If the ambulance or emergency transportation vehicle cannot arrive within 40 minutes, it is recommended it to be met and the worker will be transported to the predetermined location. Communicate and document this location and the vehicle that will be used for transport. Remember the ambulance personnel may or may not be familiar with legal land descriptions.
 - Review what to do if another worker becomes injured while the first one is being transported to a health care facility. The remaining workers and first aiders at the site must know what to do and who to call if work continues and another injury occurs.
7. Review when calling the emergency centre – state the Nature of the Emergency (i.e. broken leg, chest pains) and relay the Status of the Worker (conscious, unconscious, bleeding, pain).
 8. Review to maintain Contact with the Emergency Link Center until you are told to hang-up.
 9. Advise to prepare for the arrival of the evacuation service. This may include meeting at an alternate site or ensuring that the evacuation vehicle can find the worksite (i.e. meeting and directing the evacuation vehicle into the location)
 10. Advise to be prepared to assist the Emergency Medical Services upon arrival.
 11. Contact in advance the emergency services to find out the processes involved in responding to a call and expected response times. Response times may vary considerably. Determine the service's capabilities; do they have what you may need? (i.e. ambulance or helicopter)
 12. Ensure that the plan is written out, finalized and communicated to all the applicable workers and a copy kept on site at all times.
 13. The written (on-site) Emergency transportation plan needs to include the following:
 1. Who to call
 2. How to call
 3. Who makes the call?
 4. What to say
 5. What to expect



6. Communication of the plan
7. Date of plan completion

Note: Work cannot be performed unless adequate first aid and emergency transportation is available. Ensure this plan is communicated to and understood by all workers at the worksite prior to start work.

5.18 H₂S (HYDROGEN SULFIDE)

Hydrogen sulphide (H₂S), is a naturally occurring gas found in a variety of geological formations. It can also be formed by the natural decomposition of organic material in the absence of oxygen. Or is can be chemically-produced.

H₂S could be found at many of our worksites and we must be aware of its possible existence, the hazards, or how to protect ourselves. The oil and gas industry is the single largest source of H₂S in Western Canada. It can be found in a variety of industrial processes, wastewater & sewer treatment facilities, the production and refining of petroleum, pulp and paper, metals, sulphur compounds and heavy water. It can be found in landfills sites, swamps, wellheads, pipelines, confined or enclosed spaces, pits, low spots, bermed or diked areas, or even shacks or well site buildings. Watch out for liquids, sludge and scale. If you agitate liquids or sludge in a tank, it may release H₂S. H₂S can also be referred to as sour gas, acid gas, stink damp or sulphuretted hydrogen.

Work sites that are classified as sweet gas can turn to sour gas.

H₂S gas is colorless, heavier than air in its pure state and deadly. In low concentrations, it smells like rotten eggs, causes eye and throat irritation. It can deaden your sense of smell. In higher concentration it can kill.

To protect yourself from the dangers of exposure to H₂S, the following are a few of the things you must know, regularly review, and practice to protect yourself and others.

H₂S Properties

Worker Exposure Limits for H₂S

Toxicity Levels

Initial Response Strategy

H₂S Properties	
Properties	Description
Physical State	Normally a gas
Color	Colorless - No visible sign of H ₂ S to alert you of its presence
Odor	Smells like “rotten eggs” - Impairs your sense of smell at low concentrations
Vapor Density	Slightly heavier than air - In gas mixtures, it will be present whenever the gas mixture is found - Gas mixtures may be heavier or lighter than air, depending upon their vapor density and temperature compared to the ambient atmosphere (usually air) - In its pure state, or as a high proportion of a gas mixture, H ₂ S may flow or settle into low-lying areas, such as trenches, pits and natural depressions.
Flammability	Flammable - Gives off sulphur dioxide gas (SO ₂) and burns with a blue flame. - SO ₂ is also hazardous and irritates the eyes and the respiratory system. - Explosive when mixed with air, depending upon the proportions.
Solubility	Dissolves in water, oil, sludge, emulsions, well fluids and molten sulphur - H ₂ S may be released when liquids are agitated, depressurized or heated

Worker Exposure Limits for H₂S					
	Jurisdiction				
Exposure Limit	Alberta	B.C.	Sask.	Canada	Descriptions
8 - Hour	10 ppm	10 ppm	10 ppm	10 ppm	Time - Weighted Average (TWA) for 8 hours
15 - Minute	n/a	15 ppm	15 ppm	15 ppm	TWA Average for up to 15 minutes, with 60 min. breaks
Ceiling	15 ppm	15 ppm	15 ppm	15 ppm	Never exceed without respiratory protection.

Toxicity Levels	
H₂S Exposure	Possible Health Effects
Less than 1 ppm	- You can smell it
10 ppm	- No known adverse health effects for most people - Respiratory protection is required beyond this level
20 - 200 ppm	- Eye & respiratory tract irritations and loss of smell - Headache and nausea
200 - 500 ppm	- Above effects, but sooner and more severe - Loss of breathing and death within hours
500 - 700 ppm	- Affects the central nervous system - Loss of reasoning, loss of balance, unconsciousness and breathing to stop within minutes
700 ppm and above	- Immediate loss of consciousness - Permanent brain damage and death if not rescued immediately

Positive pressure or self-contained breathing apparatus (SCBA) must be used where the measured amount of H₂S present exceeds or may exceed 10 ppm.

Individual sensitivities to H₂S exposure can vary from person to person.

The above levels were established to ensure that workers can escape from a contaminated area in the event of failure of their respiratory protective equipment.

In the event that the equipment fails, every effort must be made to exit immediately.

The concentration of H₂S that is considered to be Immediately Dangerous to Life and Health (IDLH) is 100 ppm.

H₂S enters the body through the lungs. It then dissolves readily in the blood and is carried by the bloodstream throughout the body. It affects breathing by causing the respiratory control centre in the brain to shut down. Without the brain telling the body to breathe, respiration stops. Death occurs because the oxygen in the blood is quickly used up, causing the heart to stop which will result in death, if not treated promptly.

H2S - INITIAL RESPONSE STRATEGY

1. EVACUATE
 - Get to a safe area immediately.
 - Move upwind if release is downwind of you.
 - Move crosswind if release is upwind of you.
 - Move to higher ground if possible, as gas may collect in low lying areas.
2. ALARM
 - Call for help/backup (yell out – Man Down), sound the horn, bell, whistle or radio
 - 911
3. ASSESS
 - Do a head count, are others missing?
 - Stop and consider other hazards
 - wind directions, location of victim, location of SCBA, H2S warning lights
4. PROTECT
 - Put on breathing apparatus before attempting rescue.
 - Put on H2S monitor
5. RESCUE
 - Remove the victim to a safe area
6. REVIVE
 - Apply CPR, if needed
7. MEDICAL AID
 - Arrange transport of victim to medical aid.
 - Provide information to Emergency Medical Services (EMS).

5.19 LIFTING AND HANDLING LOADS – ADAPTING HEAVY OR AWKWARD LOADS

Some loads are particularly heavy or awkward and equipment may not be reasonably practical to use. In these circumstances the following is to apply:

1. Adapt the load to make it easier for workers to lift, lower, push, pull, carry, handle or transport the load without injury.
 - Reduce the weight of the load by dividing it into two or more manageable loads.
 - Increase the weight of the load so that no worker can handle it and therefore mechanical assistance is required
 - Reduce the capacity of the container

- Reduce the distance the load must be held away from the body by reducing the size of the packaging
 - Providing handholds
2. Minimize the manual handling required to move the load.
 - Team lift the object with two or more workers
 - Improve the layout of the work process to minimize the need to move materials
 - Reorganize the work method(s) to eliminate or reduce repeated handling of the same object
 - Rotate workers to jobs with light or no manual handling
 - Use mobile storage racks to avoid unnecessary loading and unloading.

Loads should be pushed rather than pulled. The reasons behind this are:

- Your feet can be run over and your ankles struck painfully when pulling carts or trolleys
- When pulling a load while facing the direction of travel means that the arm is stretched behind the body, placing the shoulder and back in an unnatural position.
- When you are pulling while walking backwards you are unable to see where you are going or if anything is in your path
- You can push harder than pull as you can lean your body weight into the load.

Trolleys and carts should be sized and designed to allow almost any workers to move a load without excessive force. Push cart bars must be at a height suitable for all workers.

5.20 INJURIES – MUSCULOSKELETAL

When a worker reports that a musculoskeletal injury is believed to be work related the following steps will be taken.

1. A review of the activities of the worker, and of other workers doing similar tasks, to identify work-related causes of the symptoms, if any. Comparing work activities among workers may help to provide an insight into why the worker is experiencing a problem while others may not. Review the work stations design, equipment use, technique, etc. for ideas that might explain why the worker is experiencing symptoms. Other workers may be experiencing similar symptoms and not yet reported them.
2. Corrective measures will be taken to avoid further injuries if the causes of the symptoms were work-related.

Note: All workers who may be exposed to the possibility of musculoskeletal injury must be trained in specific measures to eliminate or reduce that possibility.

Musculoskeletal (or MSIs) injuries include repetitive strain injuries, repetitive motion injuries, cumulative trauma disorders, overexertion and overuse injuries. These injuries are when bones, joints, ligaments, tendons, muscles blood vessels and other soft tissues are damaged. Tennis elbow is an example that can occur from the repetitive swinging or arm movements to perform the task. Other names for MSIs are carpal tunnel syndrome, thoracic outlet syndrome and tendonitis.

Overexertion and overuse injuries are also described as:

- overexertion injuries – sprains, strains and tears from excessive physical effort that can occur during lifting, lowering, pushing, and/or pulling
- overuse or repetitive motion injuries – resulting from repeated overuse of a part of the body. Computer users, truck drivers and laborers that use their hands extensively in material handling and professional trades are examples of repetitive motion injuries.

An injury may be work related if

- an event at the work site either caused or contributed to the resulting injury, or
- an event at the work site significantly aggravated a pre-existing injury.

An injury is not work related if it involves signs or symptoms that surface at work but result solely from a non-work-related event that occurs outside the workplace.

If it is not obvious whether the injury event occurred at the worksite or away from work, the worker's duties and working environment are to be evaluated to decide whether or not one or more events at the workplace caused or contributed to the injury or significantly aggravated a pre-existing condition or injury. An ergonomist, physician, occupational health nurse, occupational therapist or similar person may be called in if necessary.

A pre-existing injury (resulted solely from a non-work-related event that occurred outside the workplace) can be significantly aggravated when an event at the work site

- results in the worker having to be away from work for one or more days
- results in the worker having their work activities restricted to prevent further aggravation, or
- results in the worker having to transfer jobs and the transfer would not have occurred but for the occupational event.

MSIS - SIGNS AND SYMPTOMS

Redness, swelling and the loss of normal joint movement are the first signs of an MSIs that can be seen. Unseen symptoms are numbness, tingling or pain.

COMMON SYMPTOMS OF AN MSI	
Symptom	Description or observation
Pain (sharp, shooting or dull)	Often the most common feeling, pain may be present at rest or may occur when the person tries or use the injured body part
Tenderness	The area may be painful or sensitive to touch
Heat or burning	The injured area may feel warmer than normal. The injured person may feel a burning sensation
Tingling, pins and needles, or numbness	The injured person may feel a tingling sensation along the injured area. The injured person may also lose feeling at or around the injured area
Heaviness	The injured body part may feel as if it weighs more than normal
Clumsiness or weakness	The injured worker may drop items frequently or find it difficult to grasp or hold onto objects. The injured person may find it difficult to hold onto things that would normally be easy to hold
Cramping or spasm	Muscles may stay in a contracted state or contract and relax on their own

STAGES OF INJURY

If nothing is done to correct the problem causing the MSIs, workers may be headed for increasing, and potentially devastating, discomfort and disability.

Stage 1

- Discomfort may persist for weeks or months but is reversible.
- Most workers experience pain and weakness during work activities but improve on days off work
- Interference with work tasks is minimal

Stage 2

- Discomfort may persist for months
- Symptoms begin more quickly and last longer
- Physical signs may be present, and sleep may be disturbed
- Work tasks may be difficult to perform

Stage 3

- Discomfort may persist for months or years.
- Symptoms are always present, even at rest.
- Activities of daily living are disrupted, and sleep is disturbed
- The person is unable to perform light duties at work
- The likelihood of recovery is poor.

RISK FACTORS

Awkward body positions

The location and orientation of the object being worked on, poor workstation design, product or tool design or poor work habits can give awkward body positions. Leaning forward from the waist for extended periods of time, or bending the neck downwards at an exaggerated angle, can load muscles with “static work”. Static work involves muscles being tensed in fixed positions and over time, becoming tired, uncomfortable and possibly painful.

Forceful exertions

Forceful exertions (excessive force) may overload muscles, tendons and ligaments. They may occur when lifting, pushing, pulling and reaching. Awkward wrist and arm positions may also contribute to the problem. (i.e.) A bent tool eliminates an awkward wrist position and provides a good grip.

Repetition

Without sufficient time to recover between repetitions, muscles become tired and may cramp and eventually wear the body down. The time it takes to develop an injury depends on how often a repetitive motion is performed, how quickly it is performed, and for how long the repetitive motion continues. Repetitive work is more of a problem when it is combined with awkward body positions and forceful exertions.

5.21 SAFEGUARDS

Safeguards must be in place to prevent a worker accidentally or through the work process, coming into contact with

- a. moving parts of machinery
- b. points of machinery at which material is cut, shaped or bored
- c. surfaces with temperatures that may cause skin to freeze, burn or blister
- d. energized electrical cables
- e. debris, material or objects thrown from equipment
- f. material being fed into or removed from process equipment, or
- g. machinery or equipment that may be hazardous.

The design, installation, operation and maintenance of safeguards must meet the requirements of CSA standard Z432-04 Safeguarding of Machinery.

A person must not remove a safeguard or make it ineffective unless removing it or making it ineffective is necessary to perform maintenance, tests, repairs, adjustments or other tasks on equipment.

If a safeguard is removed or made ineffective, the worker must ensure that

- a. alternative protective measures are in place until the safeguard is replaced,
- b. the safeguard is replaced immediately after the task is completed, and
- c. the safeguard functions properly once replaced.

If a safeguard is removed or made ineffective and the machinery or tools cannot be directly controlled by the worker, the worker who removes the safeguard or made it ineffective must lock out or lock and tag the machinery or render it inoperative.

5.22 PIGGING

Our companies are not involved or around any pigging activity.

5.23 LOCKOUT OF EQUIPMENT WITH PIPING ATTACHED

Our companies are not involved with locking out equipment that has piping attached to it.

5.24 FALL PROTECTION

Fall protection plan

Each work site where there is a potential that a worker may fall 3 meters or more from a permanent or temporary work area and the workers are not protected by guardrails, procedures for a fall protection plan must be developed. If there is an unusual possibility of injury if a worker falls less than 3 meters, a plan must also be developed.

The fall protection plan must include

- a. the fall hazards at the work site
- b. the fall protection system to be used at the work site
- c. the procedures used to assemble, maintain, inspect, use and disassemble the fall protection system, and
- d. the rescue procedures to be used if a worker falls, is suspended by a personal fall arrest system or safety net and needs to be rescued.

The fall protection plan must be available at the work site before work with a risk of falling starts.

Sample fall protection plan

FALL PROTECTION PLAN			
Company / Work Site Name:			
Location:			
FALL HAZARDS			
Identify all existing & potential fall hazards associated with the work site			
FALL PROTECTION SYSTEMS TO BE USED			
Identify the fall protection systems to be used at the work site to protect workers from the fall hazard (i.e. travel restraint, personal fall arrest system, safety net, control zone, etc)			
PROCEDURES			
Identify detailed procedures to assemble, inspect, use, maintain & dismantle the fall protection system identified above			
RESCUE PLAN			
Describe the procedure that will be followed if a worker falls and needs to be rescued			
This fall protection plan was developed by:			
Name:	Signature:	Date:	
Workers must sign the bottom of this form to acknowledge that they have reviewed and understand this fall protection plan.			
Workers must be trained in the safe use of fall protection equipment and the procedures they must follow to ensure their personal safety while using this equipment. This training must include the procedures to assemble, maintain, inspect, use and disassemble the fall protection system or systems in use (refer to Sec 15 OHS Regs). Workers expected to rescue a worker who has fallen and is suspended by a fall protection system must be trained in rescue procedures.			
Workers signing this form acknowledge that they have reviewed & understand this fall protection plan.			
Date	Print Name	Signature	Trained in the safe use of the fall protection equipment
			YES <input type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>

Working from elevated work platforms, aerial devices, man baskets

A worker on a boom-supported elevating work platform, boom-supported aerial device, or telescopic forklift truck work platform must use a personal fall arrest system

- a. connected to
 - i. an anchor point specified by the manufacturer of the work platform aerial device or telescopic forklift truck, or
 - ii. if no anchor point is specified by the manufacturer, an anchor point certified by a professional engineer that meet the requirements of CSA Standard Z259.16-04, Design of Active Fall-Protection Systems, and
- b. when connected to the anchor point, the lanyard, if reasonably practicable, is short enough to prevent the worker from being ejected from the work platform or aerial device but still enables the worker to perform their work.

A worker on a scissor lift or an elevating work platform with similar characteristics using a travel restraint system consisting of a full body harness and lanyard

- a. connected to an anchor point specified by the manufacturer of the scissor lift or aerial work platform, and
- b. when connected to the anchor point, the lanyard, if reasonably practicable, is short enough to prevent the worker falling out of the scissor lift or aerial work platform but is still long enough to allow the worker to perform their work.

This section does not apply if

- a. the manufacturer's specification allow a worker to work from the scissor lift or elevating work platform using only it guardrails for fall protection, and
- b. the scissor lift or elevating work platform is operating on a firm, substantially level surface.

A worker who is being raised or lowered in a man basket must use a personal fall arrest system.

Anchor points

When a worker uses a personal fall arrest system or a travel restraint system, the worker must ensure that it is safely secured to an anchor point or plate that meets Fall Protection requirements.

Various types of anchor points may be used:

- a. anchor plate
- b. travel restraint anchors – temporary
- c. travel restraint anchors – permanent
- d. fall arrest anchors
- e. vertical lifelines
- f. prusik and similar knots
- g. flexible horizontal lifeline and rigid horizontal fall protection systems

Instruction of workers

Workers must be trained in the fall protection plan and the safe use of the fall protection system before allowing the worker to work in an area where the system is needed. This training must be documented and kept on file.

CSA standards when purchasing fall protection

All equipment (such as lanyards, harnesses, shock absorbers) to be used in fall protection must be in compliance with the Alberta (or province of use) OH&S code and applicable CSA standards. All CSA requirements must be met.

CSA Z259.10-M90 (R1998)	Full Body Harnesses
CSA Z259.1-95	Safety Belts and Lanyards

CSA-259.1-95 (R1999)	Safety Belts and Lanyards
CSA-Z259.11-M92 (R1998)	Shock Absorbers for Personal Fall Arrest Systems
CSA Z259.12-01	Connecting Components for Personal Fall Arrest Systems (PFAS)
CSA Z259.2.1-98	Fall Arresters, Vertical Lifelines and Rails
CSA Z259.2.2-98	Self Retracting Devices for Personal Fall Arrest Systems
CSA Z259.2.3-99	Descent Control Devices
CSA-Z259.2.1-98	Fall Arrestors, Vertical Lifelines, and Rails
CSA Z259.14-01	Fall Restrict Equipment for Wood Pole Climbing
CSA Z259.3-M1978 (R2001)	Lineman's Body Belt and Lineman's Safety Strap

Inspection and maintenance of fall protection system

The equipment used as part of a fall protection systems must be

- a. inspected by the workers as required by the manufacturer before it is used on each work shift,
- b. kept free from substances and conditions that could contribute to deterioration of the equipment, and
- c. be re-certified as specified by the manufacturer.

Removal of fall protection equipment from service

Equipment that is used as part of a fall protection system must be removed from service and either returned to the manufacturer or destroyed if it is defective.

If a personal fall arrest system has stopped a fall, the system must be removed from service. It cannot be returned to service unless a professional engineer or the manufacturer certifies that the system is safe to use.

5.25 NOISE EXPOSURE

Duty to reduce

All reasonably practicable measures are to be used to reduce the noise to which workers are exposed in areas of the work site where workers are or may be present. As noise is recognized as a workplace hazard, noise levels are to be taken to obtain the levels within the work area.

Noise can be reduced or eliminated with the use of engineering controls:

1. substitution
2. modification



3. isolation
4. maintenance

Administrative controls and then protective equipment may also be used to reduce worker noise exposure.

Worker exposure to noise

A worker's exposure to noise must not exceed the noise exposure limits in the OH&S table on the following page and/or 85 dBA over 8 hours

Noise exposure assessment

If a worker is, or may be, exposed to noise in excess of the above table, a noise exposure assessment will be conducted. Based on the results of the assessment, if the noise exceeds the limits a noise management program will be developed and implemented.

Noise assessment results recorded

The results of the noise exposure measurements will be recorded and will include

- a. the dates of the measurements
- b. the equipment being measured
- c. the type of measuring equipment used
- d. the sound level readings measured, and
- e. the work location evaluated.

A copy of the result of the noise exposure assessment is available on request to an affected worker, and the record will be retained for as long as the company is in operation. A copy of the results will be posted on the site job trailer or available if requested.

Occupational Health and Safety Code 2006
Explanation Guide

Part 16

Table 16.1 Occupational exposure limits for noise (appears as Table 1 of Schedule 3 of the OHS Code)

Exposure Level (dBA)	Duration
82	16 hours
83	12 hours and 41 minutes
84	10 hours and 41 minutes
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	8 minutes
106	4 minutes
109	2 minutes
112	56 seconds
115 and greater	0

Note: Values have been rounded to the nearest digit.

Notes

Table 16.2 Expanded version of Table 16.1

Exposure Level (dBA)	Duration
82	16.0 hours
83	12.7 hours
84	10.1 hours
85	8.0 hours
86	6.3 hours
87	5.0 hours
88	4.0 hours
89	3.2 hours
90	2.5 hours
91	2.0 hours
92	1.6 hours
93	1.3 hours
94	1.0 hour
95	48 minutes
96	38 minutes
97	30 minutes
98	24 minutes
99	19 minutes
100	15 minutes
101	12 minutes
102	9 minutes
103	8 minutes
104	6 minutes
105	5 minutes
106	4 minutes
107	3 minutes
108	2 minutes
109	2 minutes
110	1 minute
111	1 minute
112	56 seconds
113	45 seconds
114	35 seconds
115 and greater	0

Noise management program

The noise management program will include the following:

- a. a plan to educate workers in the hazards of exposure to excess noise and train workers in the correct use of control measures and hearing protection
- b. the methods and procedures to be used when measuring or monitoring workers exposure to noise
- c. the posting of suitable warnings signs in any work area where the noise level exceeds 85 dBA
- d. the methods of noise control to be used
- e. the selection, use and maintenance of hearing protection devices to be worn by workers
- f. requirements for audiometric testing and the maintenance of test records
- g. an annual review of the policies and procedures to address
 - i. the effectiveness of the education and training plan
 - ii. the need for further noise measurement, and
 - iii. the adequacy of noise control measures

Hearing protection

Hearing protection equipment provided to workers exposed to excess noise will meet the requirements of CSA Z94.2-02, Hearing Protection Devices – Performance, Selection, Care and Use, and is of the appropriate class and grade as described in Schedule 3, Table 2 (Table 16.4 below)

Training will be provided in the selection, use and maintenance of hearing protection equipment required to be used at a work site in accordance with the manufacturer's specification, and the affected workers will wear the hearing protection equipment required to be used.

5.26 DRILL PRESS USAGE

Using a vice with the drill press

1. Secure the metal piece in the vice.
2. The metal piece is to be predrilled with a ¼” bit for pilot holes.
3. The drill press speed is to be on 1 Low and slowly drilled through the metal. The speed is approx. 60 rpm.
4. After the pilot holes are completed the bit is to be changed to a larger size bit for the size of bolt that you will be using.
5. The metal piece is to remain secured by the vice and the pilot holes are drilled out with the large size bit at a speed on 1 Low.

5.27 TRANSPORTATION OF DANGEROUS GOODS

All workers prior to starting with Top Grade Construction must obtain company specific TDG certification. This training is provided through the HS&E department.

Before allowing a carrier to take possession of a dangerous goods for transport, the consignor must determine the classification of the dangerous goods. The consignor must prepare and give the carrier a shipping document or, if the carrier agrees, and electronic copy of the shipping document.

A worker must not offer to transport, or import a means of containment that contains dangerous goods unless each dangerous goods safety mark is displayed on it.

A worker must not handle, offer for transport, or transport dangerous goods in a means of containment unless the means of containment is designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, where will be no accidental release of dangerous goods that could endanger the worker or public safety.

A worker must load and secure dangerous goods in a means of containment and must load and secure the means of containment on a means of transport in such a way as to prevent, under normal conditions of transport, damage to the means of containment or to the means of transport that could lead to an accidental release of the dangerous goods.

A worker who handles, offers for transport, or transports dangerous goods must be adequately trained and hold a training certificate or perform those activities in the presence and under the direct supervision of a person who is adequately trained and who holds a training certificate. The employer must not direct or allow an employee to handle, offer for transport, or transport dangerous goods unless the employee is adequately trained and holds a training certificate or performs those activities in the presence and under the direct supervision of a person who is trained and who holds a training certificate.

Accidental Release of Dangerous Goods

In the event of an accidental release of dangerous goods from a means of containment, the worker who has possession of the dangerous goods at the time of the accidental release must make an immediate report of the release if the accidental release consist of the a reportable quantity of dangerous goods or a reportable emission of radiation as described in the table in section 8.1 of the TDG regulations (worker hand book). The report must be made to the following were applicable:

- a. The appropriate provincial authority
- b. The workers employer
- c. The consignor of the dangerous goods
- d. The owner, lessee or charterer of the road vehicle.
- e. For a railway vehicle, CANUTEC at (613)996-6666
- f. For a ship, CANUTEC, a vessel traffic services centre or a Canadian coast guard radio station
- g. For an aircraft, an aerodrome or an air cargo facility, CANUTEC and the nearest



Regional Civil Aviation office of the department of transport and if the aerodrome is an airport, the operator of the airport.

- h. For Class 1 Explosives and Class 6.2, Infectious substances, CANUTEC and SOR/2008-34.
- i. For and accidental release from a cylinder that has suffered a catastrophic failure, CANUTEC at (613)996-6666

5.28 TRANSPORTATION

Top Grade Construction is registered as a Federal Carrier. As a Federal carrier all workers must follow both Federal and Provincial rules, regulations and law.

Top Grade Construction as the owner of the commercial vehicle must maintain, for each of their drivers, a driver record file.

Hours of Service

Federal regulated companies – No motor carrier shall request, require or allow a driver to drive and no driver shall drive after the driver has accumulated 13 hours of driving time in a day. No motor carrier shall request, require or allow a driver to drive and no driver shall drive after the driver has accumulated 14 hours of on –duty time in a day.

Hours of service records shall be retained for a period of at least 6 months from the date that the information is recorded in the daily log.

Inspection

The driver of the vehicle shall inspect it prior to operating in at the beginning of a work shift and after he ceases to operate it at the end of a work shift. An inspection carried out must meet the Transport Canada's Schedule 1 requirements. This schedule is posted on the back page of the daily log books.

The records required to be maintained by a carrier must be kept at the carrier's principal place of business, be retained for at least 5 years from the date they are created, established or received, and be readily available for inspection by a peace officer during the carrier's regular business hours.

Reporting of Defect

The driver conducting an inspection shall record on the inspection report any defects detected during the inspection and shall report such defects to the owner or a person appointed by the owner prior to the next required inspection. No motor carrier shall permit a driver and no driver shall drive a commercial vehicle on a highway when a major defect is resented on the vehicle.

A driver or carrier must ensure that cargo transported by a commercial vehicle is contained, immobilized or secured so that it cannot leak, spill, blow off, fall from, fall through or otherwise be dislodged from the vehicle, or shift upon or within the vehicle to such an extent that the vehicle's stability or maneuverability is adversely affected.

5.29 FIRE AND EXPLOSION

It is the employer responsibility to ensure that flammable substances stored or used at the work area will not be in sufficient quantity to produce and explosive atmosphere if inadvertently released, are not stored within 30 meters of an underground shaft, are not stored in the immediate vicinity of the air intake of a ventilation supply system, internal combustion engine, the fire box of a fired heater or furnace and are stored only in containers approved to CSA Standard B376-M1980 (R2008), Portable containers for gasoline and other petroleum fuels.

The employer must ensure that an internal combustion engine in a hazardous location has a combustion air intake and exhaust discharge that are equipped with a flame arresting device or located outside the hazardous location. You must ensure that all the surfaces of an internal combustion engine that are exposed to the atmosphere in a hazardous location are at a temperature lower than the temperature that would ignite a flammable substance present in the hazardous location or shielded or blanketed in such a way as to prevent hazardous location from contacting the surface.

The employer must ensure that compressed or liquefied gas containers are used, handled, stored, and transported in accordance with the manufacturer's specifications, a cylinder of compressed flammable gas in the storage arrangements are in accordance with Part 3 of the Alberta Fire Code (1997), compressed or liquefied gas cylinders, piping, and fittings are protected from damage during handling, filing, transportation, and storage, compressed or liquefied gas cylinders are equipped with a valve protection cap in manufactured with a means of attachment, and oxygen cylinders or valves, regulators, or other fittings of the oxygen using apparatus or oxygen distribution system are kept free of oil and grease.

5.30 HOT WORK

The employer must ensure that hot work is not begun until the following items have been addressed and implemented by all workers involved:

- a. A hot work permit is issued that indicates:
 - i. The nature of the hazard
 - ii. The type and frequency of atmospheric testing
 - iii. The safe work procedures and precautionary measure to be taken
 - iv. The protective equipment required
 - v. The hot work location is cleared of combustible materials
 - vi. Suitably isolated from combustible materials
 - vii. Procedures are implemented to ensure continuous safe performance of the hot work
 - viii. Testing shows that the atmosphere does not contain a flammable substance, in a mixture with air, in an amount exceeding 20 percent of that substance's lower explosive limit for gas or vapors or the minimum ignitable concentration for dust.



All workers must be provided hot work training before performing welding, cutting, grinding and or other types of hot work. Workers who perform hot work must be trained on the hot work program be qualified to operate the equipment who authorize hot work and those who conduct fire watches must be trained on the hot work program and on emergency response procedures.

When hot work is to be performed, the Top Grade Construction must have a permit process in place that includes testing the atmosphere for flammable vapors, removing or covering all flammable and combustible substances in the work area, and have firefighting equipment on location in case of fire.

Prior to performing hot work, the area must be inspected for fire hazards. The surrounding area must be free of flammable and combustible material to a minimum distance of 35 feet in every direction. If it is not practical, flammable liquids and combustible materials should be covered with a flame resistant material. All combustible floors should be dampened with water.

The employer must ensure that compressed or liquefied gas containers are used, handled, stored, and transported in accordance with the manufacturer's specifications, a cylinder of compressed flammable gas in the storage arrangements are in accordance with Part 3 of the Alberta Fire Code (1997), compressed or liquefied gas cylinders, piping, and fittings are protected from damage during handling, filing, transportation, and storage, compressed or liquefied gas cylinders are equipped with a valve protection cap in manufactured with a means of attachment, and oxygen cylinders or valves, regulators, or other fittings of the oxygen using apparatus or oxygen distribution system are kept free of oil and grease.

Welding

The employer must comply with the requirements of CSA Standard W117.2-06, Safety in welding, cutting and allied processes.

Welding equipment must be inspected for gas leaks before use. If any leaks are found, the gas supply must be shut-off and an out of service tag shall be placed on the equipment until repairs have been made or defective parts have been replaced.

An employer must ensure that welding or allied process equipment is erected, installed, assembled, started, operated, used, handled, stored, stopped, inspected, serviced, tested, cleaned, adjusted, carried, maintained, repaired, and dismantled in accordance with the manufacturer's specifications.

Where electric arc welding or cutting operations are performed, protective screen must be used to safeguard other workers from harmful radiation and flying objects.

An employer must ensure that before a welding or allied process is commenced, the area surrounding the operation is inspected and all combustible, flammable, or explosive material, dust, gas or vapors is removed or alternate methods of rendering the area safe are implemented.

If a welding or allied process is performed above an area where a worker may be present, you must insure that adequate means are taken to protect a worker below the operation from sparks, debris, and other falling hazards.

Hot work which generates sparks and or hot slag, a fire watch must be conducted while hot work is underway, and for 30minutes following completion.

All welding equipment must be equipped with a flack back arrestor located between the torch and the gas and oxygen supply lines to prevent a flame from burning back from the torch to the supply lines.

Gas cylinder storage must not be near ignition sources or in high temperatures. The cylinders must be stored in a well-ventilated area, secured in an upright position, protected from falling and must have the protective cap in place when not in use. Full and empty containers are to be kept in separate areas.

PPE Requirements – Workers performing hot work must wear appropriate PPE which includes but is not limited to: leather gloves, arm protection, flame retardant work clothing, leather apron, and welding helmet. Fire extinguishers must be readily available to extinguish any fires that might occur during hot work activity's.

5.31 SILICA

The potential for worker exposure to silica will be identified during the hazard assessment. An employer must ensure that a worker's exposure to silica is kept as low as reasonably achievable. Employees must not be exposed to airborne concentrations of silica in excess of 0.025mg/cubic meter over an 8 hour time period. Atmospheric testing results should be assessed before a worker is exposed.

The employer must ensure that a worker who may be exposed to silica is informed of the health hazards associated with exposure to that substance, is informed of measurements made of airborne concentration of harmful substances at the work site, and is trained in procedures developed by the employer to minimize the worker's exposure.

Measures to prevent exposure to silica

If silica products must be used, it is required that engineering controls are used wherever possible. This type of control involves a mechanical process to eliminate exposure to silica dust. Some of these controls may be very simple, as can be seen in the examples below:

- a. Install a water hose to wet down the dust at the point of generation
- b. Install local exhaust ventilation
- c. During rock drilling, flow water through the drill stem
- d. Install dust collection systems onto machines or equipment that generates dust
- e. Use concrete/masonry saws that provide water to the blade

The worker will be provided protective clothing that protects other clothing worn by the worker from silica contamination, ensure that workers' street clothing is not contaminated by silica, and ensure that a worker does not leave a restricted area until the worker has been decontaminated.

Assessments for Exposed Workers

A health assessment must comply with the requirements outlined in part 4, Section 40(2) of the OHS code. The person with custody of the health assessment record must ensure that no person, other than the worker or health professional who conducts the health assessment, has access to the exposed workers health assessment unless: the record is in a form that does not identify the worker, or the worker gives written permission for access by another person. An employer must ensure that a worker undergoes a health assessment: not more than 30 calendar days after the worker becomes exposed and every two years after the first health assessment. Exposed workers may refuse to undergo part or all of a health assessment by giving the employer a written statement refusing it. An employer must pay the cost of the health assessment. An employer must ensure that, if it is reasonably practicable, a health assessment is performed during normal work hours.

5.32 SCAFFOLDS

Top Grade Construction must ensure that scaffolds erected to provide working platforms during the construction, alteration, repair, or demolition of buildings and other structures comply with CSA Standard S269.2-M87 (R2003), Access Scaffolding for Construction Purposes (or current version) Workers can obtain a copy of the standards through the supervisors.

It must be ensured that the load to which a scaffold is subjected never exceeds the equivalent of one quarter of the load for which it is designed.

An employer must ensure that a scaffold is colour coded using tags at each point of entry indicating its status and condition as followed:

- a. Green Tag – with the words safe for use or similar wording , to indicate it is safe to use.
- b. Yellow Tag – with Caution: Potential or Unusual Hazards, or similar wording to indicate the presence of a potential or unusual hazard
- c. Red Tag – with unsafe for use, or similar wording, to indicate it is not safe to use.

A worker must not use scaffold if it has a red tag, a green or yellow tag that has expired, or no tag is present.

5.33 ASBESTOS

The potential for worker exposure to asbestos should be identified during the hazard assessment. An employer must ensure that a worker's exposure to asbestos is kept as low as reasonably achievable. Employees must not be exposed to airborne concentrations of asbestos in excess of 0.1 fibers per cubic centimeter of air (.1 f/cc) over an 8 hour time period. Atmospheric testing results should be assessed before a worker is exposed.

The employer must ensure that a worker who may be exposed to asbestos at a work site: is informed of the health hazards associated with exposure to asbestos, is informed of measurements made of airborne concentration of asbestos at the work site, and is trained in procedures developed by the employer to minimize the workers exposure.

What To Do If Asbestos Has Been Release

If you think a significant amount of asbestos has been released (for example, three to five square feet of spray-on ceiling material or one to two feet of pipe insulation), immediately take the following measures:

1. Close off the part of the work site where the asbestos release occurred.
2. Close off any air ducts and vents.
3. Shut any windows.
4. Tape bottoms of any doors to prevent drafts.
5. Contact an asbestos professional immediately.
6. Have the asbestos professional take samples of dust or debris from all areas of work site.
7. Air samples may also be needed. If so, have the professional contractor who has the proper training and equipment to take the air samples
8. No work is to resume until the area has been deemed safe by the asbestos contractor.

Location / Materials where asbestos is typically found

Historically asbestos has been used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including but not limited too; insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet, and fire resistant drywall. Asbestos may also be present in pipe and boiler insulation materials, pipeline wrap, and in sprayed-on materials located on beams, in crawl spaces and between walls.

Friable and Non Friable Asbestos

Friable asbestos material can be crumbled with hand pressure and is therefore likely to emit fibers. The fibrous or fluffy sprayed-on materials used for fireproofing, insulation, or sound proofing are friable, and they readily release airborne fibers if disturbed. Materials such as vinyl-asbestos floor tile or roofing felts are considered non-friable and generally do not emit airborne fibers unless subjected to sanding or sawing operations. Asbestos-cement pipe or sheet can emit airborne fibers if the materials are cut, abraded, or sawed, or if they are broken during demolition operations.

Measures to prevent exposure to Asbestos

- Repair the free flowing fibrous area. Many issues arise because the area that contains the asbestos has been damaged and the fibers are freely floating through the air. Repairing the effected area may include wrapping the asbestos, removing it and replacing it with a newer, less harmful substance, or enclosing the effected area.
- Wear a HEPA filtered respirator that has been individually fitted for you. There are many respirators on the market to choose from. A dust particle mask is not sufficient protection from the airborne fibers.
- Worker will wear a mask certified for asbestos use.



- Wet the asbestos when working with it. Wet fibers are heavier and fall to the ground or don't free-flow in the air. The point is to not inhale the fibers, so making the fibers heavy will help prevent this.
- No worker will be allowed to handle asbestos with out proper training and certification. Specialized groups will be called upon for any removal of asbestos accoutered on a job site.

Workers must be provided with protective clothing that protects other clothing worn by the worker from asbestos contamination, ensure that workers street clothing is not contaminated by asbestos and ensure that a worker does not leave a restricted area until the worker has been decontaminated.

If a building is to be demolished, the employer must ensure that materials with the potential to release asbestos fibers are removed first. If a building is being altered or renovated, the employer must ensure that materials in the area of the alterations or renovations that could release asbestos fibers are encapsulated, enclosed or removed.

An employer must ensure that a worker who enters a restricted area that is designated as a restricted area due to the presence of asbestos: has successfully completed a course of intrusion approved by a Director of Occupation Hygiene, and has in the worker's possession the original valid certificate of completion of the course issued to the worker.

An employer must ensure that asbestos waste is stored, transported and disposed of in sealed containers that are impervious to asbestos and asbestos waste. An employer must ensure that a container of an asbestos product and asbestos waste is clearly labeled: to identify the contents as an asbestos product and carcinogenic, and to warn handlers that dust from the contents should not be inhaled.

All workers must observe posted signs and / or labels identifying asbestos containing material (ACM) and or presumed asbestos containing material (PACM). ACM and PACM must not be disturbed.

Assessments for Exposed Workers

A health assessment must comply with the requirements outlined in part 4, Section 40(2) of the OHS code. The person with custody of the health assessment record must ensure that no person, other than the worker or health professional who conducts the health assessment, has access to the exposed workers health assessment unless: the record is in a form that does not identify the worker, or the worker gives written permission for access by another person. An employer must ensure that a worker undergoes a health assessment: not more than 30 calendar days after the worker becomes exposed and every two years after the first health assessment. Exposed workers may refuse to undergo part or all of a health assessment by giving the employer a written statement refusing it. An employer must pay the cost of the health assessment. An employer must ensure that, if it is reasonably practicable, a health assessment is performed during normal work hours.

Health Hazards of Asbestos

Prolonged exposure to asbestos fibers has been shown to cause asbestosis, mesotheliomas and various other types of cancer.

5.34 CHEMICAL AND BIOLOGICAL HAZARDS

The potential for worker exposure to harmful substances should be identified during the hazard assessment. An employer must ensure that a worker's exposure to any substance listed in Schedule 1, Table 2 (OH&S) is kept as low as reasonably achievable. An employer must ensure that a worker's exposure to any substance does not exceed its occupational exposure limits listed in Schedule 1, Table 2. Atmospheric testing results should be assessed before a worker is exposed.

A worker may not be exposed to a substance listed in Schedule 1, Table 2 at a concentration exceeding its ceiling limit at any time.

The employer must ensure that a worker who may be exposed to a harmful substance at a work site: is informed of the health hazards associated with exposure to that substance, is informed of measurements made of airborne concentrations of harmful substances at the work site, and is trained in procedures developed by the employer to minimize the workers exposure to harmful substances.

If a worker is present at a work site where chemicals harmful to the eyes or skin are used, the employer must ensure that the worker has immediate access at the worksite to emergency baths, showers, eye wash equipment or other equipment appropriate for the potential level of exposure.

5.35 LEAD

The potential for worker exposure to lead should be identified during the hazard assessment. An employer must ensure that a worker's exposure to lead is kept as low as reasonably achievable. Employees must not be exposed to airborne concentrations of lead in excess of 0.05 mg/cubic meter over an 8 hour time period. Atmospheric testing results should be assessed before a worker is exposed.

The employer must ensure that a worker who may be exposed to lead: is informed of the health hazards associated with exposure to the substance, is informed of measurements made of airborne concentrations of harmful substances at the work site, and is trained in procedures developed by the employer to minimize the workers exposure.

Measures to prevent exposure to Lead

Housekeeping

A good housekeeping program is required on all jobs to keep airborne lead levels below permissible limits. Good housekeeping can be as easy as setting up a schedule to make sure that accumulations of lead dust and lead containing debris are reduced to a minimum.

Lead dust in the workplace on overhead ledges, equipment, floors, and other surfaces must be removed before disruption like traffic, vibration, or random air currents can cause dust to become airborne again. Such cleaning operations should be conducted whenever possible, and always at the end of each day and after normal operation ceases. Furthermore, everyone doing the cleanup should be provided with suitable respiratory protection and personal protective clothing to prevent contact with lead.

Vacuuuming is considered to be the most reliable method of cleaning surfaces on which dust accumulates. When vacuuming equipment is used, the vacuums must be equipped with HEPA filters. Blowing with compressed air is generally prohibited as a cleaning method. All lead-containing debris and contaminated items accumulated for disposal must be collected and put into sealed, impermeable bags or other closed, impermeable containers. Bags and containers must be appropriately labeled as lead-containing waste.

Inspections and Maintenance

Scheduled inspection and equipment maintenance, such as for ventilation systems, is another important work practice control. At work sites where total containment is used as an engineering control, the failure of the ventilation system in the containment area can result in high levels of lead exposure. Often, equipment that is near failure will not perform normally. Regular inspections can detect problems so that timely maintenance can then be performed. If equipment is routinely inspected, maintained, and repaired, or replaced before equipment failure happens, there is less chance that hazardous exposures will occur.

Proper Task Performance

In addition to the above work practice controls, workers must know the proper way to perform their jobs. For example, if a worker inappropriately performs a task away from an exhaust vent, the exhaust vent will be of no use. All training will be provided by the employer.

Supervision

Good supervision is critical. It provides needed backup support for protection against mistakes. For example, directing a worker to position the exhaust vent properly or improving work practices, such as by having the worker stand to the side of the cutting torch, will reduce the worker's exposure to lead.

5.36 METHODS OF LEAD PAINT REMOVAL

Open Abrasive Blasting

The most common method of removing lead-based paint from steel structures is open (nozzle) abrasive blasting. The abrasive material, generally steel shot/grit, sand or slag, is forced by compressed air through hoses. The material cleans the surface of the structure, exposing the steel. The abrasive also conditions the steel, which improves the adherence of the new paint or weld.

Until recently, abrasive blasting work was conducted in open air, which helped to reduce the airborne concentration of abrasive dust containing lead in the workers' breathing zone. Tarpaulins were generally used only to protect neighboring homes and automobiles from a damaging blast of abrasive dust or to reduce residents' complaints about over spray, dust, and dirt. Now that the health effects are clearly known, it is even more important to ensure that lead-containing debris does not contaminate the surrounding area. Regulations now require the erection of containment structures for open abrasive blasting operations.

Although containment structures are designed to reduce the release of lead into the environment, they usually increase worker exposure to airborne lead inside the containment, reduce visibility, and increase the risk of slip and fall injuries resulting from waste material buildup on footing surfaces. Containment structures vary in design and ability to contain debris. Some containment structures consist of tarpaulins made of open mesh fabrics (screens) that are loosely fitted around the blasting area; some use rigid materials, such as wood, metal, or plastic to enclose the blasting area, and some use a combination of flexible and rigid materials. Large air-moving devices may be connected to an enclosed containment structure to exhaust dust-laden air and create negative pressure inside the containment.

These steps should be followed:

- Design the containment and ventilation system to provide adequate air movement so that the dust in the air is removed from the blast operator's breathing zone and the structure itself. This can be done by using a forced air supply to provide clean air to move the contaminated air from the worker's breathing zone.
- Compressors for supplying respiratory air for abrasive blasting respirators must be situated on the job site so as to avoid entry of contaminated air into the system.
- Respirators must be donned before entering the containment area and should not be removed until workers have exited the area or as part of a decontamination procedure.
- The abrasive cleaner must be extremely efficient in removing lead dust; otherwise, lead is reintroduced into the containment area.

Vacuum Blast Cleaning

Vacuum blasting is a variation on open abrasive blasting. The blast nozzle has local containment (a shroud) at its end, usually accomplished by brush lined attachments at its outer edges and a vacuum inlet between the blast nozzle and the outer brushes. The brushes prevent release of the abrasive and debris as they rebound from the steel surface. These particles are removed from the work area by the built-in vacuum system. The abrasive can be disposed of or cleaned and recycled.

Vacuum blast cleaning is the most efficient method, with minimal dust generation if used properly, except where accessibility is difficult, such as between back-to-back angles. A variety of heads are available to achieve a tight seal for inside corners, outside corners, and flat surfaces. The advantages of vacuum blasting are that most of the waste materials and abrasive are collected at the site of generation and are not transported to the breathing zone of the workers, and the need for containment may be reduced or eliminated.

Wet Abrasive Blast Cleaning

Wet abrasive blast cleaning is a modification of traditional open abrasive blast cleaning. This system uses compressed air to propel the abrasive material to the surface being cleaned. Water is injected into the abrasive stream either before or after the abrasive exits the nozzle. The water reduces dust levels and minimizes the need for the containment enclosures, which would be required for dry blast cleaning.

A disadvantage to using water is that it may be necessary to use rust inhibitors to avoid rusting. The containment also must be designed to capture the water. Wet abrasive/paint debris is more difficult to handle and transport than dry debris, and unless the water can be filtered, it may add to the volume of debris generated.

Chemical Cleaning

Old paint also can be removed from steel structures using chemical strippers. These strippers can be solvent- or caustic-based and be applied by hand or sprayed on. Depending on the thickness of the paint, the chemical remains on the surface anywhere from 5 minutes to 48 hours. After the chemical has had time to do its job, scraping and brushing are used to clean the chemical and paint off. Pressurized water may also be used. It is very important that all of the waste is contained so it will not contaminate the environment.

Chemicals used can be hazardous. They can be inhaled, ingested, or absorbed through the skin. Many of these chemicals will cause eye and skin irritation or burns. It is very important to ensure that workers are protected from not just the hazards of lead but also the chemicals. Proper training in the use of chemical strippers must take place. Respirator cartridges and protective clothing must be selected for the specific chemicals that are used.

Hand Scraping of Lead-based Paint

The hazard of hand-held scraping comes from dust generation and paint chips released from the scraping process. A wet method with a HEPA vacuuming ventilation system should be used.

Heat Gun Removal of Lead-based Paint

In this process, a heat gun, which is similar to a hair dryer, is used to peel paint away. This process uses heat to separate the paint from the steel structure and the paint can then be removed with a putty knife. The health hazards associated with this process come from lead fumes released into the air during the heating process and from lead paint chips created from the scraping.

Heat guns should be restricted to 700°F (371°C) by using a built-in thermostat. Above this temperature lead is vaporized into the air. Commercial heat guns can produce temperatures as high as 1000°F (538°C), generating and releasing high levels of airborne lead.

5.37 WELDING/BURNING/TORCH CUTTING

High levels of lead are emitted when welding or burning takes place on lead-painted steel structures. Exposure can result from a large variety of construction projects, from bridge rehabilitation to demolition of a high-rise building. Welding is a process that joins two pieces of metal together, generating many hazardous compounds from the metal itself. When lead paint is added to it, the hazard is compounded. Cutting metal with lead coating on it results in the same problems as welding. Both welding and cutting cause the metal and its coating to be released in the air as fumes, making it available for inhalation by workers.

- a. All surface coatings should be tested prior to applying heat to protect from possible fire hazards.
- b. Where lead is present, local exhaust ventilation equipped with a HEPA filter should be used.
- c. Use long cutting torches so the welder or cutter can remain as far away as possible from the work.
- d. Before beginning any work on the metal, remove at least 4 inches (10.2 cm) of lead-containing material from where the welding or burning will take place.
- e. During demolition, the use of hydraulic shears as opposed to cutting metal with a torch significantly reduces lead exposure to workers.
- f. Avoid standing in the fumes when using a torch. Many hazardous chemicals can be released, not just lead.

- g. Avoid using heat to bum off lead coatings whenever possible.
- h. An employer must: provide workers in a restricted area with protective clothing that protects other clothing worn by the worker from lead contamination, ensure that workers street clothing is not contaminated by lead and ensure that a worker does not leave a restricted area until the worker has been decontaminated.

5.38 LADDERS

An employer must ensure that workers do not use a ladder to enter or leave an elevated or sub-level work area if the area has another safe and recognizable way to enter or leave.

An employer must ensure that a ladder used during the servicing of energized or potentially energized electrical equipment is made of non – conductive material.

All workers must be trained on the safe use of ladders prior to using. The worker must visually inspect ladder for defects prior to each use which includes looking for missing, damaged or loose parts.

If defects are found with the ladder it must be removed from service permanently, or until it is repaired. A tag indicating the ladder is defective is to be affixed to the ladder.

A worker must not perform work from either of the top two rungs of a portable stepladder, or the top three rungs of a portable extension ladder, steps or cleats of a portable ladder unless the manufacturer's specifications allow the worker to do so.

An employer must ensure that a portable ladder meets the requirements of CSA Standard CAN3-Z11-M81 (2005) Portable Ladders. The applicable ANSI Standard is also acceptable (Part 8, Section 135 of the OHS Code)

A worker must ensure that a portable ladder is secured against movement and placed on a base that is level and stable.

A worker must ensure that the base of an inclined portable ladder is no further from the base to the wall or structure than one quarter of the distance between the base of the ladder and the place where the ladder contacts the wall or structure. 4:1 rule should be followed, for every four feet of height, the ladder must be one foot away from base.

A worker must ensure that the side rails of a portable ladder extend at least 1 meter above a platform, landing, or parapet if the ladder is used as a means of access to the platform, landing or parapet.

When climbing or descending a ladder, the worker must face the ladder and have at least three point contact between the hands/feet and the ladder at all times. While performing work on a ladder, the worker must, at a minimum, have two feet on the ladder and their body leaning into the ladder. If three points of contact cannot be maintained a fall arrest system must be used.

5.39 RESPIRATORY PROTECTION

An employer must determine the degree of danger to a worker at a work site and whether the worker needs to wear respiratory protective equipment if: a worker is or may be exposed to an airborne contaminant or a mixture of airborne contaminants in a concentration exceeding their occupational exposure limits, the atmosphere has or may have an oxygen concentration of less than 19.5 percent by volume, or a worker is or may be exposed to an airborne biohazardous material. The employer must consider: the nature and exposure circumstances of any contaminants or biohazardous material, the concentration or likely concentration of any airborne contaminants, the duration or likely duration of the worker's exposure, the toxicity of the contaminants, the concentration of oxygen, the warning properties of the contaminants, and the need for emergency escape.

Types of Respirators

There are two kinds of respirators — supplied air and air purifying.

Supplied-air respirators give you clean breathing air from a compressor or compressed-air cylinder. These respirators are used in some of the most dangerous conditions. There are self-contained breathing apparatuses (SCBAs) like firefighters wear on their backs or air-line respirators connected to a hose. If there is not enough oxygen or no one is sure what is in the air where you're working, you must use an SCBA or air-line respirator with a small compressed-air cylinder for backup. If you use a supplied-air respirator without the right training, you can be killed. (Most construction that requires breathing protection uses air-purifying respirators.)

Air-purifying respirators clean the air you breathe. Some have a blower to make it easier to breathe. But they do not provide oxygen.

Air-purifying respirators are disposable or rubber or rubber-like masks. One may cover your whole face or part of your face.

Each mask has 1 or 2 filters or cartridges that get changed. You must have the right filter or cartridge for each hazard.

Filters can protect against tiny particles, dusts, mists, or fumes. Filters have the letters "HEPA" or have a letter and number like P-100 or N-95. The letters tell if the filter works when there is oil in the air:

N means Not resistant to oil

R means Resistant to oil

P means oil-Proof.

A bigger number after the letter means the filter protects better. (For dusts like asbestos, lead, and silica, you must use a HEPA or a 100 filter). You must change a filter when it is hard to breathe through.

Cartridges can protect against solvents, acid gases, or other gases and vapours. A cartridge for acid gases will not protect you if you are exposed to solvents. Some combination cartridges can protect against dusts and gases, but no cartridge can protect against all hazards. You and your employer must learn when to change the cartridges, depending on the type and amount of toxic gases or vapours in the air.

You may need a respirator if:

For instance,

- you are working around asbestos or lead-based paint
- you are chipping or cutting concrete or drilling rock that contains silica
- you are sanding, cutting, torching, or welding
- or using a generator
- in a space without good ventilation.
- The toxics in the air are above the permissible exposure limit
- or you don't know they are not above the PEL
- There is no other way to keep down the exposure levels. So, local-exhaust ventilation, new tools, and changes in the way you do the work (such as wet methods) do not take care of the problem.

The employer must choose the right respirator for you, depending on the hazard. If a respirator is required, the employer pays for the respirator and parts.

Before you use a respirator:

- Your employer must have tried to use other controls, like ventilation or safer materials.
- To make sure it is safe for you to wear a respirator, your employer must pay for you to have a medical evaluation (unless you're using a disposable dust respirator that is not required). You may be asked to fill out a questionnaire for a doctor or health care practitioner to check. Or you may need a physical exam if you work around some materials like lead or asbestos.
- You must be trained to use a respirator.
- A mask must be fitted to your face. A quantitative fit test is best.
- Your employer must have a written respirator program.

Every time you use a respirator:

- Check for worn, damaged, or missing parts.
- Check the face seal. Use a negative and positive seal check.
Follow the manufacturer's guidelines for care. After you use a respirator:
- Clean it: Put on surgical gloves. Remove filters or cartridges. Wash the mask in 110 F water using the manufacturer's recommended cleaner or mild detergent. Rinse, then dry.
- Store the respirator in a rigid plastic container away from heat and light
- Dispose of used parts properly.

An employer must ensure that respiratory protective equipment used at a work site is selected in accordance with CSA standard Z94.4-02, Selection, Use, and Care of Respirators (or current version)

An employer must ensure that respiratory protective equipment kept ready to protect a worker is: stored in a readily accessible location, stored in a manner that prevents its contamination, maintained in a clean and sanitary condition, inspected before and after each use to ensure it is in satisfactory working condition, and serviced and used in accordance with the manufacturer's specifications.



