LBCO Contracting Ltd.

Health, Safety & Environmental Manual

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The information in this program manual does not take precedence over applicable government legislation with which all workers should be familiar.

January 2026 Edition

Document Control

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Date	Section	Description	Updated By	Next Review
01/01/2020	All		Company	01/01/2021
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01/12/2026	Annual OH&S Manual Review	No changes were made	Andrea Glowatsky	01/12/2027

Table of Contents

ELEMENT 1: MANAGEMENT COMMITMENT

Health & Safety Policy

LBCO Contracting Ltd. is committed to a strong safety program that protects its employee's, its property and the public from any incidents. The personal health and safety of each worker is of primary importance. We will maintain a health and safety program conforming to the best practices of organizations of this type. To be successful, such a program must start with proper attitudes toward incident and injury prevention on the part of both superintendents and workers. It also requires cooperation in all health and safety matters, not only between supervisors and workers, but also between each worker and his or her co-workers. Only through such a cooperative effort can a program for all workers be established and preserved in their best interests.

Our objective is a health and safety program that will reduce the number of incidents and injuries to an absolute minimum, not merely in keeping with, but surpassing, the best experience of operations like ours. Our goal is zero incidents and injuries.

Our Health and Safety Program involves:

- Conducting a program of health and safety inspections to find and eliminate unsafe working conditions and practices, to control health hazards, and to comply fully with the health and safety legislation and standards on every job.
- To protect and maintain the health and safety of all individuals psychological, physical and social well-being.
- Recognizing the right of all workers to work in a safe and healthy work environment.
- Training all workers in good health and safe work practices and conducting a new hire orientation on the first day of hire.
- Providing necessary personal protective equipment and instruction for its use and care.
- Developing and enforcing health and safety rules and requiring that workers cooperate with these rules as a condition of employment.
- Investigating every incident, promptly and thoroughly, to find out what caused it and to correct the problem so that it will not happen again.
- Providing mechanical and physical safeguards to the maximum extent possible.

We recognize that the responsibilities for Health and Safety are shared:

- The employer accepts the responsibility for leadership, for its effectiveness and improvement, and for providing the safeguards required to ensure safe conditions.
- Supervisors are responsible for developing the proper attitudes towards health and safety in them and in those they supervise, and for ensuring that all operations are performed with the utmost regard for the health and safety of all personnel involved.
- Workers are responsible for wholehearted, genuine cooperation with all aspects of the health and safety program, including compliance will all rules and regulations, and for continually practicing health and safety while performing their duties.

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Fernando Nogueira

Fernando Nogueira (Director)

Assignment of Responsibility & Accountability for Health and Safety

- It is the responsibility of every individual at LBCO to understand and promote Health and Safety at work. Understanding and promoting safety builds a team and promotes an environment where we work together towards the success of the team and each other.

  At LBCO, all individuals shall: Take care of each other. Taking care of each other means the following things:

- Ensuring that everyone goes home safe at the end of the day.
- Treat each other with respect and dignity.
- Be courageous. Part of taking care of each other means that we all have tough decisions to make sometimes. Being courageous means intervening when you see someone at risk. Whether it's a co-worker, a team member, or another employer at a customer site. Take the responsibility to ensure that they work safe. Stopping someone from being hurt is the ultimate form of taking care of each other.
- Act with integrity

  Be Innovative:

- Use your specific knowledge to push the envelope when solving problems.
- Push yourself to think differently about everyday issues that face the type of work we do.
- Re-conceptualize issues and develop practical solutions.
- Ask "why" Why does do we do it this way? Is there a better way? Is there a safer way? Suggest workable solutions that solve the problem better by doing it more efficiently, more cost-effectively, and more safely.

Management:

- Provide a safe and healthy workplace with active support and participation and maintains a Health and Safety program.
- Comply with legislation and ongoing safety training as required.
- Ensure established policies and procedures are in place and enforced.
- Ensure that policies, practices & procedures are reviewed annually.
- Provide information, instructions, and assistance to all supervisors to protect the health and safety of all employees.
- Provide proper well-maintained tools and equipment.
- Provide proper well maintained personal protective equipment including specialized personal protective equipment/devices required by Occupational Health and Safety.
- Report all injuries to the Workers' Compensation Board (WCB), and maintain a good standing.
- Ensure employees are aware of their responsibilities under the Occupational Health and Safety Act, Regulation and Code, and LBCO Contracting Ltd. safety requirements.
- Take every reasonable precaution to protect the safety of themselves, their employee's and the public.

Supervisors:

- To know and apply the company's safety policies, practices, and procedures.
- Supply information, instructions, and assistance to all employees in order to protect their health and safety.

- Supply proper well-maintained tools and equipment.
- Supply proper well maintained personal protective equipment including specialized personal protective equipment/devices required by Workplace Health and Safety.
- Monitor work sites, hold all employees accountable for their individual safety performance, and enforce company safety rules.
- Maintain good housekeeping on all worksites.
- Comply with legislation and actively participate in Orientation, Toolbox meetings, Hazard Assessments, and training, including making suggestions for improvement.
- Report all incidents/near misses & health concerns immediately.
- Recognize the competencies of employee's and their ability to contribute to incident prevention.
- Correct unsafe acts and conditions immediately.
- Consider all employee's suggestions for improvement.
- Immediately arrange for medical treatment when required, in the case of injury or illness, including transportation to a doctor or hospital when necessary.
- To ensure that all employees are educated to work in a safe manner and that they use all protective devices and procedures required by the company and by legislation to protect their health and safety.
- Maintain good housekeeping onsite.
- Participate in the company emergency response program in a resource and leadership role as required.
- Take every reasonable precaution to protect the safety of themselves, workers in their area and the public.

Worker:

- To follow direction of the company and immediate supervisors to ensure their own safety and the safety of others.
- Wear the appropriate personal protective equipment and clothing for their tasks properly which includes inspecting PPE prior to wearing it.
- Participate in worksite inspections and toolbox meetings.
- Maintain good housekeeping onsite.
- Refuse to operate any tool, equipment, or machinery or do any job that puts the worker or any other worker in immediate danger. And immediate danger is a danger that in not normal for the employee's occupation, or a danger under which the worker would not normally carry out as work. If a worker refuses to do a job, the worker shall immediately contact the Supervisor and explain the reason for refusal.
- Report any incidents, near misses, injuries, occupational health concerns and/or equipment damage to their supervisor immediately and completing the required reports (In house, and WCB);
- Comply with legislation and actively participate in Orientation, Toolbox meetings, Hazard Assessments, and training, including making suggestions for improvement.
- Follow workplace medical and emergency preparedness procedures.
- Complete hazard assessments at intervals that prevent the development of unsafe and unhealthy working conditions.
- All necessary steps shall be taken to reduce or eliminate a hazard. If workers are exposed to immediate danger in trying to reduce the hazards, they shall take steps to barricade or otherwise restrict access to the hazardous area.
- Take every reasonable precaution to protect the safety of themselves, employees in their area and the public.

Subcontractors and Visitors:

- Accept and implement LBCO Contracting Ltd. overall Health & Safety Program.
- Read, understand and comply with the company's safety policies, practices, procedures,

and occupational health and safety legislation.

- Wear the appropriate personal protective equipment and clothing for their tasks.
- Follow workplace medical and emergency preparedness procedures.
- Develop safe work procedures for their expertise level and having them reviewed and approved prior to work commencement.
- Complete and submit inspection reports and incident/near miss reports, report any injury.
- Hold and participate in toolbox meetings with their employees at least once per week. Documented minutes and attendance at these meetings shall be forwarded to the Supervisor for review and corrective actions.
- Make suggestions for improvement.
- Take every reasonable precaution to protect the safety of themselves, employees in their area and the public.

Definitions

Incident: Any unplanned or unwanted event, which results in damage or injury, or could have resulted in damage or injury (i.e. loss-type incidents or no loss-incidents/close calls).

Injury: Physical harm or damage to the body resulting from an exchange of mechanical, chemical, thermal, or other environmental energy that exceeds the body's tolerance.

Inspection: An observational tour of the workplace for the specific purpose of identifying hazardous acts and hazardous conditions, and for determining the levels of compliance with established safe work practices, procedures and company rules.

Management: Those who have a level of authority, responsibilities, and accountability within the company. This includes managers, superintendents and foreman.

Personal Protective Equipment (PPE): Devices worn by the worker to protect against hazards in the environment.

Policy: A high-level overall plan embracing the general principles and aims of the company.

Safety: Control of incident loss.

Safety Program: Activities designed to assist employees in the recognition, understanding, and control of hazards in the workplace.

Supervisors: Those individuals who direct the day-to-day work. This includes foremen, and superintendents.

Workers Compensation Board (WCB): An insurance system under law, financed by employers, that provides payment to injure and diseased employees or relatives for job related injuries and illnesses.

Worker's Three Fundamental Rights (Obligations) Policy

Alberta OH&S Act States:

Every worker shall, while engaged in an occupation,

a) Take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and
b) Co-operate with the worker's employer for the purposes of protecting the health and safety of:

I. The worker,
II. Other workers engaged in the work of the employer, and
III. Other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

Worker's Right to Know

Employees in Alberta have the right to know about worksite hazards. The employer must assess a worksite and identify existing and potential hazards before work begins at the worksite or prior to the construction of a new worksite.

- Hazard Identification and Assessment
- Workplace Hazardous Materials Information System (WHMIS)

Worker's Right to Participate

Employees have the right to take an active role in safety within their workplace. The right to participate means employees shall report unsafe conditions to the employer immediately, voice concerns about health and safety and participate in inspections, and other worksite safety initiatives.

Worker's Right to Refuse Unsafe Work

Workers in the province of Alberta have the right to refuse work which they have reason to believe is unsafe. As per the Occupational Health & Safety Act a worker may refuse to work or do particular work where he/she or another worker may be in danger by,

- Equipment, machine, device or things; or
- Physical condition of the workplace; or
- Equipment, machine, device or thing that is to be used or the physical condition of the workplace is in contravention of the Act or Regulations and may endanger himself/herself or another worker.

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Fernando Nogueira

Fernando Nogueira (Director)

Company Rules

Company Health and Safety Rules along with Occupational Health and Safety Legislation is a part of every health and safety program. When used effectively, they will contribute to the overall success of the program. Company Health and Safety Rules are a means of reducing the hazards that are a part of an employee's job. By using these rules and working safely, employees avoid injury to themselves, fellow employees and the public.

Management has much more latitude with Rules than legislation because rules are developed internally. Rules are basic "you shall" or "you shall not" statements. They leave no room for discretion or argument. Rules must be enforceable and enforced. Action must be taken every time a rule is violated, not only when losses occur. To ensure that rules have the desired effect of controlling actions and conduct, LBCO Contracting Ltd. ensures that Management and Supervisors lead by example.

All violations must be dealt with promptly and consistently. This requires clearly defined disciplinary guidelines. Such guidelines spell out what actions will be taken to deal with serious or repeat violations of the rules. Management and Supervisors must fully understand the guidelines and must apply them consistently across LBCO Contracting Ltd. Do not play favourites or ignore the rules in the face of tight deadlines, bad weather, or other circumstances. Demonstrate the enforcement process.

Enforcement of Rules

Equitable, consistent enforcement of rules encourages compliance. This requires clear communication of the rules, their reasons and the related disciplinary procedures. It also requires good records.

An easy way to remember the best approach is "The 3 F's of Enforcement":

1. **Firm.** Management and Supervisors – all need to remember that the rules are there to protect the health and safety of all employees and the environment. Therefore, they must be enforced firmly, without reservation or hesitation, by everyone with everyone. Allowing someone to ignore a rule is not doing that person a favour and may well be allowing them to place themselves and others at risk.
2. **Fair.** To be enforced fairly, rules will always be enforced consistently with all employees (including managers). If leaders "play favourites" and allow some employees (and themselves) to violate rules, while others cannot, it destroys creditability and morale.
3. **Friendly.** Rules should be enforced with their main objective in mind – to protect people, property and the environment. That idea should be communicated to all employees throughout the site and emphasized repeatedly with those responsible for enforcing rules.

Punitive disciplinary action should be a last resort, not a first, when rules are not followed. Surveys among leaders have shown that many rule violations result from poor communication. Lack of training/retraining, misunderstanding, lack of previous enforcement, physical or environmental limitations, confusing or non-existence feedback, and inconsistent leadership. For example - none of which call for disciplinary action as an appropriate response.

Company Health & Safety Rules

- Report to work rested and alert, pay attention and perform it properly, work at a safe speed.
- Incidents, injuries and near misses, regardless of their nature, shall be promptly reported.
- Clothing and personal protective equipment shall be appropriate to duties being performed and in good condition. Long pants, 4" sleeve shirts, high visibility vest, Type 1 Class E hard hat, and CSA steel – toed boots are the minimum requirements.
- Never throw material, or tools overboard, or lift equipment buckets overhead someone passing below or underneath may be seriously injured.
- Heavy lifting is not permitted; always seek assistance when attempting to lift heavy material. Lift correctly holding the load close to your body and with your legs, not your back.
- Running is not permitted anywhere, except in the case of extreme emergency.
- Face shields shall be worn when concrete breaking, metal chipping, welding, grinding, cutting and for other operations where eye protection is required.
- Hand tools shall not be used for any purpose other than that intended. All damaged or worn parts shall be promptly repaired or replaced. All electrical hand tools shall be grounded or double insulated.
- Any equipment damage or wear shall be reported to your supervisor for prompt repair. Misuse of company property or equipment will not be tolerated.
- Be sure that all guards are in place. Do not remove, displace, damage or destroy any safety device or guard furnished or provided for use on the job, nor interfere with the use thereof.
- Access and egress shall be by way of a ladder (using 3-point contact) or ramp; workers shall not climb or jump to access levels.
- Always Stay clear of all equipment in operation and maintain eye contact with an efficient distance away up to 30 feet.
- Possession or use on the job of intoxicating beverages or unauthorized drugs is strictly forbidden and constitutes grounds for dismissal. Inform your supervisor if you're taking strong prescription or over the counter drugs that cause drowsiness.
- Riding on equipment is prohibited! No person shall ride any hook, hoist, or bucket which is used strictly for handling material and not specially designed to carry riders.
- Horseplay (Do not engage in any prank, contest, feat of strength, or boisterous conduct) and fighting is strictly forbidden on the job and constitutes grounds for dismissal.
- Material must be piled, stacked, or otherwise stored to prevent tripping and falling.
- Oily and greasy rags must never be left lying around. Spills SHALL be cleaned up immediately, and the procedure for containment of a spill SHALL be followed.
- Employees around moving equipment shall never wear lose, baggy, or ragged clothing.
- Barricade all open excavations as necessary – 6' fencing shall be used to protect the public and an open excavation sign to be always erected.
- Only competent operators are permitted to operate any mobile power equipment or conduct any ground disturbance activities. Equipment shall be operated as per manufacture's specifications. Equipment inspections must be completed PRIOR to use.
- Signs shall be maintained and in good condition, they shall be erected for temporary purposes and must be removed when they are no longer needed.

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Fernando Nogueira

Fernando Nogueira (Director)

Progressive Disciplinary Action Policy

The management of LBCO is committed to achieving health and safety excellence by providing an injury and accident-free workplace for its workers and others. All workers are required to follow applicable legislation, company rules, safe work practices and safe job procedures.

Violations will be handled in an objective but firm manner.

All employee's, including sub-contractors must adhere to the safety regulations. The same disciplinary action guidelines apply to sub-contractors. When a supervisor is made aware of health and safety regulations being neglected on the part of the sub-contractor, it is his / her responsibility to use disciplinary action.

Documentation is required at each stage of enforcement. The Progressive Disciplinary Action Sequence is generally as follows:

First Offence: violators shall receive a verbal warning
Second Offense: First Written Warning – Written Reprimand
Third Offense: Second Written Warning or Dismissal – 1-to-3-day Suspension without Pay, and positive reinforcement training OR Termination of employee with proper documentation. Blatant disregard for documented procedures or practices which seriously jeopardizes the safety of the individual or others will result in the immediate removal of that individual from the workplace and possible termination of employment.

If a major infraction of a rule or regulation is taken, the following disciplinary action will be taken:

- 1-to-3-day Suspension without Pay, or
- Termination of employee with proper documentation.

The Supervisor must contact the worker and explain the nature of the violation and request that the worker follows the accepted safe method, procedure, practice, and rule or Alberta OH&S regulation. Ultimately, infractions will be dealt with at the discretion of Senior Management and will depend on the seriousness or repetition of the infraction(s).

*** The worker is instructed that failure to conform will result in further disciplinary action.

Note: Verbal warnings must be documented in the worker's file for future reference.

Understanding that there are some infractions that may require immediate dismissal, the above procedure may not always apply to serious infractions as per company rules and policies. Any measure or combination of measures deemed appropriate to the circumstance can be used.

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Fernando Nogueira

Fernando Nogueira (President)

Progressive Disciplinary Action Sequence

Documentation

Supervisors must ensure that their documentation is accurate and up to date. Ensure that the correct dates, times, other invoices and the nature of the violation is clearly documented. All levels of disciplinary action required some form of documentation; this documentation must be appropriately filed.

Prior to issuing any disciplinary action the following questions should be asked:

- Has the worker violated a company safety policy, procedure, rule and/or Alberta OH&S Regulation?
- Do you as a supervisor know and understand the exact safety policy, procedure, rule and/or Alberta OH&S Regulation?
- Has the worker been properly trained and know and understand the safety policy, procedures, rule and/or Alberta OH&S Regulation?
- Has the company shown due diligence in trying to avoid these types of actions?

Disciplinary Action Guidelines

When issuing disciplinary warning for safety, either verbally or in writing the following guidelines should be observed to ensure that the warning will have a positive effect in changing the workers substandard safety performance.

1. Ensure that disciplinary action is warranted.
2. Gather and document all facts, including interviews if needed.
3. Decide on the most appropriate course of disciplinary action.
4. Respect the dignity of the individual worker; speak to the person in private away from other workers.
5. Do not take phone calls and avoid disruptions.
6. Explain your reasons for the disciplinary action and what is expected from the worker.
7. Give the worker the opportunity to explain their actions.
8. Listen for hidden facts or reasons that may be affecting the workers unsafe behavior.
9. Administer the warning, complete and distribute the necessary documentation.

Disciplinary Action normally follows a progressive sequence. However, some instances or circumstances may require immediate suspension or termination of the employee.

The progressive Disciplinary Action Sequence is generally as follows:

1. Verbal Warning(s)
2. First Written Warning – Written Reprimand
3. Second Written Warning – 1-to-3-day Suspension without Pay, or termination of employee with proper documentation

If a major infraction of a rule or regulation is taken, the following disciplinary action will be taken:

1. 1-to-3-day Suspension without pay, or
2. Termination of employee with proper documentation

The supervisor contacts the worker and explains the nature of the violation and requests that the worker follows the accepted safe method, procedure, practice, rule or Alberta OH&S regulation.

**** The worker is instructed that failure to conform will result in further disciplinary action.

Note: Verbal warnings must be documented in the immediate supervisors file for future reference.

FIRST WRITTEN WARNING

Written Reprimand

Generally issued when talking fails to convince the worker to correct their unsafe behavior and/or when the seriousness of the violation demands a written warning.

The supervisor contacts the worker and explains the nature of the violation and requests that the worker follows the accepted safe method, procedure, practice, rule or Alberta OH&S regulation.

**** The worker is issued an "Employee Warning Report" outlining the required changes that the worker must conform to. One copy of the disciplinary action form is given to the office to keep in their personal files, and another copy is made to give to the worker.

The worker is informed that continued health and safety violations will result in a second written "Employee Warning Report" accompanied by a 1-to-3-day suspension without pay.

SECOND WRITTEN WARNING

1-to-3-day Suspension without Pay

A 1-to-3-day suspension without pay is issued as a final opportunity for the worker to correct their unsafe work behavior. As a supervisor a suspension of the worker for safety violations is the only method open to you to demonstrate to the worker that the company will not tolerate substandard safety behavior.

There are several factors to be considered when determining the length of a suspension:

- The worker's attitude
- Length of service
- Quality of work
- Probability of reoccurrence
- Reason for the violation
- Worker's past record.