An employer must ensure that air used in a self-contained breathing apparatus or an air line respirator: is of a quality that meets the requirements of Table 1 of CSA standards Z180.1-00 (R2005), compressed breathing air and systems (or current version), and does not contain a substance in a concentration that exceeds 10 percent of its occupation exposure limit.

Employer must ensure that respiratory protective equipment that depends on an effective facial seal for its safe use is correctly fit tested and tested in accordance with CSA standard Z94.4-02, selection, use and care of respirators (or current version) An employer must ensure that, if a worker is or may be required to wear respiratory protective equipment and the effectiveness of the equipment depends on an effective facial seal, the worker is clean shaved where the face piece of the equipment seals to the skin of the face.

If an employer determines that breathing conditions at a work site are or may become immediately dangerous to life or health (IDLH), the employer must ensure that a worker wears self-contained breathing apparatus or an air line respirator that: is of a type that will maintain positive pressure in the face piece, has a capacity of at least 30 minutes unless the employer's hazard assessment indicates the need for a greater capacity, provides full face protection in situations where contaminants may irritate or damage the eyes, in the case of an air line respirator, is fitted with an auxiliary supply of air of sufficient quantity to enable the worker to escape from the area in an emergency, and in the case of a self contained breathing apparatus, has an alarm warning of low pressure.

5.40 ELECTRICAL SAFETY

Top Grade Construction will only permit competent, qualified electrical workers to construct, install, alter, repair or maintain electrical equipment. Only qualified electrical workers may enter electrical rooms and enclosures containing live parts.

All of our workers shall be provided basic electrical safety training. Workers will be provided training on working safely with electricity, recognition of electrical hazards, and prevention of electrical shock, arc flash and fire.

Top Grade Construction must ensure that electrical equipment used in electrical installations within the jurisdiction of the inspection department shall be approved and shall be of a kind or type and rating approved for the specific purpose for which it is to be employed.

The company will ensure that electrical installations shall be made so that the probability of spread of fire through fire stopped partitions, floors, hollow spaces, firewalls or fire partitions, vertical shafts or ventilation or air conditioning duct is reduced to a minimum. Where a fire separation is pierced by a raceway or cable, any openings around the raceway or cable shall be properly closed or sealed in compliance with the National Building Code of Canada.

Our group must ensure that electrical equipment shall be installed and guarded so that adequate provision is made for the safety of persons and property and for the protection of the electrical equipment from mechanical or other injury to which it is liable to be exposed.

Management will ensure that bare live parts shall be guarded against accidental contact by means of approved cabinets or other forms of approved enclosures except where the code exempts.

Top Grade Construction must ensure that all operating electrical equipment shall be kept in safe and proper working condition. Electrical equipment maintained for emergency service shall be periodically inspected and tested as necessary to ensure its fitness for service. Infrequently used equipment maintained for future service shall be thoroughly inspected before use in order to determine its fitness for service. Defective equipment shall either be put in good order or permanently disconnected. We will also ensure that in locations where explosive or flammable materials or gases are present, special precautions shall be observed as follows: repairs or alterations shall not be made on any live equipment and fits or seals in enclosures shall be maintained in their original safe condition.

Kuhn's will ensure that electrical equipment such as switchboards, panel boards, industrial control panels, meter socket enclosures and motor control centres that are installed in other than dwelling units and are likely to require examination, adjustment, servicing or maintenance while energized shall be field marked to warn persons of potential electric shock and arc flash hazards. The markings shall be located so that it is clearly visible to persons before examination, adjustment, servicing, or maintenance of the equipment.

The site manager will ensure that passageways and working space around electrical equipment shall not be used for storage and shall be kept clear of obstruction and arranged to give authorized persons ready access to all parts requiring attention. The site manager will also ensure that a minimum working space of 1m with secure footing shall be provided and maintained about electrical equipment such as switchboards, panel boards, control panels, and motor control centres that are enclosed in metal, except that working space is not required behind such equipment where there are no renewable parts such as fuses or switches on the back and where all connections are accessible from locations other than the back. The on site Top Grade Construction representative will ensure that each room containing electrical equipment and each working space around equipment shall have suitable means of egress, which shall be kept clear of all obstructions.

Top Grade Construction will ensure that adequate illumination shall be provided to allow for proper operation and maintenance of electrical equipment.

Our company must ensure that flammable material shall not be stored or placed in dangerous proximity to electrical equipment.

Our group must ensure adequate ventilation shall be provided to prevent the development around electrical equipment of ambient air temperatures in excess of those normally permissible for such equipment.

The site manager must ensure that when installed outdoors, are-producing electrical equipment shall not be installed within 1m of the discharge of a combustible gas relief device or vent.

Top Grade Construction must ensure that the path to ground from circuits, equipment, or conductor enclosures, shall have ample capacity to conduct safely and currents liable to be imposed on it, and shall have impedance sufficiently low to limit the voltage above ground and to facilitate the operation of the over current devices in the circuit.



Our company will ensure that hazardous locations shall be classified according to the nature of the hazard as follows: Class 1 locations are those in which flammable gases or vapours are or may be present in the air in quantities sufficient to produce explosive gas atmospheres, Class 2 location are those that are hazardous because of the presence of combustible or electrically conductive combustible dusts and Class 3 locations are those that are hazardous because of the presence of easily ignitable fibres or filings, but in which such fibres or filings are not likely to be in suspension in air in quantities sufficient to produce ignitable mixtures.

Top Grade Construction will ensure that where electrical equipment is required by this section it is to be approved for use in hazardous location it shall also be approved for the specific gas, vapour mist or dust that will be present. We must ensure that no electrical equipment shall be used in a hazardous location, unless the equipment is essential to the process being carried on therein. Service equipment, panel boards, switchboards and similar electrical equipment shall, where practicable, be located in rooms or sections of the building in which hazardous conditions do not exist.

Power Supply Cords

The site supervisor will ensure that any electrical extension or power supply cord used for supplying energy to any electrical equipment: (a) is approved for the intended use and location of the electrical extension or power supply; (b) is fitted with approved cord end attachment devices that are installed in an approved manner; (c) is provided with a grounding conduction and (d) is maintained and protected from physical or mechanical damage.

Defective Components

All defective components must be marked or tagged as unsafe and removed from service if damaged or has defective electrical components (eg. Damaged power cord or plug) that may render it unsafe for use.

Portable Electrical Equipment

When used outdoors or in a wet or damp location, portable electrical equipment shall be protected by an approved, CSA Certified, ground fault circuit interrupter (GFCI)

Lockout Tagout

Prior to any work beginning on an electrical conductor or electrical equipment and during the duration of such work, the supervisor must ensure that the electrical conductor or electrical equipment is isolated, locked out and connected to ground.

Electrical PPE Requirements

Voltage rated gloves (hot gloves), rated and tested for the minimum line to line voltage upon which work will be done, must be worn when: performing work on energized parts, an electrical panel is de-energized but the power supply feeding the electrical disconnect or enclosure is not guarded (eg. Finger-safe guards, manufacturer shields) and/or there is no guarding around foreign power components and testing voltage of energized components.

All work on energized equipment between 50 and 240 volts (including when the power supply feeding the electrical disconnect or enclosure is not guarded and/or when there is no guarding around foreign power components), and /or when removing the bolts of a cover, requires the use of: (a) fire resistant long pants made of natural fibers or treated fire resistant material, and (b) fire resistant long sleeved shirt made of natural fibers or arc flash suit jacket ($>$ or $=$ 11 cal/cm²), or (c) fire resistant coveralls with an arc flash rating of $>$ or $=$ to 4 cal/cm². Circuit breaker or fuse switch operations with the cover on, circuit breaker or fuse switch operation with the covers off, and the opening of hinged covers to expose bare wire on energized equipment requires the use of long pants made of natural fibers, and long sleeved shirt made of natural fibers. All workers on energized equipment between 241 and 480 volts (including when the power supply feeding the electrical disconnect or enclosure is not guarded and/or when there is no guarding around foreign power components), and/or when removing the bolts of a cover, requires the use of: (a) arc flash suit jacket and pants ($>$ or $=$ to 11 cal/cm² and (b) hardhat with fire resistant face shield ($>$ or $=$ to 8 cal/cm²), or (c) arc flash suit hood worn over head and secured, (d) leather gloves, (e) leather footwear, (f) hearing protection. Clothing worn around live circuits should be 100% treated natural fiber. Synthetic materials such as nylon, will melt onto skin in the event of an arc flash or electrical shock which can lead to serious burns.

5.41 RIGGING

Top Grade Construction must ensure that rigging is not subjected to a load of more than: 10 percent of the breaking strength of the weakest part of the rigging, if a worker is being raised or lowered, 20 percent of the ultimate breaking strength of the weakest part of the rigging, and if the rigging is fatigue rated and a worker is not being raised or lowered, the maximum load must not exceed 25 percent of the ultimate breaking strength. We must ensure that the maximum load rating of the rigging, as determined by the rigging manufacturer or a professional engineer, is legibly and conspicuously marked on the rigging. If it is not practicable to mark the rigging, the employer must ensure the maximum load rating of the rigging is available to the workers at the work site.

Our Company will ensure that rigging to be used during a work shift is inspected thoroughly prior to each period of continuous use during the shift to ensure that the rigging is functional and safe.

Top Grade Construction will ensure that wire rope, alloy steel chain, synthetic fibre rope, metal mesh slings, and synthetic fibre slings meet the requirements of ASME Standard B30.9-2006, Safety Standard for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks and Slings (or current version). We must ensure that below-the-hook lifting devices, other than slings, meet the requirements of ASME Standard B30.20-2006, Below the Hook Lifting Devices (or current version).

Top Grade Construction will ensure that a hook has a safety latch, mousing, or shackle if the hook could cause injury if it is dislodged while in use.

Our Company will ensure that a sling is permanently removed from service if it is damaged or worn. Top Grade Construction management must ensure that a worn, damaged or deformed hook is permanently removed from service if the wear or damage exceeds the specifications allowed by the manufacturer. Reference Section 305-309 of the AB OHS Code for specific rejection criteria.

5.42 LOCKOUT TAGOUT

Prior to start of work all workers who perform maintenance activities on equipment must be provided training on Top Grade Construction lockout tagout program. Any worker that is in areas where lockout tagout may be performed shall be provided awareness training of the system.

Before work is performed on any system turn off and or disconnect energy control points, such as electrical plugs, switches, valves, and circuit breakers. Restrain or dissipate all stored energy. This includes, but is not limited to compressed springs-block springs from releasing, parts of machine held up by hydraulic or pneumatic power-block to prevent parts from falling. Pressurized lines – bleed the pressure from the lines. Components that are hot-allow sufficient time for cooling before work begins. Capacitors that may store electrical energy – discharge the energy from the capacitor. Electrical equipment that might be fed by more than one source should be tested with a voltage meter to verify the absence of electrical energy.

Each worker who will be involved in the maintenance activity, must place his or her own lock on the energy control point. The key to the lock must be kept on the person at all times. Mobile equipment can be locked out by removing the key from the ignition and pocketing it, and detaching the negative battery cable. Each lock owner must write the particulars of the lockout on a tag and attach it to the energy source.

Prior to start of work, workers must insure that zero energy is present in the system. To do this try turning the equipment on to verify that the energy sources have been de-energized. This can be done by turning on switches, open valves, push start buttons, etc. If an energy release occurs during this verification, work cannot proceed until this source is located, isolated, and verified as de-energized. Turn switches off and close valves once de-energized state is verified.

Once work activities are complete, a Top Grade Construction supervisor must ensure that personnel are out of harm's way, slip, trip, and fall hazards have been cleared from the area, and guards have been replaced. Each worker who affixed a lock to an energy control point must remove his or her own lock(s). Equipment start-up may occur after all of the above is complete.

If a lock is left in a machine and it appears that it was left there inadvertently, determine who the lock is assigned to. If that worker is unavailable, a Top Grade Construction supervisor shall determine if it is safe to remove the lock. He/she must clear the area, and ensure that guards are in place, remove tools and debris, and make sure personnel are out of harm's way. The lock may then be removed.

In the event that maintenance, cleaning or adjustments will be performed on a piece of equipment while it is in operation, safe work procedures must be in place that include how to complete the job safely. All workers must be trained on these safe work procedures and the procedures must be easily accessible.

5.43 POWERED MOBILE EQUIPMENT

Operators of powered mobile equipment must have sufficient education, training, and experience. A worker must not operate powered mobile equipment unless the worker: a) is trained to safely operate the equipment. b) has demonstrated competency in operating the equipment to a designated competent worker. c) is familiar with the equipment's operating instructions, d) is authorized by Top Grade Construction management.

Regular inspections and or re-certifications must be conducted to ensure the equipment is in safe operating condition. The equipment must be maintained according to the manufacturer's instructions. A written record of the inspections, repairs, and maintenance carried out on the powered mobile equipment must be kept at the workplace and made readily available to the operator of the equipment.

An inspection must be completed before powered mobile equipment is used each shift to ensure that it is in safe operating condition and that no one will be endangered by the start-up of the equipment. Top Grade Construction equipment check list will be used for pre-use inspections.

When a defect or unsafe condition is identified, the powered mobile equipment must be, as soon as is reasonable practicable removed from service until the unsafe condition has been corrected. An out-of-service tag shall be affixed to the equipment until it is repaired.

Power mobile equipment that is equipped with roll over protection must have a seatbelt for each worker who is permitted to ride on the equipment that is designed to prevent the worker from being thrown from the vehicle or equipment while the vehicle or equipment is in motion. No person shall use or operate a machine that is equipped with a restraining device unless the person is wearing the restraining device.

Powered mobile equipment shall be equipped with a roof, protective screen, or cab to protect the operator when there is a risk of objects falling from above, and/or if an object being handled by the equipment could shift and impact the operator.

When powered mobile equipment is left unattended, action must be taken to keep unauthorized people from moving the equipment, and to prevent the equipment from inadvertently moving. The brakes should be set and the wheels blocked when on sloping ground. Elevated parts must be lowered to the ground.

5.44 FLAMMABLE AND COMBUSTIBLE SUBSTANCES

Workers that handle or work around flammable or combustible substances must be trained in the safe handling, use, storage, and disposal of the substance. They must be provided with adequate information concerning the identity, nature, and potential hazards of the substance.

Any source of ignition is prohibited in areas where flammable and combustible sources are stored. This includes cigarette smoking, sparks from welding or grinding, open flames, etc.

Flammable and combustible substances must be stored in areas away from substances that may cause a reaction, such as on oxygen tank.

Where work or manufacturing processes involve the use of a flammable liquid, vapour, or gas, the concentration of the liquid, vapour or gas in the work area shall be maintained a minimum of 10% below the lower explosive limit (LEL) of the substance involved.

Flammable and combustible substances must be stored in approved containers. Flammable and combustible chemicals must be stored in fire resistant cabinets or a designated storage room or building. Flammable liquid must be stored in a flammable storage cabinet with adequate ventilation.

When transferring flammable and combustible liquids from one conductive container to another, grounding and bonding must be used to prevent the build-up of static.

Waste material contaminated with a solvent, oil, grease, paint, or other flammable substance shall be placed in covered metal containers before disposal and shall not be stored in the work area(s)

A class B (or ABC) fire extinguisher must be readily available when working with or near flammable and combustible liquids.

5.45 FIT FOR DUTY

Our company must ensure that workers are trained on the company's Fit For Duty policies and procedures.

Top Grade Construction must ensure that workers have the necessary education, experience, and training to perform their job task.

All workers must be physically capable of performing their job tasks. A physical demands analysis (PDA) should be prepared for each job duty to ensure workers are placed accordingly.

Top Grade Construction will ensure that no person enters or remains at the job site while under the influence of drugs and/or alcohol. Additional information can be found in the drug and alcohol policy within this manual.

It is the employee's responsibility to report all medications they are taking. Over the counter medications such as allergy or cold and flu medications could also impair one's ability to perform safely and must also be reported to their supervisor.

Top Grade Construction supervisor will monitor employee's activities and behaviours to determine if employee should be removed from the work site.

If an employee is determined to be unfit for duty, the company should have a process in place to provide reasonable assistance to the employee. This may include, but is not limited to, transferring the worker to another role, providing a leave of absence, employee assistance programs, etc.

5.46 DEMOLITION WORK

Top Grade Construction must ensure that a competent worker designated by the company is in charge of the demolition work at all times while work is in progress.

Before demolition begins and while demolition work continues, Top Grade Construction will ensure that all chemical and biological substances that may be hazardous to workers during demolition are removed from the structure or the part of the structure that is being demolished. Our company will ensure that all utilities are disconnected before demolition begins and that if the building structure is being demolished, all glass and windows on the exterior walls of the building or structure and adjacent to a public walkway are removed before demolition begins.

Top Grade Construction will ensure that: a) workers cannot enter an area into which material is dropped, thrown, or conveyed by a materials chute, and b) conspicuous warning signs in the area advise of the danger.

The company will ensure that if the demolition may affect the stability of an adjoining building or structure, the demolition is carried out in accordance with procedures certified by a professional engineer that safeguard the stability of the adjoining structure.

5.47 TRAFFIC CONTROL

Any work that is to be conducted in areas of potential traffic must be addressed by a hazard assessment and traffic control plan. Items to be addressed in the control plan include but are not limited to: signage, barricades, flag person, detours and temporary traffic lights. Prior to start all workers involved in the traffic control must be adequately trained in the work task in which they will be undertaking. Such training will include flag person training and a full understanding of traffic laws which affect the project. Additional safety procedures are to be taken which include; two way communication between the workers directly involved in traffic control along with the appropriate high visibility PPE and signage. For activities conducted in poor or dark lighting conditions works must be equipped with reflective paddles and a flashlight fitted with a red signaling device.

As each traffic control situation is different, no one control plan will cover off all aspects of the job. These control plans must be implemented on a job to job bases and must involve all workers participating in the plan to be part of the development of such control measures. Control plans must be tested to insure that all aspects are functioning correctly. Continuous monitoring of the control plan must be taken by the onsite supervisor to address any potential changes that may be required due to changing elements and effectiveness of traffic flow at the work site. Top Grade Construction safety management team are to be actively involved during the planning and execution phases of traffic control planning.

5.48 WORKING NEAR OR OVER WATER

Prior to the start of any work being conducted near or over any form of water body, streams or rivers a hazard assessment must be completed to identify any potential hazards along with safety controls that are required for the work.



Specialized PPE / Equipment Requirements: Additional specialized PPE and equipment will be required for work being conducted near or over water such items include:

1. Approved life jacket and or personal floatation devices
2. Lifebuoys and or buoyant heaving line
3. Rescue boats (if deemed needed)

All workers involved in such work must be provided with specific safety training for such work. All floatation devices and rescue equipment must be inspected pre and post shift to ensure that all items are in full working condition and free of any defects.

Under no circumstances will a worker work alone while near or over water. Direct supervision and observation must be conducted at all times when a potential risk is present. It is the workers obligation to refuse such work if he/she does not feel completely comfortable with the job task in which they have been asked to perform.

GENERAL – FOR OPERATION OF ALL HEAVY EQUIPMENT

1. Operators shall perform a walk around of their equipment prior to operating, to check for leaks; flat tires; and mechanical defects prior to start-up and operation. All oil and coolant levels; fuel, brakes, lights; mirrors; horns; backup alarms; fire extinguisher and seat belts are to be checked.
2. Check and ensure that all personnel are clear of equipment prior to start-up.
3. All equipment must be operated in such a manner that does not endanger others (ie looking back when reversing, using extreme caution when working near personnel or other equipment).
4. Always park equipment so fuel and maintenance personnel have easy access to equipment.
5. When re-fuelling equipment the engine must be stopped, all smoking materials extinguished and any known sources eliminated. The operator must dismount while fuelling and maintenance is being performed, in the event the operator is fuelling the equipment he/she must stay close to the fuel nozzle so as to prevent any spills.
6. Defective equipment must not be operated, it must be parked and the immediate supervisor notified.
7. An operator; who has reasonable cause to believe the equipment or load is hazardous, is to STOP and SECURE the equipment load and report the condition to the Supervisor immediately.
8. All operators shall wear seatbelts, hard hats, fire retardant outer wear, and safety foot wear, when applicable.
9. Ensure clearance around vehicle before moving.
10. When loading equipment the operator shall determine when equipment can be moved.
11. Supervisors or maintenance personnel shall be consulted before towing. Proper towing procedures shall be followed should the need for towing any vehicles or equipment. Supervisors must be present when towing.
12. Equipment must be operated within the manufactures specifications and limitations taking into consideration weather and site conditions.
13. Only authorized and qualified workers are to operate mobile equipment.
14. Operation of equipment without authorization may result in termination of employment.
15. Equipment blades, buckets, or forks are to be lowered to the ground; and machines secured against movement, any time they are left unattended.
16. Operators will be directly responsible for the safe operation of their assigned equipment.
17. On steep grades where brakes are not sufficient for control, equipment must be snubbed or otherwise assisted.
18. Equipment is to be positioned so that no swinging part is closer than (600mm) or 2 feet to any obstruction.



19. Operators must never leave a suspended load unattended at any time.
20. Elevated equipment parts; including dump boxes must be blocked securely before allowing workers beneath them.
21. Operators must always face equipment when mounting and dismounting, and use the three point contact method. They must never jump off equipment.
22. No passengers are allowed to ride on equipment that's not equipped to carry passengers.
23. Whenever the vision is obstructed, including when backing of equipment, the use of a competent signal person is required.
24. Good housekeeping is a must.
25. Use of cell phones and all personal CD players, Walkman, etc. (with head phones) is strictly prohibited when operating equipment.

Operation of single and twin engine scrapers.

1. Seatbelts must be worn at all times
2. Operators should not over load scrapers, especially when there is another scraper returning close to or in the loading area, or where the material is sticky, high plastic and wet materials which make unloading difficult.
3. Unloading depending on soil type, bowls should be partially lowered so material can flow smoothly without pushing ahead of the cutting edge. Operators should bring ejector forward approximately 2 ft. and then push it back. This allows chunks and material to fall down to the floor and when the ejector is brought forward again it pushes the material from under the load, thus reducing the requirement for so much hydraulic thrust. It is sometimes necessary to work the ejector back and forth several times to make unloading easier. The worst procedure is forcing material against the apron and not allowing it to drop down in front of the ejector. After material is out of the bowl, the apron should be left in the up position while turning around and straddling tracks to lightly brush or blade your load dump. Next raise the scraper bowl approximately 8 inches return ejector to return position, lower apron to approximately 1 foot from down position, and return to loading area and / or push cat.
4. Scrapers should not blade haul roads unless specifically requested to do so by your supervisor.
5. If possible scrapers should stay to the right side when passing and not on the blind side.

Operation of Hydraulic Excavators (Track Mounted)

1. Operators shall assess potential hazards in the work area prior to getting in the machine, ie overhead power lines, unstable ground conditions, underground utilities, etc. Ensure excavator is on stable ground prior to starting excavating.
2. Prior to excavation work, the operator should swing 360 degrees to ensure proper clearance and working space is available for work to be performed.

3. Operator should appoint one person as the signal person when working around ground personnel, installing culverts, unloading materials or during backfilling operators.

Operating of highway haul trucks

1. Stay in the cab while truck is being loaded.
2. Do not move from loading area until signaled by the loader operator.
3. Do not bump spoil banks or other objects to aid in turning. This damages the front steering assembly as well as steps etc. these pieces of equipment are there for accessing and egressing the unit safely.
4. All haul truck operators should review dumping procedures as this may change from job to job.
5. Spotters or dump berms shall be used where dumping is done at elevated areas.
6. Use the clockwise approach at loaders and dump areas, whenever possible to afford better visibility.
7. Slow down when turning and backing up.
8. When traveling up or down grades always allow sufficient space between units (75-100 meters or more) depending on the conditions and speed.
9. Never travel with the box hoisted as the truck is very unstable at this point.
10. Under no circumstances shall trucks be pushed with dozers or other equipment.

Operating Six Wheeled Drive Truck Operations:

1. Stay in the cab while truck is being loaded.
2. Do not move from the loading area until signaled by the loader operator.
3. Do not bump banks or other objects to aid in turning. This damages the front end assembly and steps; which are there to provide safe access and egress.
4. All haul truck operators should review dumping procedures as they can vary from job to job.
5. Spotters or dump berms shall be used where dumping is done at elevated areas.
6. Use the clockwise approach at loading and dump areas, whenever possible to afford the best visibility.
7. Slow down when turning or backing up.
8. When traveling up or down steep grades always allow sufficient space between units (75-100 meters or more) depending on speed and conditions.
9. Never travel with the box elevated as truck is very unstable at this point.
10. Under no circumstances shall trucks be pushed with dozers or other equipment.

**Operation Of Light Duty Vehicles:**

1. Drivers shall walk around the vehicle to inspect it for obstructions or damage.
2. Check all fluid levels, including fuel prior to shift start.
3. Report all damage or deficiencies to your supervisor or serviceman as soon as possible.
4. Good housekeeping is essential. Cabs and windows must be kept in a clean condition.
5. Seat belts must be worn at all times.
6. Park all pickups and service vehicles well out of the way from where the equipment is working, all vehicles should be parked in an orderly fashion and all in one designated area. Locate all pickups and service trucks away from hydrocarbon tanks and wellheads.
7. Park them all together and facing out, so that your first move is away from the site in case of an emergency.

Do Not

1. Drive up behind equipment that is working.
2. Never park in close proximity to where you are working.
3. Race or use vehicle in an irresponsible manner.
4. Carry passengers other than company employees.
5. Pick up hitch hikers.

Working Near Heavy Equipment (Ground Personnel)

Surveyors, laborers, mechanics, servicemen, and supervisors are sometimes required to work around or near operating heavy equipment. When possible, survey, laborer, and other work should be scheduled away from heavy equipment operations. However, the following practices should be followed when personnel are required to work close to heavy equipment:

1. All ground personnel must wear reflective vests, Fire retardant coveralls with safety stripes, steel toed boots and safety glasses.
2. All equipment operators must be made aware that ground personnel are working in conjunction with equipment.
3. Ground personnel shall not work on haul roads or high traffic areas without proper barricades, warning signs, and flashlights when required.
4. Proper dust control measures shall be used on haul roads to maximize visibility.

Ground Disturbance

General

Ground disturbance means any work, operations or actions that result in the disturbance of the earth including, without limitation, excavating, digging, trenching, plowing, trenching, tunneling, auguring, backfilling, blasting, topsoil stripping, land

1. Routine minor maintenance.
2. Agricultural cultivation to a depth of 450 millimeters below ground surface over a pipeline.
3. Or hand digging to a depth of no more than 30 cm below ground surface.

Locating Buried Facilities

Contact Alberta one call at 1-800-242-3447, Alberta one call must be notified, and clearances must be given.

Before the ground is disturbed at a work site, employer must,

1. Contact the owner or the owners designate of
 - a. A pipeline that is within 30 meters of the work site and,
 - b. Any other buried facility that maybe affected by the ground disturbance.
2. Advise the owner or the owners designate of the proposed activities.
3. Ask the owner or the owner designate to identify and mark the location of the buried facility and
4. Do not begin disturbing the ground until buried facilities have been identified and their locations marked.

An employer must ensure that workers are aware of locate marks for buried facilities.

An employer must ensure that steps are taken to re-establish the locate marks for buried facilities if activities at the work site move or locate marks are destroyed.

SOIL CLASSIFICATIONS AND SOIL STABILIZATION

Soil Classifications:

Soil is classified as hard and compact if it closely exhibited most of the following characteristics:

- It is hard in consistency and can be penetrated only with difficulty by a small sharp object;
- It is very dense;
- It appears dry;
- It has no sign of seepage;
- It is extremely hard difficult to excavate with hand tools;
- It has not been excavated before;

Soil is classified as likely to crack or crumble if

- It has been excavated before but does not exhibit any of the characteristics of soft , sandy, or loose soil, or
- If closely exhibited has most of the following characteristics;
 - It is stiff in consistency and compacted; It can be penetrated with moderated with moderate difficulty with a small sharp object;
 - Moderate difficulty to excavate with hand tools;
 - It has a low to medium natural moisture content and a damp appearance after it is excavated;
 - It exhibits signs of surface cracking;
 - It exhibits signs of surface seepage;

Soil is classified as soft, sandy, or loose to very loose, it is closely exhibits most of the following characteristics:

- It is firm to very soft in consistency, loose to very loose ;
- It is easy to excavate with hand tools;
- It is solid in appearance but or becomes unstable when disturbed;
- It runs easily into a well defined conical pile when dry;
- It appears to be wet;
- It is granular below the water table, unless water has been removed from it;
- It exerts substantial hydraulic pressure when a support system is used;

If an excavation contains soil of more than one soil type, for the purpose of this part an employer must operate as if all of it is the soil type with the lease consistency.

Soil Stabilization:

An employer must stabilize the soil in;

- An excavation by shoring or cutting back or;
- A tunnel, underground shaft or open pit mine by shoring;

An employer may stabilize the soil in an excavation, tunnel, underground shaft or open pit mine using an artificial stabilization technique, including freezing soil by artificial means of grouting if the process used is;

- Designed by a professional engineer to control soil conditions, and
- Performed in accordance with the professional engineer's specifications.

A person must not use natural freezing of the soil as an alternative or partial alternative to a temporary protective structure or to stabilize the soil in an excavation, tunnel or underground shaft.

Exposing Buried Facilities:

An employer must ensure that with mechanical excavation equipment is not permitted within the hand expose zone of a buried facility has been exposed to sight, by hand digging or hydro vac.

An employer may use mechanical excavation if,

- The only buried facility is an electrical cable or conduit that is grounded and or isolated so that it is disconnection is visible.
- The owner of the electrical cable or conduit is notified of the operation before it begins,
- The buried facility is no longer in use
- The owner of the buried facility gives the employer written consent to excavate or remove the facility, and
- The employer ensures that excavating and removing the buried facility does not present a hazard.
- An employer must not allow the use of mechanical excavation equipment within 600 millimeters of a buried pipeline unless the use of the equipment is under the direct supervision of a representative of the owner of the buried pipeline.

Important: where there is, contact with or damage to an underground pipeline, cable, conduit, contact your supervisor immediately. The supervisor must notify the owner of the pipeline, cable, conduit, that the contact or damage has occurred; and take steps to protect the health and safety of any worker who maybe at risk until any unsafe condition resulting from the contact or damage is repaired or corrected.

Cutting Back Walls And Installing Shoring, Stringers Or Bracing

If the walls of an excavation are cut back and;

- The soil is classified as hard and compact: the walls are to be sloped 1.5 meters of bottom of the excavation to an angle of not less than 30 degrees measured from the vertical
- The soil is classified as likely to crack and crumble: the walls are to be sloped within 1.5 meters of the bottom of the excavation at an angle of not less than 45 degrees measured from the vertical

- The soil is classified as soft, sandy or loose: the walls are to be sloped from the bottom of the excavation at an angle of not less than 45 degrees measured from the vertical

Installing Shoring, Stringers, Or Bracing

When installing shoring, stringers, or bracing a ladder is used and the worker works down from the top of the trench, installing each brace in a descending order. Ensure that the shoring is installed and removed in a manner that protects the worker from cave ins and structural collapses and being struck by shoring components, shoring components are securely connected together to prevent sliding, failure and individual components of shoring are not subjected to loads that exceed the loads the components were designed to bare.

The worker who removes the shoring, stringers, or bracing must use a ladder and work from the bottom up.

If the quality of the ground in which the trench is being dug has deteriorated during operations to the extent that it is unsafe to use the method of removal required, the employer must ensure that shoring, stringers or bracing is removed using a method that does not require the worker to be in the trench.

Protecting The Workers In An Excavation

Before worker begins working in an excavation that is 1.2 meters deep and closer to the wall or bank than the depth of the excavation, the supervisor must ensure that the worker is protected from cave ins, sliding, or rolling material by;

- Cutting back the walls of the excavation to reduce the heights of the remaining vertical walls if any, to no more than 1.2 meters for Hard and Compact soil and Likely to crack and crumble soil,
- Using a combination of methods.

If a worker is required to enter a trench that is more than 1.2 meters deep a safe point of entering and leaving is located not more than 8 meters from the worker. Supports and sloping are in place so that the worker can reach the safe point of entering and leaving the trench safely.

Hoisting And Lifting , Man Lifts----Proper Lifting Practices

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

Balance Loads: Estimate the centre 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 its stable before slacking off on the sling or chains.

- 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 using knots. With chain slings, never use bolts or nuts.
- Make sure all personal stand clear from the load being lifted. And never permit anyone to ride the load or lifting hook.

- Never work under a suspended load.
- Never leave a load suspended when the hoist or crane is unattended.
- Inspect all slings thoroughly before a lift and at specified intervals and maintain them in good condition.
- Inspect each chain or sling for cuts, nicks, bent links, etc., before each use. If in doubt, do not use it.
- Ensure all 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 tag line is used to control the load.

Man Lift Device:

Top Grade Construction Ltd. may use a variety of devices raise workers to higher levels.

- Scissor/Snorkel lifts
- Man baskets
- Sky reach

Regulations require that the employer ensures:

1. That the lifting device be designed and certified by a professional engineer.
2. That spotting and parking procedures are carried out correctly and in a safe manner.
3. Never use any crane, hoist or lifting device that posted load capacity or load chart.
4. Records of maintenance and inspections must be documented and maintained at all times. These will be maintained in paper log book form.
5. A suitable means of communication between the worker operating and the worker being raised.
6. Workers in or on aerial devices uses proper harnesses and lanyards, that are properly fitted and properly anchored.
7. All workers are properly trained and competent.
8. All lifting and hoisting Machinery must have a fixed water proof load chart from the manufacturer.
9. Machinery must never lift beyond the working capacity the manufacturer has set for each individual machine.
10. Log books on all lifts must be maintained current and be in paper form

For further information refer to Alberta OH&S Code, Part 23, Section 350; Part 9, Section 141 and Saskatchewan OH&S Regulations, Part X11, Section 192.

5.49 RIGGING

Rigging looks like an easy operation that requires no particular skill or experience. If you have the idea that just anybody can do it, you are wrong track. Too many individuals have lost fingers or hands or in some cases have cost them their lives just because they thought, ANYBODY CAN DO IT.

Here are some do's and don'ts to remember:

- Name one member of the crew to act as signal person, and instruct the equipment operator to recognize from that person only. The signal person must be careful not to order a lift or move until the All Ready signal has been received from all members of the crew.
- Identify the designated signal person with distinctive vest, armlets, etc.
- Each rigger must be sure he or she is in the clear before giving the All Clear, signal to the signal person.
- If you have to hold a sling or choker in position, make sure your hand or any other portion of your person are clear of pinch points. In fact, your hand should be far enough away so there is no possibility of anything catching your glove or clothing and jerking your hand into a pinch point. Frayed slings or cables must never be used.
- Since it is almost impossible to position the hook exactly over the load center, there will usually be a load swing or roll. Anticipate the direction of the swing or roll and work away from it. Use tag lines to control loads.
- Never place yourself between material, equipment or any stationary objects and the load swing.
- Stay away from stacked material that maybe knocked over by a swinging load. Never stand under the load, and keep from under the boom as much as possible.
- Check the place where the load is to be set. Remove any unnecessary blocks or other objects that may flip up or fly up if struck by the load.
- When the load is being lowered or set down, be sure your feet and other parts of your body are out from under, set the load down slow and easy so that it rolls on the blocking, this will ensure if there is a shift that it will be slow and you can easily move away to safety.

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




6.0 SAFE WORK PRACTICES

Safe Work Practice is defined as a written general overview on how to perform a task with minimum risk to the worker, equipment, materials, environment and the public.

The majority of all job tasks contain a variance to some degree. Safe work practices in theory are designed to provide the worker with an overview of some of the potential risks associated with the task.

Safe Work Practices have and will continue to be developed as a result of the findings of a Hazard Assessment. Workers are required to take part in the daily tailgate/hazard assessment to insure that they have reviewed and fully understand the safe work practices which will be used for the job task(s).

It is the workers responsibility to understand that these practices are general guidelines only and if they require addition clarification to perform the task they must review manufacturer's recommendations or contact the company HSE department and/or their direct supervisor/foreman.



Garth Janzer
President & CEO

February 2, 2015

6.1 AIR TOOLS - OPERATION

GENERAL

Protecting workers from injuries associated with the operation of air tools

APPLICATION

Air tools are powered by compressed air supplied by rubber hoses

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit system
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

- Regularly inspect tools and hoses before using.
- Obtain underground utility locates for the work area.
- Wear suitable clothing and personal protective equipment.
- Use proper shoring or slope equipment when air back tools are used in 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-fuelling.
- Do not use an air tool for any purpose other than what it is intended for.

6.2 ARC WELDERS - PORTABLE

GENERAL

Protecting workers from injuries associated with the use of portable arc welders.

APPLICATION

Portable arc welders should be treated as a vehicle and not operated indoors.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit system
- PPE
- Manufacturers instructions
- Alberta Fire Code
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

- Worker must be trained in use of welder.
- Perform a “walk around” inspection before starting equipment.
- Ensure welder is firmly attached to the transporting unit.
- Check all fluid levels to ensure they are at acceptable levels for operation.
- Do not fuel the machine while it is running.
- When fuelling, DO NOT “top off” the gas tank. Gasoline expands as the outside temperature rises, this may result in seepage and an ensuing fire.
- Ensure the side covers are kept closed to protect equipment from any damage from external objects, as well as to protect the operator and others from the moving parts of the machine.
- Ensure all cables are wound securely when transporting equipment.
- Any repairs should be done by qualified mechanics or technicians.
- Ensure Working Alone policy is followed, where applicable.

6.3 BACKFILLING

GENERAL

Protecting workers from injuries associated in backfilling operations.

APPLICATION

As per job requirements

PROTECTIVE MECHANISMS

- Safe work procedure
- Permit system
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe job procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

- No backfilling shall commence until all workers are clear of working areas.
- The operators of any vehicles being used in backfilling operations shall keep their swampers in sight at all times.
- Operators/Swampers to be conversant in hand signals.
- PPE (including high visibility vests).

6.4 BATTERIES/CHARGING AND SERVICING**GENERAL**

Protecting workers from injuries associated with charging and servicing batteries.

APPLICATION

Batteries contain sulphuric acid and should be handled by trained personnel and be charged in approved battery charging areas.

PROTECTIVE MECHANISMS

- Manufacturers Specifications and Safe Work Procedures.
- MSDS
- PPE
- Safety shower and eyewash station

SELECTION AND USE

As per safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.



WORKER RESPONSIBILITY

- Ensure the charger is off before attaching or removing clamp connections.
- Attach clamps to the battery in proper polarity.
- Ensure proper ventilation is in place where batteries are charged.
- Inspect for defective cables, loose connections, corrosion, cracked cases or covers, loose hold-downs and deformed or loose terminal posts.
- Replace worn or unserviceable parts.
- Tighten cable clamp nuts with the proper size wrench.
- Utilize a cable puller to remove a cable clamp from the battery terminal.
- Remove corrosion on the terminal posts, hold-down tray and hold down parts.
- Use a tapered brush to clean battery terminals and the cable clamps.
- Clean dirt from the battery with baking soda solution.
- Utilize a battery carrier to lift a battery.
- Ensure battery cells are not filled above the level in indicator.

6.5 CELL PHONE USAGE

GENERAL

Protection workers from injuries associated with the IMPROPER use of cell phones while operating a motor vehicle.

APPLICATION

Using a cell phone improperly while operating a motor vehicle may be hazardous to the worker and general public.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Highway Traffic Act
- Local Regulations
- Manufactures recommendations

SELECTION AND USE

- Safe work procedure
- Manufacturer recommendations

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance

WORKER RESPONSIBILITY

- Make driving your first priority.
- Whenever possible, let the Voice Mail take your incoming calls.
- Do not engage in stressful or emotional conversations.
- Utilize a hands-free device if necessary.
- Ensure you know your wireless phone and its features such as speed dial and redial.
- Avoid taking notes or look up phone numbers while driving.

6.6 USE OF CHAIN SAWS

GENERAL

Protecting workers from injuries associated with the use of chain saws.

APPLICATION

Chain saws are primarily used in the logging industry and to some extent in construction environment.

PROTECTIVE

Manufactures Specifications and Safe Work Procedures.

MECHANISMS

- PPE
- Workers must be trained in safe use of chain saws
- ERP (Emergency Response Plan)

SELECTION AND USE

As per manufacturers safe job procedures.

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

This training must include a minimum of the following elements:

- The proper personal protective equipment to be worn as set out in the manufacturer and Occupational Health & Safety Legislation
- Ensure that the chain brake is functioning properly and adequately stops the chain.
- The chain must be sharp, have the correct extension and be adequately lubricated.
- The correct methods of starting, holding, carrying or storage and use of the saw as directed by the manufacturer must be used.
- The chain saw must not be used for cutting above shoulder height.



- Fuelling must be done in a well-ventilated area and not while the saw is running or hot.
- An approved safety container must be used to contain the fuel used along with a proper spout or funnel for pouring.
- When carrying/Transporting a chain the bar guard must be in place, the chain bar must be toward the back and the motor must be shut off.

6.7 CLEANING SOLVENTS

GENERAL

Protecting workers from injuries associated with the use of cleaning solvents.

APPLICATION

Cleaning solvents are used in construction work to clean tools, equipment and within shop, for general cleaning.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- MSDS in place & current
- PPE
- WHMIS
- Respiratory protection (if required)
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

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

6.8 COMPRESSED GAS CYLINDERS

GENERAL

Protection of workers from injuries associated with compressed gas cylinders

APPLICATION

To ensure employees are aware of the potential hazards with working in and around compressed gas cylinders.

PROTECTIVE

Manufacturers Specifications and Safe Work Procedures.

MECHANISMS

- PPE
- Manufacturers specifications

SELECTION AND USE

- Safe work procedure
- Manufacturers specifications

SUPERVISOR

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

RESPONSIBILITY

Perform hazard assessment

WORKER RESPONSIBILITY

- All compressed gas cylinders must be returned promptly to a suitable storage area after use.
- Storage areas are to be located away from general traffic paths and are not to be located adjacent to vehicle paths.
- Cylinders storage areas are to be divided into areas marked as “full” and “empty”.
- Appropriate measures must be taken to separate cylinders containing, substances which, if mixed, could produce an explosive hazard.
- When not in use, cylinders are to be closed, and connecting hoses are to be depressurized.
- Cylinders must have protection caps in place whenever they are not connected for use or while they are being transported.
- Whether empty or full, all cylinders are to be stored, transported and used in the upright position.
- They are to be secured to some substantial stationary object by a chain or by another suitable means capable of supporting the weight of the cylinder.
- Cylinders must be secured upright to prevent dislodgment (falling) where a professional engineer certifies an alternative procedure which protects against the hazards caused by dislodgment.

6.9 CLEARING A/O GRADING OF PIPELINE RIGHT OF WAY

GENERAL

Protecting workers from injuries associated with clearing and grading operations.

APPLICATION

In order to make the right-of-way a suitable work area, the removal of trees, brush and other vegetations is required.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- Manufacturers specifications
- Equipment maintenance procedures
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedures
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Inspect equipment prior to use (walk around).
- Stay within an operator's vision.
- Be aware of power line proximity.
- Watch for falling objects.
- Use care and caution when using chain saws.
- Use recommended ointment and repellents.
- Do not ride on equipment unless appropriate seating is available.
- Do not stand between winch and object being moved.
- Do not leave equipment running while adjusting or fuelling.

6.10 CONCRETE FOUNDATION REMOVAL

GENERAL

Protecting workers from injuries associated with concrete removal work.

APPLICATION

Concrete foundations are structural members and must be removed as specified

PROTECTIVE MECHANISMS

- Permit System
- PPE
- MSDS
- Barricades and warning signs
- Ground Disturbance review
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedures

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure barricades and warning signs are in place.
- Ensure excavation is of proper design.
- Ensure you are conversant with proper hand signals.
- Ensure you are in operator's sight.
- Ensure equipment is in good working order.
- Ensure ground personnel have on proper PPE for protection from flying debris.

6.11 CONFINED SPACE ENTRY

GENERAL

Protection of workers from injuries associated with confined space entry.

APPLICATION

To ensure employees are aware of the potential hazards with confined space entry.



PROTECTIVE MECHANISMS

- Confined Space Code of Practice
- Confined Space Entry Training
- PPE
- Hazard assessments

SELECTION AND USE

- Safe work procedure
- Hazard assessments

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Have confined space entry training.
- Be able to recognize a Confined Space when they see one. Most hazardous atmospheres are invisible.
- Be aware of the potential hazards.
- Never underestimate the danger, deadly atmospheres can overcome them or bury them alive very quickly.
- Always have someone standing on guard, in case a hazard develops after they have entered a space.
- Do not try to rescue other employees, unless you have been properly trained in confined space rescue.

6.12 CONTROL OF TRAFFIC FLOW ON WORK SITES

GENERAL

Protecting workers from injuries associated with traffic congestion on work sites

APPLICATION

Traffic at work sites must be regulated in such a manner to protect the safety and well being of all personnel and equipment.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- ERP (Emergency Response Plan)

6.13 USE OF CHAIN SAWS

GENERAL

Protecting workers from injuries associated with the use of chain saws.

APPLICATION

Chain saws are primarily used in the logging industry and to some extent in construction environment.

PROTECTIVE

Manufactures Specifications and Safe Work Procedures.

MECHANISMS

- PPE
- Workers must be trained in safe use of chain saws
- ERP (Emergency Response Plan)

SELECTION AND USE

As per manufacturers safe job procedures.

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

This training must include a minimum of the following elements:

- The proper personal protective equipment to be worn as set out in the manufacturer and Occupational Health & Safety Legislation
- Ensure that the chain brake is functioning properly and adequately stops the chain.
- The chain must be sharp, have the correct e)tension and be adequately lubricated.
- The correct methods of starting, holding, carrying or storage and use of the saw as directed by the manufacturer must be used.
- The chain saw must not be used for cutting above shoulder height.
- Fuelling must be done in a well-ventilated area and not while the saw is running or hot.
- An approved safety container must be used to contain the fuel used along with a proper spout or funnel for pouring.
- When carrying/Transporting a chain the bar guard must be in place, the chain bar must be toward the back and the motor must be shut off.



6.14 CLEANING SOLVENTS

GENERAL

Protecting workers from injuries associated with the use of cleaning solvents.

APPLICATION

Cleaning solvents are used in construction work to clean tools, equipment and within shop, for general cleaning.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- MSDS in place & current
- PPE
- WHMIS
- Respiratory protection (if required)
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

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

6.15 COMPRESSED GAS CYLINDERS

GENERAL

Protection of workers from injuries associated with compressed gas cylinders

APPLICATION

To ensure employees are aware of the potential hazards with working in and around compressed gas cylinders.

PROTECTIVE

Manufactures Specifications and Safe Work Procedures.

MECHANISMS

- PPE
- Manufacturers specifications

SELECTION AND USE

- Safe work procedure
- Manufacturers specifications

SUPERVISOR

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

RESPONSIBILITY

Perform hazard assessment

WORKER RESPONSIBILITY

- All compressed gas cylinders must be returned promptly to a suitable storage area after use.
- Storage areas are to be located away from general traffic paths and are not to be located adjacent to vehicle paths.
- Cylinders storage areas are to be divided into areas marked as “full” and “empty”.
- Appropriate measures must be taken to separate cylinders containing, substances which, if mixed, could produce an explosive hazard.
- When not in use, cylinders are to be closed, and connecting hoses are to be depressurized.
- Cylinders must have protection caps in place whenever they are not connected for use or while they are being transported.
- Whether empty or full, all cylinders are to be stored, transported and used in the upright position.
- They are to be secured to some substantial stationary object by a chain or by another suitable means capable of supporting the weight of the cylinder.
- Cylinders must be secured upright to prevent dislodgment (falling) where a professional engineer certifies an alternative procedure which protects against the hazards caused by dislodgment.

6.16 CLEARING A/O GRADING OF PIPELINE RIGHT OF WAY**GENERAL**

Protecting workers from injuries associated with clearing and grading operations.

APPLICATION

In order to make the right-of-way a suitable work area, the removal of trees, brush and other vegetations is required.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- Manufacturers specifications
- Equipment maintenance procedures
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedures
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Inspect equipment prior to use (walk around).
- Stay within an operator's vision.
- Be aware of power line proximity.
- Watch for falling objects.
- Use care and caution when using chain saws.
- Use recommended ointment and repellents.
- Do not ride on equipment unless appropriate seating is available.
- Do not stand between winch and object being moved.
- Do not leave equipment running while adjusting or fuelling.

6.17 CONCRETE FOUNDATION REMOVAL

GENERAL

Protecting workers from injuries associated with concrete removal work.

APPLICATION

Concrete foundations are structural members and must be removed as specified

PROTECTIVE MECHANISMS

- Permit System
- PPE
- MSDS
- Barricades and warning signs
- Ground Disturbance review
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedures

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure barricades and warning signs are in place.
- Ensure excavation is of proper design.
- Ensure you are conversant with proper hand signals.
- Ensure you are in operator's sight.
- Ensure equipment is in good working order.
- Ensure ground personnel have on proper PPE for protection from flying debris.

6.18 CONFINED SPACE ENTRY

GENERAL

Protection of workers from injuries associated with confined space entry.

APPLICATION

To ensure employees are aware of the potential hazards with confined space entry.

PROTECTIVE MECHANISMS

- Confined Space Code of Practice
- Confined Space Entry Training
- PPE
- Hazard assessments



SELECTION AND USE

- Safe work procedure
- Hazard assessments

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Have confined space entry training.
- Be able to recognize a Confined Space when they see one. Most hazardous atmospheres are invisible.
- Be aware of the potential hazards.
- Never underestimate the danger, deadly atmospheres can overcome them or bury them alive very quickly.
- Always have someone standing on guard, in case a hazard develops after they have entered a space.
- Do not try to rescue other employees, unless you have been properly trained in confined space rescue.

6.19 CONTROL OF TRAFFIC FLOW ON WORK SITES

GENERAL

Protecting workers from injuries associated with traffic congestion on work sites

APPLICATION

Traffic at work sites must be regulated in such a manner to protect the safety and well being of all personnel and equipment.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure you have a valid operator's license.
- Erect signs and barricades to direct traffic safely around worksite.
- Restrict on site traffic.
- Obtain authorization to enter restricted work areas, leases or plant sites.
- Vehicles should park pointed towards the exit with the doors closed, unlocked and the keys in the ignition.
- Prior to operation, the operator must perform a walk around check of the vehicle.
- Operate vehicles in a safe, courteous manner.

6.20 DRIVING

GENERAL

Protecting workers from injuries associated with driving

APPLICATION

Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, company procedures, and manufacturer's recommended operating guidelines.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Highway Traffic Act
- Company Rules
- Manufacturers Recommendations
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Company Rules
- Manufacturers Recommendations

SUPERVISOR

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

RESPONSIBILITY

- Compliance
- Enforcement



WORKER RESPONSIBILITY

- Ensure you have a valid operator's license.
- Be conversant with traffic laws and regulations.
- Drive defensively.
- Back in when practical.
- Ensure the vehicle has an emergency road kit.
- Ensure you are not under the influence of alcohol or drugs.
- Avoid driving when fatigued.
- Ensure seatbelts are worn at all times when traveling.
- Be familiar with vehicle and its capabilities.
- Avoid offering rides to strangers or hitchhikers.
- Perform a "Walk around" prior to traveling.
- Use good judgement and understand the basic recovery skills appropriate to the vehicle you are driving.
- Refer to SWP for "Cell Phone Use in Vehicles".

6.21 DRIVING (WINTER)

GENERAL

Protecting workers from injuries associated with winter driving

APPLICATION

Operation of motor vehicles must be performed according to all vehicle codes, traffic laws, company procedures, and manufacturer's recommended operating guidelines.

PROTECTIVE MECHANISMS

- Manufacturers Specifications and Safe Work Procedures.
- Highway Traffic Act
- Company Rules
- Manufacturers Recommendations
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Company Rules
- Manufacturers Recommendations

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Compliance
- Enforcement

WORKER RESPONSIBILITY

- Ensure you have a valid operator's license.
- Be conversant with traffic laws and regulations.
- Drive defensively.
- Back in when practical.
- Ensure the vehicle has an emergency road kit.
- Ensure to clear snow from all windows, lights and mirrors.
- Avoid using cruise control on icy roads.
- Accelerate and brake gently to reduce skids or spinouts.
- Ensure winter clothing does not restrict movement, vision or hearing.
- Ensure fuel tank is full when possible.
- Ensure you are familiar with the installation of snow chains.
- Monitor weather reports.
- Refer to SWP for "Cell Phone Use in Vehicles".
- Refer to Working Alone policy when driving in isolated areas.

6.22 ELECTRICAL SYSTEMS LOCKOUT

GENERAL

Protecting workers from injuries associated in working with electrical systems

APPLICATION

Where there is or may be a danger to a worker from the inadvertent operation of electrical equipment then that equipment must be locked out and tagged prior to commencing work.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Lockout procedure
- Lockout devices (padlocks, multiple lock hasps, tags)
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedures



SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Switch off all appropriate devices (MMC, Distribution Panel, Disconnect).
- Lock and tag Electrical Supply devices in the "OFF" position.
- Test to be sure the equipment cannot be operated at the STOP/START switch.
- Test to be sure electrical equipment is de-energized.
- After completion of task, remove padlocks and destroy tags.

6.23 USE OF PORTABLE FIRE EXTINGUISHERS

GENERAL

Protecting workers from injuries associated with IMPROPER use of fire extinguishers.

APPLICATION

Portable fire extinguishers must be installed, inspected and maintained on a regular basis to ensure proper operation in an emergency.

PROTECTIVE MECHANISMS

- Manufacturers Specifications and Safe Work Procedures.
- Alberta Fire Code
- PPE
- Manufacturers recommendations

SELECTION AND USE

- As per safe work procedure
- Alberta fire code
- Manufacturers recommendations

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Proper selection of equipment
- Conversant with proper regulations.

WORKER RESPONSIBILITY

- Ensure you are fully trained with operation and maintenance of fire extinguishers.
- Check Cylinder.
- Inspect cartridge puncture cap.
- Weigh cartridge.
- With cartridge removed, check action of puncture lever.
- Check hose and nozzle for obstruction.
- Check date of manufacture.
- Check level and condition of powder.
- Check fill-cap threads and gasket.
- Attach visual seal.
- Check Pressure Gauge.

6.24 EQUIPMENT AND/OR TOOLS LOCK OUT / TAG OUT

GENERAL

Protection of workers from injuries associated with defective tools and equipment.

APPLICATION

To ensure employees are unable to use defective tools and equipment.

PROTECTIVE MECHANISMS

- Manufactures recommendation.
- Equipment maintenance procedures

SELECTION AND USE

On all defective tools and equipment

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

- When performing maintenance or repair on hydraulic equipment a proper lock-out device must be used.
- All equipment and tools shall be locked and tagged in accordance with the applicable Provincial Occupational Health and Safety and/or Workers' Compensation Board regulations.
- When tools and/or equipment are found to be in need of major repairs or defective they are to be immediately locked out and tagged out .
- The supervisor is to be notified of the problem, so they can rectify it.



6.25 EXCAVATION AND TRENCHING

GENERAL

Protection of workers from injuries associated with excavations and trenches.

APPLICATION

To ensure employees are aware of the potential hazards with working in and around excavation and trenches.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Barricades and warning signs
- Access/egress ladders
- Equipment maintenance procedures

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- All excavating and trenching work practices are to conform to the applicable government regulations and company guidelines.
- Excavating greater than 1.5 meters (5 feet) in depth are to be properly supported or slopes and when necessary access ladders put in place prior to entry by personnel.
- Proper signs, barricades and warning lights are to be installed where the excavation is near roadways or populated areas.
- The location and cover of any buried pipe, pipelines, fittings, cables, conduit or other structures are to be established and the location adequately marked prior to starting the excavation work.
- Stripping or excavation is to cease when the work comes within 60 cm (2ft) of the marked location of any component buried on the company's property or right-of-way.
- The last 60 cm (2 ft.) must be hand-exposed by competent workers.

6.26 EXCAVATING TO EXPOSE EXISTING LINES OR UNDERGROUND LINE CROSSINGS

GENERAL

Protecting workers from injuries associated with excavating underground lines and cables.