The supervisor contacts the worker explaining the nature of the safety violation, pertinent information as to the level of safety violation and the length of the unpaid suspension. The suspension is documented on the "Employee Warning Report" and one copy of the warning report is given to the safety advisor to keep in their personal files, and another copy is made to give to the worker.

The worker is instructed to seriously consider if they wish to continue employment with the company as this is the final warning and the next safety violation will result in immediate termination of employment.

**** Commence the suspension immediately after the warning has been issued.

**** Notify payroll as to the status of the worker.

IMMEDIATE DISMISSAL

Termination of employee with proper documentation.
If the worker fails to or refused to conform to the proper safe behavior, it is apparent that the worker is unsuited for this particular work environment.
Depending upon the seriousness of the health and safety violation or the lack of initiative on the part of the worker to correct their safety performance termination of employment maybe the final recourse left to the supervisor.
The worker is informed of the nature of the violation(s), all pertinent information is discussed and written "Termination of Employment" is given to the worker. A copy of the reasons for termination will be filed in the workers file and copy of their status sent to payroll.
Before this final step is taken, it is highly recommended that Management is informed of the decisions.
**** The employee is requested to remove personal belongings and is escorted from the employer's property.

Company Code of Conduct and Ethics

LBCO Contracting Ltd. is committed to providing all employees with a safe and hospitable work environment. The success of this pledge greatly depends on the participation of all employees. To uphold this commitment, all employees are required to:

- Behave honestly and with integrity to uphold LBCO Contracting Ltd. values and good reputation; avoid situations that may conflict with the company's best interests.
- Use appropriate language to ensure that others are treated with respect and courtesy.
- Use discretion when discussing company matters.
- Respect confidentiality in dealings with fellow employees.
- Comply with all applicable government laws and regulations.
- Not subject any other employee to physical, sexual, psychological or verbal abuse or harassment.
- Not discriminate against any other employees based on gender, ethnicity, religion, age, disability, sexual orientation, or social status.

It is essential that all employees are aware of and in compliance with the rules set out above. Violation of this code will result in immediate dismissal. Any concerns you may have with LBCO Contracting Ltd. Code of Conduct and Ethics may be directed to your supervisor.

I _____accepted the policy outlined above.

Print Name

_____ _____

Employee Signature Date

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Fernando Nogueira

Fernando Nogueira (Director)

Prevention of Workplace Violence Policy

LBCO believes in the prevention of violence and promotes a harassment-free workplace. As such, We have a ZERO tolerance policy surrounding this subject.

We strive to have a safe, healthy and friendly culture within our company and promote this to anyone who works with us. While the stress of the job and daily tasks can test even the best of us, it is important for each, and every employee to know that they are not just part of the team here at LBCO Contracting but also family.
We strive to promote an abuse-free environment in which all people respect one another and work together to achieve common goals. Any act of violence or harassment committed by or against any workers or members of the public are unacceptable conduct and will not be tolerated.

Employees have a responsibility to:

- not engage in the bullying and harassment of other employees, in person or on social media/email.
- report if bullying and harassment is observed or experienced; and
- become familiar and comply with this policy

This policy applies to all LBCO employees, including permanent, temporary or casual employees, as well as independent contractors.

There is a Workplace Violence, Bullying & Harassment Program that implements this policy. It includes measures and procedures to protect workers from workplace violence, a means of summoning immediate assistance and a process for workers to report incidents, or raise concerns, and information about how incidents and complaints will be investigated and/or dealt with. LBCO will ensure that this policy, and the supporting program are implemented and maintained and that all workers and supervisors have the appropriate information and instructions to protect them from violence and harassment in the workplace.

The physical and mental health, safety, security, dignity, self-respect and overall well-being of both the internal and external population within our organization is paramount.

No action shall be taken against an individual for making a complaint unless the complaint is made maliciously or without reasonable and probable grounds.
Any employee or independent contractor who engages in workplace harassment or violent conduct shall be subject to discipline, up to and including termination of employment or contract.

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Fernando Nogueira

Fernando Nogueira (Director)

Defining Violence in the Workplace

Most people think of violence as a physical assault. However, workplace violence is a much broader problem. It is any act in which a person is abused, threatened, intimidated or assaulted in his or her employment.

Workplace violence includes:

- Threatening behaviour - such as shaking fists, destroying property or throwing objects.
- Verbal or written threats - any expression of intent to inflict harm.
- Harassment - any behaviour that demeans, embarrasses, humiliates, annoys, alarms or verbally abuses a person and that is known or would be expected to be unwelcome. This includes words, gestures, intimidation, bullying, or other inappropriate activities.
- Verbal abuse - swearing, insults or condescending language.
- Physical attacks - hitting, shoving, pushing or kicking.

Rumours, swearing, verbal abuse, pranks, arguments, property damage, vandalism, sabotage, pushing, theft, physical assaults, psychological trauma, anger-related incidents, rape, arson and murder are all examples of workplace violence.

Workplace violence is not limited to incidents that occur within a traditional workplace. Work- related violence can occur at off-site business-related functions (conferences, trade shows), at social events related to work, at home or away from work but resulting from work (a threatening telephone call to your home).

Control Negative Interactions

We all like to think of ourselves as being safe and secure while at work, protected from all forms of violence and aggression. However, wherever people interact there is potential for violence.

Knowing some basic communications skills (verbal and non-verbal) and some "problem solving" strategies can help prevent problems from occurring or can stop a small problem from getting bigger or out of control. Workplace violence can start as a small incident involving negative remarks and inappropriate behaviour. These small incidents can escalate to physical or psychological violence.

"Verbal" communication skills

Verbal communication skills are the way that you talk to another person or other people. Verbal communication includes the words you choose to use and the way in which you use them (for example, the tone (angry or calm) or volume (loud or soft)).

When you are interacting with other people, you should:

- Focus your attention on the other person and let them know that you are interested in what they have to say.
- Remain calm.
- Be conscious of how you are delivering your words.
- Speak slowly, quietly and confidently.
- Speak simply. DO NOT use official language or complex terminology.
- Listen carefully. DO NOT interrupt or offer unsolicited advice or criticism.
- Encourage the other person to talk. DO NOT tell them to relax or calm down.
- Remain open-minded and objective.
- Use silence as a calming tool.

"Non-verbal" communication skills

Non-verbal communication skills include things like your body language and position. People communicate through both their words and their bodies. The way you position or use your body can be calming or could aggravate a situation.

You should:

- Use calm body language - a relaxed posture with your hands unclenched and an attentive expression.
- Get on the other person's physical level. If they are seated, try kneeling or bending over, rather than standing over them.
- Give the other person enough physical space, usually about one metre (about 3 feet).

More importantly, you should not:

- Pose in a challenging stance, such as putting your hands on your hips, pointing your finger, waving your arms, or crossing your arms.
- Glare or stare, which may be interpreted as challenging.

Help to solve a problem

Some tips for problem solving include:

- Try to put yourself in the person's shoes so that you can better understand how to solve the problem.
- Ask for his or her recommendations.
- Repeat back to the person what you feel they are asking of you to clarify what you understand.
- Accept criticism in a positive way. When a complaint might be true, use statements like 'you are probably right,' or 'it was my fault'. If the criticism seems unwarranted, ask for clarification.
- Be honest. DO NOT make false statements or promises you can't keep.
- Be familiar with your organization's complaint procedures and apply them fairly.
- Remain professional and take the person seriously. Be respectful.
- Ask for small, specific favours – such as asking the person to move to a quieter area.
- Break a problem or an issue into smaller pieces and offer step-by-step solutions so that the person is not overwhelmed by the issue.
- Be reassuring and point out choices.

It is important that you try to avoid escalating the situation. Establish ground rules if the unreasonable behaviour continues. Calmly describe the consequences of violent or aggressive behaviour. Suggest alternatives and avoid giving commands or making conditional statements.

If your situation involves punishment or sanctions, and you feel that the situation is becoming very negative or escalating, do not proceed until you have back-up, or the situation is safer.

Do not take sides or agree with distortions.

- Do not reject the person's demands or position from the start.
- Do not attempt to bargain with a threatening individual. If necessary, end the interaction.
- Do not make promises you can't keep. End a "negative interaction"

It is important to know how to safely and effectively end a conversation or interaction before the situation escalates. Here are some tips:

- 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 him or her to leave (the building, your office, or site) or that you will leave.
- If the behaviour continues, end the conversation. Ask the person to leave or leave yourself.
- If the person does not agree to leave, remove yourself from the scene and inform your supervisor immediately.
- Do not return to the meeting if you believe the person may be a physical threat.
- Tell other workers and have them leave the immediate area as well.
- File an incident report.

Types of Harassment

Personal Harassment may include some or all the following: (taken from Canadian Human Rights Commission):

- Verbal abuse or threats
- Unwelcome remarks, jokes, or innuendoes or taunting about a person's body, attire, age, marital status, ethnic or national origin, religion, etc.
- Displaying pornographic, racist or other offensive or derogatory pictures
- Practical jokes which cause awkwardness or embarrassment
- Unwelcome invitations or requests, whether indirect or explicit, or intimidation
- leering or other gestures
- Condescension or paternalism which undermines self-respect
- Unnecessary physical contact such as touching, patting or pinching, or punching
- Physical assault

Sexual Harassment (Individual Rights Protection Act) is stated as:

"Discrimination on the grounds of gender, any unwanted sexual advances, unwanted requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature" when:

Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment

Submission to or rejection of such conduct by an individual, affects that individual's employment It can include such things as pinching, patting, rubbing or leering, dirty jokes, pictures or pornographic materials, comments, suggestions, innuendoes, requests or demands of a sexual nature. *It is similar to personal harassment however the behavior need not be intentional to be considered harassment.*

Legislation

Workplace violence is no different than any other hazard identified during the assessment process of developing a company H&S Policy. Therefore, the employer is required to develop this policy and procedures for how to deal with it, train its employees on how to recognize workplace violence,

research and provide avenues for how to obtain assistance (from outside sources) and develop procedures for reporting, investigating and documenting incidents.
It has been established in legal precedent in Canada that organizations and their chief executive officers may be prosecuted for Occupational Health and Safety Act violations.

Training Employees

It is important to know the difference between normal work duties and something that may be offensive. Look for the signs, they are often obvious, speak out for fellow workers in the event you feel that they may not be able or willing to speak for themselves.

Training will be provided to all employees in recognizing violence/harassment signs. Training will also be provided in Working Alone Procedures, as well as Emergency Response Procedures to control violence and harassment in the workplace. Further, employees who have violated the LBCO Violence and Harassment policy will be required to take this training to continue working.

LBCO's training includes:
• How to recognize violence and harassment.
• The employer's violence and harassment prevention plan, and any revisions.
• Appropriate responses (including how to get help).
• Reporting, investigation and documentation procedures for violence and harassment complaints and incidents.

Control Measures

In addition to training in Working Alone Procedures, and Emergency Response Procedures, background checks on all Sub-Contractors will be performed. Our jobs sites will have restricted access to the site, ample lighting, fencing, and when necessary, security services.

Reporting Procedures

Because of the nature of the offence, it is important that all reporting be done with the upmost care of the protection of privacy of the individual reporting. Therefore, all reports will be made directly to the H&S Representative both verbally and in writing. Any such report will be kept under lock and key and will only escalate to the General Manager if all the parties involved are unable and/or unwilling to resolve the situation. In the event the employee wishes to remain confidential they are encouraged to still report it to the H&S Rep personally or at the very least anomalously in writing.

No action will be taken against an individual for making a complaint unless the complaint is made maliciously or without reasonable and probable grounds. We encourage employees to come forward, in the event there is simply a misunderstanding then no action is required and the person(s) reporting the complaint can feel comfort in knowing that their conversation is confidential and would stop there.

Once a report is given the H&S Rep will first interview the employee submitting the report, then with the employee accused of the violation. If circumstances allow, all parties involved will then sit down with the H&S Rep to discuss the situation and possible corrective actions to resolve the situation. In some cases, the GM will also be asked to sit in as a witness to the meeting depending on the severity. There are **no set guidelines** for corrective action. Each case will be taken on a case-by-case basis. However, in following our "**zero tolerance policy**" if the infraction is deemed legitimate then the offender may be terminated immediately following the investigation.

There will be "**no warnings**" associated with workplace violence or harassment; we simply have no place for it within our company. Please note that if the offence is deemed unlawful (against the Criminal Code of Canada) whether, or not the accuser wishes to escalate the situation beyond what LBCO Contracting can provide, the Police will be called in to investigate. LBCO Contracting will assist them in every way possible including handing over all materials (reports, statements, pictures etc.) surrounding the incident.

Steps You Must Take

- Inform your H&S Rep. of the situation (either verbally/written or anonymously), immediately
- H&S Rep. will start a report on the incident
- H&S Rep. will meet with the person(s) reporting the incident and come up with an action plan (mutually agreed)
- H&S Rep. will meet with the accused to discuss the incident (GM may be included)
- Formal action surrounding the event will bedetermined (repercussions/warnings/dismissal)
- Meeting with all parties involved (only if infraction is minor in nature and can be rectified to the satisfaction of all parties)
- Final decision implemented (this may include warnings/suspensions/dismissals)
- All steps will be documented for reference and kept confidential for no less than 3 years following the incident

Confidentiality

Any, and all such reports will be kept with strict confidentiality, including lock and key. It is the responsibility of any individual who becomes aware of an incident of violence or harassment not to disclose details of the incident to any third party without prior consultation with the victim. In the event the person(s) reporting the incident is (are) uncomfortable discussing while at work, all efforts will be made to have the meeting offsite where confidentiality can be absolute.

Where to Get Help

There are many avenues from which help can be located from employee assistance programs to local Alberta Mental Health Clinics. Talk with your H&S Representative who can provide you with assistance in locating the right help for the situation, remember they work for you! They can provide you with a list of local programs and councillors trained in dealing with these situations.

Responsibilities

Employees

Are required to treat co-workers, clients and the public with respect and dignity, participate in the development and implementation of policies and procedures, participate in education programs, help to reduce the incidents of violence and harassment by practicing principles of prevention, report incidents of violence and harassment as outlined in the employer's procedures.

Managers/Supervisors

It is the duty and responsibility of every Manager/Supervisor to address and take swift action in dealing with workplace violence and/or harassment. If a supervisor neglects to follow up on a complaint of harassment, that person may also be liable under the Human Rights, Citizenship and Multiculturalism Act, for failing to take prompt and appropriate action.

Contractors & Sub-Trades

Are responsible for ensuring the health and wellbeing of their own employees as well as LBCO Contracting employees at the worksite. All the same rules/obligations listed under the "employee's responsibilities" for LBCO Contracting apply as far as conduct and behaviors are concerned. They are furthermore required to forward a copy of their own company's policies and procedures surrounding workplace violence and harassment to the LBCO H&S Representative for review. Any contractor or sub-trade involved in workplace harassment or violent act will immediately be asked to leave the jobsite and will be instructed never to return.

Workplace Violence, Bullying & Harassment Program

Workplace bullying and harassment does not include the exercise of management rights to assign additional work, to hold employees accountable for their performance through performance improvement or corrective action plans and impose justifiable discipline. Also, not every instance of workplace conflict or differences of opinion is bullying and harassment.

Complainant

The Complainant is the individual making a complaint of violence, bullying and/or harassment against another individual who the Complainant believes has engaged in, or is currently engaging in, violent, and/or bullying and harassing behaviors against the Complainant.

Respondent

The Respondent is the individual that the Complainant has made a complaint against.

Procedures To Control Risks of Workplace Violence

Communication Devices, Telephone, Or Portable Cell Phone

Your workplace may include a land-line telephone, portable cell phone or other mobile device that is used to communicate. You must be familiar with the communications system available and ensure that you know the number to call for emergency assistance.

When A Violent Situation Occurs or Is Imminent

- Call 911 for emergency situations. Police or emergency responders will assist immediately.
- Call your immediate manager or supervisor if feasible after calling 911.
- If you are at risk, remain calm, try to withdraw from the violent individual and seek an immediate safe location.

Any violent actions committed by LBCO Contracting employees, employees of the client, or members of the public will be prosecuted under the Criminal Code of Canada or as appropriate. LBCO Contracting intends to use reasonable legal, managerial, administrative, and disciplinary procedures to secure the workplace from violence and to reasonably protect employees and members of the public.

What To Do If You Observe, Or Believe You Are the Victim of Bullying and Harassment

If you believe that you are the victim of violence, bullying and/or harassment, including sexual harassment, the first thing you should do is tell the person to stop. Do so as soon as you receive any unwelcome comments or conduct. If violence is imminent or in progress, please follow section "Procedures When Violence is Imminent or in Progress".

Some of the things you can say that might stop the behavior include:

- "Please stop doing or saying…"

- “It makes me uncomfortable when you…”
- “I don’t find it funny when you…”

If your attempts to stop the behavior have not been successful and/or if you fear reprisal, then you should report the incident(s).

Employees who become aware of situations where violence, bullying and harassment may be occurring should report the suspected violence, bullying and harassment.

How To Report Alleged or Suspected Bullying and Harassment

Reports of alleged or suspected violence, bullying and harassment may be made verbally or in writing using the Workplace Violence, Bullying and Harassment Complaint Form (FRM 038). LBCO Contracting expects that workers will keep written accounts of incidents to submit with any complaints; the written accounts must include a description of the incident(s), where and when the incident(s) occurred, the persons involved and the names of witnesses, if any. You will be asked to provide any other evidence or information that you believe are relevant to the complaint, such as emails, handwritten notes, text messages, and photographs, if available.

Reports should be made to the employee’s immediate supervisor or manager. If the immediate supervisor or manager is alleged to be involved in the bullying and harassment, then reports can be made to the employee’s RVP, or to the Human Resources Department located at the Corporate Head Office. If you make a complaint in good faith and without malice, regardless of the outcome of the investigation, you will not be subject to any form of discipline. LBCO Contracting Corp. will, however, discipline or terminate anyone who brings forward a false and malicious complaint.

Any employee who retaliates against someone who has made a complaint in good faith is subject to disciplinary action up to and including dismissal.

Confidentiality

All reports of complaints will be handled in a confidential manner. Information concerning a complaint, or action taken as a result of the investigation, will only be released as necessary to conduct a proper investigation, to take disciplinary measures, or where required by law.

When And How Investigations Will Be Conducted

All complaints and reports of alleged violence, bullying and harassment will be assessed thoroughly, and an investigation will be conducted if deemed necessary. Most investigations will be conducted internally, however in complex or sensitive situations, an external investigator may be hired. The investigation process will involve interviews of the Complainant, the Respondent and any witnesses named by either. If the Complainant and the Respondent agree on what happened in the incident, the Company will not investigate further and will determine what corrective action to take, if necessary.

Investigations will be:

- undertaken promptly and diligently.
- focused on finding facts and evidence, including interviews of the Complainant, Respondent and any witnesses.
- sensitive to the interests of all parties involved; and
- fair and impartial.

The investigation will include:

- interviewing the Complainant and the Respondent to ascertain all the facts and circumstances relevant to the complaint, including dates and locations.
- interviewing witnesses, if any.
- reviewing any related documentation and evidence.
- making detailed notes of the investigation and maintaining them in a confidential file.

Once the investigation is complete, a report of the investigation results will be kept on record and a summary of the findings will be provided to the Complainant and Respondent.

Employee Roles and Responsibilities

All employees are expected to report suspected violence, bullying and harassment and to cooperate with those responsible for investigating any complaints. LBCO Contracting has a responsibility to prevent any violence, bullying and harassment in the Workplace therefore if any supervisor or manager fails to report incidents of violence, bullying and harassment, or fails to take appropriate corrective action, he or she will be subject to disciplinary action, up to and including termination.

Follow-Up

The Complainant and Respondent will be advised of the findings of the investigation within a reasonable timeframe. LBCO Contracting will keep a written record of investigations, including the findings. Regardless of the outcome of any violence, bullying and harassment complaint made in good faith, the employee lodging a complaint or reporting suspected violence, bullying and harassment, as well as anyone providing information regarding the complaint, will be protected from any form of retaliation by either co-workers or supervisors.

Corrective Measures

If disciplinary actions are deemed necessary, they will be taken within a reasonable timeframe, however the nature or details of the disciplinary actions will not be shared with the Complainant or anyone else unauthorized to receive the information due to the confidential nature of disciplinary actions.