APPLICATION

When it is necessary to disturb soil within existing cable pipeline conduit, then that pipeline, cable or conduit must be exposed before work is allowed in that area.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- Crossing agreement
- Notification of owner
- Surveyor report
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Locate all Lines and determine the probable depth of the lines to be crossed.
- Sweep R.O.W. a/o site using radio detection units.
- Existing pipelines and/or cables must be exposed “BEFORE” commencing any mechanical excavation.
- Hydro vac to expose critical area to allow for mechanical excavation as per Regulations.
- Probe for existing lines.
- If for any reason these hand excavation are temporary filled in, they shall be marked.
- A Signal Person must be present at all times to direct the mechanical excavation during the line crossing construction.
- Worker a/o operator must be conversant in proper hand signals.
- Worker / operator must be trained in Ground Disturbance

6.27 FALL PROTECTION

GENERAL

Protect workers from injuries associated by not utilizing proper fall arrest protection.

APPLICATION

Fall Arrest Protection shall be utilized where there is or may be a danger to workers falling. NO person shall use fall protection devices until they have received adequate training.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Barricades and warning signs
- Fall protection plan
- Manufacturers specifications
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

- Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.
- Perform hazard assessment
- Work site inspection
- Determine the type of equipment required.

WORKER RESPONSIBILITY

- Be fully conversant with protection system.
- Ensure you know capabilities of Fall Protection Equipment.
- Ensure barricades, ribbons and signs identify restricted areas.
- Ensure you understand the procedures for rescue of workers who may be unable to rescue themselves from an elevated work area.
- Ensure you know your anchor points.
- Ensure you do not wrap the lanyards and/or ropes around beams, girders, pipes, etc.
- Utilize the buddy system and continually check each other's harness and D ring to ensure that the harness is not too loose and or the D ring has not slipped down the back.

6.28 MONITORING FOR ESCAPING HYDROCARBON GASES

GENERAL

Protecting workers from injuries associated with escaping hydrocarbon gases

APPLICATION

Continuous monitoring for escaping hydrocarbon fluids (Liquid or gas) is required when working near vessels or lines that are in service.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Barricades and warning signs
- Monitoring devices
- Respiratory protection equipment
- Manufacturers specifications
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection
- Type of monitoring system
- Verify last calibration check on monitoring system

WORKER RESPONSIBILITY

- Ensure barricades and warning sign are in place
- Ensure all monitors are in proper working condition as per manufacturer's recommendations
- Check power supply, backup systems and batteries where applicable.
- Consider, wind, atmospheric conditions and sources of gas as well as other activities that could affect the work area when placing monitors.
- Ensure Respiratory Protection Equipment is available and serviceable.
- Ensure you are trained in proper use of respiratory equipment
- Check monitors on a regular basis.



6.29 FUELLING – REFUELLING EQUIPMENT

GENERAL

Protecting workers from injuries associated with fuelling and refuelling operations

APPLICATION

Refuelling of equipment is a daily task in construction industry which may be hazardous if not carried out properly

PROTECTIVE

Manufactures Specifications and Safe Work Procedures.

MECHANISMS

- Alberta Fire Code
- Applicable Legislation
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Application Legislation

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their Workers on protection requirements and training

WORKER RESPONSIBILITY

- Ensure you are conversant with regulations.
- Refuelling area is ventilated.
- Ensure equipment is shutoff prior to refuelling.
- Ensure there is no smoking or open flames in vicinity.
- Avoid spillage on equipment or ground.
- Ensure cellular phones are turned off.

6.30 HYDROVAC OPERATIONS

GENERAL

Protecting workers from injuries associated with hydro vac operations.

APPLICATION

Hydro vac Units used for daylighting of underground structures and pipelines and doing the primary excavation in restricted areas.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Barricades and warning signs
- Environmental legislation
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure barricades and warning signs are in place.
- Ensure lines are identified.
- Determine if the soil the hydro vac is working in is contaminated by hazardous substances or not.
- Ensure you do not stand near edge of excavation.
- Keep all unnecessary personnel and equipment out of the area the hydro vac is working in.
- Additional care must be taken when locating and exposing fibreglass lines.

6.31 HAZARD CONTROL SIGNAGE

GENERAL

Protecting workers from injuries associated with improper use of warning signs.

APPLICATION

Work sites should have appropriate and adequate signage to identify site hazards in place prior to the commencement of any work process.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Government regulations
- PPE
- Local jurisdictions
- Worksite traffic guidelines



SELECTION AND USE

As per safe work procedures

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Signage selection

WORKER RESPONSIBILITY

- Ensure signage is in good condition, clean, legible and suited to the purpose.
- Ensure traffic control signage is to be of accepted standards.
- Ensure signage is secured.
- Routinely inspect signage for placement, cleanliness and physical damage.
- Ensure road traffic control signage is covered when no activity is present.
- Ensure you are fully trained to erect road traffic signage.

6.32 HEAVY EQUIPMENT MAINTENANCE

GENERAL

Protecting workers from injuries associated with heavy equipment operation and preventing damage to equipment.

APPLICATION

Equipment must be serviced, maintained and operated in a proper manner by trained operators.

PROTECTIVE MECHANISMS

- Manufacturers Specifications and Safe Work Procedures
- Permit System
- PPE
- Manufacturers specifications
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per job requirement
- Manufacturers recommendations

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Walk around your unit and perform a visual check.
- Conduct pre-start checks.
- Conduct after start checks.
- Follow Manufacturer's recommendations for Cold Weather Starts.
- Wear seat belts where machines are equipped with Roll Over Protection.
- Use extreme caution when mounting or dismounting a machine.
- Report all problems or potential problems to your Supervisor.
- Ensure the correct operating procedures are followed when the day's activities have been completed and the machine is being stopped.

6.33 IN CASE OF AN INJURY

GENERAL

Inform workers what to do in case of an injury

APPLICATION

To ensure employees are aware of what to do in case of an injury.

PROTECTIVE MECHANISMS

- First Aid Kits
- PPE
- Cell Phones for communication

SELECTION AND USE

Safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

WORKER RESPONSIBILITY

- For all minor injuries, workers shall obtain first aid treatment immediately.
- Refer to daily tailgate meeting form if certain individual's are assigned to first aid duty that day, otherwise all company workers on site have valid first aid certificates. (this information was reviewed with workers before the start of the work shift.)
- First aid kits are located in the field in the cabs of all our company trucks; site office trailers - hung on the wall; shop - locations identified by signs; and in the office - the coffee room
- Report to supervisor by direct communication, phone, cell phone, radio or satellite phone.
- Record the treatment given.
- If broken bones are suspected or heavy bleeding or spinal injury is encountered, the injured party should call for help and remain still.

- Competent First Aid assistance or medical attention will be brought to the site as soon as possible.
- The immediate supervisor must be notified of any injury as soon as possible.
- Both the worker and the employer are required to fill out a Workers Compensation board report for all injuries which may have been suffered in the course of employment and require the treatment of a medical doctor.

6.34 LIFTING DEVICES

GENERAL

Protection of workers from injuries associated with lifting devices.

APPLICATION

To ensure employees are aware of the potential hazards with working in and around lifting devices.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- PPE
- Slings
- Tag lines
- Manufacturers specifications

SELECTION AND USE

- Safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- All lifting devices are operated only by competent, authorized workers (licensed are required) and that a signaller is designated to signal the operator, as necessary to properly place and control the loads.
- Prior to performing any lift, the operator shall determine the weight of the object being lifted and ensure that the cables, lifting device and any slings, wire ropes, chains, etc., used in the lift are of a sufficient strength to support the weight of the load. No load is to be lifted or moved until the competent operator ensures that the working conditions are safe.
- The load must be positioned as close as possible to the ground or grade before unloading. No load are to be passed over any workers.
- No worker shall allow any part of his or her body to extend under any load being handled by a crane or other lifting device.

- Tag lines must be used to guide and control the load where excessive movement is possible.
- All hoisting devices must meet the applicable standards for design, construction and legibly show the manufactures rate load capacity, name, model, serial Number and the year of manufacture or shipment date.
- A regular maintenance program shall be implemented prior to using any lifting device and at least monthly thereafter to ensure that all components of the lifting device are in good condition. (brakes, boom, cables, hydraulics,etc.)
- Written records (logs) of all inspection results for each piece of equipment shall be available for review.

6.35 LOADING OF TRACTORS & EQUIPMENT

GENERAL

Protection of workers from injuries associated with equipment

APPLICATION

To ensure employees are aware of the potential hazards with equipment

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- PPE

SELECTION AND USE

- Safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Park truck & trailer on level ground apply parking brakes.
- Set ramps in place carefully.
- Position tractor behind trailer.
- Put tractor in first + first gear, idle tractor onto trailer.
- Apply parking brake on tractor, turn off engine.
- Chain forwards & backwards on trailer.
- Load ramps carefully.
- Walk around truck & trailer to make sure load is secure & all lights work. Also check all tires.
- On long hauls, stop once in awhile and check load.

6.36 LOADING OF HEAVY EQUIPMENT

GENERAL

Protection of workers from injuries associated with loading heavy equipment

APPLICATION

To ensure employees are aware of the potential hazards with loading heavy equipment

PROTECTIVE MECHANISMS

- PPE
- Manufacturers specifications

SELECTION AND USE

- Manufactures Specifications and Safe Work Procedures.
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Park truck and trailer on level ground
- Apply truck & trailer brakes.
- Set all load tire (old tires) in position on trailer & over top of tires on 16 wheeler.
- Set all tie down chains & boomers in position (and Snipe).
- Remove back flags on trailer and remove wide load sign.
- Start Cat (equipment) and let warm up for 10 minutes.
- Walk around Cat & Truck & Trailer to make sure everything is ready to load.
- Get in Cat - make sure Ripper is all the way up.
- Line up Cat to rear of trailer.
- Lift blade to maximum height.
- Idle Cat up to 1/2 throttle & start to crawl up beaver tail.
- Do not touch steering clutch while climbing up beaver tail.
- Once on the rear wheels of 16 wheeler straighten out Cat if necessary.
- Crawl to the position on trailer you want the cat to sit and set brake, shut off engine.
- Carefully get off the Cat by using the handle.
- Hook chain on track pads & boomer on 16 wheeler deck, Hang on to snipe with both hands when pulling down boomers.
- After all four boomers (one on each corner) are attached, tie them with #9 hay wire.
- Put flags back on the back corners of 16 wheeler.

- Put wide load sign back in place.
- Walk around truck to make sure nothing is left on the ground and that is secure.

6.37 MANUAL LIFTING AND CARRYING

GENERAL

Protecting workers from injuries associated with material lifting and carrying.

APPLICATION

Most lifting accidents are due to improper lifting methods. All manual lifting should be planned and safe lifting procedures followed.

PROTECTIVE MECHANISMS

- PPE
- Permit system
- Hazard assessments
- ERP (Emergency Response Plan)

SELECTION AND USE

- Safe lifting procedure
- As per safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Selection of lifting equipment
- Perform hazard assessment

WORKER RESPONSIBILITY

- Ensure that you know your physical limitations and the approximate weight of materials.
- The use of power equipment or mechanical lifting devices should be considered and employed where practical.
- Obtain assistance in lifting heavy objects.
- Ensure a good grip before lifting and employ proper lifting technique.
- Avoid reaching out.
- Pipes, conduit, reinforcing rods and other conductive materials should not be carried on the shoulder near exposed live electrical equipment or conductors.
- Be aware of hazardous and unsafe conditions.

6.38 MECHANICAL VIBRATION TOOLS (JACKHAMMERS, TAMPERS, IMPACT DRILLS)

GENERAL

Protecting workers from injuries associated with the use of mechanical vibration tools

APPLICATION

Mechanical vibration tools are common tools in road building and in general construction industry which require trained workers to operate

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Barricades and warning signs
- ERP (Emergency Response Plan)
- Equipment maintenance procedures

SELECTION AND USE

- As per job requirement
- As per safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment, hazard analysis, work site inspection

WORKER RESPONSIBILITY

- Ensure vibration suppression material is applicable.
- Ensure work site has barricades and warning signs in place.
- Be conversant in job procedure and equipment.
- Know the work limits associated with equipment, including levels of sensitivity, numbness or stiffness.
- Ensure proper PPE is utilized for task, including hearing protection.

6.39 OFFICE SAFETY

GENERAL

Protecting workers from injuries associated with the office environment.

APPLICATION

To ensure employees are aware of the potential and existing hazards in the office environment

PROTECTIVE MECHANISMS

- Alberta Fire Code
- Manufacturers recommendations
- MSDS
- Local legislation
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- MSDS

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure you are conversant with emergency evacuation.
- Ensure that all electrical cords are in good condition and are not overloaded.
- Ensure that computer monitors are adjusted to correct height and kept clean.
- Ensure fans/space heaters are used to manufacturer specifications.
- Ensure that only one drawer of filing is open at one time and that drawers are closed when not in use.
- Ensure floors and aisles are kept clear and not cluttered.
- Ensure proper type of fire extinguisher is available.
- When transporting materials of heavy nature ensure that handcarts and trolleys are used properly.
- Operate microwave according to manufacturers specifications.
- Ensure coffee makers are used according to manufacturers specifications.
- Ensure photocopier is maintained according to manufacturers specifications.
- Ensure chairs are in good repair.
- Ensure rugs are kept clean and in good repair-free of tripping hazard.
- Ensure paper cutter blade is placed in closed lock position.
- Ensure all loose clothing is tied back when using paper shredder.



6.40 EQUIPMENT ACTIVITIES NEAR OVERHEAD POWER LINES

GENERAL

Protecting workers from injuries associated with equipment activities near overhead power lines.

APPLICATION

Do not operate heavy equipment near or under a power line until they have obtained a permit and/or crossing agreement, and reviewed Safe Work Procedure 5.3 & 5.3A Part 5, Pages 4-6

PROTECTIVE MECHANISMS

- Safe work procedure 5.3 & 5.3A – Part 5, Pages 3-6
- Permit System
- PPE
- Barricades and warning signs
- Crossing Agreement
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement, crossing agreement, and hazard assessment.

SUPERVISOR RESPONSIBILITY

- Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.
- Review Safe work practices with truckers & workers prior to allowing access site
- Perform hazard assessment
- Contact the power line operator or owner to determine the voltage of the line.
- Work site inspection

WORKER RESPONSIBILITY

- Review Safe Work Procedure prior to accessing site
- Maintain minimum safe clearances as per Safe Limit of Approach Table on Part 5 – Page 4
- Install warning devices and signs.
- Install telescopic non-conductive posts and flagging across R.O.W. at the minimum allowable clearance as allowed by regulations for the line voltage.
- Position signs or other devices to determine the “Danger Zone”.
- Be conversant with allowable clearances.
- Adhere to all site-specific regulations.
- Beware of atmospheric conditions such as temperature, humidity and wind, which may dictate more stringent safety procedures.

6.41 POWER AND HAND TOOL USE

GENERAL

Protecting workers from injuries associated with the use of power and hand tools

APPLICATION

Power tools and hand tools to be used and maintained in compliance with manufacturers guidelines

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- PPE
- Permit system (if required)
- Hazard assessments
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Review the project and prepare a list of required tools
- Perform hazard assessment

WORKER RESPONSIBILITY

- Electrical tools must have 3 wire (grounding) cord and plug, excluding double insulated tools.
- Grinder discs, buffers, and stones to be used only for designed application and at 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 access.
- Accessories can only be used that are designed for use with the tools specified.
- 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, hammer, wrenches, etc. To have all burrs ground from striking area.
- Chisels, punches, screwdrivers, etc. to have tips properly dressed.
- Cracked a/o splintered handles to be replaced.
- All tools must be cleaned after used and repairs made before being properly stored.
- Tools to be used for designed purpose only.
- Repairs to tools must be performed by qualified personnel, using O.E.M. parts or equivalent.

6.42 PROPANE CYLINDERS – CARE AND HANDLING

GENERAL

Protecting workers from injuries associated with the care and handling of propane cylinders.

APPLICATION

No person shall handle propane cylinders or use propane cylinders until they are fully aware of the potential hazards and the precautions necessary to handle propane safely.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- TDG (Transportation of Dangerous Goods) Legislation
- WHMIS
- PPE
- Permit system
- Hazard assessments
- ERP (Emergency Response Plan)

SELECTION AND USE

- TDG
- Manufacturers specifications
- As per safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- TDG compliant
- Perform hazard assessment

WORKER RESPONSIBILITY

- Ensure WHMIS & TDG labels are attached and visible.
- Cylinders are transported and secured in an upright position in a ventilate area.
- Cylinders will not be stored inside buildings, or carried in closed canopies, vehicles, tools vans.
- Regulator to be installed on cylinder prior to use.
- When checking for leaks use a soapy water solution.
- When not in use, cylinder to be secured in upright position, valve closed and regulator removed.
- Cylinders should not be used if shoulder label/stamp is not legible.
- When not in use, a plug or cap must be used to seal opening of valve.
- Ensure cylinders in storage or transit must be equipped with valve cap or collar and regulator removed.
- Cylinder not to be painted over in any fashion.

6.43 RESPIRATORY EQUIPMENT

GENERAL

Protection of workers from injuries associated respiratory problems.

APPLICATION

To ensure employees are aware of the potential hazards with working in and around contaminated air.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- H2S Monitors
- Masks and filters
- Hazard assessments

SELECTION AND USE

As per job requirement, hazard assessments and monitoring.

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Respiratory protection equipment is provided.
- Ensure that you understand how to properly use monitors and masks.
- Be sufficiently trained and competent in its use and must wear the equipment whenever it is required.
- In the case of doubt contact the representative for requirement.
- Review information contented with filters to ensure proper use and limitations.

6.44 USE AND CARE OF RESPIRATORY EQUIPMENT

GENERAL

Protecting workers from injuries associated with the improper use and care of respiratory equipment.

APPLICATION

When hazardous airborne contaminants or an oxygen deficient atmosphere exist, proper respiratory equipment must be utilized.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Manufacturers specifications



- Air quality monitors
- WHMIS
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection
- Selection of equipment

WORKER RESPONSIBILITY

- Ensure you are fully trained on respiratory equipment.
- Ensure you are conversant with safe work procedures and/or site-specific procedures.
- Inspect before each use.
- Inspect after each use.
- Ensure to utilize “Buddy” system.
- Ensure work masks are cleaned and disinfected after each use.
- Ensure equipment is stored properly.

6.45 RESTRICTED WORK AREAS

GENERAL

Protecting workers from injuries with working in restricted areas

APPLICATION

A Work Area will be designated as a “Restricted Area; where there is a danger of contact with energized electrical equipment or hazardous substance.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- Hydrocarbon monitors
- Fire extinguishers
- Lockout procedures
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedures

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection
- Designate limits of restricted area

WORKER RESPONSIBILITY

- Establish and maintain clear exits.
- Have safety and emergency breathing air apparatus available.
- Place continuous gas monitors at strategic points.
- Place fire extinguishers at strategic points.
- Isolate system to be worked on.
- Purge system.
- Check for hydrocarbon leaks.
- Ensure no alternate power sources.
- Continually monitor area for changing conditions.

6.46 THAWING OF FROZEN GROUND USING ARTIFICIAL HEATING METHODS

GENERAL

Protecting workers from injuries associated with using artificial heating methods.

APPLICATION

Thawing frozen ground using artificial heating methods must be closely monitored to prevent any incidents of fire, explosion or excessive heating.

PROTECTIVE MECHANISMS

- Permit System (from local Fire Dept. if necessary)
- PPE
- Barricades and warning signs
- Environmental legislation
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment & analysis
- Work site inspection
- Type of heating device

WORKER RESPONSIBILITY

- Ensure barricades and warning signs are in place.
- Ensure no presence of flammable items such as wood, plastic, insulation, cardboard, or hydrocarbon products.
- Ensure no presence of any electrical lines either above or below ground.
- Ensure no presence of any infrared fire detection devices.
- Ensure visibility is not restricted for workers and/or vehicles due to smoke and steam.
- Check steam hose for secure connections and hose punctures.
- Periodically check the depth of the thawing.

6.47 USE OF TIGER TORCHES

GENERAL

Protecting workers from injuries associated with the use of tiger torches.

APPLICATION

The primary function of the tiger torch is to preheat piping systems prior to welding.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- Fire protection
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure you are conversant with the operation of equipment.
- Follow proper procedures for lighting torch.
- Ensure fuel lines are in good working conditions.
- Ensure proper cylinders are secured and regulators in place.
- When not used for pre-heating operation, shut torch off.
- Torches are not to be used for heating or thawing of lines where known hydrocarbons are present.

6.48 TOWING

GENERAL

Protecting workers from injuries associated with towing operations.

APPLICATION

Towing vehicles or equipment requires proper training and tools.

- PROTECTIVE MECHANISMS
- Manufactures Specifications and Safe Work Procedures.
- Highway Traffic Act
- PPE
- Warning signs and flags
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedure

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Ensure warning devices are in place.
- Ensure you are conversant with proper hand signals.
- DO NOT stand between vehicles.
- Ensure equipment is in good condition.
- Wear proper PPE (High visibility vests, gloves, etc.)

6.49 USE OF WEED EATERS

GENERAL

Protecting workers from injuries associated with the use of weed eaters.

APPLICATION

Weed eaters are common both in the Landscape Industry and in the home

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- PPE

SELECTION AND USE

- As per safe work procedure
- Manufacturer Specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure the right mix of fuel is used.
- Ensure the string is installed correctly before starting.
- Check fuel.
- Only service when engine is off.
- Shut down equipment when refuelling.
- Ensure that string mechanism is away from you and all others before starting.
- Ensure string does not hit fences, trees or rocks.
- Ensure guards and protective devices are in place.

6.50 WORKING IN HILLS AND ON SLOPES

GENERAL

Protecting workers from injuries associated with working in hills and on slopes.

APPLICATION

Working in hills and on slopes is an integral part of pipeline/construction activity, requiring proper planning prior to work.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Manufacturers Specifications
- Barricades and warning signs
- Government Regulations
- ERP (Emergency Response Plan)

SELECTION AND USE

As per safe work procedures

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Ensure you are conversant with ERP.
- Ensure warning signs/devices are in place.
- Ensure you are familiar with restraining devices and rigging.
- Ensure you are familiar with their use of anchors, bridals and winches.
- Be familiar with anchoring or pipe/equipment.
- Ensure you wear appropriate PPE (including high visibility vests)
- Ensure wheel chocks are utilized.
- Be aware of rolling boulders or loose rocks.
- Ensure you are in view of operators at all times.
- Do not move or work equipment when people are working below you.
- Use extra caution when working on wet &/or snowy slippery slopes.
- Use extra caution when working with equipment that have corked tracks due to the slip hazard.

6.51 WORKING WITH SNOW FENCE

GENERAL

Protecting workers from injuries associated with erecting and dismantling of snow fences.

APPLICATION

The erecting or dismantling of snow fencing requires heavy manual labor with many inherent hazards.



PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- Permit System
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

- As per safe work procedure
- Manufacturers recommendations

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

Ensure proper PPE is worn.

- Ensure equipment is in good working condition.
- Utilize appropriate tools.
- Practice good housekeeping.
- Ensure to block rolls from rolling.
- Ensure to stand or post side in case of wire break.
- Ensure postholes are refilled when posts are removed.

6.52 WORKING ALONE

GENERAL

Protect workers from injuries associated with working alone.

APPLICATION

- Anyone who works alone during the normal working day.
- Anyone traveling to and from a job site alone during the day.
- Anyone working in the office, shop or yard alone during the working day.
- Anyone hauling equipment alone during the working day or night.

PROTECTIVE MECHANISMS

- Cell or two-way radio
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Keep in communications with your job foreman/supervisor.
- Phone foreman/supervisor when getting to the site and when leaving the site, if no one answers leave a message with the time and date you called.
- If you have a break down let your foreman know by phoning and if he/she does not answer leave a message with the time and date you called, do this before you start and type of repair on the equipment. Upon completion of the repair phone your foreman back to advise them everything is done.
- If unsure if your foreman is reachable, leave a message with the time and date you called with management or the safety officer.

6.53 WORKING ALONE - TRUCK DRIVERS

GENERAL

Protect workers from injuries associated with working alone while trucking.

APPLICATION

- Anyone who works alone during the normal working day.
- Anyone traveling to and from a job site alone during the day.
- Anyone hauling equipment alone during the working day or night.

PROTECTIVE MECHANISMS

- Cell or two-way radio
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection



WORKER RESPONSIBILITY

- Keep in communications with your job foreman.
- Phone foreman when getting to the site and before loading or unloading equipment, leave message if no one answers with time and date of call.
- Phone foreman's cell phone when equipment is loaded or unloaded and ready to go, again leave a message if no one answers with the time and date of your call.

Note: Leave your hours of moves, permit number and permit cost with the foreman when you leave your message that you got to your job site along with the time and date of your call.

6.54 WORKING ALONE - RECLAMATION & EQUIPMENT OPERATORS

GENERAL

Protect workers from injuries associated with working alone while operating reclamation and general equipment.

APPLICATION

- Anyone who works alone during the normal working day.
- Anyone traveling to and from a job site alone during the day.
- Anyone hauling equipment alone during the working day or night.
- Anyone working in the shop or yard alone during the working day.

PROTECTIVE MECHANISMS

- Cell or two-way radio
- PPE
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment

WORKER RESPONSIBILITY

- Keep in communications with your job foreman.
- If you are not seeing your Foreman that day phone his/her cell phone to tell them that you have got to the site in the morning, leave message if no one answers with time and date of call.
- Phone foreman's cell phone when equipment is loaded or unloaded and ready to go, again leave a message with time and date. if no one answers.
- Phone at the end of the day after all servicing is done and you are already on the road back to the hotel/shop.

- Phone after you have left the access roads and are on a main roadway, leave your hours with your Foreman, leave a message with time and date, if no one answers.
- If you have a break down let your Foreman know by phoning the cell phone and if he/she does not answer leave a message with the time and date, do this before you start any type of repair on the equipment.
- Let your foreman know when you are done with the repair by phoning them back that you are ready to go back to work.

6.55 WORKING AROUND WELLHEADS AND ON SITE FACILITIES

GENERAL

Protecting workers from injuries associated with well center and above ground facilities.

APPLICATION

When it is necessary to disturb soil within 5 meter radius, a spotter must be present or barricades must be installed.

PROTECTIVE MECHANISMS

- Permit System
- PPE
- Barricades and warning signs
- Surveyor report
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection

WORKER RESPONSIBILITY

- Worker's to install well head flagging.
- When operator is backing up². When operator is backing up STOP!
- Get out of equipment. Communicate with designated ground person.
- Look at all hazards.
- Make up a plan with the designated ground person
- Back up using extreme caution.
- Always have eye contact with the designated ground person and on site hazards.
- Only back up when there is someone to direct you.

- You must always have eye contact with the ground person while moving.
- A Signal Person must be present at all times to direct the mechanical excavation while working in the 5 meter zone.
- Worker a/o operator must be conversant in proper hand signals.
- Worker / operator must be trained in Ground Disturbance
- Any work within 1 meter must be done by hand as per hazard assessment.

6.56 TIRE SERVICING

GENERAL

Protecting workers from injuries associated with hazards associated with tire servicing.

APPLICATION

To prevent worker injury caused by the explosion or violent separation of parts of multi-component wheel assemblies.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- PPE
- Tire cage
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.

- Perform hazard assessment
- Work site inspection
- Ensure workers are aware of hazards such as blowoffs, sudden violent springing of tire lock rings, rims, or flanges from tires being assembled.

WORKER RESPONSIBILITY

- A competent worker must service, inspect, disassemble and reassemble a tire or tire and wheel assembly in accordance with the manufacturer's specifications.
- The manufacturer's service manuals for tires and wheels to be services must be readily available to the worker.
- A competent worker must inflate a tire mounted on a split-rim or locking ring wheel only if
 - The wheel assembly is in a tire cage or is similarly restrained, and
 - Flying parts from split-rim or locking ring failure or tire rupture are contained.
- Workers must use a clamp-on type of connector to inflate split rim and locking ring wheels.

- When a clamp-on type of connector is used to inflate a tire, the worker must
 - Use an in-line pressure gauge and positive pressure control, and
 - Inflate the tire from a safe position out of the immediate danger area.
- If a worker is not competent to perform the work, they must be under the direct supervision of a worker who is competent.
- Workers performing this task must be trained and understand how to properly inspect and safely service tire and wheel assemblies.

6.57 FLAMMABLE SUBSTANCE USE AND STORAGE

GENERAL

Protecting workers from injuries associated with hazards associated with storage and use of flammable substance.

APPLICATION

To prevent worker injury caused by the improper storage and use of flammable substances.

PROTECTIVE MECHANISMS

- Manufactures Specifications and Safe Work Procedures.
- PPE
- Approved Storage Containers
- ERP (Emergency Response Plan)

SELECTION AND USE

As per job requirement

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training to use and store flammable substances.

- Perform hazard assessment
- Supervisors must insure that no worker enters a work area if more than 20 percent of the lower explosive limit of a flammable or explosive substance is present in the atmosphere. Atmospheric testing results should be assessed before a worker is exposed.
- Work site inspection
- Ensure workers are aware of hazards associated with the flammable substances they are using and are around
- Ensure workers follow their responsibilities outline below.

WORKER RESPONSIBILITY

- Do not store in sufficient quantities to produce an explosive atmosphere if accidentally released.
- Do not store within 30 meters of an underground shaft
- Do not store in the immediate vicinity of an air intake of



- a ventilation supply system
- an internal combustion engine
- the fire box of a fired heater or furnace
- Only stored in containers approved to
 - CSA Standards B376-M1980, Portable Containers for Gasoline & Other Petroleum Fuels
 - NFPA Standard 30, Flammable and Combustible Liquids Code, 2003 Ed.
 - ULC Standard C30-1995, Containers, Safety
- When transferring the contents of metallic or conductive containers from one container to another, the static electricity must be controlled by bonding or grounding while the contents are being transferred.
- If clothing is contaminated with a flammable or combustible liquid you must
 - avoid any activity where a spark or open flame may be created or exists
 - remove the clothing at the earliest possible time in a manner consistent with i)
 - ensure that the clothing is decontaminated before it is used again
- If your skin is contaminated with a flammable or combustible liquid, you must wash the skin at the earliest possible time.
- Flame arresting devices are connected on all internal combustion engines which have a combustion air intake and exhaust discharge or these internal combustion engines are located outside any hazardous location.

6.58 GETTING ON AND OFF EQUIPMENT

GENERAL

Protecting workers from injuries associated with the hazards involved with getting on and off equipment

APPLICATION

To prevent worker injury caused by climbing on and off equipment

PROTECTIVE MECHANISMS

- Three point contact with equipment and body
- PPE

SELECTION AND USE

Manufacturer Specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance

WORKER RESPONSIBILITY

- Insure that safety boots are worn at all times and free of ice and mud build up.
- Surface of the equipment to be cleaned prior to climbing on or off.
- Use three point contact at all times.
- Observe ground conditions prior to stepping down, make sure that good footing is available.

6.59 MANUAL LIFTING

GENERAL

Protecting workers from injuries associated with the hazards involved with manual lifting

APPLICATION

To prevent worker injury caused by manual lifting

PROTECTIVE MECHANISMS

- Good Physical condition.
- PPE

SELECTION AND USE

As per job requirements

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance

WORKER RESPONSIBILITY

- Insure good footing on work surface.
- Bend knees and insure good grip on object
- Keep back straight, lift with your legs and keep object close to body
- Avoid body rotation while lifting.
- If object is over 25kg ask for assistance from another worker to lift the object.

6.60 LOADER OPERATIONS

GENERAL

Protecting workers from injuries associated with the hazards involved with using a loader

APPLICATION

To prevent worker injury caused by operating a loader.



PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- Pre-start inspection and service of all loader equipment.
- At no time will there be anyone other than the operator riding on/in a piece of equipment.
- All loaders must be lowered to the ground before shutting off or have locking blocks in place.
- Loaders must be moved with the bucket as low to the ground as possible to avoid a possible rollover.
- Refer to operator's manual on each machine.

6.61 DOZER BLADE - ATTACHING

GENERAL

Protecting workers from injuries associated with the hazards involved with attaching a dozer blade

APPLICATION

To prevent worker injury caused by attaching a dozer blade.

PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation

WORKER RESPONSIBILITY

- Hook up line to blade and drive dozer ahead to tilt blade forward.
- Pull A-Arms out with line, insure all workers are clear of arms.
- Align dozer C frame with blade pin. Drive dozer forward till pin is fully inserted into C Frame.
- Hook up hydraulic lines
- Lift blade up until the A-Arms are at the correct height to insert into blade pockets.
- Insert A-Arms into pockets and pin into place.

6.62 DOZER BLADE - DETACHING

GENERAL

Protecting workers from injuries associated with the hazards involved with detaching a dozer blade

APPLICATION

To prevent worker injury caused by detaching a dozer blade.

PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- Remove tension from A-Arms by adjusting the blade up and down and side to side.
- Remove pins on arms and pull arms away from dozer by hand and then unhook hydraulic lines.
- Insure all workers are clear from the area and slowly back dozer up until blade pin is all the way out of C frame.
- Drive dozer to front of blade and hook up line and pull blade ahead till arms are off the ground.
- Fold arms into blade center by hand followed by pulling blade forward with dozer till blade is face down on the ground.

6.63 HYDRO SEEDING

GENERAL

Protecting workers from injuries associated with the hazards involved with the use of hydro seeding equipment.

APPLICATION

To prevent worker injury caused by hydro seeding.

PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- Two way communication
- ERP (Emergency Response Plan)
- PPE

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- Travel - Only pass when it is safe, treat uncontrolled road crossings as stop signs and yield to local traffic and large loads. Wear seat belt and obey all posted speed limits.
- Ground Conditions - Drive defensively and to road conditions. Slow down in low visibility situations and use 4x4 in rough/slippery terrain.
- Parking - Insure truck is parked on level ground when possible. Apply park brake prior to exiting the truck.
- Filling of Tank - All pumps must be serviced prior to use. Watch footing when connecting and disconnecting hose ends. Always use a spotter to insure overfilling of the tank doesn't take place and watch for debris falling into tank.
- Spraying - Truck to be in parked position while spraying if practical. Sprayer motor to be on low idle prior to engaging pump. Use two hands on cannon at all times. Insure that horn and radios are working prior to starting. Safety harnesses may be required pending job specifics and hazard identification.
- Climbing on and off of tank - Three point contact to be made at all times while climbing on or off the tank. Truck must be in the park position prior to climbing on or off. Watch for loose debris on ground when climbing off.

6.64 VEHICLE BOOSTING

GENERAL

Protecting workers from injuries associated with the hazards involved with the boosting of a vehicle.

APPLICATION

To prevent worker injury caused by battery boosting.

PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE (safety glasses and gloves)

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- Prior to starting to boost, insure you turn off all accessories on both vehicles such as headlights, radio, air conditioner and so on.
- Inspect boosting cables for good operating conditions.
- Attach one positive clamp (red) to the positive post of the dead batteery.
- Attach the other positive clamp (red) to the boosting battery.
- Attach the negative clamp (black) to the boosting battery. If you are unable to attach to the negative post on the boosting battery, attach the clamp to a clean metal surface close to the battery. (engine block)
- Attach the remaining negative clamp to an unpainted piесе of metal eighteen inches from dead battery. (engine block).
- Allow battery to charge. Once the dead vihical starts remove the cables in reverse order. Allow dead battery to charge for 15min prior to shutting off.

6.65 MOBILE WHEEL-ENGAGING LIFTS

GENERAL

Protecting workers from injuries associated with the hazards involved with the use of wheel engaging lifts.

APPLICATION

To prevent worker injury caused by using lifts.



PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE (safety glasses and gloves)

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- Only competent workers are to use the wheel-engaging lift system.
- Insure that lifts are placed on a hard and level surface.
- When moving the lifts insure that ground surface is clear of obstructions to prevent them from toppling over. Always watch for overhead obstructions.
- All lifting forks must be fully lowered and correctly engaged. Always adjust lifting fork spacing or utilize adapter that best suit the job task.
- Be sure that the unit is in synchronization mode and properly connected to the master control. Make sure that the lifts raise and lower at the same rate.

6.66 LOADING OF AGGREGATES AND WAIST IN TRUCKS

GENERAL

Protecting workers from injuries associated with the hazards involved with loading of trucks.

APPLICATION

To prevent worker injury caused by loading.

PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE (safety glasses and gloves)

SELECTION AND USE

Manufacturers specifications

SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- The truck to be loaded must be sitting on a level surface prior to being loaded, with the trucks brakes applied.
- Loader / excavator operator must insure adequate radius around equipment prior to loading of the truck.
- Operator to lift material over the sides of the truck box with adequate room not to damage the box or board extensions.
- Operator must load the truck in an even fashion from front to back of box for equal weight distribution.
- Insure that the truck is not overloaded with the weight of the material. Driver is to gage the weight of his/her load at all times.
- Refrain from using the loader to pack the material in the box, this may result in damage to the truck and being over weight.
- Once the truck has been loader the loader operator must communicate this with the driver of the truck.
- The driver of the truck will be required to pull ahead to allow additional trucks to be loaded. At this time the driver must tarp his/her load if the truck will be traveling on any roads.

6.67 EQUIPMENT AND MACHINERY SAFETY

GENERAL

Protecting workers from injuries associated with the hazards involved with equipment and machinery.

APPLICATION

To prevent worker injury caused by working with equipment and machinery.

PROTECTIVE MECHANISMS

- Manufacturers procedures and specifications.
- PPE

SELECTION AND USE

Manufacturers specifications



SUPERVISOR RESPONSIBILITY

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training

- Enforcement
- Compliance
- Observation and recommendation.

WORKER RESPONSIBILITY

- If contact between moving parts of machinery, electrically energized equipment, or part of the work process is likely, worker must insure that loose fitting close and jewellery is not worn.
- Worker must wear clothing that fits closely to the body and all jewellery is removed prior to work.
- Before starting machinery, the operator must ensure that the machinery will not endanger the operator or any other worker.
- While operating the machinery, the operator must ensure that its operation will not endanger him self/her self or any other worker on location.

6.68 WHMIS

GENERAL

Protecting workers from injuries associated with the hazardous materials at the work site.

APPLICATION

To prevent worker injury caused by hazardous materials.

PROTECTIVE MECHANISMS

- MSDS
- PPE

SELECTION AND USE

- MSDS

SUPERVISOR RESPONSIBILITY

- Must ensure that a controlled product is used, stored, and handled at a work site in accordance with Part 29 of the OHS Code
- Must ensure that a worker who works with or near a controlled product is trained in the content required to be on a supplier label and a work site labelled the purpose and significance of the information on the label. The content required to be on a material safety data sheet and the purpose and significance of the information on the MSDS, procedures for safe storing, using and handling the controlled product and the procedures to be followed in case of an emergency involving the controlled material.
- There must be a procedure to ensure that a controlled product or its container at a work site has a supplier or work site label on it.
- Observation, training and recommendation.

WORKER RESPONSIBILITY

- Any controlled product for use at a work site must have a supplier material safety data sheet for the controlled product. The worker must ensure that the MSDS is readily available at the work site by the employer for any worker who may be exposed to a controlled product.
- All workers must receive formal training and direction on the safe handling prior to the handling of any hazardous materials on a work site.
- All hazardous waste on the work site must be labeled and the worker(s) must be trained on the safe handling of hazardous waste.

6.69 SETTING BULK STORAGE

WORKER RESPONSIBILITY

The purpose:

- To protect people, environment and equipment.

Practice:

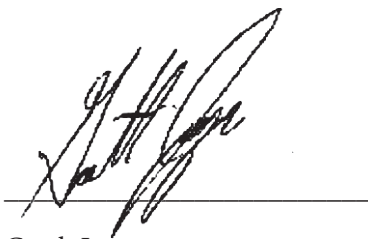
- Choose an area that is away from high traffic area that is level and yet accessible.
- The area is best on a level clay area.
- Excavate an area larger than the tank and base approximately .5 of a meter deep.
- Install a liner.
- Place fuel skid on blocking on top of the liner.
- Install proper access and egress.
- In the event of a leak or spill the environment, surface water, workers and the equipment should be safe from contamination.
- Should there be a leak or spill follow all spill procedures.

7.0 MAINTENANCE POLICY

It is the policy of Top Grade Construction to maintain all tools, vehicles, and equipment in a condition that will maximize the safety of all personnel.

To accomplish this, a Maintenance Program shall be maintained and shall include the following components:

- Adherence to applicable regulations, standards, and manufacturers specifications.
- Services of maintenance personnel which are adequately qualified suitably trained and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision.
- Maintenance personnel are competent with their role in lock out tag out.
- Powered mobile equipment will be inspected by a competent worker for defects and conditions that may or could be hazardous.
- The supervisor/foreman shall be responsible for application of the program in his/her area of responsibility.
- All employees shall regularly check all tools, vehicles, and equipment that they working with, and shall take out of service any tools, vehicles, or equipment that may pose a hazard due to a need for repair. All employees shall immediately advise their supervisor/foreman of any such problems.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

7.1 MAINTENANCE RECORDS

OH&S requires that records of the inspections and maintenance of equipment to be kept at the work site and readily available to a worker who operates the powered mobile equipment.

- Inspection of the equipment is preformed daily by the operator.
- A copy of this information is kept in the operator's daily time book of site.
- A copy is forwarded to the foreman and then to the office.
- Equipment maintenance records are kept in the shop/office due to the mobility of equipment from site to site. Service maintenance records are recorded on the equipment to ensure that the operator is aware when the service is required.
- The foreman discusses with the operator of any concerns about the equipment.

An inventory of all Top Grade Construction equipment and machinery will be kept and current at all times. New equipment acquired will be added to the inventory and maintained.

The preventative maintenance schedule is to be established based on manufacturers requirements and industry standards. This information is be kept up to date and on file at all times.

7.2 MAINTENANCE - MANAGING THE CONTROL OF HAZARDOUS ENERGY

Isolation

Defects observed in machinery or equipment shall be reported to your supervisor immediately, this machinery or equipment must be repaired or replaced prior to its next use.

When servicing, repairing, testing, adjusting or inspecting machinery, equipment or powered mobile equipment, no worker can perform such work until the machinery, equipment or powered mobile equipment has come to a complete stop and

- a. all hazardous energy at the location at which the work is being performed is isolated by activation of an energy-isolating device and the energy-isolating device is secure by either individual workers, by a group, or by a complex group process, or
 - i. the item has been locked out or locked and tagged with a warning tag
- b. the machinery, equipment, or powered mobile equipment is otherwise rendered inoperative in a manner that prevents its accidental reactivation and provides equal or greater protection than by lock out tag out.
 - i. rendering inoperative may include such thing as removing vital parts, putting blocking in place, and/or pinning. If such alternative are used, the workers need to be advised that the method is for energy control and must not be altered.

When servicing, repairing, testing, adjusting or inspecting machinery, equipment or powered mobile equipment that

- a. the manufacturer's specification require the machinery, equipment or powered mobile equipment to remain operative while it is being serviced, repaired, tested, adjusted, or inspected, or

- b. there are no manufacturer's specification and it is not reasonably practicable to stop or render the machinery, equipment or powered mobile equipment inoperative

A hazard assessment must be completed with all workers prior to starting the task to ensure that the work can be performed safely. A written procedure for control of identified points or hazardous energy must be developed and implemented to ensure that the work can be performed safely.

When servicing, repairing, testing, adjusting or inspecting piping, a pipeline or process system containing a harmful substance under pressure, no workers may perform such work until the flow in the piping, pipeline or process system has been stopped or regulated to a safe level. The location at which the work is being carried out is to be isolated and secured.

Isolating Piping Piping or a pipeline may be isolated by a system of blanking or blinding, or a double block and bleed isolation system providing two blocking seals on either side of the isolation point, and an operable bleed-off between the two seals.

The piping that is blanked or blinded must be clearly marked to indicate that a blank or blind is installed.

If valves or similar blocking seals with a bleed-off valve between them are used to isolate piping, the valve must be secured in the OPEN position and the valves in the flow lines are functional and secured in the CLOSED position.

The device used to secure the valves or seals must have a positive mechanical means of keeping them in the required position, and is strong enough and designed to withstand inadvertent opening without the use of excessive force, unusual measures, or destructive techniques.

Securing Isolation

Securing by individual workers

- Each worker involved must attach his or her own personal lockable securing device, such as a padlock, to the energy-isolating device.
- The worker who has placed a lock is also responsible for verifying that the energy source has been effectively isolated.
- If one or more worker is working at the same isolation point, each worker must attach his or her own personal lockable securing device and verify that the energy source has been effectively isolated.
- If a worker is reassigned before the work is completed, or the work is extended from one shift to another,
 - a. another authorized worker will place his or her lock prior to the first worker removing his or her lock, or
 - b. ensuring that there is an effective transfer of control of the initial worker's lock to another worker who is typically designated by the employer for this purpose.
- A personal lock must be traceable back to the worker who owns it and has installed it. It must have a unique mark or an identification tag on it to identify whom the lock is assigned to. The name of the worker to whom the personal lock or identification tag was assigned must be readily available during the time the hazardous energy source is isolated or the equipment is locked out.

- When the work requiring isolation of hazardous energy is completed, the worker that place their personal lock must remove his or her lock from the key securing system upon verifying that removal will not endanger workers and it is safe to remove it.
- Upon completing the work requiring the isolation of hazardous energy, the machinery, equipment, or powered mobile equipment must be returned to operation.

Securing by a group

If a large number of workers are working on machinery, equipment or powered mobile equipment, or a number of energy-isolating devices must be secured, a group procedure may be used.

A written group procedure must be readily available to workers at the site where the group procedure is used.

Once all required energy-isolating devices have been activated the following must be verified by the designated worker

- a. secured all energy-isolated devices
- b. secured all keys for the devices used under a) to a key securing system such as a lock box
- c. completed, signed and posted a checklist that identifies the machinery or equipment covered by the hazardous energy control procedure, and
- d. another designated worker has verified that all energy sources are effectively isolated.

Each worker working at each location needing a control of the hazardous energy must apply a personal lock to the key securing system referred to above before working on the machinery, equipment or powered mobile equipment.

If any of the workers that have placed a personal lock is reassigned before the work is completed, or the work is extended beyond one shift, there must be an effective and orderly transfer of control of the reassigned or departing worker's personal lock.

When the work requiring isolation of hazardous energy is completed, the worker that place their personal lock must remove his or her lock from the key securing system upon verifying that removal will not endanger workers and it is safe to remove it.

Upon completing the work requiring the isolation of hazardous energy, the machinery, equipment, or powered mobile equipment must be returned to operation.

Returning equipment to operation

A person must not remove a personal lock or other securing device unless

- a. the person is the worker who installed it,
- b. the person is the designated workers
- c. the person is acting in accordance with the procedures

In an emergency or if the worker who installed a lock or other securing device is not available, a designated competent worker may remove the lock or other securing device in accordance with the procedure that included verifying that no worker will be in danger due to the removal.



8.0 INSPECTIONS

Inspection Policy

The purpose of this policy is to control losses of human and material resources by identifying and correcting unsafe acts and conditions.

This company will maintain a comprehensive program of monthly site safety inspections at all facilities and job-sites.

The manager is responsible for the overall operation of the program. Superintendants are responsible for directing formal inspections on job-sites that they control and for involving workers in such inspections.

Supervisors/foremans are responsible for conducting ongoing informal inspections of areas where their crews are working.

Workers are responsible for participating in and contributing to the inspection program.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

8.1 PRE/POST TRIP INSPECTIONS

Vehicle Trip Inspections are a requirement under the National Safety Code. The Daily Trip Inspection Report is also used as a maintenance request form.

A complete pre-trip inspection must be performed daily on your vehicle and recorded on the Vehicle Inspection Report. You should review the previous day's Vehicle Inspection Report and sign in the Reviewing Driver's Signature line.

Record any defects and check the applicable box or boxes. (i.e. if no defects are found check the following boxes: Pre-Trip Inspection Complete and No Defects Discovered).

The sheet must be signed prior to the start of your trip.

At the end of your shift hand in the white copy of the report.

8.2 PRE-START INSPECTION FOR ALL RECLAMATION AND HEAVY EQUIPMENT

An Operator's Daily Loader Report form will be filled out each day for each loader that is in operation. It is the operator's responsibility to ensure that this form is completed accurately and any defects are reported immediately.



9.0 CRITICAL TASKS/JOB PROCEDURES/SAFE WORK PRACTICES

General:

A critical Task procedure is written to inform workers on the correct method of performing a task which may have an increased hazard potential to cause harm to life, limb, and/or property.

Definition: A task that, if not accomplished to the specific standard, results in a serious adverse effect upon mission accomplishment, survivability, or safety. Critical Tasks must be trained.

Job Procedures – Introduction

General:

A job procedure is a written step-by-step description of how to perform a task from start to finish. Job procedures are sometimes referred to as “proper job procedures or methods”. Written job procedures are used in training new workers and workers who are transferred to new potions. Job procedures are also used by workers as a reference tool, commonly for complex tasks, particularly hazardous tasks or tasks that are not conducted often. A job procedure also contains the appropriate safe work practices and focuses on relevant safety points.

Safe Work Practices – Introduction

General:

Safe work practices are established to protect our workers and resources. They provide workers with the Do’s and Don’ts to commonly performed tasks that present an element of risk. In order for safe work practices to serve any purpose they must be communicated and available to our workers for review. Supervisors will review applicable safe work practices periodically at daily safety meetings.

About Safe Work Practices:

Safe work practices are a means of controlling hazards when conducting a task with an element of risk to people and resources. To reduce risk, we have established safe work practices. Management understands and fully endorses these safe work practices, and ensures that:

- Safe work practices are in writing.
- All employees have access to and understand the safe work practices that apply to them.
- All equipment and management support to permit compliance is available.
- Supervisors will ensure that all safe work practices are followed.

Note: All Critical Tasks, Job Procedures, and Safe Work Practices are listed in alphabetical order.

9.1 ATMOSPHERIC MONITORING & LIGHT HYDROCARBON – CODE OF PRACTICE

Purpose:

Hazardous substances are common throughout the petroleum industry and are often complex combinations of products typically identified as solids, liquids, gasses and/or vapors. Although these substances may have other potentially hazardous properties, the purpose of this document is to provide direction when atmospheric monitoring is necessary for the protection of the workers where the work environment is or may become hazardous due to the presence of combustible or toxic hydrocarbons including oxygen deficient (<19.5% vol.) or oxygen rich (>23% vol.) environments.

Application:

Used in conjunction with task, project or site JSA/Hazard Identification assessments and Client Safe Work Agreements, this Cod of Practice applies to any worksite where the worker may be exposed to combustible, toxic or asphyxiate environments. Potentially compromised environments include, but are not limited to, oil & gas pipeline projects, production / processing facilities, confined spaces (vessels, sumps, sewers, trenches) and purging processes.

Responsibilities:

Management:

Management will be responsible for:

- Providing resources for the administration, implementation and review of this Code of Practice.

Division Managers & Superintendents:

Division Managers & Superintendents must ensure personnel:

- Are trained in the detection and control of flammable substances.
- Are trained to this Code of Practice and are aware of the Top Grade Confined Space Code of Practice
- Ensure appropriate respiratory protective equipment is available as identified during the pre-job planning.
- Will comply with the Top Grade safety management system.
- Are competent to perform required tasks identified during pre-job planning and JSA / Hazard Identification Assessment.

Workers:

Every worker working in a potentially hazardous environment must:

- Be aware of potential site hazards.
- Be familiar with and keep their equipment in good working condition and ready for use at all times.
- Report any events immediately to their supervisor or designate.
- Participate in applicable training.

Visitors:

Visitors must report to the onsite Top Grade superintendent / supervisor who are competent in the detection and control of flammable / toxic substances.

HSE Hazards of Light Hydrocarbon Atmospheres:

Light hydrocarbons accumulating in poorly ventilated, low lying or enclosed work areas may present the following hazards to workers:

Asphyxiation/Anoxia:

Many hydrocarbon gasses and vapors (e.g. Methane, Ethane, Propane, Nitrogen, Carbon Dioxide) are asphyxiates. Asphyxiates displace the breathable air in a working environment, thereby reducing the amount of oxygen available for breathing. Oxygen levels below 19.5% by volume are considered deficient to sustain life resulting in suffocation also referred to as asphyxiation or anoxia.

Note: Conversely, although oxygen is not flammable, oxygen rich atmospheres (>23% vol.) will support and enhance combustion.

Narcosis:

Hydrocarbon gasses (e.g. Butane, Methane, Ethane and Propane) are recognized as having a narcotic effect influenced by concentrations, exposure and one's physiology. Narcosis results in impairment to the central nervous system characterized by headaches, disorientation, dizziness, inability to respond to instructions, temporary loss of memory and slurred speech.

Toxicity:

The toxic effects of gasses on workers when exposed to concentrations above the established Occupational Exposure Limit (OEL) for Hydrogen Sulphide (H₂S) and Carbon Monoxide (CO) are well known throughout the petroleum industry. For highly toxic gasses, the danger to health is often a much greater concern than the explosive range of the same gas. H₂S for example, is immediately dangerous to life and health (IDLH) at levels of 100 ppm, while its lower explosive limit (LEL) is 40,000 ppm (4%). Conversely, a methane rich atmosphere will become explosive before the atmosphere becomes toxic or oxygen deficient.

Carcinogens:

Prolonged exposure to BTEX (Benzene, Toluene, Ethyl Benzene, Xylene), besides having established toxicity, are identified as potential cancer causing agents.

Burns (Frost Bite):

Without the appropriate protective equipment, cold light hydrocarbons (Propane and Nitrogen) also have associated hazards. Freezing burns may occur with liquid contact to skin tissue.

Combustibility / Explosive / Flammable Limits:

For the purpose of this document, Combustible, Explosive and Flammable are interchangeable.

Explosive concentrations of hydrocarbon gasses may build up, which when mixed with the correct amount of air (Oxygen), ignition can cause serious injury or death. The optimum amount of fuel required to achieve ignition is expressed as the LEL or UEL of the specific substance. Both the LEL and UEL are expressed in percentage (%) fuel by volume in air.

Lower Explosive Limit (LEL)

The minimum amount of fuel that must be present in the air to ignite and burn is the LEL. With insufficient amounts of fuel, the fuel / air mixture is considered to lean and will not burn.

Upper Explosive Limit (UEL)

The maximum amount of fuel that must be present in the air to ignite and burn is the UEL. When there is too much fuel, the fuel / air mixture is considered too rich and will not burn.

Vol 0-5%	Vol 15%	Vol 100%
LEL / Too Lean Not Enough Fuel/Too Much Air	Methane Explosive Range Ideal Mixture of Fuel and Air	UEL / Too Rich Too Much Fuel/Not Enough Air

The wider the *Explosive Range* of a particular substance, the more difficult it is to manage the potential for ignition.

	Hydrogen (H₂) Explosive Range	
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4.1% LEL

74% UEL

Monitoring and Detection Equipment

Combustible Gas Monitors

This is the monitor most commonly utilized with the petroleum industry to determine whether potential conditions exist for fire or explosion. These conditions are determined through the interaction of the LEL and oxygen sensors. To further address atmospheric monitoring, LEL and Oxygen (O₂) sensors are typically combined with toxic gas sensors such as H₂S and / or CO.

- Personal Monitors use a passive sampling system whereby the combustible and toxic gas sensors are exposed directly to the ambient temperature that diffuses across the sensor elements. Combustible readings are expressed in % LEL, and levels of toxicity are expressed in parts per million (PPM). Examples of these personal monitors used are the BW Gas Alert Micro and Micro-Dock II units.
- All Top Grade employees working at a live site must have, at a minimum, a three head personal monitor (O₂, LEL and H₂s). Additional sensors may be required depending on client type of work to be performed and hazards on the work site.
- Groups of two may require only one monitor per area as determined by a site hazard assessment / JHA hazard identification, but personnel must remain together at all times.
- Personal monitors are intended to be portable, user friendly and worn on the worker's body such that they do not interfere with work performance. Regardless of where the monitor is placed, it MUST always be facing forward between the worker and the sources.

Note: Where this equipment may be used in unknown or potentially hazardous environments, a thorough hazard assessment must be completed.