Management will determine what action should be taken as a result of the investigation and inform the Complainant and Respondent of the findings of the investigation; based on the outcome of the investigation, the following corrective measures will be taken, if necessary:

- disciplinary action, up to and including termination.
- referral for counseling, anger management training or attendance at educational programs on workplace respect.

If there is not enough evidence to substantiate the complaint, corrective measures will not be taken.

Training

If required, the training will include workplace violence, bullying and harassment prevention strategies including complaint resolution, listening and communications skills, identifying problematic behavior characteristics, anger management and any other topics that may be deemed necessary. New employees will take part in mandatory internal violence, bullying and harassment training as part of their orientation. Re-fresher training will be required on an annual basis.

Conclusion

Harassment and violence in the workplace is a very serious situation and therefore will not be tolerated at LBCO Contracting Ltd. We strive to have a safe, healthy and happy environment for our employee's, sub-trades, clients and any other person(s) at a LBCO Contracting jobsite. Together we can accomplish this by supporting each other and speaking out for those who cannot/will not for themselves. We are here to help; we encourage all employees to feel comfortable in talking confidentially to their H&S Rep. about any concerns they may have.

Housekeeping Policy

LBCO Contracting Ltd. strives to provide a safe working environment. Employee's contribution to help maintain work areas will ensure a safe environment. Employees are expected to treat work areas with respect and ensure that they are left in an appropriate state.
All materials, products and equipment have a place for orderly storage at LBCO Contracting Ltd. Employees are to return items to their proper place after use to ensure they are easier to find and easier to inspect for damage and wear.
Employees shall tidy their work area throughout the day to ensure their space is safe for use, to aid others in locating materials, and to maintain a professional image of LBCO Contracting Ltd.
Employees are collectively responsible for maintaining the cleanliness of all work areas. All employees are expected to clean anything that they use, put their garbage in the garbage receptacles, and leave all items in the condition in which they were found. Should anything need repair or replacement, please notify your supervisor immediately.
It is everyone's responsibility to pick up and clean up. Here are a few guidelines:

A. Keep work areas and storage facilities clean, neat and orderly.
B. Keep all aisles, stairways, traffic areas, and exits free from obstructions at all times.
C. Clean up any spills immediately.
D. Do not let materials or supplies that are no longer needed accumulate. If it is not needed, get rid of it.
E. If items are missing, misused, or if an area has been defaced, please report these actions to your supervisor immediately.
F. All common areas are to be treated with respect. Please ensure you tidy up any garbage, etc. to ensure you leave the space as you found it.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Fatigue Management Policy

The safety of all employees is of the utmost importance to LBCO, and we recognize that fatigue affects a person's health and well-being, increases the chance of illness and workplace injuries may occur, and reduce performance and productivity within the workplace. has implemented this fatigue management policy to prevent incidents caused by fatigue through work schedules, periodic breaks and employee training so they report when they are fatigued and do not operate motor vehicles if not fit to do so.

LBCO has adopted this fatigue management policy for the protection of its workers. This policy will comply with all applicable Federal, Provincial or Territorial OH&S Regulations. Where there are Provincial and/or Territorial regulatory variances, this policy will adhere to most stringent requirements.

This Fatigue Management Policy will address the roles and responsibilities of employees in safety critical positions to report fatigue/tiredness and lack of mental acuity to supervision; as well as supervisory personnel to make safety critical decisions and take appropriate actions to prevent loss.

Roles and Responsibilities

Senior management will review LBCO's fatigue management plans and processes. An integrity Management system may be used by management to ensure if there is an MOC (management of change) needed in the safety manual or local area plans. Senior management will work with the HSE department to ensure full regulatory compliance.
The HSE department will audit and the fatigue management program and will work with the Site Supervisor to ensure its effectiveness. Should a deficiency (correct action item) be identified, the LBCO HSE department will capture through integrity management process and work to continuously improve the local plan as required or needed.
Site Supervisors are responsible for implementing with the assists of the HSE department their fatigue management program. The foreman shall ensure all workers are working the required hours and to not exceed hours of service. They will audit and inspect workers for seasonal work requirements and work rest and overall fatigue management.

All employees are responsible for their own safety and must utilize stop work authority if at any time they feel fatigued. Workers must ensure they follow hours of service, be always rested and alert. During extreme heat/cold/rainy etc. or ergonomic conditions that may cause additional fatigue the worker must take breaks as needed. HSE and Project Coordinators are key support functions to ensure all plans are implemented, tested and audited as needed.

- Heat Stress – Summer Plans
- Cold Stress – Winter Plans
- Pre-job Plans – review area and fatigue hazards
- Hours of service logging and tracking
- Rest plan – tiredness, nourishment and resting breaks and time off
- FLHA – Hazard assessment and changing conditions
- **Physical** and medication evaluation
- Integrity Management – MOC of plans for local Area

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Training

LBCO will train employees how to recognize when they and their colleagues are fatigued, and how to control it through appropriate work and personal habits. Training will include the consequences of working while fatigued; causes, effects, and symptoms of fatigue; positive habits to improve sleep; and driving tips. Employees will also be taught situations when they need to report they are too fatigued to safely do their work such as when they must operate a motor vehicle or heavy equipment.

Safety Precautions and Controls

All employees must report fatigue/tiredness to their direct supervisor for themselves or if they know of anyone else who may be at risk of fatigue.
All managers will put together their schedules for their employees and ensure employee safety precautions are evaluated and in place to control the possible hazard of fatigue.
DO NOT work if fatigue/tiredness or mental acuity is interfering in your work or job.
Nothing is so important that we do not do it safely every time. Rest breaks, lunches and rotation of crew to control fatigue will be established at local area and per shift and job scope each day for workers.
Mental fitness must be evaluated prior to work, during work and periodically through inspections and audits.
Asking for help with heavy loads and/or large boxes is required by LBCO. (Do not lift if you must use too much force or lifting ability)
Work tasks to control fatigue must be analyzed and evaluated periodically. When completing a pre-job, FLHA, JSA evaluate and document the controls in place to control fatigue.

The Safety Department will assist management and advice of additional controls that be of assistance to eliminate or control a hazard. Contact your safety representative should you need assistance.
Ergonomic equipment will be used to improve working conditions such as lift assist devices for repetitive lifting, proper lighting and control of temperature, and other ergonomic devices as deemed appropriate. They may vary or not be applicable to the type of work being performed.
Employees must not chronically use over the counter or prescription drugs to increase mental alertness.
Employees should be discouraged from taking any substance known to increase fatigue in that employee, including fatigue that sets in after the effects of the drug wear off.
Employees must not take any medication which may affect their ability to perform their work safely. All medications per DOT must be reported to your direct supervisor.

Fatigue Management / Hours of Service
LBCO will consider rest between workdays, shift work, time spent on call, commuting, and time zone differences when scheduling employees to control fatigue with sufficient sleep. This will include limiting work hours and controlling job rotation schedules. LBCO follows AB Employment Standards for heavy construction operations for hours of service and that includes employees working night shifts, rotating shifts, extended hours/days or call outs and involved in process safety sensitive action. LBCO Site Supervisors will schedule additional crews and ensure rotating of crew to meet requirements as needed.

- An employee's hours of work must be confined within a period of 16 consecutive hours in a workday.
- An employee can request their hours of work to be confined within a period of 12 consecutive hours in any workday. They can also request a 24-hour rest period once within each work week.
- An employee must receive 8 consecutive hours of rest immediately following completion of a shift that is longer than 12 consecutive hours.
- An employee must receive 4 days of rest in each period of 4 consecutive weeks. The days of rest do not need to be consecutive.
- Out of town or long projects: employees will be rotated out at 98 hours and given time home for balance and quality family life.

Working Alone Policy

The purpose of this policy is intended to promote employee awareness and facilitate employee safety when they are working alone. LBCO Contracting Ltd. will ensure that there are safety plans in place for those who work alone, along with applying all reasonable measures, the protection of employees who are performing their duties in areas under conditions where they are required to be on their own.
This policy applies to any employee who is required to perform hazardous work alone on or off the premises and who may require assistance if they are exposed to conditions that result in a work- related injury, health impairment of any kind, or any other adverse condition.
The requirements of complying with Occupational Health & Safety Act, Regulation and Code (Part 28) the employer must:

1. Conduct a hazard assessment before starting work to ensure all hazards have been identified and controlled. If a hazard cannot be controlled contact your supervisor immediately. DO NOT START WORK UNTIL IT HAS BEEN CONTROLLED.
2. Ensure you receive clear instructions on the task and the scope of work to be completed.
3. Ensure all required PPE (Personal Protective Equipment) and emergency contact information is available.
4. Any worker that is working alone must always have in his/her possession a cellular phone or a personal electronic device.
5. Set-up and check-in following your supervisor's instruction for call-ins.
    a. Upon arrival, morning break, lunch, afternoon break and departure.
    b. Or at specified time intervals (i.e. hourly)
6. A worker must have a helper if the work being done is determined to be high risk:
    a. Working from heights
    b. Working in confined spaces (under the current OH&S Regulations, a worker is not permitted to work alone in a confined space)
    c. Working in isolation from first aid services or immediate/emergency assistance
    d. Working with hazardous substances or materials
    e. Working with electricity
    f. Working with the material under high pressure

1. If an employee is working in an area where there is a lack of communication due to cell phone or radio coverage, the employee must take a helper with them to the job for support.
2. If the job site has a crew present and the task will stretch into the after-hours of normal work, arrangements with the Supervisor must be made to have someone from the crew stay with the employee until the task is completed or work is done for the day.

All hazards must be assessed before work at hand being started and proper controls must be put in place to minimize potential hazards and to protect the health and safety of the employee.
It is the responsibility of the Supervisor to schedule any work to be done to minimize the hazards or eliminate working alone. The employee must consult the Supervisor to schedule, the work to be done in isolation or after hours so that there is a schedule check-in procedure or that there is a helper on site.

If there is a lack of communication due to cell or radio coverage or if the work is deemed to be high risk, there must be a helper present on site. Please see Working Alone Procedures.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Drug and Alcohol Policy

LBCO Contracting Ltd. recognize that the use of alcohol and drugs is a serious risk to you, your fellow worker, and the public. LBCO expects all Managers, Supervisors, Employees, Subcontractors, and Visitors to assist in maintaining a work environment that is free of alcohol, cannabis, drugs, and other intoxicating substances and be competent and fit for duty. LBCO acknowledges its obligation to take all reasonable steps to ensure the health and safety of its workers.

LBCO understands that some workers may be taking prescription medications that have been prescribed by a doctor. This medication may be taken on a regular basis, or from time to time. If there are concerns regarding any medication you are taking, it is your responsibility to inform your supervisor immediately of any concerns associated with the medication. All employees must disclose any medication that they are taking that may affect their fitness for duty.

LBCO will not tolerate the use of illegal drugs, alcohol and/or cannabis on any job site at any time. If you are in possession or appear to be under the influence of any illegal drugs or alcohol on any LBCO work site, you will be removed from that work site immediately and may be subjected to immediate termination.

As per this Drug and Alcohol policy, the following are prohibited:

1. Being impaired by alcohol/drugs while at work.
2. The possession or use of illicit drugs on Company premises, at Company worksites, or in Company vehicles.
3. Refrain from alcohol and cannabis consumption a minimum of 8 hours prior to work.
4. Refusal to submit to drug/alcohol testing, failure to report to a Company-designated facility for a drug/alcohol test or tampering or attempting to tamper with a test sample.

LBCO reserves the right to drug test any Manager, Supervisor, Employee, Contractor or Subcontractor after any accident/incident. If you refuse to be drug tested by LBCO or a drug test is positive, immediate termination may result.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Drug and Alcohol Program

Responsibilities

Management will be responsible for:

- Resolving any questions regarding the interpretation of this Policy
- Supporting Supervisors in meeting their responsibilities
- Coordinating delivery of Employee education and Supervisor/Management training programs
- Supporting and assisting any Employee who seeks assistance for a problem
- Assisting Management in any investigation or meeting, in the development of any performance improvement plan, and the determination and administration of any disciplinary action
- Overseeing implementation of modified work, return to work agreements, or similar accommodation situations

Supervisors will be responsible for:

- Actively engaging in training activities
- Understanding this Policy and all facets of implementation of supporting processes
- Applying this Policy in a consistent manner
- Ensuring ongoing performance management to promote safe operations and effectiveness of the program
- Guiding Employees and Contractors who seek assistance for a problem with appropriate resources (e.g. the Employee Assistance Program or community services) while maintaining confidentiality as may be appropriate under the circumstances
- Taking appropriate steps to investigate any violation of the standards set out above
- Documenting the situation as soon as possible, within 24 hours
- Making referrals for a Drug (including Cannabis) and Alcohol test in a post-accident or reasonable cause situation, as and when required to do so under this Policy
- Involving HSE Department, as required
- Ensuring that no disciplinary action is taken without the involvement of the HS Representative
- Monitoring Policy compliance by Contractors

Workers/Contractors are expected to:

- Read and understand this Policy and their responsibilities under it
- Report Fit for Duty for all scheduled assignments and remain Fit for Duty while on Company Business, Company Premises and Company Worksites
- Seek advice and follow appropriate treatment if they have a current or emerging problem, and follow recommended monitoring programs after attending treatment
- Co-operate with any work modification related to safety concerns
- Intervene as appropriate to encourage a co-worker to access assistance before a Drug, Cannabis and/or Alcohol problem impacts performance or safety
- Co-operate with the implementation of this Policy and with an investigation into a violation of this Policy, including any request to participate in the testing program as and when required to do so under this Policy

DRUG (including Cannabis) AND ALCOHOL TESTING

All employees shall be aware that all positions and job sites at LBCO are considered safety sensitive positions and impairment by Drugs and Alcohol are strictly prohibited.

A Safety Sensitive Position is defined as one in which a state of incapacity due to drug or alcohol impairment could result in direct and significant risk of injury to the incapacitated individual, others, Company property and/or the environment. These positions depend on alertness, quickness of response, soundness of judgment, and accuracy of coordination of multiple muscle functions and have a direct role in an operation where inappropriate performance of the task could result in harm to oneself, coworkers, invitees, property or the environment.

Employees may be subject to drug and alcohol testing in the following situations:

Pre-employment Testing/Client Requested Testing/Pre-Site Access Testing

Pre-access testing is not required at LBCO, however, from time to time it may be necessary for the Company to meet a client or customer's Drug testing requirements (which may differ from those outlined in this Program), to qualify for work and get access to their work sites. Pre-access testing may be conducted for employees performing safety sensitive work and/or working at safety sensitive job sites.

Reasonable Cause Testing

When the company has reasonable cause to believe that an employee has violated the intent or substance of this Program and is unable to work in a safe manner. If there are clear observations concerning the appearance, behaviour, speech, or body odors of the employee that would reasonably lead one to believe that the employee may be under the influence of a drug, the company will advise the individual accordingly and request that they submit to testing.

The referral for a test will be based on specific, personal observations resulting from, but not limited to, such indicators as:

- Observed use or evidence of use of a substance (e.g. smell of Alcohol)
- Erratic or atypical behavior of the Employee (e.g. lack of balance, unsteady or staggered walk, muscle twitching, difficulty focusing eyes, uncoordinated movement of body and hands, memory loss, disorientation, or drowsiness)
- Changes in the physical appearance of the Employee (e.g. face/cheeks flushed, face sallow, red, watery or glassy eyes, dilated or constricted pupils)
- Changes in the behavior of the Employee changes in the speech patterns of the Employee (e.g. slurred speech)

To ensure the safety of the individual and others working in the vicinity, a company representative will transport the individual as soon as practical to the specimen collection site. The individual will then be asked to submit to a drug test.

Any employee who is asked to take a Reasonable Cause Test will be considered unfit for work and will be placed on immediate suspension pending the results of his or her test. Should the test results be negative, the employee will be paid for the period of such suspension.

Post Incident Testing

Incidents will be investigated by the company in conjunction with a representative from the Joint Health and Safety Committee when immediately available. Testing will only take place where there are reasonable grounds to believe that Drugs, Cannabis and/or Alcohol played a part in the incident. The decision to refer an Employee for a test will be made by the Supervisor investigating the incident (where practicable, the Supervisor will consult with the HSE Manager or a second Supervisor).

An incident (within the significant category) includes, but is not limited to:

- A fatality or serious personal injury to any individual
- An environmental accident with significant implications
- Significant loss or damage to any property, equipment or vehicles, including the estimated property damage, the cost of clean-up and recovery, and the value of lost product
- Emergency shutdown of a facility or part thereof
- Possible exposure to legal action or liability for the Company
- A near-miss incident that, in the Company's opinion, may have resulted in any of the above

As soon as practicable following an incident, the scene must be frozen as defined in this policy, the employee shall contact his/her supervisor or company official before leaving the scene and/or continuing any work. The employee must remain available for testing, or the company may consider the employee to have refused to submit to testing. The supervisor will provide to the employee the reason for the request to test. Every attempt will be made to have the alcohol test and drug test completed within 2 hours of the incident. The worker and or workers are not clear to return to work until the results have been received back, and/or senior management has cleared the worker or workers in question to return to work.

Collection Procedures

Any drug / alcohol testing conducted under this policy shall be performed at a collection site designated by LBCO and/or the client for the purpose of administering this policy. The company will not accept test results from any facility other than the one designated by the company and/or client. Once a request is made, the employee must proceed immediately to the determined collection facility. Transportation and supervisor escort will be provided when required, for example, reasonable cause or post incident testing Collection procedures at all testing facilities shall conform to the most recent industry standards as noted in the COAA Canadian Model.

Canadian Model Version 6.0 | Construction Owners Association of Alberta (coaa.ab.ca)

Testing procedures, including urine collection, oral fluid and breath alcohol testing, urine laboratory analysis and medical review procedures, shall be conducted in accordance with applicable Canadian industry standards outlined in the COAA Canadian Model. A laboratory based oral fluid drug test may be requested for reasonable suspicion, as indicated in the COAA Canadian Model.

Return to Duty Testing

LBCO will require an employee who is qualified to return to work after a violation of this policy or who has completed a treatment program for substance abuse and satisfied the recommendations of a Substance Abuse Professional to undergo a Return to Duty Test for Drugs. A negative test result is required before the individual will be allowed to return to duty.

Follow-up Testing

Employees who return to duty following a negative Return to Duty Test for Drugs will be subject to reasonable unannounced follow-up testing as recommended by the Substance Abuse Professional.

Failure or Refusal to Test

The following are violations of this Policy:
- Failure to report directly for a test
- Refusal to submit to a test or refusal to disclose results to the Company

•A confirmed attempt to tamper with a test sample

The consequence of a violation of this Policy, in respect of a failure or refusal to test, may be disciplinary action up to, and including, termination of the Employee's employment for just cause.

Loss of License / Impaired Driving Charge

All Employees who operate a motor vehicle on behalf of the Company are required to maintain a valid driver's license. Any loss of license must be reported to the Employee's Supervisor, and the Employee will no longer be qualified to drive on behalf of the Company.
Employees must inform their supervisor immediately if they have been charged or convicted for an impaired driving offense while operating a Company vehicle or driving on behalf of the Company.

EMPLOYEE MONITORING

LBCO requires supervisors to monitor employees for unsafe behaviours. Any worker demonstrating unsafe behaviour must be removed from the worksite.

EMPLOYEE ASSISTANCE
Employees who have drug or alcohol problems are encouraged to seek assistance before performance problems (whether or not in violation of this policy) lead to disciplinary action. On being approached by an employee for help in overcoming a drug/alcohol problem, the Company will put the employee in contact with a medical practitioner who, if necessary, will make a referral to the appropriate agency (e.g., AADAC). An acknowledgment by an employee of a drug/alcohol abuse problem will not be a cause for disciplinary action. Notwithstanding such, an employee's request for assistance will not be a defense to the imposition of disciplinary action where a violation of this or other policies/workplace rules has occurred. Employees who enter a treatment program will be required to sign a form authorizing the administrators of such program to release to the Company information regarding the employee's progress and degree of commitment to the program. The Company will exercise reasonable care and caution to confidentiality relating to an employee's participation in a treatment program.
LBCO will provide reasonable assistance to any employee determined unfit for duty such as:

- Leave of absence
- Employee Assistance Programs

MANAGEMENT COMMITMENT
This Program is intended to provide a tool for ensuring that every Employee has a safe, healthy and productive environment in which to work, while preserving the dignity and providing needed assistance to those who are troubled by substance abuse. The success of the Program is everyone's responsibility. The benefit of a successful program is everyone's gain.