Response to Worksite Atmospheric Ranges

Range		Response & Considerations
Entry Permitted Under Noted Conditions		
O ₂	19.5% to 23.5%	<ul style="list-style-type: none"> Preferred / Ideal range, safe to enter
H ₂ S	>10 ppm	<ul style="list-style-type: none"> 0 ppm H₂S is always the preferred / target working environment Safe to enter when < 10 ppm, with continual monitoring
CO	<50 ppm	<ul style="list-style-type: none"> 0 ppm CO is always the preferred working environment Safe to enter when < 50 ppm with continuous monitoring Do not exceed TWA alarm of 25 ppm
LEL	0% to 10%	<ul style="list-style-type: none"> 0% LEL is always the preferred working environment Safe to enter when < 10%, with continuous monitoring
<p>Caution: Regardless whether the above conditions exist, the OEL of other substances present may be a concern. Consequently, respiratory protection and other controls may still be necessary, including testing for other suspected potentially hazardous substances.</p>		

Evacuate / No Entry Through Client Safe Work Agreement / JSA Hazard ID Identifying Effective Controls		
O2	<19.5% Or >23.5%	<ul style="list-style-type: none"> • Continual Monitoring • SCBA / SABA Required • Follow Confined Space Entry and Repertory Protection Code of Practice • Combustible gas monitors Should not be used when greater than 23.5% as the LEL sensors has the potential to burn hotter than designed for the flame arrester and may itself become an ignition source • No Hot Work greater than 23.5%
H2S	>10 ppm	<ul style="list-style-type: none"> • Continual Monitoring • SCBA / SABA Required • If possible isolate / shut in the source and ventilate • Follow Confined Space, Respiratory Protection and H2S Codes of Practice
CO	>50 ppm	<ul style="list-style-type: none"> • Continual Monitoring • SCBA / SABA required • If Possible isolate / shut in the source and ventilate • Possibility of O2 displacement / deficiency below 19.5% • Follow Confined Space and Respiratory Protection Codes of Practice
LEL	10% to 20%	<ul style="list-style-type: none"> • Continual Monitoring • SCBA / SABA required • Follow Confined Space and Respiratory Protection Codes of Practice • No hot work • Client Safe Work Agreements should be considered VOID at 20% LEL
LEL	>20%	<ul style="list-style-type: none"> • Evacuation of immediate worksite • Emergency Rescue Measures only with SCBA / SABA • No potential ignition sources • Notification of supervisor and potential ERP (Alert Level) activation at local level when >30% LEL when source cannot be readily isolated • ESD plant / Facilities at 40%

Bump Test, Calibration and Maintenance of Combustible Gas Monitors

Within Top Grade and for the purposes of this document:

- Bump Test and Function Test are interchangeable.
- Bump Gas and Calibration Gas are interchangeable and refer to the following composition:

Carbon Monoxide (CO)	100 ppm
Methane (CH ₄)	2.5% Vol. (50%LEL)
Hydrogen Sulphide (H ₂ S)	25 ppm
Oxygen (O ₂)	18% Vol.
Nitrogen (N ₂)	Balance

Bump testing of portable combustible gas monitors is regulatory requirement of most provincial jurisdictions of Occupation Health and Safety. CSA Standard C22.2 also describes requirements for bump testing and calibration requirements for combustible gas monitors, while Section 18 Hazardous Locations, of the Canadian Electrical Code Part 1 addresses requirements for battery operated equipment intended for use in hazardous locations. Specifically, battery-powered equipment that may be carried onto or located within a hazardous location must be approved under the electrical code as being intrinsically safe.

Portable combustible gas monitors must be bump tested prior to each day's use. The monitor may require additional bump testing during a workday if it is exposed to an atmosphere that causes the sensor to over-range. The bump test is intended to verify appropriate sensor response and alarm activation between calibration periods. During a bump test, the sensors within the monitor are momentarily exposed or bumped using a known concentration of calibration gas. The monitor must respond (audio, visual, vibration) within the predetermined limits defined by the manufacturer. Calibration of the monitor is not required during a bump test unless the monitor does not respond satisfactorily to the test. The monitor must then be taken out of service for inspection, calibration and repair, if required.

Calibration is a process where all components of the portable monitor are evaluated individually for their response time and accuracy when exposed to a known concentration of calibration gas. For the personal monitors typically used by Top Grade, the BW Gas Alert and Micro-Dock ii will be calibrated at 90 day intervals unless otherwise specified by the respective manufacture. Portable combustible gas monitors should be assessed for reliability and re-calibration if the user believes the integrity of the monitor was compromised due to being over-ranged or physically damaged.

Third party service providers calibrate fixed monitoring based on manufacturer's recommendations, typically on a quarterly bases or immediately following an event causing the system to alarm.

Automated Bump Testing & Calibration

For the personal monitors used within Top Grade, docking stations are provided at key locations to accommodate both bump testing and calibration. Based on pre-determined setting, the docking station is an efficient and reliable automated method for users to validate their monitors. With regards to sensors, monitors will fail bump testing in the docking station if the sensors fail to respond within the initial preset few seconds of exposure. Sensors will fail calibration if their readings do not match within the programmed levels.

Manual Bump Testing and Calibration

Where docking stations are not available, portable combustible gas monitors can be bump tested manually or calibrated in the field using the attachments provided with the monitor and following the manufacturer's procedures for the particular monitor. Although not communicated by any manufactures, the following is the accepted benchmark within the petroleum industry to determine whether a portable combustible gas monitor passes a manual bump test.

- A monitor's response to a calibration should be within +/- 10% of the LEL value equivalent to the % volume listed on the calibration gas cylinder.

Example: With the calibration gas Methane (CH₄) is used with 2.5% Vol. (50% LEL), a calibration reading of 45-55% LEL would be acceptable as it is within +/- 10% of the (50% LEL) listed on the cylinder.

The concept of a +/- 10% can be applied to all gas sensors being bumped in comparison to the calibration gas. As well, in order to successfully pass a bump test, the audio, visual and vibration alarms all need to be observed working effectively. **If any monitor fails to pass any test or calibration process, or does not function to the satisfaction of the user in the field, the monitor must be immediately removed from service, tagged with relevant details, and left with the designated person or service provider for service and calibration.**

Maintenance

Top Grade has arranged for employees / businesses within the divisions to be trained by the manufacturer or a recognized dealer to conduct basic troubleshooting and repair in the field on the portable combustible gas monitors currently being used. These employees / businesses within divisions are the only personnel who should attempt any level of repair. Any maintenance or repair requirements beyond this basic level must be referred to the recognized dealer or other approved third party service providers.

Record Keeping

A log sheet must be maintained at each docking station or manual bump / calibration kit. The log sheet is designed to capture details, specifically, the workers name, date of test, bump or calibration, serial number of monitor, indication of pass or fail and comments. Records for the current and previous year are to be kept at the associated area offices. Any data corresponding to an event will be maintained with the investigation report.

User Precautions and Considerations

All brands and makes of portable combustible gas monitors are similar to other electronic tools and require a level of knowledge and understanding by the user in regard to its operation, limitations and functions. All monitors have limitations and it is the user's responsibility to familiarize themselves with the appropriate use, care and maintenance.

- Monitors require a definite 10-minute warm-up period following initial startup to stabilize the sensors prior to bump testing or calibration. Without this warm up period, monitors may fail the bump / calibration and indicate a sensor failure when in fact the sensors may be fine or the displayed values may drift causing unnecessary alarms. Drifting sensor values may also be an indicator of an expiring sensor.

- Regardless of any regulatory requirement to bump test, this process also serves to purge the monitor of any residual gases or other contaminants potentially accumulated from the previous day or work period.
- Monitors must be stored in a warm, clean dry environment when not in use. Do not leave on the dash of a truck to avoid damage due to extreme cold in winter or extreme heat due to sun exposure.
- When in use, the optimum operating range of monitors is -20c to +40c. Due to the impact of temperature extremes on various components, operation in environments beyond this range may slow response times and may also affect accuracy of the monitor:
 - Warm sample drawn into a cold monitor causes condensation that can block a true / full sample reaching the sensor.
 - Condensation will cause sensor to short circuit or fracture due to thermal shock resulting in immediate failure.
 - Expansion of the sample volume will occur when a cold sample draws into an excessively warm monitor (left in the sun on the dashboard or with heater/defroster on).
 - Cold extremes reduce battery life and operation and may freeze or impact the liquid crystal display (LCD). As well, more time is required to warm and stabilize the monitor circuitry and sensors prior to bumping / calibrating.
- LEL sensors are designed to burn combustible gas within the sensor as part of the process to calculate the LEL value. Consequently, these sensors are designed with a flame arrestor and intended for atmospheres containing less than 23.5% oxygen. Although these sensors are commonly designed to automatically shut down in atmospheres over 23.5%, DO NOT use a combustible gas monitor in oxygen-enriched environments (>23.5% O₂). Increased oxygen can cause the combustion process within the sensor to burn excessively hot, and if beyond the protective limits of the flame arrestor, sensor itself may potentially become an ignition source.
- LEL sensors can be poisoned if unnecessarily exposed to other chemicals or products.
- Silicone compounds in product such as WD-40, Armoral and silicone sealants contaminate the catalytic sites of the sensor filament and will render it inert over time. The sensor will drift off its calibration and eventually fail.
- Compounds containing chlorine or sulphur leave deposits on and / or corrode the active filament.
- Unnecessarily exposing the LEL sensor to its upper range (100% LEL) or higher concentrations may severely damage the sensor.
- Nuisance alarms may be active by vehicle exhaust on monitors equipped with CO. Oxygen nuisance alarms may be triggered by changes in elevation and pressure.
- High dust concentrations can slow or block the gas sensor filters and with the active sample monitors, high dust concentrations can also block sample line to the pump.

Identification of Hazardous Atmospheres

Signs displaying FLAMMABLE WHIMIS label shall be placed at the entrance to the well site or facility where flammable gas may be present. All facilities will have a site plot plan that identifies location and type of fixed monitoring as well as correlating type of locations of displays. This information should be included in the site hazard assessment.

References:

1. Flammable Environments Guideline – December 2004 – CAPP
2. Detection and Control of Flammable Substances Course Manual – Enform
3. Workplace Health and Safety Bulletin – Misuse of Combustible Gas Meters – Oct 2006
4. Course Material from Gas Testing Certification Safety Fundamentals.
5. Occupation and Safety, act, Regulation and Code

Combustible Substance	Explosive Range		Occupation Exposure Limits	
	(% Fuel by Volume in Air)		(ppm)	
	100% LEL	UEL	8 Hours	15 Minute
Methane	5.3	15.0	BC -100	-
Methanol	6.0	36.5	AB-200	AB-250
Propane	2.3	9.5	AB-1000 BC-1000	AB-1500 BC-0.0
Butane	1.9	8.5	AB-800 BC-800	AB-See Note 2 BC-750
Benzene	1.3	7.1	AB-1.0 BC-0.5	AB-5.0 BC-2.5
Ethane	3.0	12.5	BC-1000	-
Pentane	1.5	7.8	AB-600	AB-See Note 2
Hexane	1.2	7.5	AB-500 BC-200	AB-1000 BC-1000
Toluene	1.27	7.0	AB-50 BC-20	AB-See Note 2 -
Hydrogen	4.0	74.0	-	-
Hydrogen Sulphide	4.0	46.0	AB-10 BC-10 (Ceiling)	AB-15 (Ceiling)
Carbon Monoxide	12.5	74.0	AB-25 BC-25 MB-200	AB-See Note 2 BC-200 MB-250
Gasoline	1.3	8.0	AB-300	AB-500
Crude Oil	< 1.0	10.0	-	-
Envirovert (Drilling Fluid)	0.7	6.0	-	-

Note: As per Alberta OH&S “Part 4”, if no 15 minute or ceiling OEL:

- a. Comply with 8-hour OEL, and
- b. Ensure exposure does not exceed
 - (a.i.1) 3 times the 8-hour OEL for more than 30 minutes over 24 hours, and
 - (a.i.2) 5 times the 8-hour OEL

Note: 1 – OEL for specific provinces are not indicated where they have not been estimated.

2 – OEL indicated for Alberta also applies to Saskatchewan and Manitoba unless otherwise specifically stated.

Note: This procedure is to serve as a general instructional guide for performing a task and not apply at all locations. Each site should be recognized as an individual, taking into consideration the findings of the project JSA hazard identification assessment.

Note: Please refer to the applicable OH&S regulations for the region in which you are working.

9.2 BOOMERS-LEVER LOAD BINDER/OVER CENTER JOB PROCEDURE/SAFE WORK PRACTICE

Task/Scope:

- Loading and unloading of equipment/materials from transport trailers – procedure for the use of tie down straps/winch tool when securing and loosening a load.
- This procedure applies to all Top Grade employees, and their contractors, subcontractors and vendors.

Purpose:

- To Ensure that the load is secured in a safe manner.

Definitions:

Note: Over Center Weight Boomers are not the preferred boomer of use within Top Grade. Clients may reject loads arriving on site with the Over Center Weight Boomers.

- Ratchet Boomers – Used for load securement
- Over Center Weight Boomers – Used for load securement

Job Procedure

Personal Protective Equipment:

- Safety boots, gloves, hard hats, safety glasses, high visibility traffic vest and hearing protection.

Note: Ensure that gloves are clean/dry, and fit properly.

Equipment:

- Winch bar, tie down straps

On-Site Hazard Assessment:

- Conduct an on-site hazard assessment (overhead power lines, uneven ground surface, load movement/shifting etc.

Warnings & Precautions:

Warnings: Performing this task improperly could result in:

- Death or Serious Injury
- Personal Injury or Injury to Others
- Shock or electrocution
- Damage to materials
- Damage to equipment
- Disciplinary action
- Fines or penalties

Precautions:

To prevent danger and avoid errors do the following before performing this task:

- Carefully inspect all equipment
- Personal protective equipment to be worn at all times
- Strictly follow all safety guidelines
- Take a safety position
- Trailer is on level loading/unloading area
- Use of safety equipment

Procedural Instructions – Lever Type Load Binders:

- Hook load binder to the chain so can operate it while standing on the ground. Position the load binder so its handle downward to tighten the chain. Be aware of ice, snow, rain, oil, etc. that can affect your footing. Make certain that your footing is secure.
- Top Grade recommends AGAINST the use of handle extender (snipe). If necessary, a manufactured winch bar must be used. If sufficient leverage cannot be obtained using the lever type load binder, a ratchet type binder should be used.
- The increased leverage by using a winch bar tool can cause deformation and failure of the chain and load binder
- During and after tightening the chain, check the load binder handle position. Be sure it is in the locked position and that its bottom side touches the chain link.
- Chain tension may decrease due to load shifting during transport. To be sure the load binder remains in the proper position, secure the handle with an approved / engineered load binder lock mechanism.
- When releasing the load binder, remember there is a great deal of energy in the stretched chain. This will cause the load binder handle to move very quickly with great force when it is unlatched. Move the handle with caution. It may whip, Keep one's body clear at all times and never release when body is positioned over the load binder.
- Never use a snipe or handle extender to release the load binder handle. Use a steel bar and pry under the handle. Caution stay out of the way of the handle as it moves upwards.
- If you release the handle by hand, use an open hand under the load binder handle and lift upwards. Do not close hand around the handle. Always keep yourself out of the path of the moving handle.

Maintenance of all Load Binders

- Routinely lubricate the pivot and swivel points of Lever Binders, and pawl part and crew threads of Ratchet Binders to extend product life and reduce friction wear.

Lever Load Binder

Note: This procedure is to serve as a general instructional guide for performing a task and not apply at all locations. Each site should be recognized as an individual, taking into consideration the findings of the project JSA hazard identification assessment.

Note: Please refer to the applicable OH&S regulations for the region in which you are working.

**9.3 BOOMERS-RATCHET LOAD BINDER/OVER CENTER JOB PROCEDURE/SAFE WORK PRACTICE****Task/Scope:**

- Loading and unloading of equipment/materials from transport trailers – procedure for the use of tie down straps/winch tool when securing and loosening a load.
- This procedure applies to all Top Grade employees, and their contractors, subcontractors and vendors.

Purpose:

- To Ensure that the load is secured in a safe manner.

Definitions:

Note: Ratchet boomers / ratchet load binders are the preferred boomer of Top Grade and may be a client requirement as well.

- Ratchet Boomers – Used for load securement.
- Over Center Weight Boomers – Used for load securement.

Job Procedure - Personal Protective Equipment:

- Safety boots, gloves, hard hats, safety glasses, high visibility traffic vest and hearing protection
- Note: Ensure that gloves are clean/dry and fit properly.

Equipment:

- Winch bar, tie down straps
- On-Site Hazard Assessment:
- Conduct an on-site hazard assessment (overhead power lines, uneven ground surface, load movement/shifting etc.

Warnings & Precautions:

Warnings: Performing this task improperly could result in:

- Death or Serious Injury
- Personal Injury or Injury to Others
- Shock or electrocution
- Damage to materials
- Damage to equipment
- Disciplinary action
- Fines or penalties

Precautions: To prevent danger and avoid errors do the following before performing this task:

- Carefully inspect all equipment
- Personal protective equipment to be worn at all times
- Strictly follow all safety guidelines
- Take a safety position
- Trailer is on level loading/unloading area
- Use of safety equipment
- Procedural Instructions – Ratchet Load Binders
- Position the ratchet binder so it can be operated from the ground.
- Make sure your footing is secure
- Note: A winch bar tool must never be used on ratchet load binders.

Maintenance of all Load Binders

- Routinely lubricate the pivot and swivel points of Lever Binders, and pawl part and crew threads of Ratchet Binders to extend product life and reduce friction wear.

Ratchet Binder

Note: This procedure is to serve as a general instructional guide for performing a task and not apply at all locations. Each site should be recognized as an individual, taking into consideration the findings of the project JSA hazard identification assessment.

Note: Please refer to the applicable OH&S regulations for the region in which you are working.



9.4 COMPRESSED GAS CYLINDERS – (TRANSPORTATION, STORAGE, AND USE)

- All cylinders, together with any contact conveying system, must be protected against sparks, flames, excessive heat, physical damage, electrical contact, and corrosion.
- All cylinders must be equipped with suitable pressure relief mechanisms installed so that no worker will be endangered in the event of discharge.
- A compressed gas cylinder, which requires pressure testing, must bear a valid and current indication that it has been pressure tested.
- A compressed gas cylinder shall not be hoisted by a sling on the cylinder, it shall however be hoisted by an engineered approved lifting device.
- A compressed gas cylinder shall bear the markings of pressure and gas contained.
- The valve on a compressed gas cylinder must be kept closed when the cylinder is empty or not in use.

Outside Storage

- Store flammable compressed gas cylinders with a combined aggregate capacity of not more than 170 cubic meters and not closer than 1.5 meters from any building opening. (Acetylene is 0.9 cubic meters/kilogram and propane is 0/5 cubic meters/kilogram.)
- Store flammable compressed gas cylinders with a combined aggregate capacity of not more than 500 cubic meters and not closer than 7.5 meters from any building opening.
- Mark storage signs with “No Smoking” signs. The signs are to conform to the Propane Installation Code, which reads as follows: Lettering to be minimum of 4” high red on white background or symbols shall be a minimum of 12-in diameter.
- Cylinders shall be protect from ground contact from ice, snow, water, salt and corrosion by being stored on raised concrete or other non-combustible platform.
- Cylinders shall not be exposed to temperatures in excess of 50°C, an open flame, or other source of ignition.
- The storage area shall be located within a fenced compound. The compound is to conform to the following to prevent tampering:
 - If cylinders are to be within four (4) feet of the fence:
 - Be at least six (6) feet high (at the lowest point on it perimeter this may include three (3) strands of barbed wire spaced at 4” intervals at the top.
 - Have posts made of angle iron, pipe, or equivalent material not spaced more than ten (10) feet
 - apart and set securely.
 - Be constructed of not less than No 9 SWG and have opening not greater than 2” by 2”.
 - Be at least one (1) foot higher than any cylinder stored within four (4) feet of the fence.
- If the cylinders and cylinder valves will be store more than four (4) feet from the fence the same guidelines apply except the openings in the fence may measure 6” by 6” and the fence height does not need to extend one (1) foot above the highest cylinder.

- If the cylinders are stored for use on a construction site, a fence may not be required as long as the cylinders are stored:
 - A pressure regulator is employed and directly connected to the appliance or cylinder valve or located on a manifold, which is connected to the cylinder valve.
 - The total capacity of cylinders connected together shall not exceed 300 lbs (135 kg) of propane and not more than one (1) such manifold of cylinders may be located in the same floor area, unless separated by a distance of at least 50 ft. (15m).
 - Any cylinder having a capacity greater than one (1) lb. (0.5kg) of propane is equipped with an excess flow valve (the excess flow valve shall be wither integral with the cylinder valve or in the connection to the cylinder valve outlet). In either case it shall be installed in such a manner that undue strain beyond the excess flow valve will not cause breakage between the cylinder and the valve.
 - The cylinder regulating equipment and manifold are not located where they are subject to damage or to temperatures in excess of 125°F (50°C).
 - When repair work is being carried out in a building not under construction and occupied, any cylinder used in the repair work is under the supervision of the operator at all times.
 - A cylinder up to including 100 lbs (45 kg) of propane, which is connected to a construction heater, shall be secured in an upright position.
 - Any propane torch intended for manual operation shall not be left unattended while in operation.

Transportation of Compressed Gas Cylinders

- Cylinders to be transported in a ventilated space.
- Cylinders shall be transported in devices designed to provide restraint against movement in any direction.
- Transported so that the cylinder relief valve is in direct contact with the cylinder vapour space (upright).
- Every cylinder delivery vehicle shall be marked legibly and conspicuously on both sides and rear with the word "Flammable" (in letters not less than 4" high and of color that contrasts sharply with the background) unless transporting an exempt amount (i.e. 25kg flammable or 150 kg non-flammable).
- Cylinder delivery vehicles are to have not less than one (1) dry chemical ULC (Underwriters Laboratories of Canada Ltd.) fire extinguisher of at least ten (10) BC rating.
- Any cylinder being transported shall be kept away from open flame or direct heat.
- Shall comply with regulations of Transport Canada for Transportation of Dangerous Goods.

Reference

1. AB Occupational Health and Safety Regulations

NOTE: THIS PROCEDURE IS TO SERVE AS A GENERAL INSTRUCTIONAL GUIDE FOR PERFORMING A TASK AND MAY NOT APPLY AT LOCATIONS.

EACH SITE SHOULD BE RECOGNIZED AS AN INDIVIDUAL, TAKING INTO CONSIDERATION THE FINDINGS OF THE PROJECT JSA HAZARD IDENTIFICATION ASSESSMENT.

9.5 CONFINED SPACE ENTRY CODE OF PRACTICE

9.5.1 INTRODUCTION

The Confined Spaced Entry Code of Practice must be followed at all Top Grade work sites when workers are required to enter or work in a confined space. The type, size and location of confined spaces will vary, so site-specific procedures are required for each confined space entry, This Code of Practice provides guidance on how to develop and use a site-specific procedure, Regulations and guidelines for confined space entry vary in each of the jurisdictions in which Top Grade operates, This code of practice has been designed to account for and incorporate procedures that will meet regulatory requirements, However, management and supervisory personnel, who are responsible for confined space entry, must remain knowledgeable and current with regulations for confined space entry

9.5.2 DEFINITIONS OF A CONFINED SPACE AND ASSOCIATED HAZARDS

Top Grade defines a confined space as an enclosed or a partially enclosed space not designed or intended for continuous human occupancy that:

May become hazardous to a worker entering it due to:

- a. A. its design, construction, location, work activities or atmosphere,
- b. the materials or substances in it, or
- c. any other hazards relating to it, or
- i. has limited or restricted means of entry or exit that may complicate the provision of first aid, evacuation rescue or other emergency response service,

Characteristics of a Confined Space

Some obvious characteristics of a confined space include:

- Areas with limited or restricted means of entry or exit
- Narrow or baffled spaces within a tank or vessel
- Poor lighting
- Equipment or moving machinery in the confined space

An internal configuration such that a worker could become trapped or disoriented by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section

Other less noticeable characteristics may include:

- Contains or has the potential to contain a hazardous atmosphere:
 - deficient of or enriched with oxygen
 - carbon monoxide
 - iron sulphides
 - toxic gases such as Hydrogen Sulphide (H₂S)

- flammable or explosive vapours (methane gas, propane, ethane, etc.)
- Toxic gases being released from work activities
- Limited or no air circulation
- Contains a material (liquid or solid) that has the potential for engulfing an entrant
- Contains any other recognized serious safety or health hazard

Remember: The primary hazard encountered in a confined space is contamination of the breathing atmosphere.

Examples of Confined Spaces

- Storage tanks
- Pits and excavations in excess of 1.2 meters deep
- Sewers, tunnels or windowless rooms
- Treaters
- Molesieve or dessicant towers
- Vessels, drums, reboilers, boilers or exchangers
- Well cellars
- Aerial coolers

9.5.3 IDENTIFICATION OF PHYSICAL HAZARDS

- Since many confined spaces are constructed of metal, electrocution can result from defective extension cords or welding cables. Special precautions may be required when arc welding inside confined spaces to protect workers from flash, toxic fumes and lack of oxygen.
- Internal surfaces may be irregular in shape, elevated, slippery or obstructed, all of which can be slip or trip and fall hazards.
- Corrosive and/or toxic chemicals remaining in the confined space may injure workers upon contact.
- Equipment such as boilers, reactors, furnaces, and other structures in which temperature extremes have existed may require special precautions as well.
- Visibility is often poor due to inadequate lighting or work activities such as sand blasting, painting or welding. This may result in slips, trips or falls leading to personal injury.
- Noise levels are often intensified within a confined space and may make it difficult to communicate with standby personnel or to hear instructions or warnings. Hand or power tools may also cause excessive noise.

Caution: Some individuals are not suited to work in confined spaces. Psychological factors such as fear of heights or enclosures can cause a worker to panic, resulting in injury.

9.5.4 RESPONSIBILITIES AND QUALIFICATIONS

It is the responsibility of the Top Grade Superintendent/Supervisor to ensure that safe working conditions are pre-planned, prepared and maintained during the entire confined space entry. The appropriate JSA/Hazard Identification document and the Confined Space Entry Attachment must be completed, reviewed and signed by all workers involved before anyone enters the confined space.

Operating Authority: Client Issues the Safe Work Agreement

The client is the Operating Authority and is the person or company representative in charge of assigning duties to be performed in the confined space. The client Operating Authority must be knowledgeable and experienced in identifying all actual and potential hazards associated with confined space entry and possess a current Confined Space Entry Certificate. They must be knowledgeable in all government regulations, company safe work practices, procedures and rules required for confined space entry, as well as the importance of ensuring that these are followed. The client Operating Authority must be familiar with all atmospheric testing procedures, equipment to be used, and the hazard assessment and Safe Work Agreement process and any associated attachments.

Top Grade representative:

- Ensure all workers involved in the confined space entry are adequately trained.
- Ensure all workers are familiar with and understand the provisions of the Confined Space Entry Code of Practice and applicable Safe Work Practices.
- Ensure all regulatory requirements are addressed and met.
- Ensure all workers including the Safety Watch and Rescue Team are properly trained, fit tested and competent in the use of the respiratory equipment being used.
- Ensure the pre-job meeting has been conducted, documented and document remains available on site.
- Ensure the confined space has been properly prepared for entry.
- Ensure all aspects of the confined space entry are covered by the Safe Work Agreement.
- Ensure a qualified person is assigned to test and monitor continuous air monitoring devices and ventilation systems.
- Ensure the person accepting the Safe Work Agreement and Attachments understands the hazards associated with the work area and configuration of the confined space and is aware of all required controls.
- Ensure there is an effective rescue plan in place and that all personnel involved are informed of the plan and their responsibilities.
- Suspend the JSN/Hazard 10 document and client Safe Work Agreement immediately if any of the conditions on the JSN/Hazard 10 document and client Safe Work Agreement or the Confined Space Entry Attachment cannot be maintained.
- Ensure evacuation of the confined space immediately if the JSA and client Safe Work Agreement is suspended.
- Inform a new shift of ongoing confined space entry work so that the JSA and client Safe Work Agreement can be extended or re-issued.

**Performing Authority: Receives the Safe Work Agreement**

Top Grade are in charge of performing the assigned duties in the confined space. Top Grade must be properly oriented and aware of their responsibilities regarding the Safe Work Agreement and Confined Space Entry Codes of Practice. Workers must also be competent to ensure that all tasks are performed safely. All workers involved must possess a current Confined Space Entry Certificate.

Before allowing workers to enter the confined space Top Grade's designated supervisor will:

- Confirm that the appropriate JSN/Hazard 10 and Safe Work Agreement and the Confined Space Entry Attachment have been issued and are current.
- Ensure that all regulatory requirements are met and addressed.
- Ensure any delays or interruptions require a re-inspection and gas testing of the space before work can begin again.
- Ensure all preparations and conditions are acceptable, completely understood and agreed to before accepting the client Safe Work Agreement or the Confined Space Entry Attachment.
- Ensure that all workers:
 - Understand the hazards and their responsibilities as per the JSN/Hazard 10 and Client Safe Work Agreement and its attachments.
 - Know their assigned job while in the confined space.
 - Sign the Confined Space Pre-Entry Meeting Attachment.
 - Wear and use the required personal protective equipment.
 - Understand the emergency evacuation procedures.
 - List all workers entering the confined space, and account for all workers when the job is completed or suspended.
 - Only use tools and equipment that are in good working condition.
 - Be aware of and follow all applicable Occupational Health and Safety Regulations.
 - Sign and hand back the Safe Work Agreement to the Operating Authority upon job completion or upon expiration.

Important: Any delays over 20 minutes or more in starting work after completion of the JSN/Hazard 10 and issuance of the client Safe Work Agreement, or if the confined space is vacated for more than 20 minutes must be reported to the client.

Safety Watch

The Safety Advisor must possess a valid Confined Space Entry Certificate and must also possess a valid First Aid/CPR certificate unless a rescue team will be utilized. The Safety Watch must be familiar with the work being performed as well as the configuration of the confined space and be competent to initiate rescue procedures as identified on the Confined Space Entry Attachment.

The Top Grade Safety Advisor must:

- Maintain effective communication with workers inside the confined space as well as back-up personnel.
- Immediately communicate any change in conditions to the workers in the confined space.

- Monitor life support systems used during confined space entry.
- Not engage in any other activity that may distract attention away from the workers in the confined space.
- Maintain awareness of everyone entering or exiting the confined space.
- Allow only workers listed on the JSA/Hazard ID and client Safe Work Agreement to enter the confined space, except for personnel entering to conduct visual inspections. Inspections must be recorded on the JSA/Hazard ID and client Safe Work Agreement.
- Wear SCBA, except for full-face mask, when work is being performed under the entry procedures found in Section 5.
- Initiate the rescue plan as required.
- Remain at the post until relieved by a qualified person.
- Have appropriate authority to shut down operations as required.

Gas/Atmosphere Tester

The worker performing the gas or atmospheric monitoring must be competent (adequately trained and experienced) to perform all testing using the equipment available and the appropriate methods based on that equipment and the hazards encountered. The tester must be familiar with the configuration of the confined space and any procedures and precautions required for the entry as well as the importance of ensuring that these are followed. The tester must be familiar with all actual and potential hazards that may be encountered within the confined space.

Rescue Responders/Backup Personnel

The Rescue Team must have sufficient resources including personnel who are properly equipped and trained to affect a rescue. At least one member of this team must possess a valid H2S Alive certificate if H2S may be encountered. All members of the team must have valid First Aid/CPR and Confined Space Entry Certificates. The Rescue Team must be familiar with the work being performed as well as the configuration of the confined space. The Rescue Team must have a good working knowledge of any rescue equipment available for use, and be fit tested and trained in any respiratory protective equipment available for use during a rescue response.

Fire Watch

The Fire Watch must be familiar with the work being performed as well as the configuration of the confined space. The worker must have completed Fire Training and have a good working knowledge of the specific equipment available for use. The Fire Watch must be familiar with and competent to affect an emergency response if required. The Safety Watch may fulfill this requirement if all the above qualifications are met.

9.5.5 CLASSIFICATIONS OF CONFINED SPACES AND ENTRY PROCEDURES

Class 1

A Confined Space in which there does not exist, and is not likely to exist, a hazardous atmosphere. Entry procedures and requirements include:

- All equipment in the confined space must be disconnected from its power source and locked out (as applicable to the task being performed). Refer to the Top Grade Lockout/Tagout procedure.
- All piping and other flow lines of which contents could create a hazard must be properly isolated (as applicable to the task being performed).
- The confined space must be tested and evaluated by a worker who can competently verify that the area is free of hazards and will remain so while any worker is in the confined space under present conditions with consideration for the nature and duration of the work to be performed.
- One person must be designated as a standby in case a rescue becomes necessary.
- The designated standby person must have an effective means of immediately summoning assistance from additional rescue personnel.

Class 2

A confined space in which there has existed, or was likely to exist, a hazardous atmosphere. The confined space must be purged, ventilated, and steps taken to provide and maintain a safe atmosphere (Non-IDLH) during the course of the work.

- Entry procedures and requirements include:
- Hazard assessment and completion of the JSA/Hazard ID and client Safe Work Agreement.
- All equipment in the confined space must be disconnected from its power source and locked out (as applicable to the task being performed). Refer to the Big Country / Patch Point Lock Out/Tag Out procedure for specific requirements.
- All piping and other flow lines of which contents could create a hazard must be properly isolated (as applicable to the task being performed).
- The confined space must be tested and evaluated by a worker who can competently verify that the area is free of hazards and will remain so while any worker is in the confined space under present conditions with consideration for the nature and duration of the work to be performed. All gas testing results must be recorded on the Confined Space Entry Attachment.
- The space is purged and ventilated to maintain a safe atmosphere.
- A designated Safety Watch must be stationed outside the confined space entrance and maintain continuous communication with the workers inside the confined space as well as the backup personnel.
- The Safety Watch must not enter the confined space until backup has arrived at the entrance to the confined space and is prepared to provide assistance.
- A rescue plan must be in place including appropriate respiratory and rescue equipment positioned and ready for use in the event of an emergency. A body harness is required unless it is not practical due to the job conditions.
- A properly trained and sized rescue team must be on site prior to any confined space entry.

Class 3

A confined space in which there now exists, or is likely to exist, a hazardous atmosphere. The confined space cannot be purged and ventilated to provide and maintain a safe atmosphere (Non- IDLH).

Entry procedures and requirements include:

- Hazard assessment and completion of the JSA/Hazard ID and client Safe Work Agreement
- All equipment in the confined space must be disconnected from its power source and locked out (as applicable to the task being performed). Refer to the Top Grade Lock Out/Tag Out procedure for specific requirements.
- All piping and other flow lines of which contents could create a hazard must be properly isolated.
- A designated Safety Watch must be stationed outside the confined space entrance wearing an SCBA except for the full-face mask as well as any other personal protective equipment that may be required for rescue purposes.
- The Safety Watch must maintain continuous communication with the workers inside the confined space as well as the backup personnel.
- The Safety Watch must not enter the confined space until backup has arrived at the entrance to the confined space and is prepared to provide assistance.
- Supplied Air Breathing Apparatus (SABA) must be used and every worker in the confined space must wear a body harness and lifeline. If a body harness and lifeline prove unworkable due to obstructions or limitations with the confined space, an alternate effective means of rescue must be established.
- A properly trained and sized rescue team must be on site prior to any confined space entry.

9.5.6 PRE-JOB PLANNING

Guidelines

- The equipment must be properly prepared for confined space entry.
- A JSA/Hazard ID and client Safe Work Hazard Assessment and Pre-Job Meeting Agreement (Safe Work Agreement) must be completed by the Operating Authority, and must be reviewed and discussed at the pre-job planning meeting with all personnel involved. The classification of confined space must be determined during this stage of pre-planning.
- The Performing Authority must conduct a pre-entry meeting with all workers involved prior to entering the confined space. The Confined Space Pre-Entry Meeting Attachment (Part II of Confined Space Entry Attachment) must be reviewed, agreed upon and signed by all workers involved in the confined space entry. This attachment must remain posted at the confined space entrance and will remain valid for the duration of the specific confined space entry performed by that crew only.
- The Pre-Job Checklist (Part I of Confined Space Entry Attachment) will be used by the Operating Authority to renew the Safe Work Agreement when required. If conditions become unacceptable, all personnel must exit the confined space and a new attachment completed before work can recommence.

- A separate Confined Space Entry Attachment must be completed for each crew performing a particular entry. One exception is when personnel are entering for a visual inspection only and may do so under the existing Confined Space Entry Attachment if they have obtained their own

Safe Work Agreement and the consent of the Performing Authority. The inspector must review and sign the Confined Space Pre-Entry Meeting Attachment prior to entry.

- All personal protective equipment required for the entry must be obtained and all workers involved must be competent in the use of the equipment.
- The atmosphere must be tested prior to entry to ensure that no worker will be exposed to any hazards due to LEL, toxic or oxygen-deficient atmospheres.
- A Safety Advisor must be designated and a rescue plan must be developed.
- The confined space must be evacuated immediately if time expires on the safe work agreement, emergency alarm sounds, if work is stopped, or if work conditions in the area change, such as a release of hazardous vapours into the area or there is electrical thunderstorm activity.

A Reference Guide summarizing the procedures for a confined space entry is provided in Appendix C.

Identify the Confined Space

Every task should be reviewed to determine whether:

- a confined space is involved
- there are adequate safeguards in place to allow a safe entry
- additional precautions must be taken

The requirements for safe entry will, in part, be determined by the type of space to be entered and the nature of work to be performed. Refer to Section 2 for examples of confined spaces.

Complete a Hazard Assessment For each confined space entry, the Top Grade Superintendent/ Supervisor and client, as well as any other involved workers will determine existing and potential hazards. The following potential hazards should be documented in the JSN/Hazard 10 in planning an entry or working in a confined space:

- Toxic, oxygen-deficient or enriched, or flammable atmospheres, whether they are a normal characteristic of the space or a product of work processes conducted in the space (welding fumes, sandblasting, etc.)
- Sludge and other materials present inside the space (should be removed as much as possible and samples tested to ensure they are safe (non-flammable and non-toxic) before a Hot Safe Work Agreement can be issued to perform hot work in a confined space)
- Explosive ignition resulting from static electricity or other sources (includes arcing) due to iron sulphide deposits, combustible dust, or flammable gases
- Poor visibility due to inadequate lighting or work activities (sandblasting, welding, etc.)
- Slippery or irregular surfaces
- Rotating or unguarded equipment that may cause injury or damage
- Contaminants entering from other areas through ducts, piping, etc.

- Direct contact with corrosive chemicals, hot oil, etc.
- Extreme temperatures
- Abnormal weather conditions including electrical storms and extreme inversion with no wind
- Flooding or cave-ins
- Traffic hazards, if the excavation or trench is near a road
- Noise levels exceeding occupational health limits

Develop a Site-Specific Procedure

Based on the results of the pre-job hazard assessment, and prior to receiving the client Safe Work Agreement, a site-specific JSN/Hazard ID and procedure must be completed to eliminate or control hazards identified in relation to the confined space and associated work.

It is preferable to control hazards using the hierarchy of controls, first by elimination, then reduction, substitution, etc., for example, when possible, confined spaces should be isolated and cleaned using chemicals, steam, water flushing, purging, etc. If a confined space can be totally isolated and freed of hazardous materials, and the atmosphere can be verified to be hazard free by a competent worker, the work can proceed without additional precautions. However, depending on the nature of the work to be performed in the confined space, additional hazards may result.

In some vessels, mechanical hazards are a problem and additional precautions need to be taken to prevent damage or injury.

Develop a Rescue and Emergency Plan Based on the Confined Space Entry Decision Tree (Appendix A), a written rescue and emergency response plan must be developed. All aspects of this plan must be reviewed and agreed upon by all workers involved in the confined space entry.

The plan must include the following:

- Required safety procedures, personal protective and rescue equipment
- Adequate resources including a rescue team of sufficient size that is properly equipped and trained in confined space rescue
- Location of the alarm
- Monitoring all entrances and exits
- Positioning rescue equipment for immediate use
- Conducting a rescue drill, as necessary
- Notification of rescue personnel once the entry has started as well as completed
- Incorporation of applicable facility emergency response into the confined space entry rescue plan

A method to remove each worker from the confined space in an emergency must be established and agreed upon by all persons entering, the client and the Safety Advisor.

Conduct a Pre-entry Meeting

Conduct a pre-entry meeting with all workers involved in the intended work, and discuss the following:

- Configuration of the confined space
- Applicable safe work practices, procedures and rules
- Hazards involved during each phase of work
- Required equipment and tools

Issue a Safe Work Agreement

The JSA/Hazard ID and client Safe Work Agreement and Confined Space Entry Document must be completed and endorsed prior to entering a confined space. A Hot Work Agreement may also be needed if the risk of an ignition source is present during the work. The agreement and its attachment must cover:

- Identification of all workers required to enter the confined space.
- All required safety and personal protective equipment.
- Location and description of work to be done.
- Identification and limitations of the confined space entry covered by the agreement.
- Special procedures, work limitations and time limitations as specified in the safe work agreement.
- Requirements and duties of the Safety Advisor.
- Approvals required for entry.
- Gas and oxygen testing required prior to entry.
- Conditions that may require further gas testing as well as the associated method of testing.
- Purging and ventilation requirements.
- Isolation requirements.
- Heating and electrical requirements.
- Tools and utilities permitted in the confined space.
- Methods for eliminating or controlling hazards.
- Rescue procedures and all required equipment.

Before entrance into the confined space, the Top Grade Superintendent / Supervisor must review the agreement and associated attachments to ensure that they have been properly prepared and signed by all workers involved. All safety precautions outlined must be adhered to throughout the duration of the entry. The JSA Hazard ID and client Safe Work Agreement and attachments must be posted at the entrance to the confined space.

Remember: A verbal agreement is never sufficient authority to enter a confined space.

Cancellation of the JSA/Hazard and Client Safe Work Agreement

If the work must be cancelled or suspended, record the time of cancellation/suspension, sign the Agreement as cancelled, and document whether the work was completed as planned or not and the reasons why the work could not be completed.

Reasons for cancelling a safe work agreement may include, but are not limited to:

- Work conditions change.
- Time limits on the agreement have expired.
- A decision was made by the client or Top Grade because of a work interruption that exceeded 20 minutes.
- Occurrence of a gas leak or liquid spill.
- Operating change or use of adjacent equipment.
- Change in wind direction blowing vapours into the confined space.
- A fire or gas alarm was activated from another part of the facility during the confined space entry.
- Electrical storm or changes to the weather (hail, snow, rain or winds)
- A worker's right to stop the work if they have reasonable grounds to believe the job is, or is likely to become unsafe.

All work must cease, equipment must be shut down and all workers must immediately evacuate the confined space. Once the concerns have been addressed, the suspended permit must be revalidated before work can continue in the confined space.

9.5.7 CONFINED SPACE PRE-ENTRY PROCEDURES

The confined space must be prepared for entry to ensure all existing or potential hazards are either eliminated or controlled. The following site-specific procedures must be completed before entering a confined space:

Confined Space Pre-job Checklist

The Top Grade Superintendent/Supervisor is responsible for completing the Pre-job Checklist found on page one of the Confined Space Entry Attachment where the following site-specific procedures are identified along with the appropriate control measures.

Equipment Identification

- Equipment/vessel number and location (P&IDs) (If these diagrams are not present then an entry for the purposes of documenting the hazards must be completed. Entry distance must be restricted to only the distance required to document the internals of the confined space.)
- Diagram of internals
- Blind/blank list
- Products or materials normally associated with equipment (MSDS)

Isolation

- a. Blinding/Blanking: When preparing a confined space for entry, all pipes and lines that may contain potential sources of hazardous materials such as gases or production fluids must be capped or blinded and disconnected as close as possible to the confined space. When the closest flange is inaccessible or difficult to reach, blinding and isolation may be performed at the next closest flange if both of the following conditions are met:
 - i. There are no traps, pockets, or connecting lines between the vessel and the blinding point,
 - ii. The line is completely liquid/gas free between the vessel and the blinding point.

Blinds must be stamped according to size and flange rating, and be able to withstand the expected line pressure as per Top Grade Petroleum Blinding and Blanking Rule. They shall not be susceptible to corrosion or deterioration by piping contents.

- b. Where it is impractical to isolate in accordance with the above section, a written detailed procedure, that provides equal or greater protection, must be developed and approved.
- c. Where a section of line is removed, both ends of the remaining line must be capped or bull plugged. Threaded piping must be disconnected and plugged.
- d. If large reboilers or exchangers are to be left attached to the space being entered, they must be included in the vessel preparation as part of the vessel.
- e. High-pressure cylinders such as propane, acetylene, carbon dioxide, etc. must not be taken into the confined space, except for respiratory protective equipment. Do not leave acetylene hoses unattended in a confined space.

Note: During isolation, also consider any possible connection to sewers or utility lines where combustibles, gases, vapours or toxic materials may accidentally enter the system.

Lockout/Tagout

All energy sources (electrical, steam, pneumatic) normally supplying energy to equipment in a confined space must be locked out and tagged to prevent accidental starting in accordance with the Lock Out/Tag Out Zero Energy Code of Practice.

Electrical Equipment

Ground fault circuit interrupters must protect all electrical equipment being used to perform work in a confined space. Workers shall proceed as follows:

- a. Immediately before taking any electrical equipment into the confined space, visually check and test for ground continuity.
- b. In confined spaces where there is a possibility of flammable vapours, gases, or dust, ensure that:
 - i. Electrical equipment, lights and plug-in receptacles used are intrinsically safe, and Attached plugs and receptacles are located outside the confined space.
- c. All lighting used in a confined space must be limited to a 12V power source and/ or an 11 OV power source with Ground Fault Interrupter (GFI) protection outside the confined space.
- d. Be cautious of generating static electricity with the handling of high-pressure steam or air hoses, inert gases or sandblasting equipment.

Purging

Purging is normally used to eliminate high concentrations of flammable or toxic gases. Steam, sweet gas or inert gas, such as nitrogen, are usual choices.

- When purging with steam, the normal procedure is to provide low-pressure steam near the bottom of the space, or vessel, and allow it to vent off the top.
- Sweet gas, when used for purging, is usually introduced near the top of the vessel and vented off the bottom.

If nitrogen is used, the space is normally pressurized within safe limits and vented off.

- If using steam or inert gas, extra precautions should be taken to cool the confined space and ensure an adequate oxygen supply.
- In British Columbia, the WCB must be notified in writing seven days before any entry into a confined space which has been inerted. No entry is allowed until the WCB response is received and attached precautions are in place.
- A breathable atmosphere must be restored to the confined space before entry. If the inert gas blanket must be maintained, (for catalyst or metallurgical protection) entry must be as per entry requirements for a Class 3 (refer to Section 5) and as in column 3 of the Confined Space Entry Decision Tree found in Appendix A.
- Proper bonding is required to prevent any possible static electricity issues.
- When cleaning a confined space, consider the nature of the product and associated residue. Take special precautions with sludge, hydrocarbons or pyrophoric deposits that may cling to surfaces or hang up in vessel internals.
- All ignition sources must be controlled. To prevent spontaneous combustion of process material sludges, ensure special precautions are taken, such as continuous water flooding and immediate immersion in disposal containers.
- Potential discharges from disconnected lines must be addressed and controlled.

Important: You must ensure precautions related to spontaneous combustible materials are addressed prior to opening a confined space.

Ventilation

Natural ventilation such as relying on wind or natural drafts may not be dependable and therefore, a well-designed ventilation system offers the best protection for work performed in a confined space. Any clean out and man-way doors must be open to facilitate ventilation using mechanical or pneumatic air movers. Air movers must be supplied with clean air and must not be placed where contaminants may be picked up from other areas. Any ventilation equipment used must be intrinsically safe when dealing with flammable atmospheres. If a mechanical system is used, a method to warn workers of mechanical failure must be incorporated. Ventilation must continue until the oxygen content exceeds 19.5, and is less than 23 by volume and all toxic contaminants are below their Occupational Exposure Limit (OEL). If these conditions cannot be obtained, then breathing protection must be worn.

Warning: No worker shall enter a confined space if the atmosphere is tested as being at or above 20 of the explosive range.

Testing or Measuring Atmosphere

a. Testing Equipment and Methods

The worker in charge of conducting atmospheric testing must be competent in the use and maintenance of the instruments and must know the capabilities and the limitations of the instruments before using them to test an atmosphere. All gas testing equipment must be checked and calibrated according to manufacturer instructions, and records maintained for 2 years. All levels of the confined space must be tested and results recorded on the JSA I Hazard 10 and client Safe Work Agreement. Testing must not occur more than 20 minutes prior to the worker entering the confined space and re-entry testing must occur if the confined space is vacated for any reason.

Note: A certified technician must remove or shield any radioactive sources.

b. Gas Testing

Before anyone enters a confined space, a competent person who is trained in the use of testing equipment must check the atmosphere to ensure that it conforms to the Atmospheric Monitoring and Light Hydrocarbon Code of Practice.

Temporary Heating

To provide heat to a confined space, use indirect fired heaters; direct fired heaters which discharge exhaust gases with the heated air must not be used. To prevent redirecting harmful or noxious exhaust gases into the confined space, vent the heaters in accordance with manufacturer's recommendations. If heating a space that may contain toxic, explosive or flammable materials, reassess ventilation needs.

Waste Disposal

Cleaning fluids, sludges or liquids discharged from disconnected lines must be disposed in a safe and approved manner.

9.5.8 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment must be worn as appropriate for the particular hazard(s) identified on the JSN/Hazard 10 and client Safe Work Agreement and used according manufacturer's recommendations. Refer to the Top Grade Respiratory Protection Codes of Practice to determine required respiratory protection.

- Whenever practical, personal protective equipment should be assigned to workers for their exclusive use.
- Rescue equipment may include suitable lifting equipment. If the confined space is wet, rain suits must be worn.
- If particulate material is present in the confined space, a dust mask or cartridge mask must be worn according the particulate present.

Important: Personal protective equipment is not to be used as a substitute for improper job preparation.

9.5.9 WARNING SIGNS AND BARRIERS

Warning signs must be posted at entrances and exits to the confined space stating:

**DANGER CONFINED SPACE
KEEP OUT
AUTHORIZED PERSONNEL ONLY!**

Wooden barriers and plastic warning tape may be used to restrict access to the area surrounding the confined space. However, restriction to access must not impede the immediate evacuation of workers or their access to emergency equipment.

9.5.10 ENTERING THE CONFINED SPACE

Pre-entry Assessment

Once the confined space is prepared for entry, all workers will participate in a pre-entry assessment and final check to ensure:

- The entrance is clear of unnecessary equipment, material or objects.
- Barricades and warning signs are in place.
- All personal protective, safety and rescue equipment as specified in the safe work agreement, are readily available or used as required.
- The Safety Watch and rescue personnel understand their responsibilities as outlined in the emergency response, rescue and evacuation plans.
- Gas monitoring and ventilation equipment is on.

Communication

In situations where normal voice contact is not possible, establish an alternative system of communication between the Safety Watch and the worker(s) in the confined space prior to entry and maintain at all times. Communication methods can include:

- Voice and hand signals but only if visual contact can be maintained
- Radios
- Rope talk
- Flashlight
- Tapping on a pipe or vessel wall

An effective system of communication between the Safety Watch and rescue team must be established and checked ahead of time.

Ongoing Monitoring

While work is being performed, the Safety Watch must proceed as follows:

- Monitor the temperature within the confined space and advise workers of scheduled rest breaks as outline in the Safe Work Agreement.
- Ensure communication with workers is maintained.

- Visually observe or otherwise check the well being of each worker at intervals outlined in the JSA I Hazard 10 and client Safe Work Agreement (continuously or at least every 20 minutes).
- Monitor the atmosphere of the confined space regularly to ensure conditions have not changed.
- Use a monitor that is capable of sampling both by volume and LEL to assess the atmosphere the work is occurring in.
- Monitor the function and effectiveness of ventilation equipment.
- Advise workers of entanglement of lifelines or other equipment, as necessary.

9.5.11 COMPLETION OF WORK IN THE CONFINED SPACE

Once the work has been completed, check to ensure:

- No tools or equipment have been left inside the confined space.
- All workers have been accounted for.
- All Safe Work Agreements and attachments have been signed off and returned to the issuer.
- All blinds and lock-outs/tag-outs have been removed, as required.
- All valves and switches are returned to their correct position

Conduct a de-briefing to determine:

- Hazards that made it difficult for workers to perform their job safely (use of tools, equipment or environmental conditions), and
- Effectiveness of the communication system.

Recommendations for improving working conditions should be forwarded to the Operating Authority.

9.5.12 TRAINING

Workers performing tasks associated with entering a confined space must have current certification in Confined Space Entry. The training must include:

- Recognition of hazards associated with working in confined spaces, including hazardous atmospheres, chemicals, various configurations, heights, etc.
- Basic knowledge of regulations according to regulatory requirements.
- Knowledge of how to perform a hazard assessment in order to safely evaluate an area and perform assigned duties associated with the confined space.
- Use of any equipment required to enter a confined space (worker must be competent).

Practical confined space rescue and evaluation of demonstrated skills. In addition to training, a worker must be adequately qualified and sufficiently experienced in confined space entry to perform the work safely. If the worker is new and not competent to perform the work required in the confined space, the employer must ensure that the worker performs duties under the direct supervision of a competent worker trained and experienced in confined space entry procedures.

9.5.13 RECORDS RETENTION

All Confined Space Entry Attachments and records must be retained:

- Two years, if no incident or unplanned event occurred during the entry, or
- Indefinitely for minor I serious events that require investigation.

Appendix C – Reference Guide

1. Identify the Confined Space and Determine the Entry Procedure (Use the Confined Space Entry Decision Tree)
2. Initiate Safe Work Agreement and Confined Space Entry Attachments
3. Determine Personnel Requirements and their Responsibilities/Duties
 - Operating Authority
 - Performing Authority: Designated Supervisor
 - Personnel Doing the Work
 - Safety Watch
 - Atmospheric Tester
 - Rescue Personnel
 - Fire Watch (if required)
4. Start Pre-job planning for confined space Entry
 - Complete a Hazard Assessment
 - Develop a Site-Specific Procedure
5. Confined Space Pre-entry Procedures
 - Confined Space Pre-job Checklist (use attachment)
 - Equipment Identification
 - Isolation
 - Lockout/Tagout
 - Electrical Equipment
 - Purging
 - Ventilation
 - Testing or Measuring Atmosphere
 - Temporary Heating
 - Waste Disposal
6. Identify Personal Protective Equipment (PPE) Requirements
7. Identify Respiratory Protection Requirements
8. Post Warning Signs and Construct Barriers
9. Conduct the Pre-entry Meeting (Complete Attachment)



10. Entering the Confined Space
 - Pre-entry Assessment
 - Communication
 - Ongoing Monitoring
11. Completion of the Work in the confined space
 - Cancellation or suspension of the client Safe Work agreement
 - Records retention

Important: Any delays over 20 minutes or more in starting work after the issuance of a safe work agreement or if the confined space is vacates for more than 20 minutes must be reported to the Top Grade superintendent I supervisor and the atmosphere must be retested.

9.6 CONFINED SPACE ENTRY CODE OF PRACTICE - KEY POINTS

This Code of Practice must be followed at all client work sites when workers are required to enter or work in a confined space. The type, size and location of confined spaces will vary, so site-specific procedures are required for each confined space entry. This Code of Practice provides guidance on how to develop and use a site-specific procedure.

- Client representative / supervisor must be present at all times.
- Rescue Plan must be in place & reviewed with appropriate rescue equipment.
 - Tripod, winch, etc .
 - Plan must be documented in JSN/Hazard ID and Client Safe Work Agreement
- Atmospheric testing is done by a Safety Watch or other competent person by entering tank/vessel and checking 'every nook and cranny' .
 - Must be done using either SCBA or SABA
 - Test results, both initial and subsequent, must be recorded on the Attachment.
 - Testing must be done at intervals during work performed and recorded.
- Atmospheric testing is performed with a device with an active pump detection monitoring device capable of sampling 100 by volume gas; examples of such devices are BW Gas Alert, Micro Dock II or equivalent.

Personal monitors are not acceptable for use as atmospheric detection and continuous monitoring.

- Safety Advisor/Rescue must be at entry point at all times.
- All records (Safe Work Agreement, Confined Space Entry Attachments, Lockout/Blind/Blankforms) to be stapled and filed upon completion of work.

Field Checklist

- Identify the confined space and determine the entry procedure (Use the Confined Space Entry Decision Chart in COP).
- Initiate Safe Work Agreement and Confined Space Entry Attachments.
- Determine personnel requirements and their responsibilities/duties:
 - Operating Authority
 - Atmospheric Tester
 - Performing Authority: Designated Supervisor
 - Rescue Personnel
 - Personnel doing the work
 - Fire Watch (if required)
 - Safety Advisor
- Start pre-job planning for a confined space entry:
 - Complete a hazard assessment.
 - Develop a site-specific procedure .
- Develop a rescue and communications plan.
- Identify personal protective and respiratory protective equipment requirements.
- Post warning signs and construct barriers.

NOTE: THIS PROCEDURE IS TO SERVE AS A GENERAL INSTRUCTIONAL GUIDE FOR PERFORMING A TASK AND MAY NOT APPLY AT LOCATIONS.

EACH SITE SHOULD BE RECOGNIZED AS AN INDIVIDUAL, TAKING INTO CONSIDERATION THE FINDINGS OF THE PROJECT JSA HAZARD IDENTIFICATION ASSESSMENT.

Please refer to the applicable OH&S regulations for the region in which you are working.

9.7 FALL PROTECTION CODE OF PRACTICE

Introduction

Top Grade requires all workers at permanent or temporary work areas at heights between 1.2 meters and 3.0 meters, that may be exposed to “an unusual possibility of injury” due to a fall AND all workers working at heights of 3 meters or greater that may fall a distance of 1.2 meters or more must use a fall protection system.

Applicable safe work agreements and the fall protection plan must be completed and followed according to the procedures, which are part of the safe work system code of practice and this fall protection code of practice.

- Workers using fall protection will ensure that they are safely secured to an anchor point, or a place that will restrain them in the event of a fall.



- Top Grade must ensure that a worker on a boom elevating work platform, boom-supported aerial device, or telescopic forklift truck work platform uses a personal fall arrest system.
- Fall arrest lanyards will limit the vertical distance of a fall by using the shortest lanyard that will still allow the unimpeded performance of the worker's duties.
- CSA approved full body harnesses will be worn properly, belts alone are not permitted.
- Employees require competent training in the fall protection plan and the safe use of the fall protection system. Top Grade must keep records of the training given.
- It is the worker's responsibility to inspecting and maintaining the fall protection equipment before it is used on each work shift.

Fall Protection Considerations

- Ensure that the fall protection system and equipment has been properly identified and selected for working at heights.
- Ensure that a properly completed Safe Work JSA Hazard Identification and Fall Protection Plan are in place
- Identify the type of fall hazard from those listed on the Fall Prevention Decision Tree.

Pre-Job

A pre-job planning meeting should be attended by the:

- Operating Authority
- Performing Authority
- Job Coordinator (if applicable)
- The fall protection plan must be reviewed, each item discussed, agreement reached, and responsibility established at this meeting.

The Performing Authority or person in charge of the job must conduct a pre-job hazard assessment meeting with all workers involved.

The Fall Protection Plan shall be kept at the jobsite and will remain valid for the duration of the Working at Heights task, for that crew only.

- If more than one crew is involved in the working at heights task, all workers involved in the task must be identified on the attachments. Each crew is responsible for completing a specific Fall Protection Plan and obtaining a separate Safe Work Agreement for their work.

Prior to issuing a safe work agreement, the operating and performing authorities will review and approve the specific fall protection plan to ensure it is practicable.

The performing authority must ensure that all personal protective equipment required is in place and verify that workers are competent in the use of the equipment, and;

Establish the necessary rescue plan,

The work area must be evacuated immediately if;

- Time expires on agreement
- The emergency alarm sounds
- Work is requested to cease, or;
- Conditions in the area change (such as release of hazardous vapours in the area or electrical storm activity)

Fall Protection Planning

A written fall protection plan is required as part of the risk assessment or task analysis for the job at hand. All workers working at permanent or temporary work areas at heights between 1.2 meters and 3.0 meters, that may be exposed to “an unusual possibility of injury” due to a fall AND all workers working at heights of 3.0 meters or greater that may fall a distance of 1.2 meters or more MUST use a fall protection system. Temporary worksites include ladders, scaffolds, elevating platforms, man baskets, or aerial devices.

All workers must review and sign off on the fall protection plan and ensure it is documented and in place prior to the commencement of work, as per OH&S Code requirement.

- Permanent platform that conforms to all applicable standards.
- Elevated work platform or aerial device
- Green tagged scaffold
- Yellow tagged scaffold with fall protection as required
- Inclined ladder with appropriate fall protection system

In all other instances, except when climbing ladders, 100 tie-off is required.

Permanent Work Platforms

Where there is a requirement to regularly access equipment or work at heights greater than 1.2 meters (4 feet), the installation of a permanent platform should be considered. The platform should be properly engineered to meet provincial standards and building codes. If properly designed with all guards in place, no other fall protection is required.

Identification of Physical Hazards

As a worksite is identified, a Hazard Assessment must be performed to determine the fall hazards. The assessment must identify several key points in relation to the hazard including; location of the hazard, frequency of worker exposure and the potential consequences.

Upon completion of the hazard assessment, the appropriate fall protection equipment and procedures must be selected.

Hazards may include activities in, around or over: Heights, ladders, elevated platforms, man baskets, trenches, holes, excavations, scaffolds, moving vehicles, public traffic (ie: Barricade/ribbon off areas/ warning signs) Improper use or fit of fall protection equipment is also hazardous and can result in swing falls and body rollout, or a variety of property damage and personal injuries up to and including fatalities.

Some of the consequences of fall hazards are body shock loading (internal injuries, spinal injuries, broken bones, soft tissue damage), system shock loading (pendulum into objects, component failure), penetrations (tools, pens, belt buckles, keys, lacerations, abrasions), harness induced shock trauma (loss of consciousness, blood pools in legs, blood flow to the heart and brain is reduced).

To avoid consequences of injury or damage the operating and/or performing authority shall:

- Ensure workers are properly trained
- Hazards and rescue procedures are identified and documented on the fall protection plan
- And the appropriate control measures are implemented.

Note: Some individuals are not suited to working at heights. Psychological factors such as fear of heights or enclosures can cause a worker to panic, resulting in injury.

Personal Protective Equipment

General

- Personal protective equipment appropriate for the particular hazard(s) identified in the safe work agreement and fall protection plan must be worn

Fall Arrest Systems

The fall arrest system is typically made up of the following components:

- Full body harness, shock absorbing single or double lanyard, carabineers, snap hooks and connecting components.
- Workers must only wear harnesses that meet CSA Standards and have a legible CSA approved tag attached.
- All lanyards must have integrated shock absorbers and meet CSA Standards. Where there is a chance of severe abrading, damage or possibility of a burn, “thimble eyed wire rope” shall be used.
- Only snap hooks approved for side load weighting can be used in a chocker wrap anchor point connection.
- All carabineers, snap hooks and connecting components used in a fall protection system must meet CSA Standards.
- Self retracting lanyards (SRLs) must not be used where there is a deflection greater than 45 degrees.
- All fall arrest systems must be capable of limiting the free fall distance to 1.2 meters (4 feet) or less. The deceleration distance must be calculated and the fall area kept clear to allow for an unobstructed fall.
- Pre-job assessment must include swing area distances to ensure an unobstructed fall space.
- Workers must not exceed the total weight limitations placed on equipment by the manufacturers.

Anchor Points

- All personal fall arrest systems must be anchored at shoulder height as a minimum and must be capable of supporting a static load of 5000 Ibs per person (anchor point load capabilities should be verified by an engineer). The attachment for a second worker and/or attachment of equipment must be independent of one another.
- When selecting an anchor point, consideration must also be given to swing fall hazards. In swing falls, the workers do not drop straight down but rather swing out from their position into possible hazardous locations. Tying off above the worker's heads significantly reduces the chance of swing falls.
- 100 Tie-Off - Other than climbing a secured ladder or working within an approved work area, all workers working at heights must maintain a 100 tie-off connection. This may be accomplished with the use of rope grabs or double armed lanyards, whereby the worker is able to remain attached to an anchor point or lifeline at all times while in transit.

Inspections and Maintenance

Inspection (Pre-Use)

- A trained, competent worker must inspect the fall protection systems before use in accordance with the manufacturer's specifications.

Storage

- Fall protection equipment must be stored according to the manufacturer's recommended practices.

Removal from Service

- Any component of fall protection equipment (i.e. harness and lanyards) that have been involved in a fall arrest must be removed from service and destroyed. Life lines and SRL's involved in fall arrest must be removed from service and returned to the manufacturer for inspection and recertification or destroyed.

Cleaning, Repairing and Replacing Parts

- The components of a fall protection system must be cleaned, repaired and maintained according to the manufacturer's instructions.

Certification

- Fall protection components must be inspected and re-certified as specified by the manufacturer (i.e. SRL's, temporary engineered systems, life lines, and carabineers).

Logging

- A qualified inspector must document equipment logs annually. Logs must be retained for the life of the equipment.

Emergency Procedures

An effective written emergency response procedure must be developed and in place prior to commencing work as a part of the fall protection plan.

As a minimum, the emergency response procedure will identify;

- Rescue equipment available
- Trained rescue personnel
- Job specific rescue procedures
- Requirement for procedure to be reviewed during each pre-job/permit issuance for the designated job
- A method of rescue or escape in the event of a fall and the user is unable to assist. There are several methods of rescue, retrieval and/or escape. They include but are not limited to:
 - Rescue Retrieval Systems
 - Automatic Descent Control Devices
 - Manual Descent Control Devices
 - Man Lift or Basket
 - Rescue Team

Training and Certification

- All workers must review and sign off daily on the fall protection plan and be competent in the proper use of the fall protection equipment before commencing work in an area where the fall protection system is to be used.
- Retraining is necessary when there is a reason to believe that a worker does not have the necessary understanding and/or skill required.
- Any worker expected to be involved in performing a rescue must be identified on the rescue plan and have competency based training in the proper techniques and use of equipment for the rescue system.
- Documented certification of training will be maintained on site.
- All mobile and hoisting equipment must have current inspection/certification log books, records and stickers. Only properly trained, qualified and certified personnel may operate elevating platforms and aerial devices.

Responsibilities

It is the responsibility of the Operations, Maintenance and Contractor supervision to ensure that only qualified workers are assigned to the task, and safe working conditions are pre-planned, prepared and maintained during the entire working at heights task.

Before anyone works at heights, the appropriate safe work agreement and the fall protection plan must be:

- Obtained,
- Completed,
- Approved and
- Reviewed and signed off daily by all workers covered by the plan. Site Supervisor
- Ensure that a written worksite specific fall protection plan is in place
- Administration of the code of practice
- Ensure review of the code of practice with all site workers

Workers

- Follow all conditions specified in the safe work agreement and any attachments
- Be aware of hazards that could possibly be encountered during the working at heights task
- Conduct a pre-use inspection of the fall protection equipment
- Use only equipment that is in good condition
- Ensure the equipment is used as the manufacturer recommends
- Be aware of and follow all OH&S regulations that pertain to their work
- Review and sign off the Fall protection plan daily

Fall Distance Calculation Examples

Assumption #1 Shock Abs:

- The worker is 1.8m (6 ft.) tall using a 1.8m (6 ft.) long lanyard with a shock absorber. The combined weight of the worker, clothing and tool belt is at least 100 kg (200 lbs).
 - Length of Lanyard - 1.8m (6 ft.)
 - 1.1 m (3.5 ft.) due to shock absorber pulling apart
 - Harness stretch plus D-ring sliding - 0.45 m (1.5 ft.)
 - Height of Worker - 1.8 m (6 ft.)
 - Safety Factor - Clearance below feet of 0.9 m (3 ft.)
 - A+B+C+D+E= Overall minimum clearance is 6.0 m (20 ft.)

Assumption #2 SRL:

- The worker is 1.8 m (6 ft.) tall using a Self Retracting Lanyard and NO shock absorber. The combined weight of the worker, clothing, and tool belt is at least 100 kg (200 lbs).
 - 0.85 m (2.6 ft.) for self retracting lanyard cam/brake to engage.
 - Harness Stretch plus D-ring sliding - 0.45 m (1.5 ft.)
 - Height of Worker -1.8 m (6 ft.)
 - Safety Factor - Clearance below feet of 0.9 m (3 ft.)
 - A+B+C+D= Overall minimum clearance is 4.0 m (13 ft.)
- See applicable Site Specific Fall Protection Plan, and Fall Arrest Emergency Rescue Plan located in the Top Grade Forms Directory

NOTE: THIS PROCEDURE IS TO SERVE AS A GENERAL INSTRUCTIONAL GUIDE FOR PERFORMING A TASK AND MAY NOT APPLY AT LOCATIONS.

EACH SITE SHOULD BE RECOGNIZED AS AN INDIVIDUAL, TAKING INTO CONSIDERATION THE FINDINGS OF THE PROJECT JSA HAZARD IDENTIFICATION ASSESSMENT.

Please refer to the applicable OH&S regulations for the region in which you are working.

9.8 GROUND DISTURBANCE CODE OF PRACTICE

GROUND DISTURBANCE

Purpose:

The purpose of this Code of Practice is to plan and safely accomplish a “Ground Disturbance” as per government regulations and to ensure measures are implemented to provide worker safety and avoid contact with underground lines or utilities during ground disturbance activities.

Application:

This code applies to any site where you are creating a ground disturbance such as pipeline rights-of-way, company leases, and construction sites. Before undertaking a ground disturbance, all reasonable precautions must be taken to ascertain whether or not an underground facility exists.

Definitions:

The following definitions have been defined for the purposes of this Code of Practice:

Ground Disturbance:

- “A work operation or activity on or under the existing surface resulting in a disturbance or displacement of the soil or ground cover”. Any work, operation, or activity that results in a disturbance of the earth, including without limitation:
 - driving rods/pins/anchors,
 - excavation,
 - digging,
 - trenching,
 - pile pushing,
 - ploughing,
 - directional drilling,
 - tunneling,
 - auguring,
 - back-filling,
 - top soil stripping,
 - land leveling,
 - clearing,
 - grading,
 - peat removal,
 - blasting,
 - quarrying and
 - post pounding.

- General exceptions include:
 - Routine / minor road maintenance
 - Agricultural cultivation to a depth of less than 450 mm below the surface (18 inches)
 - Hand digging to a depth of no more than 300 mm (12 inches) below the ground surface so long as it does not permanently remove cover over a buried facility.

Top Grade Superintendent:

- Ground disturbance activities will only be conducted under the direct visual supervision of the Top Grade Superintendent or the Superintendent appointee designate.

The Designated Supervisor:

- is an experienced senior Top Grade employee deemed competent by the Top Grade superintendent to supervise a ground disturbance and excavation.
- Is the company Inspector whom the Company has deemed to have sufficient knowledge and experience to competently serve as Designated Supervisor for ground disturbance activities.
- must have received formalized and specific training on the provisions of this procedure and found competent by formal and current examination and certification.

Controlled Area:

- A strip of land 30 meters wide on each side of a pipeline, or to the edge of the right-of-way, whichever is wider.

Crossing Agreement:

- Also referred to as an approval. A document in writing that is made any time a ground disturbance takes place within a right-of-way OR within 5 meters of a facility where there is no right-of-way. A crossing agreement is commonly used as the approval and does not mean an actual crossing is taking place.

Hand Exposure:

- Non-destructive techniques acceptable to the facility owner (such as hand shoveling or hydrovac) that must be done if the ground disturbance crosses or is carried out within 5 meters of an existing underground facility, before commencing any mechanical excavation. When attempting to expose an underground facility, it must be done sufficiently to verify the identity of the underground facility (i.e., alignment, size and depth). Even after hand exposure, mechanical equipment must not be used within the distance specified on the crossing agreement OR, if a crossing agreement is not present, no closer than 1 meter to the underground facility.

Notification:

- Every owner of an underground facility, found within the ground disturbance area and the 3D-meter search area, must be notified of the nature and schedule of the ground disturbance. Notification must be done a minimum of 2 working days and a maximum of 7 working days in advance, or as specified in the crossing agreement.

Search Area:

- Is the search area 30 meters outside the physical area that is to be disturbed?

Underground Facility:

- Any structure located below the surface of the ground. An underground facility could range from a telephone or power cable, conduits, fibre-optics, water service, or pipelines carrying a variety of products, to a fixed structure such as a cement piling, building foundation, or underground tank.

Potential Hazards:

- Hazards associated with ground disturbance activities include the following:
 - Electrocution
 - Explosion
 - Fire
 - Toxic gases
 - High-pressure jetting
 - Spills
 - Oxygen-deficient atmosphere
 - Cave-in and engulfment
 - Equipment damage
- Contact with underground pipelines or electrical and communication cables may result in ruptures, fires and explosions, or the release of toxic substances. Ruptures may have consequences ranging from loss of services to loss of life
- Even minor nicks and gouges on pipelines and other buried utilities are serious. Corrosion or deterioration could occur rapidly causing leaks, possible emergency situations, and the interruption of utilities and communication services.
- Negligence, sloppy workmanship, or failure to report any or all events associated with a ground disturbance may result in severe penalties to those responsible.
- The excavation that a worker may be required or permitted to enter must be kept free of an accumulation of water that may pose a hazard to a worker.

Training:

Ground disturbance training is a formalized program with a written competency check. Refresher training as directed by regulation is required to maintain competency, familiarity with the subject, and regulatory changes. This training is designed to facilitate a ground disturbance from the pre-planning stage to actual construction.

- “Designated Supervisors”:
 - Must receive formalized ground disturbance training and specific training on the provisions of this Code of Practice, and other related procedures. Ground disturbance activities shall only be conducted with the Designated Supervisor on site.
- Ground disturbance activities will only be carried out by personnel already deemed as competent. This includes evaluation based on training, experience and qualifications.

The formal Ground Disturbance Training Outline includes the following:

- What is Ground Disturbance
- Company's Ground Disturbance Code of Practice
- Regulations for undertaking a ground disturbance
- Distance defining search and controlled areas
- Facility existence sources
- Ground Disturbance Permits, work agreements, licenses and approvals
- Notification to underground facility owners
- Crossing agreements
- Maps and plot plans
- Line locating explanation
- Exposure processes and marking
- Permits and pre-job meetings
- Backfill inspections
- Environmental awareness

Responsibility:

Top Grade (Ground Disturbance) Superintendent is responsible for:

- Ensuring that the work is conducted in a safe manner and in accordance with this Code of Practice and applicable legislation for the province they are working in.
- Review the Site plans
- Ensure the Checklist is filled out properly and conveyed to the necessary GD participants
- Ensuring that an updated record of changes or additions to underground pipelines or utilities is forwarded to the applicable field office responsible for the area, as well as the facilities group.
- Referencing all available sources of information as far as reasonable and practical to determine the existence of all pipelines and underground utilities in the proposed work area. See Information Sources for details.
- Conducting a pre-job safety meeting and completes and signs off the Ground Disturbance Permit.
- Coordinating all work to be done, and is available for critical operations.

Person Proposing to Create a Ground Disturbance:

It is the responsibility of the person proposing to create the ground disturbance to discover any facilities that exist:

- Within the area in which they propose to undertake the ground disturbance. This area may change dramatically depending on the job scope and physical geographical area that is to be disturbed. For 30 meters surrounding the outside perimeter of the ground disturbance.



Information Sources:

- Search for all underground facilities within the work area and 30-meter search/ controlled area by reviewing or referencing the following sources:
- Company Maps and Plot Plans - The Company should have records of their own pipelines and facilities for leases and pipeline rights-of-way.
- ERBC & AUC (Energy Resources Conservation Board & Alberta Utilities Commission) - Licensed pipelines with operating pressures above 700 kpa are registered with the AEUB. Township plans showing registered pipelines are available and can be obtained if applicable. Note: Lines are not always exactly as shown.
- One-Call Systems - British Columbia, Alberta and Saskatchewan have One-Call Systems that provide a free computerized system to advise and help the party undertaking the ground disturbance. However, not all companies are members of One-Call Systems.

Alberta	1-800-242-3447	www.alberta1call.com
British Columbia	1-800-474-6886	www.bconecall.bc.ca
Saskatchewan	1-866-828-4888	www.sask1stcall.com

- Area Operations Personnel- Experienced Company personnel familiar with the area operations may be knowledgeable of pipelines or utilities not otherwise documented.
- Landowner - If applicable, landowners may have knowledge of buried utilities not documented elsewhere, especially if they have put something in themselves.
- Visible Markers - Check the proposed work area for pipeline and utility markers. Cross- reference to contact list and ensure the company named has been contacted for additional information.
- Rural Gas Utilities - There are several maps available that provide essential information on rural gas utilities commonly referred to as Gas Co-ops (contact the local branch).
- Saskatchewan 12 Call List - This is issued by Saskatchewan Energy and Mines.

Permits and Approvals:

The applicable facility's permits, licenses and approvals can change in accordance with the work being done. All permits, licenses and approvals must be obtained prior to the commencement of any work, even on registered rights-of-way.

Ground Disturbance Permit/Checklist must be Signed off by:

- Top Grade' Superintendent
- The Clients Inspection representative

Ground Disturbance Permits must be signed-off by the clients:

- Top Grade Ground Disturbance Superintendent.
- The Client / Company Inspector or Designate.

Upon any scope of work change, permits are considered "void" and all work must stop until a new permit can be completed.

Permits are considered valid for the scope of work up to a maximum of 7 working days.

Exceptions:

The Client / Company Inspector sign-off is not required for the following:

- Any ground disturbance outside a defined production field.
- Designated projects agreed upon after communications with the Production Operations Supervisor and Area Safety Coordinator.
- When the task follows an authorized task specific procedure (i.e., installation of signs, rig anchors, etc.).

NOTE: The National Energy Board requires written approval if you are creating a ground disturbance within 3D meters from the edge of the right-of-way.

Standard:

- This Code of Practice in conjunction with the associated “Ground Disturbance Permit” represents the minimum requirements necessary to ensure that ground disturbance activities will be performed in the safest practical manner.

IMPORTANT: A TOP GRADE OR CLIENT “GROUND DISTURBANCE PERMIT” MUST BE COMPLETED PRIOR TO ANY GROUND DISTURBANCE ACTIVITIES.

Notification:

Ensuring all facility owners have been notified. The regulations have set guidelines and time frames for notification to the facility owner of the Company’s intent to cause a ground disturbance within the work area and 3D-meter search or controlled areas.

- Land Titles - If applicable, land titles will show caveats of lines and utilities on the property.
- Notification must be received by the facility owner a minimum of 2 working days and not more than 7 working days before the commencement of the ground disturbance.
- Working days do not include Saturdays, Sundays, or statutory holidays. This notification time frame is written in the crossing agreement/approval and generally demands that notification be completed within a specific time frame.
- Notification is most commonly performed through Provincial One-Call services (1-800-242-3447), but if the owner is not a member, notification still must be performed as previously stated.
- Prior to commencing any ground disturbance activities, the approvals / crossing agreements must be obtained from the buried facility owner. The owner will outline the personnel responsibilities as well as any conditions / limitations for the ground disturbance activity.

Receiving Owner Notification:

An owner of an underground facility who receives notification is required to provide any assistance that the party creating the ground disturbance may reasonably require to enable them to comply with the regulations. Upon being notified, the owner must:

- Provide to the person undertaking the ground disturbance any information respecting an underground facility in existence within the work area and 30-meter search/controlled areas.
- Locate on the surface of the ground the alignment of the underground facility with clearly distinguishable warning signs and markers at adequate intervals.

- Provide at no cost the locating and marking required by regulation to the person causing the ground disturbance.
- Inspect the pipeline to ensure that the locating and marking has been properly carried out if performed by another party other than the owner before the ground disturbance can start.
- Carry out such inspections that are necessary to ensure the continued safety of their underground facility.

The owner of an underground facility can allow the person creating the ground disturbance to locate and mark their facility, but the owner must still inspect the facility and ensure the locating and marking was done properly.

Crossing Agreements:

Before creating a ground disturbance on any third party facility within a right-of-way, OR within 5 meters of a pipeline where there is no right-of-way, a written approval (crossing agreement) is required and should be present at the work site.

The Top Grade superintendent must have a copy of the approval/crossing agreement in their possession and the following critical information should be noted:

- The placement of facilities within the ground disturbance area in relation to any existing facilities.
- Proper supporting of exposed facilities.
- Distances that must be maintained between underground facilities.
- Notification time frames for underground facilities, if different from regulations.
- Distance that must be maintained with mechanical excavation equipment if different than regulations.
- Every facility owner performs a backfill inspection in writing.

Note: Each company provides different specifications and conditions on crossing agreements and, as such, these crossing agreements are legal documents and must be thoroughly read and understood at the site level.

- Most crossing agreements/approvals maintain a stricter requirement than 60 cm for mechanical excavation equipment. The crossing agreement will also commonly request hand exposure before entry into rights-of-way, which is stricter than the 5-meter rule.
- A Crossing Inspection Report is performed by every facility owner and is prepared in writing.
- This information must be noted on the Top Grade Ground Disturbance Permit and/or communicated at the Top Grade pre-job safety meeting to all involved workers on the site.
- Crossing agreements do not provide changes to be made at the site level. No course of dealings between the two parties can change the agreement unless it is in writing and signed by the same parties who signed the original agreement.
- The following items will be cross-referenced:
 - Pipeline Act & Regulations and/or any other applicable governing bodies
 - Crossing Agreement

- Ground Disturbance Regulations
- Where there is a conflict between this procedure, the crossing agreement, and the regulations; the regulation or agreement with the most stringent standards will take precedence.

Note: In cases where the company is creating a ground disturbance within 5 meters of crossing their own facilities, a crossing agreement is not required.

Pre-job Safety Meeting:

A Top Grade pre-job safety meeting must be conducted to discuss responsibility, safety, and procedural aspects of the job with all persons involved. Ensure that the pre-work checklist of the Ground Disturbance Permit has been completed. The pre-job safety meeting will include, as a minimum, but is not limited to, reviewing the applicable Safe Work Agreement, the scope of the job, and the Ground Disturbance Permit.

The Top Grade pre-job safety meeting must meet the following requirements:

- Cover all job safety and procedural aspects, and permit/crossing agreement requirements.
- Identify and communicate to all workers the hazards and risks on site.
- Develop a plan to manage risks and implement measures to eliminate or mitigate risks to an acceptable level.
- Identify existing facilities in the ground disturbance area.
- Identify line sizes, operating pressures and substances in lines. (Obtain MSDS for substances in lines.)
- Identify cables and conduits.
- Communicate how lines are marked, to ensure workers do not fall into an excavation.
- Identify the exposure techniques for each facility.
- Identify the distance that must be maintained by mechanical excavation equipment.
- Identify PPE needed to conduct work, as well as in an emergency.
- Identify firefighting equipment required and location of the same.
- Identify cathodic protection requirements.
- Ensure that a warning system is in effect where mobile equipment and/or other workers are required to approach the excavation.
- Take precautions for hazards associated with water accumulation as necessary.
- Identify barricading and fencing requirement(s).
- Establish escape routes; muster points, and evacuation procedures.
- Ensure an Emergency Response Plan (ERP) is in place and communicated to all involved.
- Ensure all applicable parties (Company employees and contractor employees) agree on the safest way to perform the job before signing the Safe Work Agreement.

Note: If “Scope of Job” changes for any reason, then you must stop the job and reassess the implications of the changes.

- The pre-job meeting must be attended by all persons directly involved in the job. Take care to ensure that any new crew members or any members not present at the pre-job meeting, such as replacements, are informed before working on any Company work site.
- The meeting minutes (with signed attendance list) are recorded and retained on file.
- The Ground Disturbance Permit and Safe Work Agreement must be completed and retained on file.

Locating Underground Facilities:

- In areas where there is a high density of underground structures, employ the process of “accounting for all the lines in the area”. This involves identifying any potential sources of underground structures (wells, headers, compressors, electrical distribution, etc.) and positively verifying that none of the structures are within the 30-meter search area.
- All known pipelines and utilities as noted on the plot plan, site drawing, maps, or facility searches that pass within the controlled/search area must be located and staked to indicate location, alignment, and line size and depth if possible.
- Markers should also show the facility rights-of-way or rights-of-way outline.
- A line locating company must locate all underground utilities within the 30-meter search area. Use the One-Call System. Note: Not all companies belong to One-Call.

Alberta	1-800-242-3447	www.alberta1call.com
British Columbia	1-800-474-6886	www.bconecall.bc.ca
Saskatchewan	1-866-828-4888	www.sask1stcall.com

- Where underground facilities have been discovered, the area must be electronically swept using a minimum of 4 separate grid patterns to ensure maximum detection capabilities. A competent locating person should conduct the line locating activity and have in his or her possession a copy of the site drawing/plot plan, or an as-built map.
- A Company employee/representative may scan and mark the area where a minor ground disturbance is to occur. This must be conducted by a competent person in areas with few underground facilities and low risk. This may include culvert, posthole, sign installation and line repair.
- When the owner of an underground facility inspects a facility prior to the ground disturbance for locating and marking purposes, the owner must prepare a written record of this inspection and retain it for at least 2 years.

The party locating the pipe should plant a series of markers that meet the following requirements:

- Conform to the international color code for buried structures.
 - Electrical- Red
 - Gas & Oil- Yellow
 - Communication - Orange
 - Sewers - Green
 - Water - Blue
 - Survey Markings - Pink
 - Proposed Excavation - White

- Be spaced not more than 5 meters apart or, where pipes follow a curve, spaced so that the curvature is clearly visible.
- Extend at least 30 meters beyond the proposed working area and be positioned directly above the center line.
- Form a cross consisting of two stakes at the points where the existing pipeline center line and the foreign crossing right-of-way intersect.
- Be marked with appropriate coloured surveyor's tape to a stake driven less than 30 cm or, preferably, a wire flag, paint or chalk.
- Clearly mark the owner's name on each pipeline marker. This is critical at the point where the facility is to be exposed by hand.
- Clearly identify the overhead power lines that encroach upon the proposed work area. Clearances must be maintained as noted:

Note: New ultra-high voltage lines (i.e., 500,000 kV) require greater clearance and must be verified by the utility company. All power lines and clearances shall be listed and covered during the pre-job safety meeting.

Exposure and Mechanical Excavation:

All underground pipelines and facilities within a 5-meter radius of the ground disturbance area, or within a facility right-of-way must be exposed by non-destructive techniques acceptable to the facility owner. The exposure must be completed before mechanical excavation begins.

- Hand Exposure or Daylighting
 - All existing underground facilities (including anode beds) in the proposed ground disturbance shall be daylighted at one or more points by hand exposing or daylight operation, and identified for size and direction before excavating.
 - For new pipelines that run parallel to and within 5 meters of an existing line, the existing line will be hand-exposed or hydrovac'd at appropriate intervals to confirm location. Hydrovac'd and/or hand-exposed trenches will be 0.5 meters deeper than the intended depth of excavation to confirm any lines situated below have not been contacted.
 - Hydrovac'd and/or hand-exposed holes will be large enough and adequately spaced to confirm line size and alignment (watch for underground facilities that have 900 turns or field bends).
- Important: Exercise caution when using hydrovac to locate cables or plastic pipes. Probe pressure must be regulated so cable coatings are not damaged or, in the case of wires, causing an electrical hazard.

Mechanical Excavation

- After a crossing agreement/approval has been obtained, mechanical excavation equipment cannot be used within 1 meter of the exposed facility except under the direct supervision of Top Grade Superintendent or a representative of the owner's facility. If a greater distance was stipulated in the crossing agreement, it must be followed.

- The only exception to this requirement will occur when a Top Grade Superintendent has declared a ground disturbance and search area free of underground facilities; in which case, the ground disturbance may proceed without the presence of a Ground Disturbance Supervisor.
- When mechanical excavation equipment is used and there is a potential for contacting an underground facility, the equipment operator shall be directed by the Top Grade Superintendent who must be fully visible to the equipment operator at all times.

Angle Crossings

- Crossing of utilities, pipelines, or cables shall generally be undertaken at an angle of approximately 90°
- In certain situations it may be required to cross at angles less than 90°. In this situation the following procedures will apply:
 - Locate the centerline of the new pipeline or cable on the right-of-way and daylight the crossing point.
 - The existing pipeline or cable shall be daylighted at two additional points. Lath and yellow survey tape shall be placed directly above the existing pipeline or cable at 1- meter intervals for the extent of the excavation.
 - Measure 1 meter on either side of the existing pipeline or cable and install lath with white ribbon at 1-meter intervals parallel to the existing pipeline to cover the extent of the excavation.

Trenches and Excavations:

Regulatory Requirements

- Protective structures must be installed, maintained, and dismantled in accordance with the specifications of a professional engineer and that structures must be kept in place as long as workers are required to enter the trench or excavation.
- Shoring, cages and design parameters used to protect the worker in an excavation or trench must comply with Section 174 of the General Safety Regulations under the OH&S Act (Alberta) and Schedule No.1 specifications.
- Freezing, grouting and/or stabilization must be designed and approved by a professional engineer. Adjacent foundations must be supported as required.
- OH&S Regulations must be followed as applicable to avoid danger of wall collapse onto workers. Spoil piles must be at least 1 meter from the side of the excavation and have a slope of 45° or less. Power line poles must be protected from cave-ins.
- Equipment is not to be closer than an equal distance to the distance measured from the nearest edge to the bottom of the trench. If equipment or heavy objects must be closer, a professional engineer must approve additional support in the trench.

Backfill Inspections:

A party that exposes any part of an underground facility shall notify the owner at least 24 hours prior to backfilling. Upon being notified, the owner must inspect the exposed part of the underground facility to ensure no damage has occurred. Where an owner inspects the underground facility for damage, a written record (including pictures) must be made and retained for a minimum of 2 years. As the party performing the underground disturbance, you must prove that you have made all reasonable efforts to procure an inspection before you backfill. If you backfill without an owner inspection, it is recommended that a backfill inspection be performed by a third party at the request of the party creating the ground disturbance. Backfill material will normally consist of the spoil removed from the excavation during exposure operations with appropriate construction to prevent damage to the underground facility (e.g., rocks, etc.). Specific procedures for backfilling will be part of the repair and/or construction specifications and the crossing agreement, and must be consulted in those documents. Underground conduits must be covered according to the Company's General Specifications and Electrical Code. All hydrovac test points must be properly backfilled.

Saskatchewan and British Columbia and 1.5 meters in depth in Alberta and is narrower than its depth, the Top Grade Superintendent must ensure that workers are protected from cave-ins and sliding material by proceeding as follows:

- Cutting back the walls to reduce the remaining vertical height to less than 1.5 meters in depth in Alberta and 1.2 meters deep in Saskatchewan and British Columbia.
 - Installing engineered temporary protective structures as per the regulations.
 - In a trench or excavation of 3 meters depth or less, using proper-engineered shoring.
 - Ensuring proper access/egress of the excavation has been established. Ladders or ramps are two choices for a safe means of egress. Individuals in an excavation shall not have to travel in excess of 8.0 meters to the closest means of egress.
 - Performing atmospheric monitoring in excavations that are greater than 1.5 meters deep and where a potential exists for a hazardous atmosphere. Treat these excavations as a confined space and comply with the Confined Space Entry Code of Practice. Hazardous atmospheres could include oxygen-deficient, flammable or toxic atmospheres.

Securing Trenches and Excavation Sites

To meet legal obligations, barricades must be installed to warn people of the dangers of an open trench and to reasonably protect co-workers, the public, livestock and wildlife from falling into the excavation.

The Criminal Code of Canada Section 219 (Criminal Negligence) States:

“Everyone who leaves an excavation on land that he owns or of which he has charge or supervision is under a legal duty to guard it in a manner that is adequate to prevent persons from falling in by accident and is required to warn them if an excavation exists”.

Contacting an Underground Facility:

The regulations state that if during the ground disturbance contact is made with the underground facility that results in any of the following:

- Puncture or crack in the facility, scratch, gouge, flattening, or dent of the surface, or
- Damage to the protective coating

The ground disturbance work must be immediately terminated. The party performing the ground disturbance must immediately notify the owner of the facility, the location where the contact occurred, and the kind of damage that resulted from the contact. If the facility is a pipeline, the owner must immediately notify the required agencies and regulatory bodies of the location where the contact occurred, and the kind of damage that resulted from the contact. If the owner cannot be contacted, the applicable 1 call center may be contacted.

Note: In cases where the ground disturbance has been terminated due to contact, the ground disturbance cannot be started again without approval of the owner.

Site-Specific Procedures:

- Where the ground disturbance cannot be completed within the confines of this Code of Practice and/or is complex (involves multiple pipelines and/or associated buried facilities in the controlled area), a site-specific procedure must be written and approved by the Company facilities and projects' engineers before the job commences. Procedures must be available to ensure safe excavation and/or trenching, and they must be approved, where applicable, by the ERCB or other provincial regulatory agencies. These procedures may, by necessity, apply only to specific locations and will be used on that basis.
- Any special procedure created to address such circumstances must be approved by the ERCB or other provincial regulatory agencies for use as an ongoing "generic" procedure if it is apparent the special procedure addresses issues outside the scope of general ERCB and/or OH&S Regulations. Processing plants and battery sites are locations where special site-specific procedures easily apply.
- The ground disturbance program will be reviewed on a regular basis and updated when necessary. The Code of Practice shall be reviewed when there are changes to the regulations or company policy.

References and Regulations:

1. Alberta Occupational Health & Safety Act - General Safety Regulation, Part 10, Excavations, Trenches, Tunnels and Underground Shafts
2. Alberta Pipeline Act Section 1(1), e.1: Definitions Section 31.1 (1): General, Part 6
3. Alberta Pipeline Regulations Section 20: Defining Distance, Section 20.1,21,22: Ground Disturbance
4. Energy and Utilities Board IL-92-03: Pipeline Excavation Procedures Guide 30: Guidelines for Safe Construction near Pipelines
5. British Columbia WCB OH&S Regulations: Part 20-13, 20-15, Excavations: Part 23-3 Oil & Gas
6. Saskatchewan OH&S Regulations: Part XVII Excavations Section 259 Locating Underground Pipelines, Section 260 - Excavating and Trenching
7. CAPP Safety Guideline for Ground Disturbance in the Vicinity of Underground Facilities
8. Safe Procedures for Pipeline & Utility Crossings Manual

Note: The "Safe Procedures for Pipeline & Utility Crossings Manual" (produced by the Edmonton Area Pipeline and Utility Operators' Committee) and "ERCB Guide 30" are readily available for reference.

Pre-work Checklist (before ground disturbance):

Have you:

- Obtained I reviewed surveys and drawings?
- Obtained I reviewed surface acquisition report?
- Obtained I reviewed land titles certificate?
- Obtained I reviewed base maps and pipeline information?
- Obtained I reviewed as-built drawings of facilities?
- Obtained I reviewed aerial photographs?
- Obtained I reviewed necessary crossing agreements?
- Established length and width of excavation?
- Called One-Call Systems?
- Contacted other companies not on One-Call?
- Contacted site operator?
- Contacted Operations Foreman?
- Obtained necessary landowner approvals?
- Searched for existing marker signs?
- Searched for visible signs of underground facilities?
- Located and marked overhead power lines?
- Used pipeline locator to mark underground facilities?
- Arranged to hand expose all underground facilities within 5 meters of the excavation area?
- Have all underground facilities been hand-exposed or hydrovac'd as per the company?
- Identified isolation points?
- Noted visible watercourse crossings?
- Barricades available if excavation to be left unattended?
- Identify associated hazards.
- Are MSDS's available for all substances?
- Has qualified signal person been established for excavation?
- Has a spoil pile area been established to obtain a minimum of 1-meter clearance from excavation edge?
- Can the work undermine existing structures or foundations? If yes, has the proper shoring and bracing been arranged?

NOTE: THIS PROCEDURE IS TO SERVE AS A GENERAL INSTRUCTIONAL GUIDE FOR PERFORMING A TASK AND MAY NOT APPLY AT LOCATIONS.

EACH SITE SHOULD BE RECOGNIZED AS AN INDIVIDUAL, TAKING INTO CONSIDERATION THE FINDINGS OF THE PROJECT JSA HAZARD IDENTIFICATION ASSESSMENT.

Please refer to the applicable OH&S regulations for the region in which you are working.

9.9 H2S CODE OF PRACTICE/RESPIRATORY PROTECTIVE EQUIPMENT

General:

Respiratory protection falls into two major categories. The first category is Air Purifying Respirators (APRs) that are particle (dust) chemical cartridges without a visor piece. The second category is Atmosphere Supply Respirators, including self-contained breathing apparatus (SCBA), supplied air systems (SABA's) and protective suits that completely enclose the worker and incorporate a life support system.

Because of the extreme danger of Hydrogen Sulphide (H₂S) in our industry, it is imperative that every worker be aware of the importance of the self-contained breathing apparatus. No personnel will be permitted to work in an area where H₂S is a hazard without complete training in the use of self-contained breathing apparatus. Workers may not be exposed to H₂S at a concentration exceeding its ceiling limit at any time. Note: the ceiling limit cannot exceed at any time, without respiratory equipment, of 15 ppm.

H₂S can be found in:

- Sour Plant facilities
- Sour field locations
- Swamps
- Sewers
- Natural Gas
- Some well waters
- Crude Petroleum

A Code of Practice is required when:

- a pure substance in an amount exceeding 10 kilograms, or
- in a mixture in which the amount of the substance is more than 10 kilograms and at a concentration of 0.1 percent by weight or more at a worksite.

All breathing apparatus to be used by Top Grade employees, will be rented from reputable safety service rental centers and inspected prior to being put in service.

All breathing apparatus will be inspected and fit tested by competent employees prior to use.

Respiratory Dangers:

Top Grade must determine the degree of danger to a worker at a worksite and whether a worker needs to wear respiratory protective equipment if;

A worker is or may be exposed to an airborne contaminant or a mixture of airborne contaminants in a concentration exceeding their occupational exposure limits or;

The atmosphere has or may have an oxygen concentration of less than 19.5 by volume

In making a determination under subsection, Top Grade must consider:

- The nature of any contaminants
- The concentration or likely concentration of any airborne contaminants
- The duration or likely duration of the worker's exposure
- The toxicity of the contaminants
- The concentration of oxygen
- The warming properties of the contaminants
- The need for emergency escape

Based on a determination, Top Grade must provide and ensure the availability of the appropriate respiratory protective equipment to the worker at the work site.

A worker must use the appropriate respiratory equipment provided by Top Grade.

Respirator Code of Practice

Refer to the Respiratory Protective Equipment section of the Top Grade Safety Manual.

Storage of Respiratory Equipment:

Top Grade must ensure that respiratory protective equipment kept ready to protect a worker is;

- stored in a readily accessible location,
- stored in a manner that prevents its contamination,
- maintained in a clean and sanitary condition,
- inspected before and after each use to ensure it is in satisfactory working condition, and serviced and used in accordance with the manufacturer's specifications.
- Respiratory protective equipment that is not used routinely but is kept for emergency use is inspected at least once every calendar month by a competent worker to ensure it is in satisfactory working condition.

Quality of Breathing Air:

Top Grade must ensure that air used in a self-contained breathing apparatus or an airline respirator is of a quality that meets the requirements of Table 1 of CSA Standard Z180.1-00, Compressed Breathing Air and Systems, and does not contain a substance in a concentration that exceeds 10 percent of its occupational exposure limit.

Effective Facial Seal:

Top Grade must ensure that respiratory protective equipment that depends on an effective facial seal for its safe use is correctly fit tested and tested in accordance with CSA Standard Z94.4-02, Selection, Use and Care of Respirators, or a method approved by a Director of Occupational Hygiene.

Top Grade must ensure that, if a worker is or may be required to wear respiratory protective equipment and the effectiveness of the equipment depends on an effective facial seal, the worker is clean shaven (as per Top Grade Clean Shaven Policy) where the face piece of the equipment seals to the skin of the face.

**Equipment for immediate danger:**

If Top Grade determines under section 244 that breathing conditions at a work site are or may become immediately dangerous to life or health, Top Grade must ensure that a worker wears self-contained breathing apparatus or an airline respirator that is of a type that will maintain positive pressure in the face piece, has a capacity of at least 30 minutes unless Top Grade' hazard assessment indicates the need for a greater capacity, provides full face protection in situations where contaminants may irritate or damage the eyes, in the case of an airline respirator, is fitted with an auxiliary supply of respiratory air of sufficient quantity to enable the worker to escape from the area in an emergency, and in the case of a self-contained breathing apparatus, has an alarm warning of low pressure.

Equipment - no immediate danger:

Top Grade must ensure that a worker wears self-contained breathing apparatus or an airline respirator having a capacity of at least 30 minutes if Top Grade determines that conditions at the work site are not or cannot become immediately dangerous to life or health but the oxygen content of the atmosphere is or may be less than 19.5 percent by volume, or the concentration of airborne contaminants exceeds or may exceed that specified by the manufacturer for air purifying respiratory equipment, and The complete equipment required by section 251 is not provided.

Air purifying equipment:

Top Grade may permit workers to wear air purifying respiratory protective equipment if; the oxygen content of the air is, and will continue to be, 19.5 percent or greater by volume, the air purifying equipment used is designed to provide protection against the specific airborne contaminant, or combination of airborne contaminants, present, and the concentration of airborne contaminants does not exceed the maximum concentration specified by the manufacturer for the specific type of air purifying equipment, taking into consideration the duration of its use.

Emergency Escape Equipment:

If normal operating conditions do not require the wearing of respiratory protective equipment but emergency conditions may occur requiring a worker to escape from the work area, Top Grade may permit the escaping worker to wear a mouth bit and nose-clamp respirator if the respirator is designed to protect the worker from the specific airborne contaminants present, and the oxygen content of the atmosphere during the escape is 19.5 percent or greater by volume, or alternative respiratory protective equipment that can be proven to give the worker the same or greater protection as the equipment referred to in clause (a) of OH&S. Before permitting a worker to use the equipment Top Grade must consider the length of time it will take the worker to escape from the work area.

For further information, refer to current OH&S Regulations. Supervisors assume the responsibility of training, communicating and ensuring the compliance of this policy.

Note: The OH&S Sections quoted are based on Alberta OH&S Legislation. Please Check Applicable provincial OH&S regulations for BC & SK.

Note: For further information please refer to the Top Grade PPE Equipment Care, Protection and Education Manual.

9.10 LOCK OUT/TAG OUT JOB PROCEDURE/SAFE WORK PRACTICE

Activity:

- General requirements.
- Personal Lockout

Guidelines:

- Combination locks will not be used for the lockout.
- Each personal lock must be marked or tagged to identify the person who hung the lock.
- If it is not possible for a personal lock to be removed by the person who hung the lock then the supervisor or manager in charge will be responsible for its removal.
- Valves may require the use of a chain to apply the locks (i.e. through the hand -wheel and around the body or through the yoke).
- A method for tracing the locks and systems locked out must be devised and agreed upon by Top Grade and the customer (i.e. master list recording lock numbers and locations or by customer existing procedures).
- If a double block and bleed is used, the bleed line must be of the same size as the line isolated (unless certified by a professional engineer).
- Each worker who works on machinery or equipment requiring lockout is responsible for locking out the energy isolating device before starting work.
- Once operations have rendered the machinery or equipment safe and has hung their lock(s), then the worker may hang their lock(s).
- The worker then locks out the machinery or equipment and maintains control of the key for the lock applied.
- Electrical energy isolation must be verified by checking the local stop/start switch. Piping system energy isolation must be verified by low point drains and high point vents and by workers breaking flanges away from themselves.
- The worker will remove the lock(s) placed on the equipment or machinery once all work has been completed. Personal locks may need to be removed at the end of each shift if a night shift will be working on the same equipment (or if day shift and night shift are working on the same equipment and completion is anticipated on the opposite shift then the shift leaving the site must pull their personal locks).
- The operations lock is to be the last lock removed.

Purpose:

It is the standard of Top Grade that all necessary precautions will be taken to ensure the safety of all personnel working on, in or around equipment. A pre-job hazard assessment or JSA Hazard Identification shall be properly prepared stating conditions and precautions to be taken.

The purpose of this standard is to ensure that the equipment is properly prepared and isolated from energy sources to prevent injury to all personnel and/or damage to equipment and to apply with OH&S regulations.

Requirements Prior to Working on Equipment or Machinery:

If equipment or machinery is shut down for maintenance, no work may be done until;

- All parts and attachments have been secured against inadvertent movement,
- Where work will expose workers to energy sources, the hazard(s) shall be effectively controlled, and
- The energy isolating devices have been locked out.

Lock Removal:

If after completion of the job, any individual has left his/her lock in place, the individual shall be contacted to return to the jobsite and remove the lock. Where it is impossible to reach that individual, the supervisor in charge shall ensure him/herself that the equipment is ready and safe and will remove the lock. This situation will be documented and witnessed, and at the earliest opportunity reviewed with the person concerned.

System Evaluation:

Random audits of the lockout procedure will be documented and filed with the HSE Committee.

SAFE WORK PRACTICE**Electrical- Double Lockout:**

- Where there is, or may be, a danger to a worker from the inadvertent operation of electrical equipment, then that equipment must be locked out and tagged prior to commencing work.
- The equipment owner is responsible for shutting down the equipment.
- It is the responsibility of both Operations and Maintenance to ensure that the equipment is completely de-energized by locking out the circuit breaker or disconnect the switch providing power to the equipment. In every case, the local start/stop switch must be tried as an added assurance.
- The operator or customer supervisor should be the first to install a lock and tag, followed by the maintenance worker(s) required to work on the equipment.
- Upon completion of the task, each Maintenance group must remove the locks. The same person that installed the lock is to remove the lock.
- The operator or customer supervisor's lock is to be the last lock removed.

Pressure Systems - Double Lock and Bleed:

- Where there is, or may be, a danger to a worker by the inadvertent release of energy or a hazardous substance from a pressure system, then that system must be locked out.
- The owner of the system is responsible for isolating, depressuring, draining, and purging if combustible materials or hazardous gas, vapour, dust, or fumes exist.
- Where practical, all lines containing hazardous substances shall be disconnected, blanked, or blinded. Where this isolation is not practical, the double block and bleed method may be used with a chain, lock, and tag applied to all valves (confined spaces to be entered by workers must be blinded in all cases).

- The operator or customer supervisor should be the first to install a lock and tag, followed by the workers required to work on the equipment.
- Upon completion of the task, each group must remove the locks. The same person that installed the lock is to remove the lock.

The operations lock is to be the last lock removed.

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9.11 MANUAL LIFTING JOB PROCEDURE/SAFE WORK PRACTICE

SAFE JOB PROCEDURE

Lifting from Floors or Low Elevations:

- The starting position must be comfortable and effective. This position should allow for the back to be straight, bending at the hips and knees are necessary to keep spine erect.
- Position yourself so your body is in contact with or as close as possible to the intended object to be lifted.
- Use palmer grip to hold objects.
- When preparing to lift, tuck chin in and brace spine by tightening the stomach muscles.
- Tense biceps to prevent the load from dragging you forward.
- Once load is secure against your body, lift with the legs by straightening the knees.
- When turning with a load, do not twist, use small steps if needed to turn the body.

Lifting from Above the Shoulders:

- When lifting from above the shoulders, maintain a walking stance and distribute the weight evenly; avoid bending the lower back.

Pushing or Pulling:

- Use the same principles of keeping the spine straight and used body weight to push or pull. Do not use a jerking motion to push or pull a load.
- Whenever possible, use additional help from workers or a mechanical lifting device to move heavy and awkward loads.

Safe Work Practice

Back injuries can be avoided if workers use their legs to lift and not their backs. The most common cause of back injury is caused by workers bending over a load to lift it.



General Rules for Lifting

- While keeping the head high, chin tucked in and back arched, do as professional weight lifters do - keep the back arched when lifting. Keep load close to yourself and stand straight up. Use proper lifting techniques, keep the load close and maintain a wide stance for balance.
- Wear non-slip shoes and when possible, clear your intended path of travel. Remove all hazards.

Top Grade will ensure that a worker who may be exposed to the possibility of musculoskeletal injury is trained in specific measures to eliminate or reduce that possibility. Top Grade will ensure that the training includes:

- Identification of factors that could lead to a musculoskeletal injury, the early signs of symptoms of musculoskeletal injury and their potential health affects, and preventable measures including, where applicable, the use of altered work procedures, mechanical aids, and personal protective equipment.

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9.12 OVER HEAD POWER LINES PROCEDURE/SAFE WORK PRACTICE

Job Procedure

Prior to initiating any activity on the work-site, wherever possible, first identify erect signs and install guards at all overhead power line locations in accordance with the following:

Identify:

Review project drawings and Hazard Assessment highlighting all overhead power line locations and confirm their existence by traveling the pipeline route and noting the actual location of the overhead power line. This should be performed by the project Superintendent.

Erect:

All, including access to leases and right of way, overhead power lines will be identified with a highly visual sign placed approximately seven (7) meters (23 ft) on either side of the overhead power line and in plain view of all equipment traveling either direction under the overhead power line. In addition to sign age, rope guards will be installed on all lease work and ROW work, where overhead power-lines exist.

Install Guards:

A guard consisting of a nonconductive pole on each side of the right-of-way connected by a nonconductive rope will be installed six (6) metres away from and on each side of the overhead power line. Orange or red flagging will be attached to the nonconductive rope for enhanced visibility.

The nonconductive rope will be no closer to the power line than the distances listed below.

- All signs and guards will be installed before work commences and will be maintained throughout the course of construction and will not be removed until construction is complete.
- No part of any lifting device or other equipment being operated around overhead power lines will operate closer than 7 metres of a power line. There may however; be instances that will require project specific planning if a task cannot be executed without working closer than the prescribed 7 metre limit.
- The distances listed below are provided only for information purpose pertaining to the placement of guards
- Top Grade personnel will adhere to the 7 meter minimum clearance.
- Any time equipment that possesses the capability of contacting or entering the arc zone of a power line will, when operating within 10 metres of an energized power line, at all times have a swam per equipped with an air horn and wearing a high visibility vest, constantly monitoring the distance between the power line and the equipment. Should the equipment encroach on the 10 metre minimum distance, the swamper will without hesitation sound the air horn to signal the equipment operator to cease all movement of the machine immediately.
- This action will be discussed prior to executing the task requiring the equipment to be working within the area of the power line (outside of 10 metres).
- Do not park equipment or deck trailers under, or within 30 meters (100') of any overhead power line.
- The safe limit of approach distances apply to a load, equipment or building that is transported under energized overhead power lines when the total height, including truck and equipment is greater than 4.15 meters.

Line Voltage (R.M.S)	Minimum Distance	
	Meters	Feet
150-750 Volts	1.0	3.2
750 volts – 40 kilovolts	3.0	9.8
69 kilovolts – 72 kilovolts	3.5	11.4
138 kilovolts – 144 kilovolts	4.0	13.1
230 kilovolts- 260 kilovolts	5.0	16.4
500 kilovolts	7.0	22.9

Voltage can only be confirmed by contacting the overhead power line owner, DON'T GUESS! If we don't know, err on the side of caution - 7 meters The above clearances apply in all directions, vertical or horizontal.

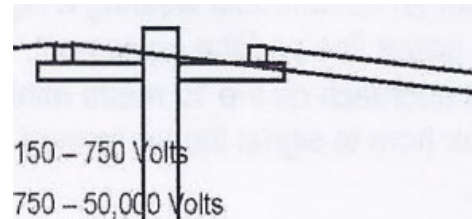
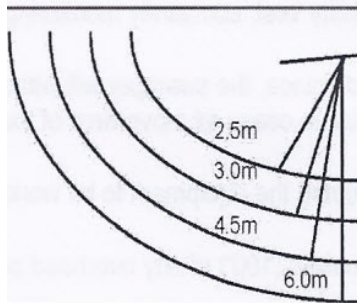
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Safe Work Practice

These guidelines are for the protection and safety of all employees. Contact with a power line is extremely dangerous and could result in serious injury or death.