Confidentiality and Privacy

Confidentiality will be maintained to respect the personal privacy of individual Employees and to secure the integrity of any investigation. Consequently, information concerning the basis for any decision to investigate any alleged impairment of Drugs and/or Alcohol, the results of the investigation, the results of any Drug and/or Alcohol test, related medical records, or any individual's participation in a Drug and/or Alcohol rehabilitation program shall remain confidential. Such information will only be accessible to Company personnel on a strict need-to-know basis. Medical information will be handled (including collection, use, disclosure, storage, and retention) in compliance with all applicable legislation.

ELEMENT 2: PUBLIC, VISITORS & CONTRACTED EMPLOYERS

General

Contractors and site visitors are required to comply with the Occupational Health and Safety Act, Regulations and Code, LBCO Contracting Ltd. general safety requirements, and all other applicable Federal, Provincial and/or Municipal Safety requirements, and contractors are responsible for ensuring their employees understand and comply with the same. Contractors and site visitors are responsible for conducting a site risk assessment and be knowledgeable with the specific site emergency response plan, prior to work commencing.

All practical steps are to be taken by the contractor and their employees to prevent accidents and/or injury to any person entering a work site within the job site. The contractor is also responsible for providing all required safety equipment to their employees and visitors to ensure a safe work environment and must always operate in a safe manner.

Public access to any LBCO site will be strictly prohibited and LBCO will ensure that there are measures in place to ensure that there is no contact with the public on their jobsite, through the use of signage, barricades and security fence. Only police, EMS and fire personnel are allowed on site if required. If a project is conducted on other people's personal property, LBCO Management will make efforts to inform the owners of the work to be completed and to ensure they understand the work being done, further advisement will be made to the property owners that they are not to trespass over any fencing or barricades.

Other project stakeholder such as engineers, asset owners, clients, may access the site, however they are to meet directly with the site supervisor, and they must have proper PPE worn.

Inspections

Safety inspections of the work site may be conducted by LBCO Contracting Ltd. at any time and under their own discretion. Where required, a contractor may be asked to make improvements to ensure that proper safety procedures are adhered to and shall be carried out without delay by the contractor. Prior to entering a construction site, Chinook's Edge staff will notify the contractor's site supervisor.

Prior to Commencing Work

Before allowing any work to be undertaken by a contractor, the contractor and site visitor must:

- Understand and follow all the contractor health & safety procedures for LBCO Contracting Ltd. and complete the Subcontractor Management Form.
- Be familiar with all work site hazards and practicable controls
- Check that the contractor holds adequate insurance to cover the work to be undertaken and obtain proof of insurance and WCB coverage when necessary.
- Perform regular inspections of the work site to ensure safe working practices are being followed by the contractors. Check that the area is clean and tidy and properly maintained at all times during the work schedule and upon completion of the job. Any discrepancies will be reported and resolved with the contractor immediately. LBCO shall also conduct random site inspections and report any deficiencies to the site supervisor or person in charge.
- Report any safety concerns, accidents or injury that may occur immediately to the Safety Officer to ensure a full investigation is conducted.

During Work

If there is any doubt regarding the work to be undertaken by the Contractors, this must be clarified before work:

- All consultation with regards to every aspect of the job in relation to tasks, rules and safety of the work site will be directed to the designated person. Manager or Supervisor may appoint an alternate person as their replacement using their own discretion based on the nature of the work or their absence.
- All contractors will provide names and contact numbers of the employee(s) in charge of the work to the designated Manager or Supervisor prior to commencement of work.
- Complete a Hazard Assessment of the required work area prior to the start of work and submit it to the site supervisor. The use of PPE shall be enforced in accordance with Alberta Labour (OH&S) Act, Regulations and Code and LBCO procedures. If Fall Protection is to be worn a Fall Protection Plan must be submitted to LBCO Contracting.
- All contractors shall be liable for all damages caused by their employees to property or equipment and shall provide evidence of valid insurance when requested by LBCO.
- All contractors will be required to complete a site-specific orientation outlining site rules, emergency procedures and safety regulations. Such orientation shall be performed before commencement of work. It is the responsibility of the contractors to ensure that all their employees working on the site receive the relevant induction.
- All contractors will report all accidents or injuries and property damage that may occur on the work site immediately to the LBCO site supervisor or safety officer.
- All contractors will report any unsafe conditions and/or safety concerns relating to the work site immediately to the LBCO safety officer. The contractors will also ensure that their employees are fully aware of these conditions immediately and may cease operations in that area until the matter is resolved.
- All contractors will ensure that the work site is properly always maintained and is clean and free from all recognized hazards and debris.
- All contractors shall ensure that their employees are equipped with proper personal protective equipment (PPE) such as hard hats, hearing protection, eyewear, footwear, fall restraints, etc. and that it is being used and worn in the proper manner. The contractors will also ensure that adequate PPE is made available for outside visitors and enforce the use of the same at all times of entry into the work site. Training on the use, care and maintenance of such equipment will be performed by the contractor when necessary.
- All contractors are responsible for ensuring that all power tools are in good working condition to avoid any fire hazards. All tools are to be fully disconnected from a power source when unattended and at the end of the day. Security and liability for all tools on site is the sole responsibility of the appropriate contractors.
- All contractors are responsible for ensuring that mobile and heavy-duty equipment is in good working condition and designed for the type of work being performed and is inspected in accordance with manufactures' recommendations and Alberta Legislation. Contractor's employees are to be certified on operating such equipment to prevent accidents or injury on premise. No mobile equipment shall be operated in a manner which places the contractor's employee or others at risk. Keys to all equipment are to be removed at the end of the day and stored in a secure location.
- All contractors are responsible for ensuring that the work site is left in a safe condition at the end of each working day and obstructions and hazards are clearly marked.

Visitor Policy

This Visitor Policy outlines LBCO's rules for receiving visitors at our premises. LBCO intends to ensure that visitors will remain safe as well as not posing threats to our premises, property and staff.

"Workplace visitors" may refer to personal consultants, testers, engineers, suppliers, job candidates, or other stakeholders or irregular companies that require site access.

VISITOR RESPONSIBILITIES

- All visitors to LBCO's work sites, upon arrival, must sign in via our digital safety app and complete a site safety orientation.
- Visitors entering LBCO work locations must follow the instructions of Management, their designate or personal escort.
- Personal Protective Equipment must be worn as and when required.
- Visitors are not allowed to walk about a worksite unescorted. The exception is the head office and training room.
- Visitors must not misuse our Wi-Fi, disclose confidential information or take photographs without permission.
- Visitors must read and abide by LBCO's Health and Safety policy and participate in FLHA's as required.
- After hours visitors must have authorization from management.
- Visitors who fail to follow LBCO's Visitor Policy will be asked to leave the premises by a manager or designate.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Contractor Policy

LBCO is committed to maintaining a workplace in which safety is part of everything we do. It is our policy that all contractors perform all work in accordance with the law, regulations, applicable standards and company rules to the performance of work on any LBCO, or LBCO's customer worksite.

The purpose of this policy is to establish the safety requirements for work performed by all contactors, and to protect the health and safety of contractors, LBCO employees, and the public. This policy applies to all contactors and sub-contractors working at, or for LBCO.

Contractors will be monitored for compliance with LBCO's Health and Safety Program and evaluated post contract to ensure that safety and quality performance standards are met for contractors to be chosen for future work.

CONTRACTOR RESPONSIBILITIES

Subcontractors shall ensure that they:

- Maintain full compliance with pre-qualification conditions
- Provide proof of good standing with the Workers Compensation Board (WCB)
- Plan and execute all work in a manner that complies with the LBCO Safety Program, contractual and regulatory requirements, Safe Work Practices etc.
- Ensure a copy of the Occupational Health & Safety Regulation, Act and Code is readily available to your employees
- Provide and enforce the use of adequate PPE. This includes safety glasses/ goggles, safety boots, hearing protection, coveralls etc.
- Be responsible for keeping all work areas clean and free of hazards. Throwing refuse or objects, littering or otherwise contributing to poor housekeeping or unsafe conditions is forbidden.
- Immediately report all accidents and injuries and investigate incidents to the Supervisor or Management.
- Immediately correct any unsafe conditions or practices reported or observed.
- Refuse to perform work when unsafe conditions exist and refuse work that the employee or subcontractor is not competent to perform.
- Have zero tolerance of drugs and alcohol. No work shall be performed under the influence of drugs or alcohol.
- All contractors shall participate in a site orientation based on the scope of work, as required. Records of orientation shall be maintained in accordance to LBCO's record-keeping protocols
- Know the location, type and operation of emergency equipment
- Complete a Hazard Assessment prior to commencing work on any LBCO work site. Be sure to include all employees in the process.
- Ensure that every tool, appliance, equipment, and piece of machinery is in safe operating condition and complies with provincial and federal legislation.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Sub-Contractor Management

Purpose

The purpose of this program is to ensure that LBCO continues to improve subcontractor health, safety and environmental performance and to establish a standard for pre-qualification, evaluation/selection and development of our subcontractors in Canada.

Scope

This program applies all Canadian LBCO locations that use subcontractors.

General Requirements

All LBCO subcontractors are to be managed in accordance with this program.

The use of subcontractors must be pre-approved by LBCO. Approval requirements include:

- A formal safety review of the subcontractor being performed by LBCO safety department.
- The scope of the review was commensurate with the hazards and risk exposure.
- Subcontractor has been/will be oriented to the safety policies, expectations and requirements of LBCO and any customer requirements if working on customer locations.

Any subcontractor that has a “non-approved” safety status will not be used on any LBCO site.

LBCO is accountable for communicating the "Owner Client's" Drug and Alcohol policy to subcontractors. LBCO must ensure that subcontractors are aware of the Owner Client's Drug and Alcohol policy. Subcontractors must always adhere to the requirements of the Drug and Alcohol policy while at the work site.