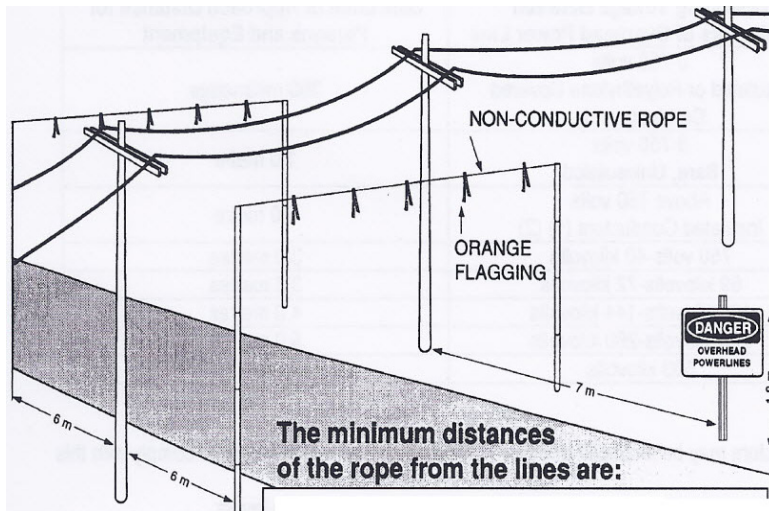
Over 250,000 Volts

- Danger zone (unknown voltage) - equipment will not work within 7 metres (23 feet) of any overhead power line without notifying their superintendent and local power office.
- Local power companies should be consulted to verify specific line voltage, prior to work activity in the vicinity of a power line.
- Prohibited areas of identified voltages:
 - a. No unqualified worker or equipment will approach the prohibited area.
 - b. Any worker within the 7 meter (23 ft) danger zone, but outside the prohibited areas requires an assigned signaller (communicated by radio or air horn).
 - c. Power lines must be de-energized if workers or equipment cannot maintain the prohibited area clearances, unless workers are working under direct supervision of a qualified utility employee. The work may then proceed at the discretion of the qualified utility employee, who will be in attendance supervising the work.
 - d. Work around power lines will be performed only during daylight hours.
 - e. Top Grade will supply and install two approved signs (Danger - Overhead Power lines) at each overhead power line location.
 - f. Signs will be placed 7 m. (23 ft.) either side of the line when operating equipment under the line.
 - g. Signs will be placed 7 m. (23 ft.) from the line on either side of the equipment operating parallel to the line.
 - h. None conductive "goal posts" will be installed on both side of the right of way boundaries, a none conductive rope will be strung between the goal post with a generous amount of high visibility flagging attached to it to enhance visibility. Supervisors must have a copy of the crossing agreement and all on-site personnel must be informed of its requirements.
 - i. A Signalman, wearing a distinctive vest, equipped with an air horn, will be utilized whenever work is performed in close proximity to power lines with equipment having the capability of contacting power lines or entering the arc zone.

50,000 – 250,000 Volts

WARNING: Violation of these guidelines could lead to prosecution or serious injury!

Highly visual signs must be placed approximately 7 meters (23') on either side of the overhead power lines in plain view of those travelling in either direction under the lines.



Government Established Safe Limit of Approach

Line Voltage (RMS)	M	Ft
0-750 V	1.0	(3.2)
750 - 40 Kilovolts	3.0	(9.8)
69 Kilovolts, 72 Kilovolts	3.5	(11.4)
138 Kilovolts, 144 Kilovolts	4.0	(13.1)

Transported loads, equipment and buildings

The safe limit of approach distances listed in Schedule 4 (Alberta) do not apply to a load, equipment or building that is transported under energized overhead power lines if the total height, including equipment transporting it, is less than 4.15 meters. (See OH&S Schedule 4 - Safe Limit of Approach Distances - Alberta)

Operating Voltage Between Conductors of Overhead Power Line	Safe Limit of Approach Distance for Persons and Equipment
0-750 volts Insulated or Polyethylene Covered Conductors (1)	300 millimeters
0-750 volts Bare, Uninsulated	1.0 meter
Above 750 volts Insulated Conductors (1) (2)	1.0 meter
750 volts-40 kilovolts	3.0 meters
69 kilovolts-72 kilovolts	3.5 meters
138 kilovolts-144 kilovolts	4.0 meters
230 kilovolts-260 kilovolts	5.0 meters
500 kilovolts	7.0 meters

* Notes:

1. Conductors may be insulated or covered throughout their entire length to comply with this group.
2. Conductors must be manufactured to rated and tested insulation levels.

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9.13 PILE INSTALLATION WITH HOE PROCEDURE/SAFE WORK PRACTICE

Purpose:

The purpose of this procedure is to provide the information required to safely and efficiently perform the task of pushing a support pile. This will often require the working with heavy equipment near operating facilities and necessitates execution with the utmost caution. In order to reduce the risk of personal injury or property damage the following procedure will be followed.

Personal Protective Equipment:

- CSA approved safety boots, hard-hats, safety glasses, high visibility traffic vest and hearing protection.

Potential Hazards - Conduct JSA Hazard Assessment:

- Pinch points, crushing injuries, electrocution, fire/explosion, flying debris and other damage to property or equipment.

Equipment:

- Tracked excavator equipped with lugging and sufficient hydraulic oil and hydraulic pressure to operate the hoe pack, pile pipe

Procedure:

- Following the completion of electronic sweeping and hydro-vac if necessary, a Safety and Ground Disturbance meeting will be performed and documented to highlight all potential hazards to workers, equipment and property involved in the task as per Top Grade requirements.
- A worker will be designated as the only signaler. This worker will wear a high visibility traffic vest.
- The hoe operator will ensure that all workers involved in the activity understand this procedure prior to beginning with the task.
- All non-essential personnel will be absent from the work area while piles are being pushed.
- Attach the hoe pack to the track hoe; ensure the hoe pack is designed to be operated with the track hoe. Ensure the quick couplers are attached properly and there are no hydraulic leaks. The designated signaler will attach the pile to the hoe bucket using clevis and sling and hold the pile pipe in position. When ready, the signaler will use the predetermined method of communication to signal the hoe operator to place the hoe pack into position.
- The hoe operator will gently, set the hoe pack down, onto the end of the pile pipe and apply enough pressure to push the pile. Once the piling meets refusal, signal the operator to engage the hoe pack, The signaler will move away from the pile to a distance far enough to remove him or herself from any danger. Recommended length of the pile plus 10 feet.
- The signaler will signal the hoe operator to continue pushing the pile.
- The signaler will check to ensure the pile is going in straight. This will be done by signaling the hoe operator to stop the hoe pack and check the pile with a torpedo level. Signal to the hoe operator to make the necessary adjustments, and then continue.
- When the pile is pushed to the intended depth, the task is complete.



- If piling pipe cannot be pushed with the hoe pack work will stop. The hoe operator will move the bucket away from the end of the pipe and the signaler will move the pipe far enough to allow the hoe operator to dig a hole to set the piling pipe into. Once the hole is dug, steps 4 through 8 are repeated.
- If the pile still can't be hoe packed into spot consider getting a pre-drill unit in to pre-drill holes and a pile driver to complete the task.

Under no circumstances will anyone hold pile pipe while the hoe strikes it.

9.14 PILE INSTALLATION WITH A HOE

Purpose:

The purpose of this procedure is to provide the information required to safely and efficiently perform the task of pushing a support pile. This will often require the working with heavy equipment near operating facilities and necessitates execution with the utmost caution. In order to reduce the risk of personal injury or property damage the following procedure will be followed.

Personal Protective Equipment:

- C.S.A. approved safety boots, hard-hats, safety glasses, high visibility traffic vest and hearing protection.

Potential Hazards - Conduct JSA Hazard Assessment:

- Pinch points, crushing injuries, electrocution, fire/explosion, flying debris and other damage to property or equipment.

Equipment:

- Tracked or rubber tire excavator, pile pipe

Procedure:

Following the completion of electronic sweeping and hydro-vac if necessary, a Safety and Ground Disturbance meeting will be performed and documented to highlight all potential hazards to workers, equipment and property involved in the task as per Big Country/Patch

Point requirements:

- A worker will be designated as the only signaler. This worker will wear a high visibility traffic vest.
- The hoe operator will ensure that all workers involved in the activity understand this procedure prior to beginning with the task.
- All non-essential personnel will be absent from the work area while piles are being pushed.
- The designated signaler will raise and hold the pile pipe in position. When ready, the signaler will use the predetermined method of communication to signal the hoe operator to place the hoe bucket into position.
- The hoe operator will gently, set the hoe bucket down, onto the end of the pile pipe and apply enough pressure to push the pile. Once the piling is far enough into the ground to support itself, the Signaler will signal the hoe operator to stop pushing the pile.

- The signaler will move away from the pile to a distance far enough to remove him or herself from any danger.
- The signaler will signal the hoe operator to continue pushing the pile. When the pile is pushed to the intended depth, the task is complete.

If piling pipe cannot be pushed into the ground without hitting the pipe with the hoe bucket, work will stop. The hoe operator will move the bucket away from the end of the pipe and the signaler will move the pipe far enough to allow the hoe operator to dig a hole to set the piling pipe into. Once the hole is dug, steps 4 through 8 are repeated.

Under no circumstances will anyone hold pile pipe while the hoe strikes it.

Piles are to be moved into position utilizing tag lines.

In some circumstances, pilot holes may be required to start the piling.

Responsibilities:

Supervisor/Foremen

- Ensure a Safety and Ground Disturbance meeting is properly performed and documented.
- Ensure all hazards are identified and workers understand how to safely perform the task.
- Ensure all proper materials, equipment and workers are on site before beginning to push piles.
- Ensure hoe operators do not pound or strike piles with equipment.
- Workers
- Follow this job procedure and ask supervisors to answer all questions they have pertaining to this task.

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9.15 USE OF TIGER TORCHES PROCEDURE/SAFE WORK PRACTICE

Introduction:

Propane is commonly used to fuel household appliances, such as fridges, stoves, furnaces and outdoor equipment such as barbeques, portable heaters and appliances in recreational vehicles (RV). When used with care, propane is a safe, clean, inexpensive and energy efficient fuel, but it doesn't take much to create a hazardous situation in an enclosed space.

General Use Of Propane And Tiger Torches:

- Propane is a WHMIS controlled and TDG regulated product. Training will be provided to those handling or shipping the product.
- All use, storage and shipping of this product at the work-site will comply with the Government Legislation referring to its safe use, etc.
- Suppliers delivering the product to the yard, shop or work-site will follow this safe work practice.
- Nylon slings will be used in a “choker” fashion when loading, off-loading, or lifting large propane cylinders.
- “Lifting lugs” provided on tanks are not to be used. Slings are to be wrapped around and tightened against the shell of the cylinder.
- Cylinder, regulators assemblies are to be removed from the cylinder valve prior to any moving of the cylinder.
- Use only the proper tools for connecting any hoses or appliances to the cylinders.
- Propane cylinders require hydro-testing every ten years, recert if not damaged, dates are stamped on cylinders.
- Mercaptan is an additive in propane that provides the distinct odor to propane. Should any such odor be detected, investigate or report it immediately.
- Except in an emergency, a competent worker will perform any movement or repositioning of cylinders.
- Cylinders will not to be heated to increase flow.
- Propane cylinders are to be securely held in an upright position.
- Without exception, cylinders will not be used without proper regulators in place.
- Propane cylinders will have proper WHMIS labels.
- Do not expose propane cylinders to sources of ignition.
- Propane cylinders shall not be used in trenches or bell holes. Propane hoses of sufficient length shall be used to keep the propane cylinder in an open atmosphere and reduce the hazard of propane accumulating in low areas.
- Regulators will be removed from cylinders prior to transporting.
- Personal Protective Equipment shall be used when handling propane (safety glasses, gloves, and long sleeved garments). Propane under pressure is extremely cold and may cause frost bite.
- Ensure the adequate fire protection equipment that is suitable for use on propane fires shall be available in the vicinity of the propane equipment being used, and workers shall be trained in the use of this fire suppression equipment.

Use Of Tiger Torches

- Tiger torches possess the capability of causing serious burns or igniting fires. They will be used with caution.
- Tiger torches are used for sleeve shrinking, preheating of piping, etc. prior to welding.
- When a torch is used, an adequate fire extinguisher will be present.

- Torches are not be used for the heating of work areas or thawing of lines and equipment.
- Ensure that the propane cylinders valves are closed when not in use.
- Without exception, propane supply lines are to be equipped with regulators.
- Propane cylinders will be secured in an upright position.
- Torches will not to be used for the heating of propane cylinders in cold temperature.
- Propane cylinders will have proper WHMIS labels.
- When using tiger torches, be aware at all times of the direction in which the flame is pointed.
- Exercise caution when using tiger torches in the presence of other workers.
- Use only a striker to ignite propane, never use matches or lighters.
- Regulators will be removed from cylinders prior to transporting.

Remember that Propane is heavier than air and will collect in low areas such as trenches, pits, and basements where it can create a flammable or explosive situation.

For further information, refer to current OH&S Regulations.

9.16 TIE-DOWN STRAPS/WINCHEs PROCEDURE/SAFE WORK PRACTICE

Task/Scope:

- Loading and unloading of pipe/materials from transport trailers - procedure for the use of tie down straps/winch tool when securing and loosening a load.
- This procedure applies to all BCES/Patch Point employees, and their contractors, subcontractors, and vendors.

Purpose:

To ensure the pipe /load is secured in a safe manner.

Definitions:

- Tie Downs - nylon straps used for load securement with load rating visible. Straps must be proper load rating for the material handled. Damaged or badly worn straps will be removed from service.
- Winch Bar - Engineered / approved tool inserted into the ratchet winch cap to tighten/loosen tie downs.

JOB PROCEDURE

Personal Protective Equipment:

- Safety boots, gloves, hard hats, safety glasses, high visibility traffic vest and hearing protection.

Note. Ensure that gloves are clean / dry, and fit properly. Ensure footwear is approved and has good grip.

Equipment:

Winch bar, tie down straps

On-Site Hazard Assessment:

- Conduct a JSA I hazard assessment / Stop & Think card (overhead power lines, uneven ground surface, load movement/shifting etc.

Warnings & Precautions:

Warnings. Performing this task improperly could result in:

- Death or Serious Injury
- Personal Injury or Injury to Others
- Shock or electrocution
- Damage to materials
- Damage to equipment
- Disciplinary action
- Fines or penalties

Precautions:

To prevent danger and avoid errors do the following before performing this task.

- Carefully inspect all equipment
- Personal protective equipment to be worn at all times
- Strictly follow all safety guidelines
- Remain out of the line of fire
- Trailer is on level loading/unloading area
- Use of safety equipment

Procedure to Tension Winch:

- Ensure tie-down is properly anchored.
- Rotate winch cap to take up slack from tie-down strap.
- Position body to the side of winch bar within view of winch pawl I dog. Ensure feet are firmly placed evenly on the ground. Do Not reach or lean across winch bar at any time during operation.
- Insert tapered bar end through both winch cap holes. Ensure that you have a firm grip/hold of the winch bar.
- Slowly pull the winch bar toward you in a downward motion. Be mindful of the stored energy within each loaded tie down strap.
- Make sure that winch pawl I dog is fully engaged in winch sprocket teeth before releasing winch bar.
- Once pressure is off the bar, slowly remove it from the assembly.

Be cautious, stand clear of the pipe load or product fall lone, and have an escape route should the load fall. Never put yourself in the danger zone/line of fire.

Procedure to Release Winch:

1. Ensure cargo is stable, as load may shift during transport.
2. Position body to the side of the winch bar within view of the winch pawl/ dog. Ensure feet are firmly placed evenly on the ground. Do Not reach or lean across winch bar at any time during operation.
3. Insert tapered bar end through both winch cap holes.
4. Ensure you have a tight grip on the winch bar.
5. Tension the winch bar to allow for release of the winch pawl/ dog. Slowly let the bar up under control and re-engage the winch pawl I dog allowing the ratchet system to lock. Do not allow winch bar to strike cargo. Do not remove the winch bar at any time unless you have verified the ratchet winch has locked.
6. Repeat this step until there is no more tension on the winch.

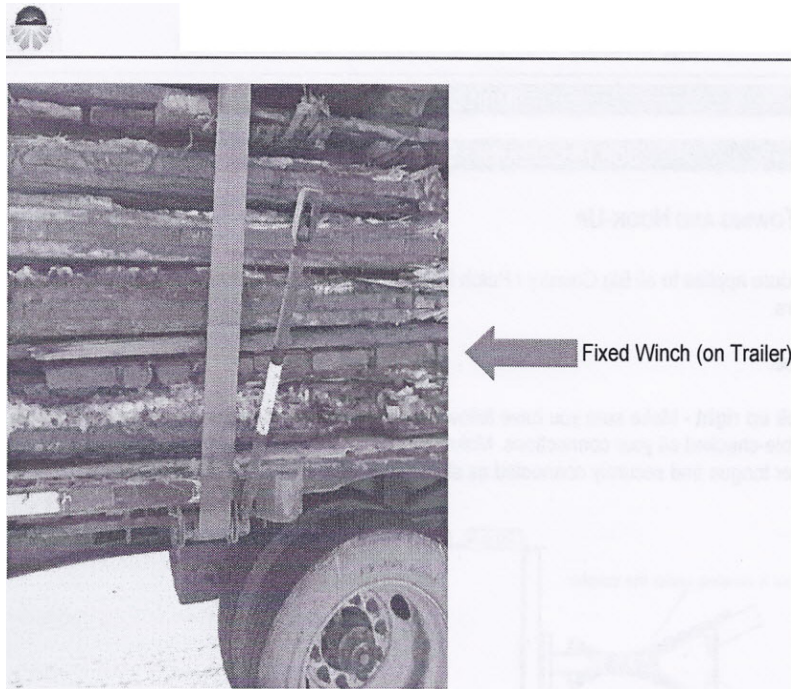
Cautions:

- Failure to follow the manufacturer's instructions may result in injury.
- Check winch bar and winch for defects and proper operation prior to tensioning or releasing tie down. Do not use if damaged.
- Only use a manufacturer approved winch bar for a winch ratchet.
- Use proper body position and hand grip to ensure safe tensioning and release of tie down.
- Ensure both feet remain firmly on the ground to maintain stability.
- Ensure gloves are clean, dry, and fitted to prevent the winch bar from slipping out of your hands.
- Do not alter or increase the length of the winch bar. Do not use a snipe on the winch bar.
- When tightening the straps, the winch bar must be between the worker's shoulder and waist.
- When loosening the straps, the bar should start at the workers waist and travel no higher than the shoulders.
- Ensure tie down is properly anchored prior to tensioning.
- Confirm winch pawl/ dog is in proper working order/proper engagement position.
- Move handle with caution and keep body clear of moving handle.
- The bar is intended to be used only in a position angled downward from the pivot point. This will prevent the bar from slipping out of the winch cap, or rotating and striking the worker.

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SAFE WORK PRACTICE

Tightening of Load Tie Downs:

1. Ensure load is secure.
 - Visually check that the bottom pipe I load sections are properly seated in cradles, and the above sections are properly nested prior to placing tie down straps.
2. Attachment of tie down straps.
 - a. Toss strap over load holding onto the ring of the strap. Note: Prior to tossing strap, ensure non-essential workers out of danger area & worker tossing strap communicates verbally “coming over” & acknowledged by worker on the other side “okay”. Worker tossing strap also visually checks when possible between the load and the trailer prior to tossing.
 - b. Attach O-ring to the tie down lug on the trailer.
 - c. Go to the opposite side of the trailer and align belt with the ratchet assembly.
 - d. Check O-ring and lug for proper placement.
 - e. Insert tapered bar end through both winch cap holes. Ensure that you have a firm grip/hold of the winch bar.
 - f. Slowly pull the winch bar toward you in a downward motion. Be mindful of the stored energy within each loaded tie down strap.
 - g. Make sure that winch pawl I dog is fully engaged in winch sprocket teeth before releasing winch bar.
 - h. Repeat steps e. through g. to fully tighten the strap.

Note: If the winch bar is not securely seated and firmly held, it may become loose causing injury. The bar is intended to be used only in a position angled downward from the pivot point. This will prevent the bar from slipping out of the winch cap, or rotating and striking the worker.

Be cautious, stand clear of the pipe / load fall lone, and have an escape route should the load fall. Never put yourself in the danger lone/line of fire.

Loosening/Removing of Tie Down Straps:

1. Ensure load is secure as it may shift during transport.
 - a. Visually check that the bottom pipe sections are properly seated in cradles and the above sections are properly nested prior to releasing tie down straps.
 - b. Ensure all other loads are visually secure.
2. Removal of tie down straps.
 - a. Position body to the side of the winch bar within view of the winch pawl/dog. Ensure feet are firmly placed evenly on the ground. Do Not reach or lean across winch bar at any time during operation.
 - b. Insert tapered bar end through both winch cap holes.
 - c. Tension the winch bar to allow for release of the winch pawl/dog. Slowly let the bar up under control and re-engage the winch pawl. Repeat this step until there is no more tension on the winch.

Note: If the winch bar is not securely seated and firmly held, it may become loose causing injury. The bar is intended to be used only in a position angled downward from the pivot point. This will prevent the bar from slipping out of the winch cap, or rotating and striking the worker.

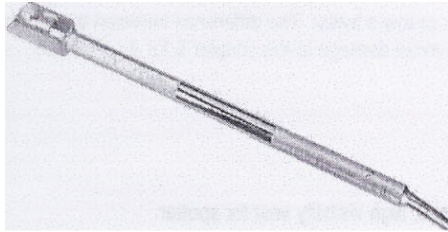
- d. Unhook the strap and remove the strap from the trailer.

NOTE: THIS PROCEDURE IS TO SERVE AS A GENERAL INSTRUCTIONAL GUIDE FOR PERFORMING A TASK AND MAY NOT APPLY AT LOCATIONS.

EACH SITE SHOULD BE RECOGNIZED AS AN INDIVIDUAL, TAKING INTO CONSIDERATION THE FINDINGS OF THE PROJECT JSA HAZARD IDENTIFICATION ASSESSMENT.

Please refer to the applicable OH&S regulations for the region in which you are working.

Winch Tool/Ratchet Bar



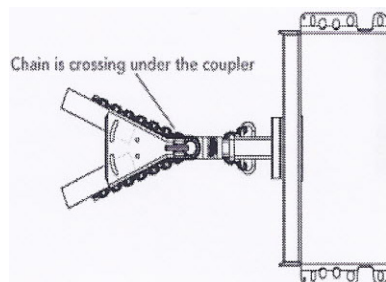
9.17 TRAILER TOWING AND HOOK-UP PROCEDURE/SAFE WORK PRACTICE

Trailer Towing And Hook-Up

This procedure applies to all Big Country I Patch Point employees, their contractors, subcontractors, and vendors.

Task/Scope:

Hook up right - Make sure you have followed the procedure for hooking up your trailer and double-checked all your connections. Make sure your safety chains are crossed under the trailer tongue and securely connected as shown in Figure 11-1.



Purpose:

- To ensure the trailer ball and vehicle hitch is secured in a safe manner.

Note: Never ever use a mismatched ball & coupler to tow a trailer. The difference between a 1 1/2 inch ball & a 2 inch ball is only 1/2 inch, but it's critical to avoid damage to the coupler & for a solid hitch connection.

JOB PROCEDURE

Personal Protective Equipment:

- Safety boots, gloves, hard hats, safety glasses, high visibility vest for spotter.

Note: Ensure that gloves are clean / dry, and fit properly.

Equipment:

- Match vehicle hitch to trailer being pulled
- Match size ball on vehicle to same size trailer hitch

On-Site Hazard Assessment:

Conduct an on-site hazard assessment (overhead power lines, uneven ground surface, load movement/shifting etc.

Warnings & Precautions:

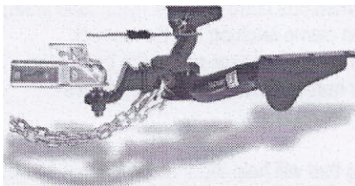
Warnings: Performing this task improperly could result in:

- Death or Serious Injury
- Personal Injury or Injury to Others
- Shock or electrocution
- Damage to materials
- Damage to equipment
- Disciplinary action
- Fines or penalties

Precautions:

To prevent danger and avoid errors do the following before performing this task:

- Carefully inspect all equipment
- Personal protective equipment to be worn at all times
- Strictly follow all safety guidelines
- Take a safety position
- Trailer is on level loading/unloading area
- Use of safety equipment

Procedural Instructions - Properly Connected Weight Carrying Hitch

1. Driver request for spotter.
2. Check the top of the receiver for the size of ball required for the hitch you will be using.
3. Make sure that your coupler clamp lock is down and the release latch has hooked securely. Install a coupler safety pin or coupler lock if you have one. At minimum, make sure you use a coupler pin to keep the coupler lever from accidentally popping open

4. Check the hitch pin that holds your ball mount in the hitch receiver. You need a hitch pin clip in good condition or use a hitch pin lock to hold the ball mount in place. Makeshift retainers are not safe.
5. Extend the trailer jack until the weight is transferred off of the vehicles suspension onto the Jack to ensure proper ball size has been used and the ball and hitch are properly secured. If this is not the case the hitch will lift from the ball at this time. After completing the connection check completely stow or remove the trailer tongue jack.
6. Attach your safety chains, crossing them under the trailer coupler. This helps to ensure that the coupler falls onto the crossed chains in the event of a breakaway.
7. Connect your trailer light wiring to your vehicle's connector and check all of your lights, including the brake lights.
8. Driver to complete final walk around and load securement check.
9. Driver to ensure that he has the ability to back trailer to a secure loading area.
10. Driver to ensure blocking of tires and disconnection of trailer.

Hooking Up Procedure - Gooseneck Or Fifth Wheel

- If you are hooking up a Gooseneck or a fifth wheel hitch, the procedure is a little different from a receiver and ball, but it is not more difficult.
- Lower the tailgate of the truck and make sure that your coupler is high enough to clear the lowered tail gate and bed of your truck and the height of your gooseneck ball or fifth wheel hitch. With a fifth wheel, grease the plates (you can also, and sometimes need to use a nylon lube plate) and then open the jaws. If you have a gooseneck, open the clamp latch on the Gooseneck coupler. This would be an excellent time to make sure that the Gooseneck ball in the bed of the truck is properly lubricated. Nothing will bother you or your horses more than the obnoxious squeaking of an un-lubricated ball.
- If you have a fifth wheel, the hitch has a V-shaped opening that will help the trailer's kingpin find its way into the hitch. When the trailer has seated in the fifth wheel, the hitch snaps closed and your trailer is attached. With a Gooseneck, you must position the trailer's coupler directly over the ball
- In the bed of your truck and lower the Gooseneck trailer into position and latch the clamp.
- Attach your safety chains. These attach in the vicinity of either kind of hitch. Remember that all trailers are required by law to have safety chains.
- Connect your trailer light wiring to your vehicle's connector and check all of your lights,
- Completely lower and stow the trailer jacks, allowing the weight to settle onto the tow vehicle.





10.0 TRAINING POLICY

It is Top Grade Construction policy to provide for general and specialized safety and related training throughout all levels of the organization.

Top Grade Construction Ltd. will provide and employees will participate in all safety and related training that is necessary to minimize losses of human and physical resources of the company:

The company will provide the following training programs:

- New Employee Orientations
- Job-specific training
- Leadership for Safety Excellence safety training for supervisors/foremen and management
- Task and trade specific training and certifications
- Specialized safety and related training.
 - CSTS
 - Refresher and update training
 - TDG
 - WHMIS

In addition, safety meetings involving all employees, management and supervisors/foremen will be held on a regular basis.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

10.1 NEW EMPLOYEE ORIENTATION

All new employees are required to go through Top Grade Construction Ltd . orientation package and the following prior to working on any site.

- New Employee Orientation
- New hire package
- Equipment videos
- On-site equipment orientation Field
- On-site orientation main yard
- On the job training for equipment and job tasks being operated or performed

Worker Competency must be demonstrated . A competent worker means adequately qualified , suitably trained and has sufficient experience to safely perform work without supervision or with only a minimal degree of supervision . Work that is dangerous must be completed by a worker competent to do the task, or that is working under the direct supervision of a worker that is competent to do the work All workers must be trained in procedures until they are competent.

Employee must supply a copy of the following course certificates to be placed in personnel file

- Valid Standard (or higher) First Aid & CPR Certificate (provided by an approved training agency such as St. John's Ambulance or Canadian Red Cross)
- Valid H2S Alive Certificate (provided by an approved training agency such as Enform or PITS) (exception will only be office staff, as they work in a non H2S environment)
- Valid Ground Disturbance Level II Certificate (provided by an approved training agency such as Global Training) (exceptions can be made if operating equipment that does not disturb or penetrate the ground, i.e. truck drivers, office staff)
- Valid CSTS or PST Certificate (course will be available in-house if required)
- Valid TDG Certificate (must be completed in-house with our company)
- Valid WHMIS Certificate (must be completed in-house with our company)

10.2 SHORT SERVICE WORKER

The objective of Top Grade Construction Ltd. Short Service Worker policy is to identify, adequately supervise and ensure that all new employees are assigned tasks that they can perform in a safe manner.

Top Grade Construction considers a Short Service Worker as any one of the following;

- Any individual performing a task which is new to them;
- Any individual modifying a common task for a different outcome ;
- Any individual that has not been an employee of Top Grade Construction for a period of at least three (3) months.
- Any short service employee will be identified by wearing a hard hat sticker that is company specific to Top Grade Construction and specifies (SSE). Short Service Employees may not work alone. A work crew of less than 5 employees may not have more than one short service employee.



Prior to the start of the work day, Top Grade Construction supervisor must notify the client of any short service employees that are present on the work site.

Top Grade Construction will provide a mentoring system to provide guidance to short service employees and sub- contractors to assist with their development. The mentor may only be assigned to one crew that includes short service employees and this mentor must remain on location at all times.

Top Grade Construction designated site supervisor will ensure that all on-site Short Service Workers are identified to all other personnel during the pre-job tailgate meeting. This will also be documented on the pre-job meeting signing form by marking all Short Service Workers with the "SSW" designation behind their printed names. Additionally , the site supervisor will ensure that all activities of on-site Short Service Workers are adequately monitored. Foreman will review hazards with Short Service Worker returning to work where hazards in workplace have changed during employee's absence or affected by a change in the hazards in each workplace.

Sub contractors providing services to Top Grade Construction must manage their short service employees in accordance with the requirements of the short service employee program.

10.3 JOB COMPETENCY

Top Grade Construction has and will continue to maintain a list of job titles and roles within the company. Each job title within the company has a detailed list of minimum qualifications that are required to perform each role. These minimum requirements consist of both education and work experience.

It is the responsibility of Top Grade Construction's management to obtain documentation from all workers as proof that they have the required qualifications to perform their job duties. This program will be monitored by the health and safety department of the company.

Job specific training will be provided for new or transferred employees. All employees must be trained on the tasks they perform on a regular basis. A competent person (supervisor, lead hand) must verify that an employee is competent to perform their roles and responsibilities before being allowed to work independently.

10.4 ON-THE-JOB MENTORSHIP TRAINING

On-the-job training is an important part of any ongoing job skills training. It provides hands-on experience in proper work procedures of each job and helps ensure employees/contractors are competent to do their work. In addition, it can be used as refresher training.

On-the-job mentorship training should be provided to all workers new to the job or worksite. It should also be conducted when work procedures or requirements are changed. On-the-job mentorship training can be used to demonstrate, for example, new or revised safety requirements, new or remodeled equipment or new processes or methods.

All employees being mentored will be working closely with qualified competent workers till such time that the qualified worker deems the mentored employee is competent themselves to conduct job with minimal supervision. Mentored employee must pass the mentorship training checklist, and have foreman/supervisor conduct an operator's competency on them before they are deemed competent themselves.

Employees/contractors familiar with the worksite and competent in the particular job for which they are providing training should conduct training. Workers receiving the training benefit from the trainer's knowledge of the details of the job and the worksite. The training process also helps the trainer reinforce his or her own knowledge.

The jobs with highest priority for training are those:

1. with serious hazards;
2. that is done frequently;
3. Where there is high staff turnover; and
4. Where accidents frequently occur.

Supervisors will document on-the-job training. All records will be kept in the employees file in Top Grade Office.

10.5 ADVANCEMENT IN COMPANY

Advancement opportunities for Top Grade Construction are implemented based on the following criteria:

Labours:

1. Labour work will be the starting position for workers who have been hired with little to no experience.
2. Labours will join the mentorship training program to learn the required skills which will allow for advancement within the company.
3. Upon evaluation of the worker by their supervisor, the supervisor may then introduce the worker into the use of small equipment (skid steer, packer..) which can and will lead to the heavy equipment operator position.

Heavy Equipment Operators:

1. Employee has received on the job training and proves competent on the specific tasks associated with the job.
2. An equipment operator has the ability to advance into a supervisory role. For this advancement to take place the operator must undergo evaluation from senior management. Management will determine if the worker has the skill set required to successfully supervise their own crew.
3. Supervisor must also have completed supervisor course (leadership for safety excellence) along with additional training based on client requirements.

Top Grade provides all workers with the equal opportunity for advancement in the company and also recognizes the importance of worker training to increase the knowledge of our workforce.



10.6 ON-THE-JOB MENTORSHIP TRAINING PROGRAM CHECKLIST



On-the Job Mentorship Training Program Checklist

- | | |
|--|---|
| <p>1. Prioritize on-the-job training needs:
 List all jobs for each worksite _____
 Identify most hazardous jobs _____
 Identify most important jobs _____
 Finalize list of jobs needing on-the-job training _____</p> | <p>5. Observe worker doing the job for the first time:
 review procedure _____
 review tools _____
 review critical tasks _____
 review hazards _____
 observe and coach _____
 discuss observations with workers _____</p> |
| <p>2. Develop standards for each job:
 Determine regulatory requirements _____
 Check manufacturer's standard/industry Practices _____
 Set up time frame to perform the job _____</p> | <p>6. Coach and train as needed:
 test progress with questions _____
 perform critical point checks _____
 conduct interview _____</p> |
| <p>3. Develop procedures:
 Include job standards & critical tasks _____
 List tools required _____
 List special abilities required _____
 List job steps _____
 Identify hazard points _____
 Choose critical checkpoints _____
 Schedule testing of critical checkpoints _____</p> | <p>7. Observe worker doing the job independently:
 allow minor errors _____
 stop only if critical _____
 review, reinforce, & evaluate _____
 correct minor errors _____</p> |
| <p>4. Demonstrate job to worker:
 Lay out procedure _____
 Layout tools _____
 Explain procedure _____
 Explain hazards _____
 Explain as you perform work _____
 Respond to questions _____
 Test worker _____
 Prepare report _____</p> | <p>8. Set schedule for review:
 follow-up commitment _____
 Spot check _____
 set performance objectives _____</p> <p>9. Continue communication:
 communicate effectively _____</p> |

Name: _____ **Position:** _____

Date: _____ **Evaluator:** _____



10.7 TOP GRADE CONSTRUCTION TRAINING REQUIREMENTS

Classification	Company TDG/WHMIS		Standard First Aid		H2S Alive		Ground Disturbance Level 2		Leadership for Safety Excellence		CSTS/PSTS or Equivalent (Client Specific)	
PROVIDER	Top Grade Construction		St. John Ambulance/Red Cross		Enform		Global/eCompliance		ACSA		ACSA	
	Mandatory Yes/No	Date	Mandatory Yes/No	Date	Mandatory Yes/No	Date	Mandatory Yes/No	Date	Mandatory Yes/No	Date	Mandatory Yes/No	Date
CEO	Yes		Yes		Yes		Yes		Yes		Yes	
Project Manager	Yes		Yes		Yes		Yes		Yes		Yes	
HR/Office Manager	Yes		No		No		No		Yes		No	
Operations Manager	Yes		Yes		Yes		No		Yes		No	
Accounts Receivable	Yes		No		No		No		No		No	
Accounts Payable	Yes		No		No		No		No		No	
Safety Manager	Yes		Yes		Yes		Yes		Yes		Yes	
Shop Mechanics	Yes		Yes		Yes		No		No		No	
Field Mechanics	Yes		Yes		Yes		No		No		No	
Shop Laborers	Yes		Yes		Yes		No		No		No	
Welder	Yes		Yes		Yes		No		No		No	
Field Foreman	Yes		Yes		Yes		Yes		Yes		Yes	
Operators	Yes		Yes		Yes		Yes		No		Yes	
Field Laborers	Yes		Yes		Yes		No		No		Yes	
Truck Drivers	Yes		Yes		Yes		No		No		No	

11.0 EMERGENCY RESPONSE PROCEDURES

(Emergency Response Coordinator and Emergency Response Team Leader's detailed emergency response procedures are located in the company's Emergency Response Manual).

The company's emergency response planning process will ensure a timely and appropriate response to any emergency situation and is designed to protect people from further injury and property from further damage.

11.1 ACCIDENTS

The following are the procedures to follow if an accident occurs (in order):

- Protect Life/Property/Environment.
- Eliminate all sources of ignition.
- Take care of the injured.
- Protect the environment.
- Notify your Supervisor, and call the police, 911 (in most areas) if required.
- Environment or disaster services representatives will appear in case of a real or potential product spill or leak.
- Fill in the accident report located in the Accident Kit.
- Get witnesses, write the witnesses' names and addressees on the form in the Accident Kit. If you can't get names and addresses take down license numbers.
- Take pictures at the scene. Follow instructions in the accident kit.

11.2 FIRST AID SERVICES

- First aid services are readily available and accessible during all working hours to the workers.
- The first aid supplies are stored in metal or plastic first aid boxes or red nylon waterproof first aid bags clearly marked with first aid. These containers provide a material that protects the contents from the environment, maintains the contents in a clean, dry and serviceable condition, and clearly identifies them as first aid equipment and supplies.
- Supplies are inspected annually and/or replaced as accidents/incidents occur and are reported.
- First Aid kits are also inspected at random during site inspections.

Location of first aid supplies:

- In the field and/or on the road – first aid kits are located in the cab of all company and subcontractor trucks.
- Site office trailers – first aid kits are hung on the wall.
- Shop – first aid kit locations are identified with signs.
- Office – the first aid kit is located in the coffee room.

Record of first aid providers

- All workers are required to have a valid First Aid & CPR certificate (provided by an approved training agency such as St. John's Ambulance or Canadian Red Cross) while working on site.

Retention of Records – all first aid related records will be kept on file for a minimum of 3 years.

11.3 SPILLS OR LEAKS

Spills or leaks can occur with our own equipment as well as with contractors working on our sites. If a spill or leak occurs take these steps:

- Stop unloading immediately.
- Shut off truck pumps in use and/or close all applicable valves.
- Eliminate all sources of ignition.
- Protect the environment. Try to contain the spill if it is outside a berm. Protect manhole covers. Ensure no product reaches a waterway.
- Check the berm wall for leaks and plug if necessary if spill is inside a bermed area.
- Contact your Supervisor immediately for further instructions. Supervisor will make required contacts.
- Keep unauthorized traffic away.
- Spill kits are available on all vehicles.
- Stay at the scene until all necessary procedures have been completed.

11.4 FIRES

In the event of a fire, the primary consideration must be for the safety of all personnel. Only if a fire can be fought without posing a danger to personnel should that be done. When fighting fires, first ensure that the source of the fire is eliminated and all personnel are safe, and then proceed with the appropriate method of extinguishing it.

11.5 GROUND COVER FIRE FIGHTING PRACTICES

Theory:

All fires are the result of a chemical process that occurs when a fuel becomes surrounded with adequate heat and air. Fires cannot burn without fuel, heat and air. There must be enough heat to start the fire and there must be enough generated to keep it burning. Once a ground cover fire starts, burning is generally rapid and continuous.

Burning Characteristics are effected by the time of day:

From 10AM to 6PM:	Fire burns intensely; difficult to control.
From 6PM to 4PM:	Fire slows down gradually; becomes easier to control.
From 4AM to 6AM:	Fire is at it's lowest ebb; easy to control.
From 6AM to 10AM:	Fire speeds; becomes more difficult to control.



Prairie Fire Characteristics:

Flame Height: Up to several feet
Spot Fires: Up to 1000 feet ahead of the fire.
Smoke Height: Up to several thousand feet.

Important facts about ground cover fires:

- Fire travels faster up hill than on flat land or downhill
- If the fire becomes “too big”, “too hot” or “too fast” immediately move to a safe secure area.
- If you feel that you might not be able to suppress the fire, call in the professional firefighters immediately.
- Contact the local fire department to help assist in coordinating our needs regarding ground cover fires.

Ten key safety points to “ground cover fire fighting”:

1. Keep informed of fire weather conditions and local forecasts.
2. As the person in charge know what your fire is doing at all times and send scouts out to locate any “hot spots” ahead of the fire.
3. Base all actions on the current and expected behavior of the fire.
4. Have escape routes for everyone and make them known to your workers.
5. Post a lookout when there is the possibility of danger.
6. Be alert, keep calm, think clearly and act decisively.
7. Maintain communications with all personnel on location and check with them on a regular basis.
8. When you give instructions make sure they are followed and understood.
9. Maintain control of the work site at all times.
10. Fight the fire aggressively, but KEEP SAFETY FIRST AND FOREMOST.

Personal survival techniques:

- Never try to out run an advancing fire front. The excessive heat and smoke will quickly drain your energy to the point of taking unnecessary risks or using poor judgment.
- If you have to run into an advancing fire front to get into the burned area as the last possible means of survival, cover your mouth, hold your breath and protect your face. A seared lung could well result in certain death.
- If you are in a vehicle over run by a rapidly advancing ground fire, close all windows and vents and stay inside the vehicle until the fire passes.
- The burned out areas are safer than unburned areas.
- When planes are prepared to drop retardants on the fire site, get outside the drop area. If you are caught in the drop area,
 - Lay face down
 - Put your hardhat on the side of your head toward the plane.
 - Place hand tools behind you or downhill from you.

Burn out. If unable to enter the burned area, ignite grass and other fine fuels between you and the fire's edge. Step into this burned area and cover up as much of your exposed skin as possible. This action will not be effective in heavier fuels that burn for a long time.

Lie prone. In an emergency, lie flat with head down, on an area that will not burn. Your chances of survival are greater in this position than if you are overtaken by fire when standing upright or kneeling.

Regulate breathing. To avoid inhaling dense smoke, take shallow, slow breathes close to the ground.

Fire Suppression Methods:

Generally speaking the advancing edge of a ground cover fire is the best place for suppression. This statement is based upon the well-known rule, "stop the fire where the flame meets the fuel. This can be accomplished with hand tools, water and the use of heavy equipment.

Line construction is the act of constructing a line around the perimeter of a ground cover fire whether it is done with heavy equipment or with firefighters and hand tools. The object is to remove fuel from the fires edge in order to stop the combustion process. The construction line should tie in or connect with adjoining lines, roads, fire breaks, trails or natural barriers.

Important steps to assist in suppression

- Remove all ground cover and debris along the line
- Clean fire line down to bare mineral soil.
- The fire should not be less than 45 cm (18 in.)
- Throw burning materials back into the burn.
- Scatter all cut and unburned fuels
- An under cut line is a trench cut into a hill that can catch burning materials rolling downhill. It is important that burning materials are contained and not allowed to roll free.

Using heavy equipment to build fire breaks

Heavy equipment (dozers and graders), will operate parallel to the fire keeping in mind that they have no fire extinguishing capabilities and can be easily run over by a fast moving fire. The use of two pieces of heavy equipment is the most effective method of constructing a fire break. The first unit will break the trail and the second unit will clean up and increase the width of the fire break. In the event of emanate danger to the operator or operator's they are to be moved to a safe area immediately.

Mopping up a burned out area.

Mopping up of a fire is not usually assigned as a specific responsibility until the forward progress of the fire has been controlled. The following points will be of assistance during mop up operations.

- Feel for hot spots using your bare hands.
- Cut off roots that may go under the fire line.
- Keep fire lines clean and down to mineral soils.
- Remove fuel to a safe distance (brush, logs etc.)
- Expose bottom surface of logs for hidden fires.
- Be sure to check completely around the edge, head and flank of the burn.

FIRE AND MEDICAL EMERGENCIES

Call (refer to phone number obtained from foreman at Tailgate meeting in morning)



11.6 MEDIA GUIDELINES

Don't discuss the accident or incident with anyone except the police and authorized company staff.
Don't make assumptions; supply only the facts to authorized personnel. Refer all media to management.

11.7 INVESTIGATION POLICY

The purpose of this policy is to investigate incidents so that cause can be determined and corrective actions can be implemented to prevent recurrence.

In this company, the following types of incidents shall be fully investigated:

- Accidents that result in injuries requiring medical aid;
- Accidents that cause property damage or interrupt operation with potential loss exceeding \$1000.00;
- Incidents that have the potential to result in 1 or 2 of the above;
- All incidents that, by regulation, must be reported to O.H. & S, WCB or other regulatory agencies.

All employees shall report all incidents to their immediate supervisor.

Supervisors shall conduct initial investigations and submit their reports to their superintendent promptly.

Superintendents shall determine the need for and, if necessary, direct detailed investigations. They shall also determine causes, recommend corrective action, and report to the management.

The management shall review all superintendents reports, determine corrective action to be taken, and ensure that such action is implemented.

The HS&E department will track and trend all incidents on a monthly bases. The safety statistics will be made available to any client and worker should they request them.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

11.8 COMPLETING EMPLOYEE STATEMENTS

Accidents/Incidents:

All individuals involved in an incident must complete an Employee Statement as soon as possible after the incident. This statement should include all aspects of the incident describing the who, what, where, when, why and how of the event to aid in the investigation and resolution.

Your Supervisor will work with you and make sure you have written down all the necessary information.

Injuries on the job:

All work-related injuries must be reported immediately. All injuries requiring medical attention will be investigated. Ensure you advise the physician that you have been injured on the job.

All injuries not requiring medical attention are to be recorded in the branch office First Aid logbook.

Injuries requiring medical attention that permits you to return to work immediately or next scheduled shift, will require you to fill out a WCB Employee Report and turn in to your Supervisor with the pink copy of the Physician's Report. Physician's clearance to return to pre-accident duties without restriction is required prior to returning to work.

An injury requiring medical attention that does not permit you to return to your next scheduled shift requires immediate notification to your Supervisor. The pink copy of the Physician's Report and Employee WCB Report is to be filled out and given to your Supervisor as soon as is possible. If you are hospitalized due to the injuries, your Supervisor or Safety Coordinator will visit you to complete these documents.

No employee is permitted to operate a company vehicle while taking over the counter or prescribed medication that will affect your alertness or ability to operate moving equipment. You must advise your Supervisor immediately if you are required to take such medication.

Physician Reports play an integral role in returning you to your pre-accident or illness position. Special attention must be made for any restrictions identified by the physician and no employee will be permitted to return to work without appropriate clearance by your physician, regardless of whether the time off was WCB or Short-Term Disability claim related. Modified duties while recovering from an injury will be offered whenever possible.

11.9 INCIDENT INVESTIGATION

All incidents will be investigated and analyzed to determine measures for preventing their reoccurrence and will be documented on an Investigation Report. All incidents will be reviewed for preventability. Formal incident review and appeal committee rules are located in the Company Manual.

When a worker is involved in a work related incident or is aware of a condition that may cause one, the worker must report the incident as soon as possible to the supervisor. Incidents include near misses, injuries, illnesses, property damage, etc.



Once management has been notified of a work related incident, an appointed qualified person will investigate the incident. The investigation should take place as soon as possible after the incident occurs.

After the investigation has been completed, Top Grade Construction HSE will prepare a written report including the description of the incident, any evidence collected during the investigation, an explanation of the causes of the incident, and corrective action to be taken. The written incident investigation report shall include an explanation of the contributing factors or root causes of the incident that were identified during the investigation. The written incident investigation report shall include any immediate corrective actions that were taken as well as any long-term actions that are required to prevent the recurrence of the incident.

All members of the incident investigation team shall be qualified and competent individuals. Top Grade Construction will provide training on the investigation techniques used during an incident investigation.




12.0 MODIFIED WORK/CLAIMS MANAGEMENT

Modified Work Policy Statement

The most important asset of Top Grade Construction is its people. The people in our workplace and on our worksites are at the greatest risk for injury or occupational illness. It has been proven that having injured workers return to the workplace as soon as permissible to do meaningful work contributes to a “win/win” situation for both the employee and the organization.

The term “Restricted Work” simply means the normal work activities of the injured employee have been temporarily changed to accommodate the limitations imposed by the injury. The restricted work program is intended to allow and encourage an employee to remain a productive member of our workforce. The restricted work program must meet the criteria for meaningful, value-added work. This means the duties will increase the employee’s knowledge, skills and/or experience, and will be integral and valuable to the work and business of the organization.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

12.1 RESTRICTED WORK

Restricted work assists in the rehabilitation and early return to work of ill or injured employees.

Top Grade Construction will provide suitable (temporary) restricted work to any employee unable to perform their regular duties. This may include a modification of the employee's original position, providing an alternate position, or providing a training course.

Only work that is considered to be meaningful and productive to Top Grade Construction will be considered for use in the Restricted Work Program.

12.2 REVIEW THE INCIDENT INFORMATION PACKAGE

The supervisor will ensure that the information package is reviewed with the injured employee upon report of an injury, before the employee leaves the worksite, or at the earliest possible opportunity. The supervisor will also ensure that all the necessary documentation and information is completed and is faxed or emailed to the Top Grade Safety Department.

The supervisor will accompany the employee to the medical service provider and, if necessary, will discuss the Top Grade Restricted Work Program. Health care providers will be informed at this time that Top Grade offers a modified work program. At this time health care providers can put worker (employee) on a modified work program (arranging visits with clinics or specialized medical personnel).

If the injury required the employee to be placed on restricted work a restricted work information form must be presented to the medical service provider. The employee will complete and sign the top portion on the form and the medical service provider will complete the bottom portion of the form.

Alberta – a “WCB Worker’s Handbook” will be given to the employee and the employee will complete and sign the “Worker’s Report of Injury of Occupational Disease” (C060). This form will be detached from the booklet and submitted along with the rest of the paperwork to the Top Grade Construction safety Department. The employee will keep the rest of the booklet for his or her reference.

In other provinces and Territories, the following forms will require completion:

- Manitoba – Workers Accident Report (Form 3)
- North West Territories – Workers Report of Accident (CS001)
- British Columbia – Application for Compensation and Report of Injury or Occupation Disease (Form 6)
- Saskatchewan – Worker’s Report of Injury (Form W1). In Saskatchewan, the employee will usually receive the Worker’s Report form from the medical service provider. If this is not the case, then we will provide these documents to the employee.

12.3 COLLECT ALL DOCUMENTS

The Top Grade Construction safety department will review these documents when they are sent in with the incident investigation report. The safety department will work along with the employee's supervisor to arrange a return to work plan. Once a claim has been established at the WCB, the workers' compensation board claim case manager will be notified.

12.4 MAKE AN OFFER OF RESTRICTED WORK

A written offer of restricted work must be presented to the employee. This offer will state the following information:

- Specific job duties to be performed to fit the physical demands and that can be completed safely by the injured employee.
- Pay rate. This will be the same rate of pay as their pre-incident employment
- Hours of the employment. These are important in the case of transitional employment where the hours may vary during the placement
- Length of placement. This will be noted and made clear to the employee
- The offer will be signed by the employee and the supervisor, and will be forwarded to the safety department immediately; this will then be forwarded to the WCB by the safety department.

12.5 REFUSAL OF OFFER

Any refusal by an employee to participate in the restricted work program will be dealt with immediately by interviewing the employee and recording the reasons for not participating in the program. The employee needs to sign the Restricted Work Offer "Refusal" section, and indicate the reasons for refusing the offer. The employee must be made aware that by refusing a reasonable Restricted Work Offer, he or she may not be eligible for wage loss benefits through WCB.

12.6 MONITOR RETURN TO WORK

Once the employee has been placed on restricted duties, the supervisor and the Safety Department will monitor the progress of the employee on a regular basis and address any concerns immediately. The employee will keep all medical appointments and follow all medical instructions. All physiotherapy, chiropractic and practitioner appointments should be arranged before or after working hours or as close to the beginning or the end of their shift as possible. For each medical appointment, the Restricted Work Information Form must be taken by the employee and completed by the medical service provider. Once completed by the treating health care provider, it must be submitted as soon as possible to the safety department so that the coordinator stays up-to-date on the employee's current medical status and progress.

12.7 RESPONSIBILITY OF THE INJURED EMPLOYEE

Employees are responsible for keeping all medical appointments and returning with medical documentation after each visit. Employees are also responsible for keeping their supervisor informed of any changes in their medical treatment program or medical appointments. If the employee is unable to come into work for whatever reason they must inform their supervisor immediately. The supervisor must immediately inform the Safety department who will advise WCB if it will be compensable day off. The employee is also responsible for contacting the Safety department if they are being asked to work in conditions or to perform duties that are not within their listed work restrictions.

12.8 EMPLOYEE'S RETURNING TO REGULAR DUTIES

When medical clearance is received for the employee to return to regular duties, the Safety department will inform the WCB. The supervisor and the Safety department will continue to monitor the employee's ability for up to two weeks following the return to regular duties.

Note: The Workers Compensation Board considers ANY variation of an employee's regular duties as "Restricted Work"

12.9 CASE COORDINATION

To ensure that all claims are effectively managed and in order to allow an early and safe return to work for the injured employee, communication will be maintained regularly with the injured employee and their families, medical service provider, and WCB. The injured worker's immediate supervisor, project manager and Safety department will monitor the progress of any employee returning to restricted work or regular duties.

The following steps will be taken to coordinate claims management:

a. Maintain Contact with Injured Employee

In the case where an employee is unable to return to work, the supervisor or manager must contact the employee at least once a week to ask about the general condition of the employee, the nature of the treatment they are receiving, what medical service provider they are seeing and the date of all appointments. All contact will be recorded. This information will immediately be passed on to the Safety department. This will ensure that all parties are kept aware of the situation.

b. Follow Status of Injured Employee after his/her Return to Work

Once the employee has returned to work on restricted work duties, the supervisor to manager must follow-up with the employee on a daily basis until the employee has resumed their regular duties; this ensures that any problems or concerns that may arise can be addressed immediately. Any problems will be brought to the attention of the safety department immediately. The supervisor will keep notes on any contact made with the employee during this time and forward copies to the safety department. Once the employee has resumed full regular duties, the supervisor or manager should follow-up with the employee each week for up to two weeks to ensure that there are no ongoing concerns.

Top Grade WCB Safety Department

The safety department is the single point-of-contact between Top Grade and the various Workers' compensation boards in the Canadian Provinces and Territories. The Top Grade Safety department is responsible for the following action following receipt of the report of any employee's injury:

Create File

A WCB file will be created which will include any and all documents and conversations related to the claim. This file will be kept at the Top Grade Construction Safety department and treated as highly confidential.



Contact the WCB

Safety department will maintain contact with the WCB case manager. This ensures information on the progress and condition of the employee is up to date for both parties. The Safety department and the WCB will discuss what the treatment or rehabilitation plan is; the likely date of return to work; and discuss any work restrictions. The amount and type of benefits provided to the injured employee should also be discussed. All contact, details, conversations and medical information will be recorded in the file. The Safety department will determine the validity of the claim and if necessary appeal any questionable decisions made by the WCB and/or request denial or cost relief on the claim.

Determine Injured Employee's Fitness to Return to Work

Prior to any return to work, whether to regular duties or to restricted work, the Safety department, along with the supervisor and any medical service providers, will discuss and determine the fitness of the employee. Medical clearance will be obtained from the treating medical service provider.

Review Claim Cost

The Top Grade Construction Safety department will monitor the monthly claim cost summaries to ensure that costs are applied correctly and any discrepancies are recorded and corrected.

Safe Return to Work (Modified Duty) Program

All employees, upon completing the new-hire orientation, will be made aware of the company's policy to offer a modified work program if an employee is injured.



13.0 FATIGUE MANAGEMENT PROGRAM

The purpose of the fatigue management program (FMP) is to ensure that all management, supervisory personnel and employees understand what fatigue is, how extended hours of work or extended consecutive days of work can affect fatigue levels. The goal is to educate and recommend appropriate and proactive methods of effectively dealing with managing worker fatigue so as to further assist in a controlled and safely executed project.

Training

All Top Grade Construction employees are required to review the FMP. This educational awareness will consist of some or all of the following points, depending upon the employee's responsibilities.

- What is fatigue
- Signs, symptoms and consequences of fatigue
- Roles and responsibilities
- Preventative methods for dealing with fatigue
- Reporting procedures
- Monitoring methods

Fatigue

As defined by Alberta Workplace Health and Safety, "fatigue is a state of being tired. It can be caused by long hours of work, long hours of physical or mental activity, inadequate rest, excessive stress, and combination of the factors." The signs, symptoms and affect fatigue has on workers varies from one person to the next, however fatigue may affect the individual worker's ability to perform mental and physical tasks. At times it may be required to extend the consecutive work hours and or days of our workforce. It is extremely important that we recognize the possible consequences of fatigue and take a proactive approach to effectively deal care for our work force. The implementation and continual monitoring provided through the FMP will ensure we are providing a safe and healthy work environment for all of our workers.

Signs, symptoms, factors and performance impairments

Some of the possible physical signs and symptoms are as follows (courtesy of Alberta Workplace Health and Safety)

- Tiredness
- Sleepiness
- Irritability
- Depression
- Giddiness
- Loss of appetite
- Digestive problems
- An increased susceptibility to illness

Some possible performance impairments are:

- Slowed reactions – physical reaction speed and thought process
- Failure to respond – changes in the surroundings, information provided
- Incorrect actions – either physical or mental
- Flawed logic and judgment and increase in memory errors, including forgetfulness
- Reduced motivation
- Increased tendency for risk-taking

Factors which may have an influence on fatigue:

- Time of day
- Temperature
- Working alone
- Repetitive or “boring” tasks
- Being inactive
- Length and frequency of breaks
- Availability of food and water
- Duration of the extended hours/consecutive days
- Days off
- Type of work
- Job stressors
- Home stressors

Some ways workers cope with fatigue:

- Working more slowly
- Checking work more thoroughly
- Using more memory cues or reminders
- Relying on fellow workers
- Choosing to carry out less critical tasks

Responsibilities**Management:**

- To ensure the FMP is implemented on all Top Grade Construction work sites
- Provide instructional awareness in fatigue identification
- Communicate employer expectations
- Monitor hours worked by each crew
- Review the impact of extended hours / days of work in relation to accidents, incidents, and quality of work.
- Support employees who are experiencing concerns with fatigue

- Inspect the workplace and review FMP with employees
- Review FMP on yearly basis

Foremen:

- Ensure all new crew members understand the FMP
- Conduct safety meeting discussing fatigue and the FMP
- Promote the FMP
- Ensure tasks are performed in as safe a manner as possible
- Be aware of the risks associated with extended hours / days of work
- Give workers as much notice as possible if extended hours / days of work are anticipated
- Observe how individuals respond to extended hours / days of work
- Recognize symptoms of fatigue
- Encourage feedback from individual crew members and the crew as a whole
- Take prompt action if a risk develops
- Relay information to and from project management and workers
- Report any FMP problems, concerns and / or issues

Workers:

- Actively participate in the FMP
- Recognize symptoms of fatigue
- Promptly report any fatigue related problems or concerns
- Report any individual medical or personal situations, which may have an affect on fatigue
- Take personal responsibility to get proper rest during time off
- Take personal responsibility to deal with home stressors

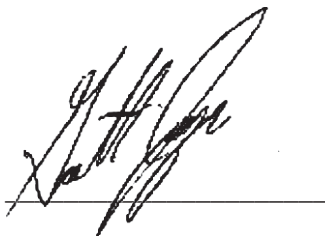
Preventive methods for dealing with fatigue

- Inform all workers of the FMP
- Minimize extended hours of work when possible
- Plan for rest days
- Assess and control hazards and risks
- Provide an honest, open and health work environment
- Provide information and assistance
- Recognize individual and crew fatigue
- Give as much advance notice of extended hours as possible
- Define whether the work is urgent or not
- Ensure crew members have access to food and water
- Take short frequent breaks

- Allow employees options such as transfer to less busy crew, job sharing, etc.
- Encourage crew members to rotate and perform various functions of short duration during extended hours
- Perform complex tasks earlier in the shift if possible
- After a long day, consider the benefits of starting later the next day
- Encourage the use of the 'buddy system'
- Account for employees returning from sickness, absences and or modified work
- In conjunction with employees, identify any health problems which may affect their ability to work extended hours i.e. diabetes
- Be flexible and supportive when dealing with an employee with problems at home
- Consider travel time to and from work
- It is managements, supervisor's and Forman's responsibility to ensure that workers participating in extended hours and day of work are polled on a regular basis to inquire as to their own personal need or desire for 'unscheduled' days of rest.
- Where workers are presented with a situation where they may be required, due to a job process, to work extended hours, supervisory personnel shall at all time ensure the workers will receive 8 hours of rest between shifts.

Reporting procedures

- Include time of day on all accident/incident and near miss reports
- Determine if crew was working extended hours when incident occurred and if it was a factor in the incident
- Report any unsafe acts
- Inform management if there is a crew or individual problem working extended hours
- Monitoring methods
- Foremen to monitor their crew's hours of work
- Management to determine the need for extended hours
- Foremen are to inspect crew when working extended hours for fatigue related concerns
- Foremen are to ask crew members if they have any concerns when working extended hours
- Foremen and supervisors are to monitor both the quantity and quality of the crews performing extended hours of work and extended days of work as a decline in these areas may be a leading indicator of worker fatigue



Garth Janzer
President & CEO

February 2, 2015



14.0 MANAGEMENT OF CHANGE (MOC)

The Top Grade Construction of Change (MOC) must be used for any and all permanent and or temporary changes to the organization's work processes, equipment and facilities.

Prior to any change to facilities, equipment, or work process has been initiated, a review should be completed to ensure that health, safety, environmental, and/or quality standards can be maintained while staying on budget.

Before a change to facilities, equipment, or work process can be placed into service, a pre-startup review must be completed to ensure that all requirements outlined in the pre-project review have been addressed, and to ensure that any other possible hazardous conditions are assessed.

Pre-project and pre-startup reviews will include all interested parties. This may include, but is not limited to: operations, engineering, information technology, sales / marketing, quality assurance and environmental, health and safety.

Top Grade Construction requires that all management change be tracked by written correspondence to insure accurate information of change.





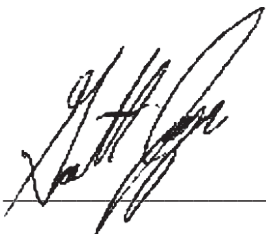
15.0 VEHICLE SAFETY POLICY

It is the policy of Top Grade Construction to ensure the safety of all employees' while operating company supplied vehicles.

To accomplish this, management will be committed to the following components of this program:

- Employees are responsible for possessing a valid driver's license for the type of motor vehicle they operate. Management will verify this information and maintain documentation within the employee's file.
- Management will obtain and review current drivers abstracts for all drivers of company owned vehicles. These abstracts will be forwarded to Top Grade Construction insurance provider to provide feedback on driver's record and eligibility to drive a company owned vehicle.
- Seatbelts are mandatory for the driver and all passengers while operating an Top Grade Construction supplied motor vehicle.
- All cargo on or in motor vehicles must be adequately stored and secured to prevent unintentional movement of the equipment which could cause spillage, damage to the vehicle or injury to the operator, pedestrians and environment.
- All employees are expected to follow and obey all provincial and federal traffic laws and rules of the road while operating company supplied motor vehicles.
- Employees are strictly prohibited from operating a motor vehicle while under the influence of drugs or alcohol. This includes: a) blood alcohol level at or above the legal limit; b) illegal drugs; and c) prescription medications that cause drowsiness or other conditions that may cause impairment. Employees are responsible for notifying their supervisor of any such impairment or knowledge of anyone suspected of impairment.
- Handheld cell phones and other electronic devices are not to be used by the operator of any Top Grade Construction vehicle/equipment. These devices are prohibited while driving on customer/client property.
- Prior to any use of a vehicle, employees are required to perform a pre-use inspection. This consists of a walk around of the vehicle to check for any defects to the vehicle and ensure that there are no barriers blocking path of travel. Employees must have knowledge regarding the company maintenance program which can be found within the health and safety manual which meets or exceeds manufacturer's recommendations.
- Drivers of the vehicles must perform pull-through parking when available, or back into a parking space if necessary. This provides the operator an easier exit from the parking area as well as a quick exit in case of an emergency. A spotter will be used (when available) while backing into congested areas.

- All motor vehicle incidents that occur while operating an Top Grade Construction vehicle must be reported. In the event of an incident, contact your supervisor immediately and provide him/her with all required information as laid out in the emergency response plan found within the motor vehicle. Operators are required to take pictures of the incident including damage, road conditions and any other item that will render helpful for an investigation.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

16.0 ENVIRONMENTAL – SPILL PREVENTION AND RESPONSE

It is the policy of Top Grade Construction to ensure the safety of the environment in respect to environmental spills and general waste.

To accomplish this, management will be committed to the following components of this program:

- Chemical substances will be stored in proper containers to minimize the potential for a spill. Whenever possible, chemicals should be kept in closed containers and stored so they are not exposed to storm water to prevent overflow and migration of any chemical.
- All spill kits must contain the appropriate supplies for materials that may be spilled. Supplies must be easily accessible when required, and considerations must be made for both the type and quantity of materials. Spill kits can be located in all vehicles and facilities.
- Top Grade Construction will ensure the availability of adequate spill response supplies by performing periodic inspections to assess their availability and adjust inventory as required.
- All employees will be properly trained in the response procedures for spilled materials. The training will include materials available for use, proper waste disposal and communication procedures.
- Environmental spills must be reported to your supervisor to insure that the correct environmental authorities are notified based on type and quantity of materials that have been spilled.

16.1 ENVIRONMENTAL – GENERAL WASTE MANAGEMENT

- Top Grade Construction will estimate the potential waste that will be generated prior to work being performed so that the need for containers and waste removal, if necessary can be determined. As each project may require different waste removal products, management will assess this prior to the start of any project to ensure the correct size and proper disposal containers are made available.
- Top Grade Construction will coordinate with the project owner to ensure proper disposal of wastes or scrap materials. Top Grade Construction will ensure that the owner is aware of whether wastes and scrap materials will be taken off site or will be disposed of on the owners site and who will be accountable for the disposal.
- Top Grade Construction will appoint a person(s) that will be accountable for the disposal of wastes generated at the work site.
- Prior to any waste disposal, all employees involved must address safe practices related to the immediate storage and handling of waste, scrap or leftover materials. PPE requirements must also be addressed during this time and all items are to be documented.
- The company will ensure that project related wastes are stored and maintained in an organized fashion to encourage proper disposal and minimize risk to the workers. Proper waste receptacles will be made available on location for trash and materials that may be reused or recycled during the project.
- Proper segregation of waste materials must be practiced to ensure opportunities for reuse and recycling of materials from the work site.
- Workers are to be instructed by their supervisor on the proper handling, storage, and disposal of wastes. This will include general instructions on disposal of non-hazardous wastes, trash or scrap materials. In the event that wastes are classified as hazardous, employees must have training in such hazards to ensure proper disposal of this waste.

16.2 EROSION AND SEDIMENT CONTROL

Prior to the start of any project an environmental assessment must be completed to identify the potential of erosion issues that are or have the potential of being present on the site. Top Grade Construction site supervisor must develop a work plan to control erosion and sedimentation both on and off the work site. Throughout the project the supervisor must continue monitoring of the site for any changes and address any situation that arises. All workers must take every reasonable step to minimize the length of time that soils are left open bare. In the event that soils are required to be left bare, additional control measures are to be used to prevent erosion and sediment. The following options are to be considered during the planning phase to prevent erosion and sediment:

- Silt Fence - installation at base of piles and along water / drainage areas
- Soil Tacification – multiple products available
- Straw Crimping – use straw and crimping practices to cover areas of potential erosion
- Matting – multiple products available
- Diversion Berms – use to slow down running water or to prevent material from entering or leaving work area.

These erosion and sediment control devices are to be designed and used at entry and exit points for which water runoff is present or has the potential to be present.

Inspection and Maintenance of Erosion and Sediment Control Devices

Throughout the course of the project all control devices must be inspected and maintained on a continuous bases. Only competent trained workers are to monitor and repair such devices as needed. In the event that work activity has completed and control devices are still required to remain on the work site; inspections and maintenance must continue until such time that management deems the control devices as no longer being required. Only after this time can the control devices be removed from the work site(s).

16.3 ENVIRONMENTAL SUSTAINABILITY

Top Grade Construction always has and will continue to provide minimal impact on our environment, in an effort to reduce or eliminate harmful toxins and negative impact to the environment. Limiting greenhouse gases is a high priority for the company and the group continues to work towards products and equipment that have lower greenhouse gas emissions. Such steps include the changing of equipment to machines that meet and /or exceed emission control laws. Aerosols have been decreased by the continues purchase of bulk products (when available) to reduce harmful aerosols into our environment. It is the practice of Top Grade Construction to minimize vehicles on the roads. This is being accomplished by lowering the number of vehicles on the work site by running larger crew trucks / worker vans to accommodate more workers which in return reduce the number of vehicles traveling on a day to day bases.

Prior to the start of any project an environmental assessment must take place to insure that negative affects to local habitat and water sources are protected at all times. Any activity that may have a negative effect on identified habitat must be addressed prior to project start. Management must make every effort to reduce and or eliminate negative impact to the habitat.



Environmentally safe materials are to be used on all Top Grade Construction projects. Material selection must be considered when being purchased and used on a project. These materials if possible should be recyclable and reusable in an effort to keep materials out of landfills.

Energy and water conservation must be addressed both on the job site and in the office settings. These resources are precious and cannot be taken for granted. There are several practices that we do and can use in an effort to conserve such resources. Top Grade Construction is quick to adapt to new technology and strategies that will help with the conservation of our valuable resources.



17.0 JOURNEY MANAGEMENT

Top Grade construction Ltd. is involved in operations that span the entire province of Alberta and Saskatchewan. Transportation is an integral part of our business, especially amongst the field crews. It is also one of the biggest hazards we face in our day to day operations.

Top Grades Constructions Journey Management Plan (JMP) is a safety measure to help avoid accident/injury resulting from transportation. The objective of the JMP is to ultimately eliminate driving related accidents that cause fatalities and injuries to employees, contractors and third parties and minimize damage to equipment through careful management of all phases of the transportation process.

The result of this JMP training program is to have our staff better prepared to safely deal with unplanned events/circumstances during routine trips that may occur. This includes:

- Identifying and managing hazards and unnecessary exposure through active journey management
- Preventing and mitigating the risk through the proper selection and preparation of people, vehicles, equipment and routes.

Journey Management Procedure

There are 3 stages in the JMP: Preparation, Implementation, and Follow Up.

Preparation

This is the planning stage of the journey and is the most important aspect of the JMP. Most accidents and injuries are avoidable, and in the case that an accident/injury does occur, proper planning will provide a means of effectively dealing with the situation and lessening the severity.

Typically the survey crew consists of the party chief (PC) and survey assistant (SA) driving a truck loaded with quads/sleds and survey equipment. The crew should be well equipped with fuel, maps, GPS receivers, first-aid/emergency rations, and functioning communication equipment. A brief inventory of the equipment and an inspection of the truck (i.e. tires, quads strapped down, etc.) must always be done pre-trip.

It is essential that the supervisor, with the help of the operator, determine the logistics of the trip before leaving. A number of details should be addressed in a pre-trip meeting including:

- destination
- routes (preferred and alternates)
- weather conditions
- timing considerations
- communications devices & emergency contacts
- emergency response procedures
- road travel should be limited by combining trips when possible
- road travel will be conducted during daylight hours when possible
- road travel during adverse road conditions (winter roads, muddy roads) be minimized when practicable

When working on jobs requiring similar procedures on a day to day basis, pre-trip meetings should be done in accordance with the daily tailgate meetings. During these meetings, all potential journey risks should be assessed and steps to mitigate these risks should be outlined. The pre-trip meeting should determine whether a trip is routine or non-routine, as this will affect the degree of preparation required.

Routine Trip: Routine trips are the most common trips we make as surveyors, and are also the lowest risk. They involve travel within a pre-determined location such as a plant site, to and from hotel to a job site, trips around town/city. Typically a routine trip will not involve the use of maps or GPS, and will not subject the crew to any unforeseeable hazards.

Non-routine Trip: Non-routine trips involve travel outside of a pre-determined location and pose a significantly higher risk. Trips are identified as non-routine in the pre-trip meeting and can involve any number of escalating factors. Some examples of escalating factors are :

- weather conditions
- fog or smoke
- mud, snow and ice
- cross winds/ blowing snow
- night driving
- forestry roads/ one way traffic
- low angle sun
- deterioration of road surface
- wild life
- fatigue
- windshield condition/visibility
- road closures or accidents

Training: All workers at Top Grade Construction are trained in the Journey Management Procedures and Protocols and how they can implement them on the job.

Fatigue: Fatigued driving is essentially impaired driving. It slows reaction time, decreases awareness and impairs judgment. Be sure to assess your fatigue level prior to departing on a trip. **DO NOT DRIVE IF YOU ARE TIRED.** For more information refer to the “Fatigue Management” Section of the Safety Manual. All employees to reduce the chance of getting fatigue will take rest breaks when practicable.

Implementation

This is the actual travel stage of the journey. Crews must be diligent in sticking to the guidelines set forth in the preparation stage. In the case that an unexpected situation arises, the crew should re-evaluate their plan accordingly.

When departing on a journey, the crew supervisor must activate their JMP. Upon safe arrival at the end of the day (at hotel or home) the crew supervisor must deactivate their JMP. This is a new safety device being used throughout the industry that allows for emergency communication and indicates the users position from anywhere in the province. It also has the ability to automatically broadcast its position every 10 minutes so

if the user needs help or requires emergency assistance the route they took to their location can be provided to those going to offer assistance (e.g., another survey crew if help is required or search and rescue in an emergency situation).

When driving, whether by truck or quad, all rules and safe procedures must be followed. The Off Highway Defensive Driving booklet contains many valuable driving strategies which are outlined.

There are a few golden rules to abide by in case of an emergency:

1. If you have broken down or become hurt in a remote area several kilometres from any settlement - Do not leave the vehicle. Call for help and remain at your geographic location.
2. Refer to the Emergency Response Plan for a list of emergency phone numbers in your area.
3. Always carry a handheld GPS or similar device in the vehicle so your location can be related to others. Both the supervisor and worker must know the exact location and be able to readily relate this information.
4. Communication with the field crew manager at the head office is essential. Always provide details of the accident as quickly as possible. Elapsed time tends to cause errors with respect to memory of the incident.
5. Agree on a check-in schedule for the duration of the trip with the field crew manager.
6. If working alone, ensure that the location (e.g. GPS coordinates) of you and your vehicle are known to those responsible for you during your trip.
7. If you change your directions from pre-planned routes you need to communicate the new plan to the field supervisor.
8. Remember if you cannot do the task in a safe manner then stop, evaluate the risk and find a method to control the hazard.

Follow Up: The follow up procedure is the final step in the JMP. If all goes well then there should be little follow up to be done. The crew supervisor should ensure that upon safe arrival they deactivate the JMP system. Notes can also be made in regards to any near misses or potential hazards and how they were avoided.

In the case that an accident/injury does occur, we must ensure a thorough follow up investigation is done. The purpose of this is to address where things went wrong and how this accident/injury could be avoided in the future. This investigation would involve the crew supervisor, worker, SA, safety manager and any other parties affected.

Conclusion

Journey management involves knowing what is involved in a trip; it is really a record of a complete planning process. Our JMP is about taking the time to develop a plan of attack and prepare for any potential diversions along the way, and making sure we arrive home safely every day.

OFF HIGHWAY DEFENSIVE DRIVING STRATEGY

1. Plan Your Trip
 - Select a Route
 - Identify road conditions
 - Identify weather conditions
 - Advise others of your destination, route and ETA
2. Conduct Pre-Trip Inspections
 - Inspect vehicle operating condition
 - Inspect basic vehicle equipment
 - Inspect safety equipment
 - Inspect survival equipment
3. Recognize and Anticipate Hazards
 - Identify road hazards
 - Identify adverse driving conditions
4. Reduce Speed
 - Less traction than paved highways
 - Greater limitations in road design
 - Inconsistent road surfaces
5. Drive Defensively
 - Demonstrate a good driving attitude
 - Use road courtesy
 - Follow traffic laws and regulations
 - Maintain communications



JOURNEY MANAGEMENT

Date: _____

Name of Driver: _____

Name of Passenger _____

Vehicle Make _____

License Plate number _____

Departure Location _____

Departure Time _____

Planned Route _____

Destination _____

Estimated Time of Arrival _____

Cell Phone Number _____

Check in time and Location _____





18.0 CARRIER SAFETY PROGRAM (NATIONAL SAFETY CODE COMPLIANCE)

Hours of Service

Top Grade Construction. tracks hours of Service daily, maintaining, accurate logs and hours of service. Top Grade Construction., makes it mandatory to follow all legislation

Policy

As president and owner of this company, I will ensure that our company and/or the designated safety coordinator will administer the safety program to ensure that all safety sensitive areas and required compliance issues will be implemented correctly.

Purpose

To ensure the safety of everyone who may be affected and also to ensure compliance to the National Safety Code for all NSC trucks. This would include such things as:

1. Vehicle Maintenance;
2. Hours of Service;
3. Log Books;
4. Fuel Records;
5. Load Securement
6. Compliance with all traffic regulations:
 - Proper license for vehicle operating (valid);
 - Seat belts, speed limits, highway sign regulation;
 - Driving while under the influence of drugs and/or alcohol.

It is imperative that everyone follow policy as it is intended to reduce personnel and public injury.

Duty to Accommodate Policy

Drivers of this company will follow all highway traffic regulations:

- Speed Limits;
- Stop signs;
- Red lights;
- Seat belts;
- Maintain current and proper license as per type of truck they are driving;
- Absolutely no alcohol or drugs consumed before or during on duty hours;
- Courteous to pedestrians and all other vehicles

Drivers of all NSC trucks must comply with all highway traffic regulations listed above as well as the following:

- Daily log books must be maintained daily;
- All log books must be turned into the office no longer than 10 days after completion
- Fuel; logs must be maintained daily;
- Proper load securement as per NSC;
- All loads must be properly permitted;
- Hours of service regulations must be followed (mandatory);
- Drivers must supply a photocopy of their drivers license upon renewal;
- Chains and boomers when not in use must be located in the headache rack;
- Chains and boomers must be inspected regularly.

A handwritten signature in black ink, appearing to read "Garth Janzer", is written over a horizontal line.

Garth Janzer
President & CEO

February 2, 2015

18.0.1 MAINTENANCE PROGRAM

All National Safety (NSC) vehicles, including trailers registered to our fleet, will adhere to the following maintenance program. The Safety Coordinator, Maintenance Coordinator or designate will ensure that the required scheduled maintenance is performed on time, and all supporting documentation is placed in the vehicle file.

All Transport Canada and Vehicle Manufacturer Recalls will be completed and a notice of that recall, along with the repair documentation, will be placed in the vehicle/trailer file.

This maintenance program and all NSC vehicles and trailers will be maintained to the Commercial Vehicle Maintenance Standard Regulation, AIR 118/89, the Public Vehicle General Equipment and Safety Regulation A/R 435/86.

To ensure that the inspection methods and equipment standards are satisfied, all personnel inspecting, repairing, lubricating, maintaining, and certifying our NSC vehicles, will use Standard 11 of the National Safety Code. (Alberta Transportation Manual "Commercial Vehicle Inspections in Alberta", National Safety Code Standard 11, Part B Dated October 2001).

18.0.2 TRIP INSPECTION

As dictated in Standard 13 of the National Safety Code and section 3 of A/R 118/89, all company drivers operating our commercial vehicles will conduct a Pre-trip inspection, prior to operating the vehicle, and a Post-trip inspection at the end of the work shift. All defects identified will be documented in writing on the pre-trip and post-trip inspection document. A copy of this inspection report is located in the appendix.

The following items will be inspected:

- Lighting devices and reflectors;
- Tires;
- Wheels, rims, and hubs
- Service brake system, including the trailer brake connections;
- Parking brake system;
- Steering system;
- Horn;
- Windshield wipers;
- Rear vision mirrors;
- Emergency equipment;
- The coupling devices;
- Additional item as laid out on the pre & post-trip inspection reports located in appendix A.

Company policy requires all drivers conduct an additional 800-kilometer walk around inspection of the vehicle and trailers if attached.

18.0.3 PRE & POST-TRIP DOCUMENTATION

Only items of concern or defects identified will be noted and documented on the Pre & Post-trip inspection report. Drivers will turn this report into the Safety Coordinator, maintenance personnel or designated at the end of the work shift.

Major defects must be repaired at the end of the workday or prior to re-dispatch. Drivers are also required to submit documentation pertaining to on-road repairs to the Safety Coordinator, maintenance personnel or designate at the end of the day.

18.1 OUT OF SERVICE STANDARD 12NSC

Under no circumstances do we allow or instruct our drivers to operate our commercial vehicles when an out of service condition exists. When an out of service condition exists, company policy is that the vehicle must not be operated until such conditions are repaired.

18.1.1 ANNUAL CVIP INSPECTION

An annual CVIP inspection will be conducted every twelve months and supporting documentation will be placed in the commercial vehicle file. A CVIP decal will be attached to the vehicle at this time and a CVIP certificate placed in the vehicle. A recall system has been implemented to track scheduled CVIP inspections and regular maintenance requirements.

18.1.2 INSPECTION SCHEDULES

200 Hour Inspection/Truck/Truck Tractors and Trailers

A 200-hour inspection will be completed on all trucks, truck tractors and trailers throughout the 12-month window in which the valid CVIP inspection exists. The drivers, maintenance staff, and or 3rd party repair facilities will inspect the vehicles and trailer at the scheduled time and complete this report. This report and all supporting documentation will be placed in the vehicle or trailer field. Sample of the 200-hour inspection document is located in the appendix.

Documentation

All documentation pertaining to the maintenance, inspection or repair of a specific commercial vehicle or trailer will be kept on file for the current year plus the previous four (4) years. This will include scheduled inspections, CVIP inspection, Pre & Post-trip inspections, mechanics work sheets, work orders and all other repairs and supporting documents.

18.1.3 LICENSED CVIP FACILITY

All required CVIP inspections on power units and trailers will be conducted at an approval CVIP facility by approved CVIP mechanics licensed under Alberta Transportation Carrier and Safety Services.

18.2 MAINTENANCE PROGRAM ITEMS

In order to maintain a consistent level of maintenance, work sheets for the scheduled inspections have been drafted to assist all Maintenance personnel in conducting a thorough inspection of the components located in AIR 118/89, the Public Vehicle General Equipment and Safety Regulation A/R 435/86. These worksheets will be completed as per our schedule maintenance requirements and will be placed in the vehicle or trailer file. Worksheets will note inspection of the following items:

18.2.1 BODY AND SEATS

Inspection of the following: the seats, bumpers, fenders, moldings, splash shields, mud guards, mud flaps, door controls, engine hood including latches & safety catches and sun visor. All components will be inspected to meet the criteria set out in schedule 3 section 2 of A/R 118/89/.

18.2.2 CHASSIS FRAME

Inspection of the following: all frame members, structural components, fasteners, hardware and attachments will be inspected for: cracks, loose or missing connecting fasteners, loose or missing components, and for the presence of excessive corrosion or perforation of any component. All components will be inspected to meet the criteria set out in schedule 3 section 3 of A/R 118/89.

18.2.3 UNDERBODY

Inspection of the following: underbody cracks, separations, perforations, non-manufactured openings, and all related fasteners, components and hardware for excessive corrosion including the integrity of the underbody to ensure it is in a safe condition. All components will be inspected to meet the criteria set out in schedule 3 section 4 of A/R 118/89.

18.2.4 DRIVELINE

The drive shaft and universal joints will be inspected for presence and condition: components must not be damaged, loose, missing or have damaged bolts or retainers. Drive shaft slip yokes and stub shaft splines must not be excessively worn. Hangers, brackets, and drive shaft guards must be securely attached with no components missing. All components must be secure, and within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 5 of A/R 118/89.

18.2.5 WINDOWS AND MIRRORS

Inspection of the following: presence and condition of windshields, window and mirrors, for addition of opaque material in restricted areas. Glazing material (glass) not to be cracked, grazed, discolored, fogged, sharp edges or missing parts including unauthorized glass. Windshield damage not to be starred, chipped, cracked in the area swept by the wiper or in the operators line of vision. Exterior mirrors left and right not to be cracked, broken or display a reduction in the reflective surface. All components will be inspected to meet the criteria set out in schedule 3 section 6 of A/R 118/89.

18.2.6 FUEL

Inspection of the following: presence and condition of the fuel tank, filter pipe, filter/fuel cap, fuel lines, and supporting brackets, clamps, fittings and related components for security, component leaks, and approved replacement parts. Approved location of components in relation to exhaust system, driveline, suspension, and passenger compartment. Pressurized fuel systems to be in compliance with the Canadian Gas Association/CSA Code. All components will be inspected to meet the criteria set out in schedule 3 section 7 of A/R 118/89.

18.2.7 EXHAUST

Inspection of the following: presence and condition of the exhaust pipe, muffler, tail-pipe, clamps, hangers and supporting components for missing or perforated components, leaks, patches, insecure mountings, system modification, approved locations, charring or heat damage to the fuel, brake, or electrical or combustible systems. All components will be inspected to meet the criteria set out in schedule 3 section 8 of A/R 118/89.

18.2.8 BRAKES – FRICTION COMPONENTS

Inspection of the following: presence and condition of the brake drums, brake drum lining, disc brake rotors, disc brake pads, machine limits and wear tolerance, oil and grease soaked components, brake adjustment, mechanical brake adjustment, mechanical and structural components, hydraulic brake cylinder (master cylinder & wheel cylinders), automatic brake adjusters, free movement of all brake pistons.

All components will be maintained to meet the regulated standards including the manufacture's specifications. All components will be securely mounted and operating and functioning as designed. All components will be inspected to meet the criteria set out in schedule 3 section 9 of A/R 118/89.

18.2.9 HYDRAULIC, VACUUM AND AIR BRAKE COMPONENTS

Inspection of the following items: presence and condition of hydraulic, vacuum and air components including reservoirs fittings, valves, supports, hose clamps, connections, air chambers, air cleaners, hoses, tubes and compressors pertaining to the service brake system.

Vacuum, air and hydraulic boost systems must remain fully charged; lines, hoses and connections must not be damaged, missing, abraded, crimped, restricted, cracked, broken or disconnected. Tubing must not show signs of leakage, or heavy corrosion. Components must not chaff against the vehicle or suspension components including driveline and wheels. Brake fluid levels to be maintained. Power boost hydraulic brake systems including the electrical assist if equipped, must operate as designed by the manufacturer.

All components are to be secure, within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 10 of A/R 118/89.

18.2.10 MECHANICAL LINKAGES

Inspection of the following: presence and condition of all mechanical components related to the brake system for proper alignment, badly worn, insecure, binding, seized, frayed, disconnected, broken or missing parts or components.

All components to be secure, within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 11 of A/R 118/89.

18.2.11 SERVICE BRAKE PEDAL

Inspection of the following: presence and condition of the service brake assembly for service brake pedal movement, brake pedal pads, anti-skid material, binding or high friction of the pedal or related components, proper position of components, master cylinder components including alignment and adjustment, brake failure warning light operation, vacuum system and gauges.

All components are to be secure within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 12 of A/R 118/89.

18.2.12 AIR BRAKE SYSTEM

Inspection of the air brake system; presence and condition of all air system components, hoses, tubes, connectors, supports, safety valves, drive belts, and air cleaners, compressor build up time, governor operation, air system pressure drip with brakes released, air system pressure air system pressure drop with brakes applied, air system reserve, push rod travel measurement, brake cam rotation slack adjuster angle and documentation on inspection reports, safety relief valve operation, compressor drive belt condition, low air warning device, air gauges, and air reservoir drains.

Components must not be leaking, restricted, abraded, crimped, cracked, missing, broken, damaged or chaffing against the vehicle structure or any other moving component.

All components must have secure, and within the manufacturers specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 13 of A/R 118/89.

18.2.13 BRAKE WARNING DEVICE

Inspection of the following: presence and condition of the low hydraulic pressure-warning device. The low air-warning device must comply with the manufacturers' specifications and active when the pressure in the air system is between 345 kilopascals and 414 kilopascals (49 psi to 60 psi). All components are to be secure within the manufacturers' specifications, operating and functioning as schedule 3 section 13 of A/R 8/89.

All components to be secure within the manufacturers' specifications, operating and functioning as designed by the manufacturer.

18.2.14 EMERGENCY & PARKING BRAKE

Inspection of the following: presence and condition of the emergency and parking brake system. When the parking brake is applied, it must hold the vehicle stationary against the engine momentarily while the vehicle is operated in low or reverse gear at a light throttle setting. System must hold the vehicle on a 20% grade when the emergency/park brakes are activated. Brakes must fully release as designed, and all pull cables if equipped and related components must operate freely and must not be excessively worn, frayed, or stretched.

All components must be secure within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 14 and 15 of A/R 118/89.

18.2.15 SERVICE BRAKE

The performance of the service brake system will be tested and the following standards must be met: when maximum service brake pressure is applied and the speed of the vehicle is between 10 and 30 kilometer per hour, the wheels must lock; no components of the service brake system must fail: the vehicle must not pull to the right or left; and the vehicle must stop within 10 meters brakes must also release immediately when pressure is released from the brake pedal.

Braking efficiency must be within the recommendation of the dynamometer or manufacturers' specifications.

All components to be secure, within the manufacturers, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 16 of A/R 118/89.

18.2.16 ENGINE CONTROLS

Inspection of the following: presence and condition of all engine controls including the accelerator linkage system, the carburetor or injection pump controls and related linkages. Components must not be damaged, worn or out-of-adjustment to ensure for proper engine idle when accelerator is released or transmission is place in neutral. All components are to be with in manufacturer's specifications.

Engine Emergency shut down (if equipped) must function as designed. All components will be inspected to meet the manufacturer's recommended operating procedure and allowable wear tolerances.

All components will be inspected to meet the criteria set out in schedule 3 section 17 of A/R 118/89.

18.2.17 STEERING

The steering mechanism is to be inspected for presence and condition, injection of free movement of steering, steering wheel, steering box, steering shaft, steering column, flex couplers, shaft splines and U joints, free play in wheel, worn and sector shaft bushing, tie rods, drag links, power steering ram, belts, hoses, leaks in seals, power steering fluid level, missing loose or worn nuts, bolts, and cotter pins.

These components must be secure, within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 18 and 20 of A/R 118/89.

18.2.18 WHEEL ALIGNMENT

The wheel alignment will be inspected. The wheels must be so that the wheels are not visibly out of alignment while all wheels are on the ground and the front wheels are in the straight ahead position. All components will be inspected to meet the criteria set out in schedule 3 section 19 of A/R 119/91.

18.2.19 SUSPENSION

The suspension system will be inspected for presence and condition Front suspension will be inspected for wear and damage with the front wheels off the ground. Rear suspension will be inspected for tracking, wear, and damage. Rear drive axle and tag axle must track in accordance with manufacturers' specifications

Front and rear springs, shackles, u bolts, center bolts, radius rods, torque rods, control arms, shock absorbers, equalizers, stabilizers, and their supports and attachments must not be loose, bent, cracked, broken, disconnected, perforated by corrosion, or missing. Suspension bushings must not be excessively worn or cause components to be out of alignment. Bolts, cotter pins and attaching hardware must not be loose, worn or missing.

The air suspension system will be inspected for leaks, corrosion and perforation of components. The air suspension leveling system must function as designed.

Ball joints, control arms, wheel and axle bearings, and kingpins are to be within manufacturers' specifications. All suspension components must be secure, within the manufacturers' specifications, operating and functioning as designed by the manufacturer.

All components will be inspected to meet the criteria set out in schedule 3 section 21 of A/R 118/89.

Horn

The horn and related components will be inspected and must be secure on their mountings, and function in accordance with the manufacturers' specifications.

The horn and related components will be inspected to meet the criteria set out in schedule 3 section 22 of A/R 118/89.

18.2.20 WINDSHIELD WIPERS AND WASHERS

Inspection of the windshield wiper and washer systems: presence and operation; each part of the windshield wiper and washer system is to be in place and not worn or in a condition so that effectiveness is impaired. These components must be secure within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 23 of A/R 118/89.

18.2.21 HEATER DEFROSTER AND HOSES

Inspection of the heaters, heater motors, defrosters, windshield defroster, hoses, piping, fans, blowers, radiators, and heat core, for presence and condition. These components must be secure, within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 24 of A/R 118/89.

18.2.22 TRANSMISSION NEUTRAL SAFETY SWITCH

The neutral safety-starting switch will be inspected for presence and condition and must operate as designed by the manufacturer if the vehicle is equipped with an automatic transmission. These components are to be secure, within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to set the criteria set out in schedule 3 section 25 of A/R 118/89.

18.2.23 LAMPS, LIGHTS AND REFLECTORS

Inspection of the following; presence and condition of the prescribed lamps, lights, and reflectors, headlamp alignment and operation, electrical circuits not to interfere with other electrical circuits, lenses and reflectors to be in place unbroken and correctly mounted, lamp must not be missing, or modified and are to be securely mounted.

Inspection of turn signal switch and flashers, high beam indicator lights, hazard warning lights including indicator light, all electrical wiring harnesses not to be damaged, battery cables free of corrosion and firmly attached to the battery, starter, alternator and engine. The alternator belts are to be properly adjusted and in good condition.

The following lighting must be functioning as designed:

Head lights, tail lights, brake lights, signal lights, side marker lights, identification lights, clearance lights, 4 way warning lights. These components are to be secure and within the manufacturers' specifications, operating and functioning as designed by the manufacturer.

18.2.24 INSTRUMENTS

Inspection of the instruments and gauges; for presence and condition of components. All components and gauges must be functional and clearly visible to the operator, lenses must not be scratched, cracked, or impair legibility for the operator. These components are to be secure within the manufacturers' specifications, operating and functioning as designed by the manufacturer.

18.2.25 WHEELS, RIMS AND HUBS

Inspection of the following: presence and condition of tires, wheels, rims, hubs, studs, spokes, wheel bearings and related components installed on all axles.

Wheels must not be bent, damaged or repaired. Wheels studs, bolts, clamps, nuts, spacers, lock rings or lugs must not be loose, missing, damaged, broken, mismatched or have insufficient thread engagement.

Rims must not be bent, cracked or damaged as to adversely affect the seating of the tire bead. Wheel bearing cones and cups must not be pitted or worn beyond manufacturers' specifications.

Cast Wheels must not show evidence of excessive wear in the clamp area. Wheel Spokes must not be missing, loose or broken. All components must be secure, and within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 28 A/R 118/89.

18.2.26 TIRES

Bias ply, belts bias and radial ply tires will be inspected for presence and condition on all axles for the following: depth of tread, tread defects, side-wall defects, under-sizing, re-grooving, and the presence of a mix radial and bias ply tires.

Tire wear tolerances: tread wear indicator is not to contact the road. Less than 1.5mm of tread in any two adjacent major grooves on tires installed on drives and tag axles. Front tire wear is not to be less than 3.0mm of tread in any two adjacent major grooves.

All tires must not have exposed cord at worn spots, must not have cuts or snags deep enough to expose the cord, or affect the safety of the tire. Tires must not have any abnormal visual lump, bulge or knot related to tread or sidewall separation or to failure or partial failure of the tire structure including the bead areas. All tires must have the correct air pressure as indicated on the sidewall of the tire.

Tires must not be re-grooved or re-cut unless the manufacturer specifically designs this modification. A tire must not be of a smaller size than is marked on the vehicle placard or oversized so that the tire contacts the vehicle body structure.

The vehicle must not be lifted with both radial ply and bias ply tires unless authorized by the tire manufacturer.

Dual heels must not be in contact with each other, differ from each other by more than 13mm in diameter or by more than 38mm in circumference. Load capacity of the tires must be equal to or greater than the gross vehicle-rating limit of the vehicle. Tire valves and valve stems must not be worn or damaged. Recapped tires must not be installed on the front wheels of power units.

The commercial vehicle will not be fitted with both fifty and sixty series tires. Construction type tires and sizes must not be mixed on an axle unless that combination is stated to be equivalent by the tires industry standards.

The commercial vehicles must not be fitted with a tire bearing the words “not for highway use”, “farm use only”, or any other wording or lettering indicating that the tire was not designed for highway use. All components will be inspected to meet the criteria set out in schedule 3 section 27 of A/R 118/89.

18.2.27 LUBRICATION

Lubrication and inspections will be conducted as per section 9 of A/R 1189/89, and schedule 3 section 29 of A/R 118/89, and the company’s preventative maintenance schedule as outlined in this maintenance program.

Power units will be brought into the shop weekly and be washed, greased and a through walk around inspection including an undercarriage inspection will be conducted. All excessive oil and grease leaks will be attended to at the time of inspection.

18.2.28 CERTIFICATION

The vehicle will be inspected to ensure that a valid commercial vehicle inspection certificate is located in the vehicle and that a valid inspection decal is affixed to the exterior, and that the Canada Safety Mark required under the Motor Vehicle Safety Act (Canada) is affixed to the vehicle.

18.3 MAINTENANCE PROGRAM FOR TRAILERS/A DOLLY/C DOLLY

All company owned trailers and leased trailers will adhere to the following maintenance program. The Safety Coordinator, Maintenance Coordinator or designate will ensure that the required scheduled maintenance is performed on time, and all supporting documentation is placed in the vehicle file.

All Transport Canada and Vehicle Manufacturer Recalls will be completed and notice of that recall, along with the repair documentation, will be placed in the vehicle file.

This maintenance program and all trailers will be maintained to Commercial Vehicle Maintenance Standard Regulation, A/R 118/89, the Public Vehicle General Equipment and Safety Regulation A/R 435/86.

Inspecting, repairing, lubricating, Maintaining, and certifying our NSC vehicles, will use Standard 11 of the National Safety Code. (Alberta Transportation Manual "Commercial Vehicle Inspections in Alberta", National Safety Code Standard 11, Part B, Dated October 2001).

18.3.1 TRIP INSPECTION

As directed in Standard 13 of the National Safety Code and section 3 of A/R 118/89, all company drivers operating our commercial vehicles are required to conduct a Pre-trip inspection, prior to operating the vehicle, and a Post-trip inspection at the end of the work shift. This pre & post-trip inspection will also include a trailer or converter if they are part of the combination. All defects identified will be documented in writing on the pre-trip and post-trip inspection document. A copy of this inspection report is located in the appendix.

Carrier policy requires all drivers operating company NSC vehicles must conduct an additional walk-around inspection of the vehicle, including the trailer every 800 kilometers or as close to that time frame as practical.

18.3.2 PRE & POST-TRIP DOCUMENTATION

Only items of concern or defects identified on trailers or converters will be noted and documented on the Pre & Post-trip inspection report. Drivers will turn this report into the Safety Coordinator, maintenance personnel or designate at the end of the work shift.

Major defects must be repaired at the end of the workday or prior to re-dispatch. Drivers are also required to submit documentation pertaining to on-road repairs to the Safety Officer, maintenance personnel or designate at the end of the day.

18.3.3 OUT OF SERVICE: STANDARD 12 NSC

Under no circumstances do we allow or instruct our drivers to operate our commercial vehicles with trailers attached when an out of service condition exists on the trailer. When an out of service condition exists, company policy is that the trailer must not be operated until such conditions are repaired.

18.3.4 ANNUAL CVIP INSPECTION

An annual CVIP inspection will be conducted every twelve months and supporting documentation will be placed in the commercial trailer file. A CVIP decal will be attached to the trailer at this time and CVIP certificate placed in the trailer's document tube. A recall system has been implemented to track scheduled CVIP inspections and regular maintenance requirements on all company trailers and converters.

18.4 INSPECTION SCHEDULES

18.4.1 300 HOUR INSPECTION TRAILERS/A DOLLY/C DOLLY

The 300-hour trailer monthly inspection will be conducted on all company fluid trailers throughout the 12-month window in which the valid CVIP infection exists. The checklist and all supporting documentation will be placed in the trailer file.

All trailers will be brought into the shop weekly and be washed, greased and through walk around inspection including an undercarriage inspection will be conducted. All excessive oil and grease leaks will be attended to at the time of the inspection.

18.4.2 MAINTENANCE PROGRAM

In order to maintain a consistent level of maintenance, work orders and scheduled maintenance and inspection reports have been drafted to assist all maintenance personnel in conducting a thorough inspection of the components located in A/R 118/89, the Public Vehicle General Equipment and Safety Regulation A/R 435/86.

This worksheet will be completed as per our scheduled maintenance requirements and will be placed in the trailer. Worksheets will note inspection of the following items:

18.4.3 TRAILER BODY

Inspection of the following: the trailer bumpers, fenders, moldings, splash shields, mudguards, and mud flaps. All components will be inspected to meet the criteria set out in schedule 3 section 2 of A/R 118/89.

18.4.4 CHASSIS FRAME

Inspection of the following: all frame members, structural components, fasteners, hardware and attachments will be inspected for: cracks, loose or missing connecting fasteners, loose or missing components, and for the presence of excessive corrosion or perforation of any component. All components will be inspected to meet the criteria set out in schedule 3 section 3 of A/R 118/89.

18.4.5 TRAILER UNDERBODY

Inspection of the following: the underbody will be inspected for cracks, separations, perforations, non-manufactured openings, and all related fasteners, components and hardware for excessive corrosion including the integrity of the underbody to ensure it is in a safe condition. All components inspected to meet the criteria set out in schedule 3 section 4 of A/R 18/89.

18.5 TRAILER FUEL SYSTEM & SPECIALIZED EQUIPMENT/REFRIGERATION UNITS

Inspection of the following: presence and condition of the fuel tank, filler pipe, filter/fuel cape, fuel lines, and supporting brackets, clamps, fittings and related components for security, component leaks, and approved replacement parts. Approved location of components in relation to exhaust system, suspension, and all other moving components of the trailer including mounted specialized equipment.

18.5.1 EXHAUST SYSTEMS ON TRAILERS WITH SPECIALIZED EQUIPMENT

Inspection of the following: presence and condition of the exhaust pipe, muffler, tail-pipe, clamps, hangers and supporting components for missing or perforated components, leaks, patches, insecure mountings, system modifications, approved locations, charring or heat damage to the fuel, brake or electrical or combustible systems. All components will be inspected to ensure all personnel operating specialized equipment mounted on these trailers, will not come in contact with these exhaust components.

18.6 TRAILER BRAKES – FRICTION COMPONENTS

Inspection of the following: Presence and condition of brake drum linings, disc brake pads, brake drums, disc brake rotors, machine limits and wear tolerances, oil and grease soaked components, brake adjustment, mechanical and structural components, hydraulic brake cylinder (master cylinder & wheel cylinders), automatic brake adjusters, free movement of all brake pistons. All components will be maintained to meet the regulated standards including the manufacturer's specifications. All components will be securely mounted and operating and functioning as designed. All components will be inspected to meet the criteria set out in schedule 3 section 9 of A/R 118/89.

18.6.1 TRAILER – HYDRAULIC, VACUUM, ELECTRIC, AND AIR BRAKE COMPONENTS

Inspection of the following items: presence and condition of hydraulic, vacuum, electric and air components including reservoirs, fittings, valves, supports, hose clamps, connections, air chambers, air cleaners, hoses, tubes, battery wiring, wheel magnets, wheel actuators, compressors, accumulators, and all other related components pertaining to the service brake system.

Vacuum, air, electric and hydraulic boost systems must remain fully charged: lines, hoses, wiring and connections must not be damaged, missing, abraded, crimped, restricted, cracked, broken or disconnected.

Tubing must not show signs of leakage, or heavy corrosion. Components must not chaff against the trailer or suspension components including the tires and wheels. Brake fluid levels to be maintained designed by manufacturer.

All components are to be secure, within the manufacturer's specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 10 of A/R 118/89.

18.6.2 TRAILER – MECHANICAL LINKAGES

Inspection of the following: presence and condition of all mechanical components related to the brake system for proper alignment, badly worn, insecure, binding, seized, frayed, disconnected, broken or missing parts or components. Proper positioning of all components: master cylinder including alignment and adjustment, vacuum, system and electrical systems if equipped. All components are to be secure within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 11 and 12 of A/R 118/89.

18.6.3 TRAILER BREAK AWAY SYSTEM

All trailers must be equipped with an operational Emergency Breakaway System. All components are to be secure within the manufacturer's specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in section 19 of A/R 436/86.

18.6.4 TRAILER AIR BRAKE SYSTEM

Inspection of the air brake system: presence and condition of all air system components hoses, tubes, connectors, supports, safety valves, drive belts, and air cleaners, compressor build up time, governor operation, air system pressure drop with brakes released, air system pressure drop with brakes applied, air system reserve, push rod travel measurement, brake cam rotation slack adjuster angle and documentation on inspection report, safety relief valve operation, compressor drive belt condition, low air warning device, air gauges, and air reservoir drains.

Components must not be leaking, restricted, abraded, crimped, cracked, missing, broken, damaged or chaffing against the vehicle structure or any other moving component. All components must be secure, and within the manufacturers' specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 13 of A/R 118/89.

18.6.5 TRAILER EMERGENCY BRAKE SYSTEM

Inspection of the following: presence and condition of the emergency brake system. When the emergency brake is applied, it must function as designed by the manufacturer and when the emergency brake is released, the brakes must fully release as designed, and all pull cables if equipped and related components must operate freely and must not be excessively worn, frayed, or stretched. All components must be secure within the manufacturer's specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 14 and 15 of A/R 1189/89 and section 19 of A/R 435/86.

18.6.6 TRAILER SERVICE BRAKE

The performance of the service brake system will be tested and the following standards must be met: Braking efficiency must be within the recommendation of the dynamometer or manufacturer's specifications. All components to be secure, within the manufacturer's specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 16 of A/R 118/89 and section 19 of A/R 435/86.

18.6.7 WHEEL ALIGNMENT TRAILER AXLES

The wheel alignment will be inspected. The wheels must be aligned so that the wheels are not visibly out of alignment while all wheels are on the ground and the front wheels are in the straight ahead position. All components will be inspected to meet the criteria set out in schedule 3 section 19 of A/R 119/91.

18.6.8 SUSPENSION

The suspension system will be inspected for presence and condition. Rear suspension will be inspected for tracking, wear, and damage, and must track in accordance with the manufacturers' specifications.

Trailer springs, shackles, u bolts, center bolts, radius rods, torque rods, control arm, shock absorbers, equalizers, stabilizers, and their supports and attachments must not be loose, bent, cracked, broken, disconnected, perforated by corrosion, or missing. Suspension bushings must not be excessively worn or cause components to be out of alignment. Bolts, cotter pins and attaching hardware must not be loose, worn or missing.

The air suspension system will be inspected for leaks, corrosion and perforation of components.

The air suspension and leveling valve systems must function as designed.

Trailer wheel and axle bearings are to be adjusted to within manufacturers' specifications. All suspension components must be secure. Within the manufacturer's specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 21 of A/R 118/89.

18.6.9 TRAILER LAMPS, LIGHTS, REFLECTORS AND RETRO REFLECTIVE TAPE

Inspection of the following: presence and condition of the prescribed lamps, reflectors, and retro reflective tape, headlamp alignment and operation, electrical circuits not to interfere with other electrical circuits, lenses and reflectors to be in place unbroken and correctly mounted, lamps must not be missing, modified and are to be securely mounted.

Condition and proper operation of: all electrical wiring harnesses not to be damaged. The following lighting must be functioning as designed: head lights, tail-lights, brake lights, signal lights, side marker lights, identification lights, clearance lights, 4 way warning lights. All components are to be secure and within the manufacturer's specifications.

All components will be inspected to meet the criteria set out in schedule 3 section 18 of A/R 118/89.

18.6.10 TRAILER WHEELS, RIMS, AND HUBS

Inspection of the following: presence and condition of tires, wheels, hubs, studs, spokes, wheel bearings and related components installed on all axles.

Wheels must not be bent, cracked, damaged, or repaired. Wheel studs, bolts, clamps, nuts, spacers, lock rings or lugs must not be loose, missing, damaged, broken, mismatched or have insufficient thread engagement. Rims must not be bent, cracked or damaged as to adversely affect the seating of the tire bead. Wheel bearing cones and cups must not be pitted or worn beyond manufacturers' specifications. Cast Wheels must not show evidence of excessive wear in the clamp area. Wheel Spokes must not be missing, loose or broken. All components must be secure, and within the manufacturers' specification, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 28 of A/R 118/89.

18.6.11 TRAILER TIRES

Bias ply, belted bias, and radial ply tires will be inspected for presence and condition on all axles for the following: depth of tread defects, side-wall defects, under-sizing, re-grooving, and a presence of a mix radial and bias ply tires.

Tire-wear tolerances: tread wear indicator is not to contact the road. Less than 1.5mm of tread in any two adjacent major grooves on tires installed on trailer and converter axles.

All tires must not have exposed cord at worn spots, must not have cuts or snags deep enough to expose the cord, or affect the safety of the tire. Tires must not have any abnormal visual lump, bulge or knot related to tread or sidewall separation or to failure or partial failure of the tire structure including the bead areas.

All tires must have the correct air pressure as indicated on the sidewall of the tire.

Tires must not be re-grooved or re-cut unless the manufacturer specifically designs this modification. A tire must not be of smaller size than is marked on the vehicle placard or oversized so that the tire contacts the vehicle body structure. The vehicle must not be fitted with both radial ply and bias ply tires unless authorized by the tire manufacturer.

Dual wheels must not be in contact with each other, differ from each other by more than 13 mm in diameter or by more than 38 mm in circumference. Load capacity of the tires must be equal to or greater than the gross vehicle-rating limit of the vehicle. Tire valves and valve stems must not be worn or damaged.

A trailer will not be fitted with both fifty and sixty series tires. Construction type tires and sizes must not be mixed on an axle unless that combination is stated to be equivalent by the tire industry standards.

A commercial trailer must not be fitted with a tire bearing the words “not for highway use”, “farm use only”, or any other wording or lettering indicating that the tire was not designed for highway use. All components will be inspected to meet the criteria set out in schedule 3 section 27 of A/R 18/89.

18.6.12 TRAILER – UPPER FIFTH WHEEL AND COUPLING DEVICES

Inspection of the following: presence and condition of the upper fifth wheel device. The upper fifth wheel components must not show any signs of failure, excessive wear, loose, broken, cracked, loose or broken or missing rivets or mounting bolts including excessive corrosion. All components must be secure within the manufacturers’ specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 31 of A/R 118/89.

18.6.13 TRAILER – LOWER FIFTH WHEEL COUPLER FOR CONVERTER DOLLY

Inspection of the following: inspection of the following: fifth wheel mounting bolts, jaws and latch, saddle bushings, saddle slider stops, air release slide, frame and fifth wheel sub frame. Components must not show signs of failure, excessive wear, loose, broken, cracked, loose or broken or missing rivets or mounting bolts including excessive corrosion.

All components must be secure, within the manufacturer’s specifications, operating and functioning as designed by the manufacturer. All components will be inspected to meet the criteria set out in schedule 3 section 31 of A/R 18/89.

18.6.14 TRAILER DRAW BAR, SLIDING DRAW BAR AND BALL BEARING TURN TABLE

Inspection of the following: presence and condition of the trailer draw bar, pintle eye, safety devices, sliding draw bar, and ball bearing type turn table. All components must not show signs of failure, excessive wear. Loose broken, cracked, loose or broken or missing rivets, or maintain bolts, including excessive corrosion. All components must be secure, with the manufacturer’s specifications, operating and functioning as designed by the manufacturer. All components must be inspected to meet the criteria set out in schedule 3 section 31 of A/R 118/89.

18.6.15 LUBRICATION

Lubrication and inspections will be conducted as per section 9 of A/R 118/89, and schedule 3 sections 29 of A/R 118/89, and the company's preventative maintenance schedule as outlined in this maintenance program. The vehicle must not have excessive oil and grease leaks.

18.6.16 CERTIFICATION

The vehicle will be inspected to ensure that a valid commercial vehicle inspection certificate is located in the vehicle and that a valid inspection decal is affixed to the exterior of the vehicle, and that the Canada Safety Mark required under the Motor Vehicle Safety Act (Canada) is affixed to the vehicle.

Note to service personnel:

All air tanks on the trucks and trailers must be drained on the 200 hour inspection Comments or repairs completed:

18.6.17 INSPECTION CHECKLIST

Checklist requirements, all inspection must comply with the inspection form as indicated.



200 Hour Inspection						2013			
Date:			Hour Meter:						
Unit#:			Vehicle Mileage:						
Service Location:			Service Person:						
Power Unit		OK	Repair or Adjustment	Power Unit		OK	Repair or Adjustment		
Change engine oil & filter/grease all components/oil levels, trans, diff, ps/water/fuel/air filters/hub oil					Lighting & Reflectors				
Check for excessive grease/oil leaks					All req'd lighting/reflectors/retro tape				
Driver's Compartment					Suspension & Frame				
Windshield/wipers/washers/window/mirrors					Spring/air suspension				
Sun Visor/Starting switch					Chassis frame/cross members/torque rods				
Heating & defrosting					Under body				
Horn/low-air warning device					Body (fenders, bumpers, mudflaps)				
Body/doors/seats/latches/door-release									
Warning triangles/fire extinguisher					Trailer Section				
Truck documentation binder					Brakes				
Valid CVIP decal & certificate					Mechanical & friction components				
Engine Controls					Air brake system				
Air-shutdown operation					Brake adjustment/brake lining condition				
Steering					Brake operation: service/park/emergency				
Steering column/box/linkage/wheel alignment					Vacuum/hydraulic/air components				
Brakes					Drain air reservoirs				
Mechanical & friction components					Tires				
Brake System					Tires/wheels/rims/hubs				
Brake operation: service/park/emergency					Tire pressure & wear alignment				
Vacuum/hydraulic/air components					Wheel studs/ fasteners/ rims/ bearings/hubs				
Service Brake Pedal					Lighting & Reflectors				

Brake adjustments/break lining condition			All req'd lighting/ reflectors/ retro tape		
Drain air reservoir			Coupler & Hitch		
Drive Line			Upper 5th wheel pin & plate		
Drive shaft hanger brackets/guards/u-joints			Pintle eye/ horn/ hitch/ safety chains		
Tires			Grease fifth wheel		
Tires/wheels/rims/hubs			Dolly legs		
Tire pressure & wear/alignment			Suspension & Frame		
Wheel studs/fasteners/rims/bearings/hubs			Spring/ air suspension		
Coupling Device			Chassis frame/ cross members/ torque rods		
Pintle eye/horn/hitch/safety chains			Under body		
Grease fifth wheel			Lubricate all grease zerks & bushings		
Condition/adjustment/securement			Body (fenders, bumpers, mudflaps)		
Fuel System			Other:		
Fuel tank/filter cap/fuel lines					
Exhaust System					
Manifolds/Muffler/exhaust pipes					
Note to service personnel: All air tanks on the trucks & trailers must be drained for this 200-hour inspection.					
Comments/repairs completed:					

18.6.18 POLICIES/PROCEDURES/PRACTICES

This safety plan has been developed and implemented to address all aspects of the National Safety Code requirements pertaining to the Commercial Trucking Industry.

The general manager and/or designated safety coordinator will review this safety plan annually and address any existing policy or safe work practice that requires clarification or policy amendment.

At any time, if an employee, member of the public, or the transportation industry identifies a safety sensitive issue or concern not covered by our safety plan, management will review such recommendations and concerns for possible implementation into o this plan.

18.6.19 DUE DILIGENCE

To help protect the employees of this company and the other members of the public that come in contact with this company, all reasonable effort will be made to ensure that all staff members conduct themselves according to company policy and comply with all applicable legislation. If any staff member identifies any situation, which he/she may be unsafe, then it is their responsibility to immediately bring it to the attention of the safety coordinator or designate.

Through this safety plan our company is ensuring that we are taking all reasonable steps to ensure safe environment for all employees within the scope of the carrier's operation. This safety plan will outline safety practices and expectations for both management and all employees within the carrier's organization.

Responsibility for implementation and compliance of this safety plan lies with both management and employees within the company to ensure that the plan is implemented as intended.

This safety plan applies to all employees including management, drivers, maintenance, swappers, and clerical personnel that are operating National Safety Code vehicles that are registered to this company. All carriers that are or become leased operators with this company will be required to abide by this safety plan.

It is our vision that this safety plan will evolve and change to include additional company policies and procedures as our company grows and additional employees and commercial vehicles are added to our operation.

18.7 RESPONSIBILITY FOR SAFETY

18.7.1 SAFETY COORDINATOR

The responsibilities of the designated safety coordinator for this company will include:

- Immediately address or report all major safety issues that arise;
- Hiring and termination of drivers for safety related issues;
- Discipline of drivers and dispatchers;
- Safety training and orientation programs;
- Safety incentive program;
- Meeting all transport related legislative requirements;
- Holding regular (monthly) safety meeting with drivers and dispatchers with specified attendance requirements (note that agenda and attendance of all safety meetings will be documented and filed in a training file in the company's office);
- Review drivers' violations and incidents (collisions and near-hits) and prepare a report with recommendations;
- Ensure driver files are complete and maintained with up-to-date information on a monthly basis;

- Update of this safety plan when required but reviewed at least annually;
- Conduct safety exercises;
- Communicate with appropriate government agencies regarding reporting information (i.e.: chemical spills, corporation name change, etc.);
- Instruct all required staff in appropriate use of applicable safety equipment, review all applicable legislation that may affect that company and monitor effects of any amendments to this legislation;
- Written and practical review of driver performance as required but at least annually.

18.7.2 SAFETY MEETINGS

This Company's policy is that all jobs be completed in as safe a manner as possible and no one is to take any unnecessary risks or chances.

To assist in this goal, an annual safety meeting will be held and all drivers/employees are required to attend. When minor situations arise, verbal or written notice will be issued to a specific driver or employee. All verbal and written notices addressed throughout the year will be reviewed at the annual safety meeting.

These written notices will also be documented in the driver/employee file for further reference and review.

Additional safety meetings will be scheduled and conducted if deemed necessary by the safety coordinator.

Employees of the company are required to advise the safety coordinator of any unsafe work practices, policies or procedures so these issues can be addressed with all personnel through a safety meeting, and company directive can be established in the safety plan if required.

18.7.3 SAFETY TRAINING AND ADMINISTRATION

All training supplied to the employee will be documented in:

- Training file
- Drivers file

This documentation will include at least:

- Employee name
- Course name
- General course content
- Proof of acceptable completion (usually an examination with a specified pass mark).
- A recall system will be maintained by the safety coordinator to ensure that no required training certificate expires. It is important, however, that if an individual employee identifies where re-training has not been given, then by the end of the shift, the employee should notify the safety coordinator.

18.7.4 TRAINING ACTIVITIES

Training courses will be established or arranged for at least the following subject areas;

- Initial orientation and administration (including completion of documentation);
- Initial driver “Road Test”;
- Routine driver “Road Test” at least annually (more frequently if the ability of a driver is in question)
- Hours of Service;
- Dangerous Goods;
- WHMIS (Workplace Hazardous Materials Information System);
- Vehicle Weight and Dimensions;
- Loading, Unloading and Securement.
- Route restrictions for over-weight and over-dimensional loads, if applicable;
- First Aid;
- Use of all safety equipment;
- Incident response and co-ordination;
- Professional Driver Improvement Course;
- Vehicle operation.

Employees are subject to the following training areas:

- Initial orientation and administration (including completion of documentation);
- Initial driver “Road Test” (if deemed necessary by the safety coordinator);
- Routine driver “Road Test” (if the ability of a driver is in question);
- Hours of Service;
- Driver pre & post-trip inspections;
- Load securement.

Training will be rescheduled as required. Suggestions for new training courses should be provided to the safety coordinator for his consideration. All training completed will be documented on the driver file.

All employees are required to attend all scheduled safety meetings.

18.8 ADMINISTRATION: RECORD RETENTION

18.8.1 DRIVER FILES

The safety coordinator of designated will maintain all driver files. These files will contain at least the following information.

- A photocopy of a valid current driver's license;
- An abstract permission release form, signed by the driver;
- A drivers abstract dated within 30 days of hire if employed after May 20, 2003;
- A current driver abstract obtained every 12 months and the previous driver's abstracts up to and including 5 year history if employed by the carrier for that length of time;
- Record of the driver's annual review completed by the safety coordinator or designate;
- Records and/or copies of all driver convictions identified on the carrier's profile including any additional records of convictions in both company and personnel vehicles;
- Driver collision control log indicating all collisions involving NSC and company motor vehicles training course records, copies of training certificates issued, road test results, air brake endorsement, defensive driving courses, dangerous goods, and all other training and driving qualifications taken by the employee, pertaining to the operation of company vehicles. This also includes copies of any exams;
- Letters of acknowledgment and discipline including documentation of disciplinary action taken;
- Employee application form with 3 year pre-employment history; (if hired after April 1998);
- Current medical certificate (not required if a photo copy of driver's class 1, 2 or 4 license is on file);
- All driver files shall be kept in a neat and orderly fashion at the main office of this company for at least the current year and the previous 4 years.

18.8.2 HOURS OF SERVICE FILES

The safety coordinator or designate will maintain an hours of service file on all drivers operating National Safety Code vehicles. The safety coordinator or designate will monitor all hours of service records and time records for accuracy and legibility prior to filing these documents.

Required time records or driving logs will be kept on file for the current month plus the previous 6 months.

18.8.3 COLLISION FILES

A collision file will be maintained by the safety coordinator or designate and all documentation relating to reportable collisions of all vehicles with damages greater than \$1000.00 will be kept on file. The safety coordinator or designate will be responsible for conducting an internal review of all collisions involving NSC vehicles to determine preventability, driver discipline issues, or related company policy.

A driver collision control log will be placed in the appropriate driver's file to assist in tracking driver collisions when a file review is completed.

All employees are required to report all collisions of company vehicles with damages greater than \$1000.00. This reporting and supporting documentation including police accident report must be submitted immediately to the safety coordinator.

Drivers that are involved in preventable collisions are subject to discipline procedures up to and including dismissal.

Drivers involved in any type of collisions may be required to attend defensive driving course or PDIC course as dictated by management to retain their employment with the company.

Minor incidents involving damages under \$1000.00 must be documented on the pre & post-trip inspection report. If other vehicles are involved, drivers must obtain the name of the party involved, address, phone number, and supporting witness documentation.

18.8.4 VEHICLE FILES

The safety coordinator or designate will maintain a vehicle file for all NSC vehicles. The file will contain the following items:

- A photocopy of the current vehicle registration, including make, model, year, unit number, serial number, registered weight and license plate;
- Leased vehicles (name of company or person supplying the vehicle);
- Records of the current CVIP Safety Inspection and the previous 4 years CVIP Safety Inspections if the vehicle has been in service by the carrier for that length of time;
- Copies of all CVSA Inspection documentation for the current year and the previous 4 years;
- All records/check sheets pertaining to the carriers scheduled inspections;
- Records of modification of the axles or suspension including records of recall notice of defect from the manufacturer and notice that repairs have been completed;
- Records of all maintenance, lubrication, inspections and repairs, including work orders for the current year and the previous 4 years. (The previous 4 years records may be kept in a separate archive file if the carrier so wishes. These records must include the date, kilometers or mileage, make, model, unit number, serial number of such inspections and repairs;
- All files will be kept in a neat and orderly fashion at the main office of this company for at least the current year and the previous 5 years.

18.8.5 VEHICLE RECORDS

Records to be in NSC vehicles at all items listed as follows:

- Vehicles current registration (original);
- Vehicles insurance certificate;

- Fuel tax permit;
- Annual CVIP inspection for vehicle;
- Safety fitness certificate;
- Operating authority certificates;
- License permits;
- Applicable permits.

18.8.6 DATA ANALYSIS

Periodically (monthly to annually, as required), the safety record of the Company will be analyzed and reviewed by the safety coordinator. Reports and recommendations (with a cost-benefits analysis) will be made to the general manager regarding safety improvements. This review will include at least the following:

- Maintenance activities;
- Driver activities (e.g. hours violations, loose load violations, brake adjustment violations, excessive speed, mileage driven, hours worked, etc.);
- Customer information;
- Customer complaints;
- Carrier fleet size and total kilometers traveled;
- Number of license and operating authority permits obtained;
- Incidents and near misses;
- Review of carrier's Profile obtained from Alberta Infrastructure.

18.8.7 DAILY REPORTING

Drivers must ensure all required documentation is legible, and completed properly at the end of the day. All supporting documentation must be submitted to head office at the end of the work shift.

18.8.9 HIRING AND PROBATION PERIOD

All employees applying for any position that requires the driving of a motor vehicle for this company are required to complete the Driver Application form contained in the Appendix – Section 14. Employees will be interviewed for that specific job, applications will be reviewed, references checked and driver abstracts reviewed prior to employment commencement.

A road test may be required if deemed necessary by the Safety coordinator.

All drivers and employees are hired on probation. Permanent employment is dependent on satisfactory results of checks of references, previous employment record and the probationary employee or contractor's ability to handle the job. The probation period is three months of continuous employment.



18.8.10 DRIVER ANNUAL REVIEW

The safety coordinator or designate will conduct an annual review of the driver's performance. This review may also be conducted monthly or quarterly if the management has concerns about driver conduct, attitude or job performance.

A driver conviction control sheet has been developed and is located in the driver's file. The safety coordinator or designate will ensure that all the convictions related to the driver identified on the carrier's profile are either photocopied or documented on this conviction control sheet and placed in the driver's file.

The review of the driver will consist of referencing the employee's driving abstract, driver related carrier profile violations, collisions, incidents, letters of discipline and acknowledgement of job performance issues. The driver review is to be completed annually in writing and documentation pertaining to driver discipline or retaining will be placed in the driver's file.

A copy of this annual review document is located in this safety manual.

18.9 LEGISLATION COMPLIANCE

18.9.1 NATIONAL SAFETY CODE

The Safety Coordinator will be responsible for ensuring that all National Safety Code requirements are met. This will include identifying which equipment and personnel are covered by this code.

18.9.2 PERMITS

The Safety Coordinator/Dispatcher is responsible for ensuring that any permits required from the federal, provincial or municipal governments are obtained and updated as required and provided to the driver prior to dispatch.

18.9.3 INSURANCE

This Company will maintain the required PL and PD and Cargo Insurance. All Company vehicles will carry insurance coverage as required by provincial regulations. All units must carry a "Certificate of Insurance" and Vehicle Registration. Copies of Insurance coverage are available to interested parties upon request to our office.

18.9.4 REGULATIONS

The Safety coordinator will ensure that the company follows all safety regulations an up-o-date copy of all relevant legislation is available and maintained in head office. This current legislation will consist of at least the following:

- Alberta Traffic safety Act and Regulations
- Federal Motor Vehicle Transport Act and Regulations
- National Safety Code for Motor Carrier (Reference)
- North American Uniform Out-of-Service Criteria, Commercial Vehicle Safety Alliance (Reference)
- Current copies of all relevant legislation are available from the safety coordinator.
- Any employee who identifies a possible regulatory violation will report it immediately to the safety coordinator who will then take the appropriate action to confirm the allegation and prevent further occurrences.

18.9.5 OCCUPATIONAL HEALTH AND SAFETY

This company abides by all the rules and regulations as set out by Occupational Health and Safety and Workers' Compensation Board. All employees are expected to abide by these rules, a copy of which is available during working hours at out office.

All employees are covered under Workers' Compensation as required by law. All injuries sustained on the job are to be reported to the company IMMEDIATELY in order that the proper notification of each injury can be made to the Workers' Compensation Board.

18.9.6 ENVIRONMENTAL REGULATIONS

All applicable environmental regulations will be complied with at all times.

18.9.7 HOURS OF SERVICE REGULATIONS

All staff will comply with all applicable federal and provincial Hours of Service Regulations. As minimum the following steps will be taken:

- Retain all records in a systematic manner;
- Retain all records for at least 6 months;
- All radius drivers to ensure that the drivers name, date, location, shift start and end times are recorded accurately;
- Dispatchers must be aware of a driver's available hours BEFORE and DURING a trip to ensure that maximum allowed hours are not exceeded;
- Audit all daily logs for "form and manner" items and take appropriate disciplinary action;
- Audit all daily logs of new drivers for 6 months for falsification and for exceeding daily and cyclic hours limits;



- Audit a random sample of daily logs of all drivers for falsification and for exceeding daily and cyclic hours limits;
- Audit lease drivers with the same frequency as Company drivers;
- Discipline, re-train and terminate drivers, as required, to ensure compliance;
- A sample of carriers Hours of Service daily logs is shown in the Appendix of this document;
- The Company will provide training in Hours of Service regulations when a new employee is hired and as required afterwards. If trips on behalf of this company are within a 160-kilometer radius, then logbooks are not required.
- Drivers have the option to use a time record. If a time record is used the driver must ensure that the drivers name, date, location, shift start and end times are recorded accurately;
- All dispatchers must ensure that no driver is dispatched without sufficient driving hours available to complete the trip;
- For all trips over 160-kilometer radius, and Hours of Service logbook must be kept;
- Logbooks are to be in the vehicle at all times and used as required by law. Logs must be submitted at the completion of the trip or charter;
- The safety coordinator will review all logs;
- Violations identified will be reviewed with the driver. Severe or repeat violations may result in disciplinary short-term suspension or termination;
- The following are working hours' restrictions as set out by the Federal Commercial Vehicle Drivers Hours of Service Regulations, 1994 and by the Alberta Drivers' Hours of Service Regulation.
- **Maximum 13 hours driving per work shift.**
- **Maximum 15 hours on duty per work shift.**
- **Maximum 60 hours in 7 consecutive days (when driving outside of the province of Alberta).**
- **Maximum 70 hours in 8 consecutive days (when driving outside of the province of Alberta).**
- **Maximum 120 hours in 14 consecutive days (when driving outside of the province of Alberta), (with 24 consecutive hours off duty before 75 hours have accumulated).**

Copies of the federal and provincial legislation are available from the Safety Coordinator.

18.9.8 LOG HAUL REQUIREMENTS

All employees will comply with all applicable requirements identified in the Log haul Regulations TSA A/R 431/86. Employees will also adhere to any conditions attached to the required log haul permits issued by Alberta Transportation and any conditions stipulated by the contract mill. To ensure that this is done, at least the following steps will be taken:

- All required staff will be trained and proper loading, securing and transporting short logs, long logs, and salvage wood;
- All employees will be informed of the requirement for "Immediate Reporting" of some incidents;
- All employees will be informed of the requirement for "Written Reporting" of some incidents;

- All drivers will ensure that all documents prepared by them or presented to them are complete, accurate and legible;
- All documents will be forwarded to main office at the end of the work shift;
- All required staff will be trained in safe emergency response procedures;
- Company-wide Emergency Response Plan will be prepared and maintained at least annually in conjunction with contract mills;
- When a driver loading or assisting with loading, he/she should check for at least the following:
 - Load securement;
 - Load compatibility, copies of this legislation will be available from the Safety Coordinator.

18.9.9 HANDLING CHEMICAL

Each employee is responsible to have a full understanding of each type of chemical that he or she may be handling. They must know the classification of the dangerous goods prior to taking possession of the goods. A person must not handle, offer for transport or transport of dangerous goods in a means of containment unless the means of containment is displaying its safety marks, as per TDG requirements. All means of containment: are designed, constructed, filed, closed, secured, and maintained so that under normal conditions of transport, including handling, there will be no accidental release of dangerous goods that could endanger public safety.

It is the responsibility of each employee to have a full understanding of each type of chemical that he or she may be handling.

If the employee has any concerns about the work place environment, location of chemicals or the chemical itself, the worksite foreman must be contacted immediately. Review the Material Safety Data Sheet prior to moving or transferring any chemical and know the risk's associated with the product to handling it.

The Safety Coordinator must be notified immediately if such an incident develops so that the safe loading procedures can be reviewed with the employee to eliminate any future unsafe work practices.

18.9.10 TRANSPORTATION OF DANGEROUS GOODS

If transporting dangerous goods a consignor must be able to produce a copy of any shipping document for two years after the date the shipping document was given to a carrier by the consignor. For dangerous goods imported in to Canada, for two years after the date the consignor ensured that the carrier, on entry into Canada, had a shipping document.

When dangerous goods are no longer in transport, each carrier who transported the dangerous goods must be able to produce a copy of the shipping document that related to the dangerous goods and was required to be in the possession of that carrier while the dangerous goods were in transport. The shipping documents referred to in this section may be kept as electronic copies.

18.9.11 VEHICLE WEIGHTS AND DIMENSIONS

All regulations affecting the vehicle weights and dimensions restrictions must be followed. Training will be provided to the drivers, loaders and dispatchers regarding at least the following information:

- Maximum gross weights;
- Maximum axle and axle group weights allowance;
- Product weights from most common customers;
- Proper load securement;
- Positioning of loads;
- Truck routes in each municipality traveled;
- Road and bridges restrictions;
- Seasonal axle weight allowances;
- Permit procedures for over-weight and over-dimensional loads;

For transporting over-height (>4.15m) loads; Special Annual permits must be acquired from the Alberta and Saskatchewan governing bodies. All permit loads are authorized through the permit office and subject to final approval, which includes routes, roads, and traffic patterns that must be followed.

Insert Company. hauls fixed sized loads, all loads have been measured and all drivers have equipment load sizes. It is mandatory to give the Department of Transportation the dimensions of load for road approvals. Insert Company. enforces mandatory Regulations.

The frequency and cause of over-weight and over-dimensional loads will be reviewed by the safety coordinator or designate and discussed with the drivers when issues arise, or at the scheduled safety meetings.

18.9.12 LOAD SECUREMENT

The legal requirements for load securement are to ensure that the load may not shift, slip, blow off or fall off during transport. It is the driver's responsibility to ensure the load is secure, and in place at all times.

- Loose objects on the truck Trailer must be secure or stored in a confined spot. This includes deck pins, snipes, slings, product hoses, buckets, catch pans, tools etc. Deck pins, boomers and chains should be removed from the truck trailer when not in use, and stored or secured properly.
- Loose mud/rocks must be cleaned from the loads prior to transporting loads on the highway. Truck and trailer decks must be clean of any loose material left by the load, prior to travel on highway.
- Chains, slings, cables and any other load securing devices must be of sufficient strength and used in such a manner so they will not break and will stabilize and secure the load under any reasonable anticipated operating condition.
- Check securement of the load often during a trip. Ensure boomers have not sprung, and chains, cables, product hoses etc. are tight. Ensure that all smaller items are contained within the load are secure as well.

- Specific load securement requirements are identified in the log haul regulation TSA A/R 431/86, and the company will ensure all employees are trained in the proper procedure for this type of operation.
- Check with the dispatcher for compliance with the January 2006 load securement Regulations such as correct number of chains needed to secure the weight of the Cat being hauled or loose articles in the commercially plated light duty vehicle, you could be fined \$150.00 approx. for each article that could fall out.

All fines for infractions issued under the Traffic Safety Act, Dangerous Goods Control Act, urban and/or municipal laws including federal legislation will be the responsibility of the driver. All infractions in company or personal vehicles must be reported to the safety coordinator immediately.

18.10 DRUGS AND ALCOHOL AWARENESS

This Code of Practice is subject to ongoing review and may be modified from time to time. The owners and or management of the company will meet periodically to review the practice.

Concern for the health, safety and well being of our employees, our customers and the public will continue to be a major commitment of this company. The company recognizes alcohol and drug abuse as a health, safety and security problem. The company expects all employees to assist in maintaining a work environment that is free of alcohol and drugs.

Our company is committed to a work place that is free of unauthorized, illegal, prohibited or controlled substances. Employee usage of alcohol of drugs compromises the safety of the drivers, passengers, employees as well as the general public. It also compromises the carrier's liability and due diligence requirements.

Drivers operating commercial vehicles have responsibilities that affect the safety of all users of the highway. Drivers are deemed to have a high degree of trust and professionalism by the traveling public and transportation industry as a whole.

All employees are expected to report to work free of the effects of drug and alcohol abuse, and be in a condition to perform their work duties in a safe and legal manner through the day.

Employees must refrain from consuming any alcoholic beverage of any kind for a period of 10 hours prior to reporting for his or her work shift.

The possession of or consumption of alcohol, illegal drugs, or the misuse of prescription drugs is strictly prohibited on company property or in company vehicles. No employees are allowed to consume any portion of an alcoholic beverage or other illegal control substances while on duty. Over the counter or prescription drugs are allowed if the side effects of these drugs are deemed not to compromise the employee's function in a safety sensitive environment.

Employees must ensure that they report to work with adequate rest, and are not under the influence of any substance that will impair their abilities to operate company vehicles in a safe, legal and professional manner.

All employees must conduct themselves in a professional manner at all times. Any employee found to be in contravention of their policy is subject to immediate dismissal.

18.11 DISCIPLINARY POLICES

Disciplinary policies and procedures are including but not limited to:

First offence: verbal warning with documentation completed by the safety coordinator and placed in the drivers file, training to be supplied if required, and review safety plan with employee policy pertaining to the offence or issue.

Second offence: written warning and documentation placed on the driver file, training to be supplied if required, and review with employee the safety plan and policy relating to the offence or issue.

Third offence: short-term suspension from one to three days, documentation placed in driver file, and review with employee carrier policies in the safety plan pertaining to the issue at hand.

Forth offence: dismissal with documentation placed in the drivers file.

18.11.1 DISCIPLINARY ACTION

The safety coordinator will take disciplinary action against any employee as deemed necessary.

Actions include:

- Verbal warning;
- Written warning;
- Short term suspension;
- Long term suspension;
- Termination.

18.11.2 TERMINATION

Immediate termination could result from any of the following situations:

- Being under the influence of any legal drug that impairs the driver's abilities to drive or function properly in a safety sensitive area;
- Failure to notify in writing to the safety coordinator or any manager upon revocation or suspension of a driver's license;
- Taking, possessing or being under the influence of any illegal drug or of alcohol during working hours;
- Allowing non-company individuals to operate company vehicles without permission;
- Causing physical or psychological damage to any employee or customer through horseplay or practical jokes;
- Use of threatening or abusive language to s supervisor, customer or other staff;
- Failure to report in writing any injury before the end of the work shift;
- Failure to report any incident or "near miss" involving company equipment or staff before the end of the shift;

- Possession of weapons of any type during working hours;
- Improper use of company communication equipment;
- Failure to report in writing any traffic violation to the safety coordinator within 7 days;
- Refusal to perform acceptable work when requested;
- Leaving the job without permission;
- Failure to report to work without notifying a supervisor;
- Stealing or intentionally damaging company equipment;
- Fighting or assaulting supervisors, staff, or customers;
- Out of compliance with the current hours of service legislation;
- Dishonesty or falsification of any company records (including: time cards; pay sheets; Hours of Service logs or time records);
- Gambling on company property;
- Sexual harassment of any employee;
- Failure to use safety equipment as and where directed;
- Involved in a preventable collision while operating a company vehicle.

18.11.3 MINOR VIOLATIONS: DISCIPLINE

A driver will be issued up to here written warnings on minor issues so these minor issues situations will not be recurring on a regular basis. When driver has received 3 written notices over the same related issue the driver is subject to disciplinary action depending on the severity of the issue.

18.11.4 APPEALS

The employee may appeal a decision by the safety coordinator for a suspension or termination. Any appeal must be in writing and presented to the general manager within 30 days of the appealed decision.

18.12 INCIDENT HANDLING

18.12.1 INCIDENTS

All incidents encountered by a driver must be reported immediately to the safety coordinator or designate. An incident should be considered to be any situation where there was an injury, a fatality, a traffic collision, chemical or commodity spill, or any “near miss” occurrence where any of these may have a consequence.

18.12.2 HANDLING PROCEDURES

An Emergency Plan will be prepared for each facility in the company. Each plan will include at least the following information:

Specific directions for each employee involved;

- Evaluation Maps;
- Specific telephone numbers to be used for all responders, supervisors, emergency centers and major customers who might be involved; Security of the site;
- The driver must take initial emergency control actions when a spill, or a near miss that could have resulted in a spill, occurs when on the highway. This may include: stopping traffic; evacuating people; controlling run-off, eliminating fire sources; reporting the incident.

18.12.3 REPORTING PROCEDURES

All incidents, including near misses, must be reported to the Safety Coordinator using the written Accident Report form located in the Appendix of this document. Depending on the type of accident procedures on scene will vary with the seriousness and potential danger involved.

Major spills must be reported to the customer and to your supervisors before you leave the customer yard. Spills or product overflow situations involving dangerous goods should be reported immediately to the local police in addition, contact Alberta Infrastructure's Co-ordination and Information Center at 1-800-272-9600 (or 403-422-9600) for information on proper cleanup procedures.

18.12.4 INCIDENT FILE CONTENTS

All incident files will contain at least the following information (when applicable):

- Copy of police report;
- Driver statement;
- Type of occurrence;
- Date and time of the incident;
- Location and type of area (residential, rural, etc.) of the incidents;
- Names and addresses of persons involved in or witness to the incident;
- Number and type of vehicles involved in the incident;
- Name, address and telephone number of the person making the report;
- Estimate of total damage costs;
- Name of all individuals and organizations who were informed of the incident;
- Confirmation that all reports legally required to be made have been done; record of any legal action taken by or against this company;
- Number of injuries and fatalities;

18.12.5 EVALUATION OF PREVENTABLE OR NON-PREVENTABLE INCIDENTS

Evaluation of all incidents will be made by the safety coordinator to assess conditions and liability. The safety coordinator will review each incident, including “near misses”, to determine: cause, cost (actual and possible), preventability and remediation (training, modifications, new procedures, etc.). Should driver error be found, management reserves the right to dismiss employees or insist that the employee take a Defensive Driving Course.

18.12.6 FILE DISPOSITION

All incident files are confidential. However, copies of any required information must be provided to all appropriate organizations.

18.12.7 FILE RETENTION

Safety is the responsibility of each individual in the company. To ensure that this responsibility can be done safety, each commercial vehicle and driver will be equipped with at least the following:

- Fire extinguisher;
- Advanced warning devices;
- First aid kit;
- Safety helmet;
- Safety goggles;
- Gloves (cloth and rubber);
- Safety boots;
- Respirator;
- Chock blocks;
- Flame and chemical resistant coveralls;
- Ear protectors;
- Chemical Spill cleanup kit;

The driver will inspect each piece of safety equipment, at least weekly and report any deficiencies so these items can be replenished, repaired, or replaced. Any problems should be reported immediately to the safety coordinator. The safety coordinator will ensure that the used items are restored or replenished.

All safety equipment must be secured in an acceptable manner at all times, and pose no threat to the driver or passengers from becoming dislodged.

Any problems identified with this equipment must be reported immediately to the safety coordinator.

18.13 FIRE EXTINGUISHERS (NATIONAL SAFETY CODE VEHICLES)

Location: All fire extinguishers must be securely mounted in a suitable bracket and located in an area that is easily accessible to the driver. It must remain securely attached and fully charged at all times.

Fire Extinguisher Usage: As indicated on most fire extinguishers:

- Stand back 10 feet from the fire;
- Pull release pin;
- Sweep and spray at the base of the fire;
- Directions on the specific extinguisher will over ride these general operational procedures.

****Note:** If the fire extinguisher is used, the driver must ensure it is recharged or replaced at the end of that day or trip.

18.13.1 ADVANCED WARNING DEVICES (NATIONAL SAFETY CODE VEHICLES)

Location: Advance-warning devices must be securely mounted either in the interior or exterior of the vehicle.

Advance Warning Device Usage:

When a vehicle break down or incident occurs on road, (sun rise to sun set) the driver will immediately activate the emergency hazard flashers, and place the warning devices at a distance of 30 meters in front of and behind the vehicle.

When a mechanical breakdown or incident occurs, (sun rise to sun set) the emergency warning devices will be placed at a distance of 150 meters in front of and behind the vehicle. The emergency 4-way warning flashers must be activated forthwith, and dispatch must be notified immediately. If the hazard warning lights are not functional on the vehicle, the warning devices will be placed at a distance of 75 meters in-front of and behind the vehicle. If the location poses a risk to the traveling public the driver must be prepared to conduct traffic control until help arrives.

18.13.2 FIRST AID KIT (NATIONAL SAFETY CODE VEHICLES)

Location: The first aid is to be located in the vehicle so it is easily accessible to the driver and other personnel.

Usage: All National Safety Code vehicles are equipped with first aid kits and are to be used in accordance with first aid training provided.

18.14 PERSON PROTECTION EQUIPMENT

18.14.1 SAFETY HEADGEAR

CSA approved industrial headgear must be worn by all personnel on field sites where there is a danger of falling or flying objects, harmful contacts, fire or explosion, areas designated as hazardous. Metal hats are not allowed. All workers exposed to electrical hazards will wear non-conductive safety headgear having a resistance appropriate to the voltage involved. Chinstraps or other effective means of ensuring retention of safety headgear shall be fitted and worn when workers are exposed to high winds or other conditions which might cause the loss of headgear. Winter liners will be made of fire resistant material. The replacement of headgear every five years and headgear suspension annually is a recommended safe practice.

The application of stickers on the hat should be kept in moderation as it weakens the shell. Headgear should be kept clean by frequently washing with liquid disinfectant soap and water.

18.14.2 PROTECTIVE FOOTWEAR

Canadian Standards Association (CSA) standard Z195 "safety footwear" shall be worn on all areas designated as safety footwear areas. This boot must be a minimum of ankle height, equipped with steel toe, and a sole made of a material resistant to oil/chemical, fire, and electrical shock. It also must be equipped with metatarsal guard, which covers the wide part of the foot sole, which must overlap the steel toe area. The sole must also be slip resistant. Running shoe types do not meet all the criteria.

When operating mobile equipment with foot operated controls, platform fashion footwear shall not be worn. Deteriorated footwear that does not provide the required protection shall not be used.

18.14.3 HEARING PROTECTION & EXPOSURE TO NOISE

In place of employment where a worker is exposed to noise levels in excess of provincial regulations, the employer will be responsible for establishing and maintaining a hearing conservation program for all workers who may be exposed to the noise. This includes the following:

- Where practical, implementing engineering controls to reduce noise levels. Performing sound level surveys and posting high noise level areas.

Conducting base line audiometric evaluations on all employees and supplying hearing protection applicable to the noise level;

- Conducting audio-metric testing on worker within the first 6 months of employment and follow up testing as required by provincial regulations.

All employees who enter a high noise level area or are involved with a task involving a noise level in excess of provincial regulations are required to wear appropriate hearing protection.

18.14.4 EYE PROTECTION

CSA approved eye protection must be worn where there is a danger of injury or irritation to the eye. This eye protection must be appropriate to the work performed. Safety glasses, along with face shields or tight fitting goggles are to be worn when grinding, chipping or handling chemicals. Safety glasses shall be worn on all field worksites. All safety glasses must be equipped with side shields as required by CSA standards.

18.14.5 CLOTHING

All employees, contractors and visitors entering a work site must be fully clothed. Pants must cover the legs and shirts must cover the arms and button at the wrist.

Fire resistant work wear shall be worn on all oil and gas sites. Each company engaged in work on an oil & gas site will have their own fire resistant work wear policy.

Chemical protective clothing (CPC) includes gloves, aprons, boots and suits (both partially and fully encapsulating). CPC shall be selected specifically to provide protection for the particular chemical or chemical material in use. Refer to the material safety data sheet for recommended CPC. In situations where CPC is required, decontamination procedures must be utilized that enhance the removal of the particular chemical. Procedures should reflect the type of CPC required. Work sites should determine, in consultation with CPC manufacture, when CPC should be replaced.

18.14.6 GLOVES AND MITTS

Gloves and mitts are recommended for job tasks where hand injuries may result such as handling steel or wood materials. Chemical resistant gloves should be used when MSDS information indicates the requirement.

18.15 GENERAL DRIVER RESPONSIBILITIES

18.15.1 PUBLIC RELATIONS

You are an important member of our organization. To our customers and the public in general, your behavior, appearance and competence make an impression, which is part of our image. Your reputation and that of the company is in your hands. If you are a skillful and courteous driver at all times, not only will you demonstrate your ability, but also you will maintain the company's good driving record. To all concerned, the company is judged by how you conduct yourself.

Under no circumstances should a driver be argumentative, rude or discourteous to a customer. Differences of opinion should be handled diplomatically at all times. If the situation is not mutually reconcilable, contact your supervisor. If a customer becomes unreasonable, management must be notified as soon as possible so the problem can be resolved in a professional manner.

18.15.2 SERVICE

Customers are the reason this company is in business. Service should be on time and of the highest quality possible.

If the customer or contractor at any time indicates to you that they are not satisfied with the service we provide or make negative references to your driving habits or abilities the safety coordinator should be contacted immediately. Direct all complaint to the safety coordinator or designate. If the driver cannot resolve minor complaints, management must be notified immediately.

18.15.3 APPEARANCE

This company is judged by a driver's general appearance. Drivers are expected to be professional in their appearance. It is expected that our commercial vehicles will be kept as clean as reasonably possible.

18.15.4 DRIVER'S DOCUMENTS

Copies of relevant documents must be submitted on commencement of employment and updated as required. These documents will include at least the following:

- Driver's abstract every 12 months (more frequently if the safety coordinator considers it necessary for the company as a whole or for individual drivers)
- Insurance (if applicable)
- Valid driver's license
- Copies of training courses completed
- Medical report (if applicable)
- Employee application form including 3 years previous employment history.

18.15.5 DRIVER'S ANNUAL REVIEW

As required by regulation, the safety coordinator or designate will conduct an annual review of the driver's performance. This review may also be conducted monthly or quarterly if the carrier has concerns about driver conduct, attitude or job performance.

The annual review of the driver will consist of referencing the employee's driving abstract, driver convictions identified on the carrier profile, equipment violations identified on CVSA inspections related to Pre and Post-trip defects, collisions, incidents, letters of discipline and acknowledgement of job performance issues. The outcome of this review will be discussed with the employee and any disciplinary action or retaining will be addressed at the time.

18.15.6 OPERATOR'S LICENSE

Driver's License Requirements: All workers required to operate a vehicle while employed or under contract to the company or client representative. Workers operating with an out of province license will obtain a valid operator's license for the province of employment within the time frame allowed by the specific province where the worker is presently employed.

As a condition of employment, all workers required to operate vehicles under the conditions previously mentioned, must produce a current driver license abstract upon request from the company. If the license of an employee or contractor working for the company is suspended for any reason, the employee or contractor will immediately notify the company management. All employees driving any company vehicle must have the appropriate class of operator's license to operate the specified vehicle.

The employee will be considered a qualified driver if he/she holds the proper class of license for the vehicle being operated, and a current valid driver's abstract is on file in the driver's file.

18.15.7 TRAFFIC OFFENCES

Any fines for infractions issued under the Traffic Safety Act, Dangerous Good Control Act, urban and/or municipal laws including federal legislation will be the responsibility of the driver. All infractions in company or personal vehicles must be reported to the safety coordinator immediately.

18.15.8 PERSONAL CHARGES AND CONVICTIONS

Any employee, who is issued a ticket from an enforcement agency, whether it is on the road or on company property, will be responsible for paying the fine or going to court on the mailer. All such tickets must be reported verbally to the safety coordinator or designate immediately and follow up by supplying a copy of ticket to the carrier at the end of the work day of shift. Failure to handle personal ticket or failure to report the incident could result in a short-term suspension for a first offence and dismissal for any subsequent occurrences.

Warning Tickets

Any employee who is issued a warning ticket from an enforcement agency, whether it is on the road or on company property must forward a copy of this warning ticket to the safety coordinator or designate at the end of the work shift. Failure to forward this documentation could result in a short-term suspension for a first offence and dismissal for any subsequent occurrences.

18.15.9 ON ROAD CVSA, DRIVER AND VEHICLE SAFETY INSPECTIONS

Law enforcement agencies conduct on road CVSA safety inspections of commercial vehicles operating on provincial highways. This is an inspection of the driver, load securement and the mechanical condition of the truck/ or trailer. Drivers are expected to conduct themselves in a professional manner and cooperate with the CVSA inspector at all times.

If serious Out Of Service defects are identified, the driver, and or the vehicle will be placed out of service. If the driver or vehicle/trailer is placed out of service, the driver must inform the safety coordinator or designate immediately so arrangement can be made to rectify the problem.

If the driver or vehicle has minor defects identified, the driver will be released and will be able to resume his work shift.

If the vehicle or trailers pass the inspection, CVSA decals will be placed on the vehicle and or trailer.

Ensure all documentation pertaining to this CVSA inspection is forwarded to the safety coordinator or designate at the end of the work shift.

18.15.10 LOG BOOKS

Company drivers operating National Safety Code Vehicles shall ensure that for each work day of the month that he/she is engaged as a driver, a true and accurate daily log is maintained in duplicate.

The (original) top copy of the log book must be forwarded to the head office within 20 days. The driver must retain the second copy (drivers copy).

The driver and carrier must retain all logbook records for a period of six months from the time was produced.

The safety coordinator or designate will review a percentage of driver's logs.

Violations identified will be reviewed with the driver. Severe or repeat violations may result in disciplinary short-term suspension, long term suspension up to and including termination.

All days off and holidays taken must be documented on a logbook and multiple days can be grouped together on one log.

Drivers will be supplied with a properly completed sample logbook at the time of orientation

Drivers are required to complete their logbooks accurately using this sample log as a reference.

Drivers who are uncertain about any logbook requirement or issue must notify the safety coordinator or designate for clarification.

A copy of the Provincial and Federal Hours of Service legislation is available for review in the carrier's head office.

When driver Provincial and Federal Hours of Service legislation is available for review in the carrier's head office.

If the driver crosses a provincial boundary (provincial undertaking) the driver must have in his/her possession the current days logbook and the previous 7, 8 or 14 days log books, depending on what cycle the driver is operating in.



The following information must be entered on a driver's daily log book: as identified in the Provincial Hours of Service Regulation A/R 290/89 using approved grid.

- The name of the motor carrier for whom the driver worked for during the day.
- The date;
- The power unit and or trailers unit number or license plate number;
- The name of the driver;
- The signature of the driver at the end of the day to declare the log is true and accurate;
- The name of any co-driver;
- The odometer reading at the commencement of the work shift;
- The total number of kilometers or miles driven by the driver during the workday.

In the case where the vehicle is being operated by co-drivers, the total number of hours that the vehicle has traveled during the work shift.

The company will provide training in the Hours of Service Regulations when a new employee is hired and as required afterwards. If trips on behalf of this company are within a 160-kilometer radius, the driver has the option of using a time record as long as all the conditions pertaining to the time record are met.

All dispatchers must ensure that no driver is dispatched without sufficient driving hours available to complete the trip.

For all trips are to be in the vehicle at all times and used as required by law. Drivers are to submit their logs at the completion of the trip if practical.

The safety coordinator or designated will randomly review driver's logs.

The following are working hours' restrictions as set out by the Federal Commercial Vehicle Drivers Hours of Service Regulations, 1994 and by the Alberta Drivers' Hours of Service Regulations:

- Maximum 13 hours driving per work shift
- Maximum 15 hours on duty per work shift; (cannot drive after the 15th hour)
- Maximum 60 hours in 7 consecutive days (when driving outside of the province of Alberta)
- Maximum 70 hours in 8 consecutive days (when driving outside the province of Alberta)
- Maximum 120 hours in 14 consecutive days (when driving outside of province of Alberta) (with 24 consecutive hours off duty before 75 hours have accumulated)

18.15.11 TIME RECORDS

Drivers operating within a 160 kilometer radius of their home terminal may be allowed to complete a time record verses a log book.

For drivers to be exempt from completing a logbook, the driver must start and finish the work shift at the same location;

- The driver cannot exceed a 160 km driving radius: (as the crow flies)
- The driver must be released for duty no longer than 15 hours from the commencement of the work shift;
- The driver must record the date, start and finish times of the work shift;

If any of these conditions are broken or cannot be achieved, the driver must complete a daily log for that date.

***Note: The carrier must be supplied with these time records within 20 days.

The driver must record all non-driving hours he or she conducts on behave of the carrier, identifying all days off. The driver requires 8 consecutive hours off duty prior to starting a new work-shift.

Possession of Log:

Drivers are Allowed to use/complete a time record, verses a log book when they are operating within a 160 km radius of their home terminal. They must ensure when they leave this radius that they complete a logbook for that day and have in their possession the previous 7 day time records. If they are leaving the province (federal undertaking) they must a log for the current days and also have the previous 7, 8 or 14 day time records with them depending on which cycle they are using.

Enforcement personnel who identify driver's with no logbooks when required, false logs, or a driver that is over the allowed driving time can be placed out of service for 8 consecutive hours or until such time as the cycle allows the driver back in service.

Drivers will be supplied with properly completed sample logbook. Drivers are required to complete their log books accurately recording.

18.15.12 SMOKING POLICY

No smoking is allowed at the job sites, unless there is a designated area at that location. Employees are allowed to smoke in company vehicles, however no smoking is allowed in company vehicle when the vehicle is on a job site. The employee assumes all responsibility that may accrue from his or her smoking in company vehicles or smoking in a non-smoking area.

18.15.13 JOB SITE ETHICS

All employees are expected to check in with the foreman at the job site prior to commencing work. All work and safety permits must be completed (if applicable) and a gill understanding of the job is required before starting work at that location. A list of contacts names for the facility must be obtained and put on file if the driver or carrier has never been at this location.



The employee has the right to refuse any job task if he or she feels that the type of work required is unsafe to themselves or other personnel in the immediate area, or if the safety equipment for that task is not present or is in an unacceptable, unsafe condition. If a conflict arises over this issue the safety coordinator or designate must be contacted immediately.

A clean work area is a safe work area. The work areas must be clean and no garbage or spills left from the work activity the carrier performed at that work site. All work site tools and equipment must be placed back in the designated area from where they were removed. All ground cables must be hung up properly, and all caps or plugs placed back on the riser and all valves must be closed.

18.15.14 GENERAL DOCUMENTATION

All loads must have the appropriate Bill of Lading/Invoice when required. At least one copy of each document, signed by the customer, must be left at the delivery site, and all other copies returned to the office.

18.15.15 DANGEROUS GOODS DOCUMENTATION

All Dangerous Goods documentation, if required must be carrier in the cab of the vehicle. At least one copy of each document, signed by the customer, must be left at the delivery site, and all other copies returned to the office.

A copy of the required of Dangerous Goods documentation and the instructions for completing this documentation is located in the appendix of this safety program.

18.16 DRIVER OPERATION POLICIES

18.16.1 OPERATION OF VEHICLES

Every day of Operation, Before Starting Vehicle:

- Check engine oil level;
- Check radiator fluid level;
- Check all lights;
- Check all warning indicators;
- Conduct a thorough Pre Trip inspection;
- Fill out the driver's daily log and document any mechanical defects or driver concerns on the Pre-Trip inspection report;
- Notify the safety coordinator or maintenance staff immediately of any unsafe equipment defects identified on the Pre Trip inspection.

Weekly Maintenance:

- Grease truck; use a checklist to ensure no fittings are missed,
- Check transmission and differential oil levels,
- Check hydraulic fluid levels and connections,
- Inspect draw works,
- Oil draw works drive chain,
- Check and set the service brakes.

Every 200 Hours

The driver of the company vehicle should be aware of the scheduled 200 hour service and notify the maintenance department and/or arrange for this scheduled service to be conducted. Ensure the work order and repair invoices are forwarded to head office for proper filing.

Drivers are required to be familiar with the types of vehicles and equipment they are operating, and to follow the regulations pertaining to the operation of that commercial motor vehicle. If a driver has concerns about a vehicle, trailer or specialized piece of equipment, the driver must immediately contact the safety coordinator for assistance or preparation.

18.16.2 COMMERCIAL TRUCK WITH TRAILERS ATTACHED

When a driver is requested to operate a commercial vehicle with a trailer attached, the driver has additional responsibilities. The driver must ensure that the following requirements are satisfied:

- The coupling device is properly attached;
- Safety chains are attached properly;
- All required lights and brakes are operational;
- Trailer is registered with license plate and a copy of the registration present;
- Trailer has current CVIP inspection decal attached with supporting CVIP certificate present;
- Trailer is displaying decals on the cargo tank indicating there is a valid visual and hydrostatic tank inspection present (if applicable);
- A pre-trip inspection is conducted on the attached trailer;
- It is the driver's responsibility to ensure all cargo loaded on or in these trailers are securely attached at all times and no leaks present;
- If the cargo of any kind hangs over the rear of the trailer by five feet or more; the driver must ensure a flag is present, by day and a light is present by night.

18.16.3 PASSENGERS

No passengers are allowed in company vehicles other than authorized employees, unless prior approval has been arranged with the safety coordinator or designate. The driver assumes all responsibility and liability for passenger safety, and injuries, either physical, mental or death that may occur in an accident are the responsibility of the driver.



18.16.4 REPORT VIOLATIONS

All drivers are required to report ALL violation tickers, on toad CVSA inspection reports, warning tickets and court fines to the carrier at the end of his or her work shift, or trip.

18.16.5 SEAT BELTS

The driver is required to wear his/her seat belt at all times when operating the commercial vehicles. Passengers are also required to wear their seat belts if the vehicle is so equipped.

18.16.6 DAILY REPORTING/BILL OF LADING

Drivers must ensure all required documentation is legible, and completed properly at the end of the day. All supporting documentation must be submitted to head office at the end of the work shift.

Bill Of Lading:

When completing the carrier's bill of lading ensure the following is present:

- Driver's name;
- The date of the service provided;
- Shippers name and complete address;
- Shippers phone and fax numbers;
- Shippers document number;
- Name of the receiver or person authorizing the load;
- Pick up location;
- Delivery location;
- Number of truck hours to be billed;
- Unit number of truck and trailer;
- Description of product hauled;
- Print the name and obtain the signature of the person authorizing the shipment of goods

18.16.7 TRIP INSPECTIONS (NATIONAL SAFETY CODE VEHICLES)

As dictated in standard 13 of the National Safety Code and section 3 of A?R 118/89, all company drivers operating our commercial vehicles will conduct a Pre-trip inspection, prior to operating the vehicle, and a Post-trip inspection at the end of the work shift. All defects will be documented in writing on the pre-trip and Post-trip inspection document. A copy of this inspection report is located in the appendix.

The following items will be inspected:

- Lighting devices and reflectors;
- Tires;

- Wheels, rims, and hubs;
- Service brake system, including the trailer brake connections;
- Parking brake system;
- Steering system;
- Horn;
- Windshield wipers;
- Rear vision mirrors;
- Emergency equipment;
- The coupling devices;
- Additional items identified on the pre & post-trip inspection report.

Carrier policy requires all drivers operating company NSC vehicles must conduct an additional walk-around inspection of the vehicle every three hours or as close to that time frame as practical.

Only items of concern or defects identified will be noted and documented on the Pre & Post-trip inspection report. Drivers will turn this report into the safety coordinator, maintenance personnel or designate at the end of the work shift.

Major defects must be repaired at the end of the work day or prior to re-dispatch. Drivers are also required to submit documentation pertaining to on-road repairs to the safety coordinator, maintenance personnel or designate at the end of the day.

Drivers are required to conduct an additional en-route walk around inspection of the vehicles and trailers they are operating every 3-4 hours.

This inspection will consist of checking for excessive brake heat, excessive wheel and hub heat, tire condition and inflation, lights, air leaks, and load securement.

Defects identified must be documented on the pre/post trip inspection report. If serious unsafe condition is identified, the vehicle must remain parked until repaired.

18.16.8 DRIVING COURTESY

All drivers must be courteous to other users of the highway at all times. Drivers must obey all posted speed limits, traffic control devices, and all posted highway weight tolerances at all times.

Vehicles should not be parked in no loading or no parking zones. Drivers are expected to comply with all provincial, federal and municipal laws at all times.

Driver must display defensive driving skills at all times. The driver and passengers are required to wear seat belts. If at any time the driver feels the road or weather conditions are too severe he/she has the option to park the company vehicle and wait for the weather to clear or for assistance to arrive.



Drivers must ensure the company vehicle must be parked in a safe location and poses no threat to the traveling public.

Drivers are expected to remain within the scope of all driver responsibilities pertaining to all training supplied, the company drivers hand book, job orientation, proper employee conduct and discipline.

Drivers are expected to remain courteous and respect all users of the highway.

18.16.9 FUELING VEHICLES

The vehicles must be attended to during filling; adjacent equipment should be shut down, and no smoking observed in the immediate area. The vehicle must be grounded during fueling if a proper ground cable is available at the refueling station.

18.16.10 HEADLIGHTS

Headlights will be on at all times when driving. They must be kept clean and working at all times.

18.16.11 SAFETY MARKS

All large containers (greater than 454 liter (100 gallon) capacity) of dangerous goods must be placarded before loading begins. Placards are usually available from the product supplier. Four placards are required per vehicle, mounted on the front, rear and both sides.

Do not remove the placards until the dangerous goods have been removed so that no hazard remains. Placards must be cleaned on a regular basis during transport. Placards lost during transport must be replaced immediately.

All small containers (less than 454 liter capacity) of dangerous goods must display a hazard label, the shipping name and the Product identification Number (PIN).

18.16.12 BACKING UP VEHICLES

Safe backing of the company equipment is extremely important. The following steps should be adhered to:

Use land guide whenever possible when backing or moving in tight areas, if you lose sight of your land guide "STOP" immediately.

If you cannot see the land guide's direction clearly "STOP" immediately.

When the vehicle is spotted correctly, apply the air brakes and place chock blocks under wheels whenever possible.

18.17 ALL LEASE CONTRACT AND SELF-EMPLOYED DRIVERS

Must ensure that all the rules outlined here are complied with when operating a vehicle registered to our company.

18.17.1 WHY THIS POLICY MUST BE FOLLOWED

To ensure the safety of everyone who may be affected and also to ensure compliance of the National Safety Code for all NSC trucks, this would include but not be limited to such things:

1. Vehicle Maintenance;
2. Hours of service;
3. Log books;
4. Fuel records;
5. Load securement;
6. Compliance with all traffic regulations;
7. Proper license for vehicle operating (valid);
8. Seat belts, speed limits, highway sign regulations;
9. Driving while under the influence of drugs and alcohol;

It is imperative that everyone follow the policy as it is intended to reduce personnel and public injury.

Policy for All Drivers

Drivers' of this company will follow all highway traffic regulations:

- Speed limits;
- Stop signs;
- Red lights;
- Seat belts;
- Maintain current and proper license as per type of truck they are driving;
- Absolutely no alcohol or drugs consumed before or during on duty hours;
- Courteous to pedestrians and all other vehicles;

Drivers' of all NSC trucks must comply with all highway traffic regulations listed above as well as the following:

- Daily log books must be maintained daily;
- All log books must be turned into the office no longer than 10 days after completion;
- Fuel logs must be maintained daily;
- Proper load securement as per NSC;
- All loads must be properly permitted;
- Hours of service regulations must be followed (mandatory);



- Drivers must supply a photo copy of their driver's license upon renewal;
- Chains and boomers when not in use must be located in the headache rack;
- Chains and boomers must be inspected regularly.

18.18 IFTA AND FUEL MILEAGE REPORTS

General Information:

IFTA or International Fuel Tax Agreement was impended many years ago so the larger transportation companies could travel throughout many different jurisdictions without having to license and pay the tax on every unit entering in all these various jurisdictions. With many agreements now put in place we now have a two part system each playing a role in collecting and dispersing the tax collection to the proper jurisdiction into we may travel.

Definition:

IFTA requires that all operators of a commercial unit weighing 4500kgs and over must report all kilometers traveled in every jurisdiction and the fuel purchased in every jurisdiction without exception. It is therefore mandatory by law to fill out a log with respect to kilometers traveled as well the liters purchased every time the unit is fueled. A fuel tax return then is filled out every three months and sent to the Alberta Finance Tax Revenue Administration where the proper fuel tax collected this therefore now paid to the proper jurisdiction, ie: Alberta or Saskatchewan.

Prorate then comes into play in the New Year when we apply to register all the trucks requiring to be licensed for travel in other jurisdictions. We now have to have all the kilometers traveled in the separate jurisdictions as now comes the time we will have to pay the sales tax on these units as per the kilometers traveled in each jurisdiction. At this point we now have to be able to account for all kilometers travelled as we now pay the portion of sales tax appropriate to each jurisdiction based on the kilometers traveled in every separate jurisdiction.

IFTA is fuel tax paid to appropriate jurisdiction.

Prorate is sales tax paid on every unit based on kilometers traveled each jurisdiction.

18.18.1 MANDATORY REQUIREMENTS

Therefore the fuel/kilometer report becomes mandatory to be filled out with correct information.

Alberta kilometers traveled in the Alberta portion of the form, Saskatchewan kilometers traveled in the Saskatchewan portion of the form.

The fuel purchases therefore now have to be entered as to how many liters and where they were purchased. The consequences for not doing this can be very serious as the fines are substantial with risk of not being able to register the motor vehicles.

Required Documentation to effectively complete the IFTA Mandate, all truck operators are required by this agreement to complete and track for the purpose of Tax Assessment.