LBCO must report all incidents involving subcontractors to the "Owner Client" and participate in the subcontractor's incident investigations. LBCO must ensure that subcontractors are aware of incident reporting requirements. Subcontractors must report all incidents to LBCO. If a subcontractor is involved in an incident, LBCO is responsible for reporting the incident to the Owner Client. LBCO must ensure the incident is investigated and must participate in the investigation.
LBCO shall follow up to ensure all identified corrective actions are completed.

Pre-Qualification of Subcontractors

Subcontractors will be pre-qualified by reviewing their safety programs, workers compensation, certificates of insurance, safety training documents and safety statistics through the subcontractor pre-qualification form. LBCO will use a combination of safety metrics to prequalify subcontractors as shown below. A pre-qualification form for new contractors that are unknown to LBCO Contracting Ltd. must be filled out and assessed by management. Monitoring of site sub- contractors will be done by the site supervisors, as such any non-compliance to LBCO health and safety policies will result in follow up by LBCO management and the appropriate documentations will be completed such as through incident reporting, near miss, or other applicable reports.

Trade Contractor HSE Evaluation
The selection of a suitable trade contractor must include an HSE evaluation based on current and historical HSE claims/litigation and three-year statistical HSE information including hours worked by the trade contractor, recordable injuries, recordable injury frequency and environmental deficiency. Claim rates and rate history, including surcharges and discounts, clearance letter from the jurisdiction work is executed in, and liability insurance amounts, including a Certificate of Insurance are also required.

Evaluating the trade contractor's HSE program could include their:
- HSE Manual.
- Field Level Hazard Assessment (FLHA)
- Job Hazard Analysis (JHAs)
- Safe Work Practices (SWPs)
- Safe Job Procedures (SJPs)
- HSE Field Meetings
- Incident investigation
- Inspection program
- Injury management procedures; and
- Fall protection standards.

Trade contractor's Project Specific HSE Plan and Administration of HSE Program

Trade contractors must provide their own Project Specific HSE Plan and/or safe work practices commensurate with their scope of work. These plans must be in compliance with LBCO's Project Specific HSE Plan.

Workers Compensation Confirmation and History

LBCO must confirm subcontractors have valid Workers Compensation coverage. LBCO must ensure they obtain proof of Workers Compensation coverage from their subcontractors. Subcontractors who are not required to have Workers Compensation coverage must obtain approval from their Owner Client(s) before they are allowed to enter the work site.

HSE statistics (workers compensation rate sheets) are reviewed when selecting subcontractors. Past performance is a key indicator of future performance. HSE statistics should be obtained and analyzed to ensure that only safe subcontractors are hired. LBCO should obtain a copy of the subcontractor's workers compensation rate sheet and compare their performance to others in their industry. Those who outperform the industry should be selected whenever practicable.

Subcontractor Program and Training Review

HSE programs and/or training documentation are reviewed when selecting subcontractors. Written Health, Safety and Environmental programs and training documentation applicable to the type of work the subcontractor will perform should be obtained and reviewed to assist with the hiring of safe subcontractors.

Procedures to be followed if a subcontractor does not have a Health and Safety Manual:

In the event that a subcontractor does not have a Health and Safety Manual, LBCO is responsible for making sure the subcontractor is aware of applicable Health and Safety policies, procedures, and regulations.

The procedure LBCO follows if a subcontractor does not have a Health and Safety Manual includes prior to the commencement of work on or client property or property/projects managed by LBCO, all contractor employees shall initially receive a Safety Program orientation from a LBCO representative via the digital safety app.

It can be found here: https://bvscanada.com/lbco/home and is titled "Contractor Orientation".

Metrics

Acceptable safety metrics will be used as criteria for prequalifying and selecting subcontractors in the following manner. Key performance indicators such as the TRIR, EMR, DART and Fatality rates shall be reviewed. The safety metrics and scoring will consider:

- LBCO Subcontractor Safety Pre-Qualification Form responses and subcontractor safety program documents review 60% (Rated from 0-60 total points)
- Subcontractor safety training documents review 20% (Rated from 0-20 total points)
- Subcontractor safety statistics review 20% (Rated from 0-20 total points)

Evaluation Rating and Acceptance

The subcontractor rating system will have five designations:

- Equal to or Greater than 90 points = A – no restrictions.
- Between 85 and 89 points = B – Mitigation plan must be documented and approved by LBCO Safety.
- Between 81 and 84 points = C – Mitigation plan must be documented and approved by LBCO Safety; management approval in writing.
- Between 71 and 80 points = D – Mandatory commitment meeting with senior subcontractor management present; mitigation plan documented and approved by LBCO Safety; management approval in writing; trained subcontractor safety personnel on site during work regardless of number of workers.
- Less than 70 points = F – not to be used.

Once each subcontractor has been evaluated and scored, LBCO safety will provide management the scores/ranking.

LBCO reserves the right to change a subcontractor's status to "non-approved" if the subcontractor shows insufficient progress towards accepted mitigation plan or other agreed upon criteria.

Subcontractor Involvement

Contractors are required to follow or implement the work practices and systems described below while performing work at LBCO worksites:

- Attend a safety orientation, included in any pre-job meeting or kick-off meeting provided by LBCO prior to any work beginning
- Monitor employees for substance abuse and report nonconformities to LBCO
- Ensure personnel have the required training and competency for their work
- Subcontractors are included in pre-job meetings and/or hazard assessments. Subcontractors shall be included in pre-job meetings and hazard assessments. Pre-job meetings can include information taken from a hazard assessment and any other safety or operational concerns.
- Perform a pre-job safety inspection that includes equipment
- Perform a daily field level hazard assessment
- Report all injuries, spills, property damage incidents and near misses
- Comply with onsite and Owner Client safety rules
- Implement LBCO safety practices and processes as applicable
- Clean up and restore the worksite after the job is over
- Always ensure compliance with regulations
- Post-job performance reviews are conducted for subcontractors. Post job performance reviews should be conducted for subcontractors. A combination of factors may be considered including, but not limited to, housekeeping, cost, active participation in safety meetings and quality of work.

ELEMENT 3: HEALTH & SAFETY COMMITTEES/HS REPRESENTATIVES

Purpose
LBCO recognizes the valuable contributions made by the JOHSC and workplace health and safety representatives towards maintaining safe and healthy workplaces. Committees and representatives play an integral part in the company's inspection program, hazard identification and controls, development of safe work practices and procedures, as well as identifying training and educational needs, and promoting safety awareness programs.

Scope
The committee and its representative's direct involvement with the day-to-day operations of their workplace places them in a better position to recognize essential problems and make practical recommendations.
The committee also aids in increasing two-way communication between workers and employers as well as promoting a healthy and safe working environment.

Terms of Reference

The Joint Occupational Health and Safety Committee (**JOHSC**) shall function according to the *Alberta Occupational Health & Safety Act* (**Alberta OHS**) and Part 13 of the OHS Code. The JOHSC shall consider all pertinent information available such as accepted industry best practices, approved standards and any other applicable legislation in the pursuit and fulfillment of its obligations.

Name
The committee shall be known as the Joint Occupational Health and Safety Committee (JOHSC).

Scope and Purpose of the Committee
The JOHSC is an advisory body, and its main function is to receive, identify, evaluate and make recommendations concerning health and safety hazards and issues in the workplace.
The purpose of JOHSC is to provide a venue for employer and worker members to jointly address, identify and solve physical and psychosocial health and safety matters; affirm a workplace of trust and safety; and ensure legislative compliance. JOHSC is to work collaboratively respecting employer and worker viewpoints.
The JOHSC will identify and promote opportunities and recommend initiatives to support the three basic rights that Alberta Workers have in protecting their health and safety.
The right to know.
The right to participate.
The right to refuse dangerous work.
The JOHSC will encourage workers to discuss any occupational health and safety concerns with their manager/supervisor and HSA before bringing it to the attention of the JOHSC.

Duties and Functions of the Committee
All committee members will strive to fulfill their roles and responsibilities by working cooperatively, following the processes in these terms of reference, and making every effort to reach consensus on issues for the effective operation of the committee.
The Alberta OHS Act prescribes the following functions:

The receipt, consideration and disposition of concerns or reports respecting the health and safety of workers.
Participate in the employer's hazard assessment process.
The making of recommendations to the employer respecting the health and safety of workers; and
Participation in the development, implementation and review of the LBCO violence and harassment prevention program.
Inspection and incident report review.

Identifiable information about individual workers may be released to JOHSC only in accordance with the FOIP Act and as required to perform the committee's duties.
The following activities may be actioned when the committee makes the recommendation(s) to:
Consider and expeditiously address complaints relating to occupational health and safety of workers.
Develop and promote educational programs to promote the health and safety of workers and compliance with OHS legislation; and
Make recommendations and provide feedback to the employer on employee health and safety programs, initiatives and policies in support of OHS legislation for the workplace.
The Committee may establish or appoint additional working groups from within its membership.

Membership
The JOHSC must have at least five members and at least half of the members will represent the workers.
JOHSC should consist of:
1 Underground member
1 Roadworks member
1 Office/Shop member
1 Employer representatives
1 LBCO Environmental Health and Safety representative (who may be an employee, employer representative or resource). The committee will have administrative support.

Term of Office
Committee members are appointed or elected to a term of not less than one year except for the standing member representative of Environmental Health and Safety.
Members may continue to hold office until reappointed or re-elected, or until a replacement is appointed or elected.
Members are asked to end their terms on alternating years to ensure continuity of knowledge

Member Conduct and Entitlements
Maintain confidentiality during and after a member's term by not disclosing any worker's personal health or other personal information unless required by law.
All committee members are to attend meetings and, when unable to attend, ensure all relevant correspondence and documents are reviewed and that any assigned tasks are acknowledged.
Participate and contribute to the meeting.
d) Prior to meetings, review meeting materials.
Seek input from employee groups as needed.
If a member misses two or more consecutive meetings without reason, the respective co-chair will have a discussion with the member to discuss the issues around attendance. If the issue is not resolved, the co-chair is responsible for initiating the member's replacement.
Members of JOHSC are to be allowed time to fulfill their JOHSC duties in addition to the scheduled meetings. This time must be reasonable and endorsed by JOHSC.
When requested by an Alberta OHS Officer, required JOHSC member/s may accompany an OHS Officer during an inspection of the workplace.

Co-chairs

JOHSC shall have two co-chairs: one chosen by the employer members and the other chosen by the worker members on the committee. Should a co-chair be unable to continue their term, their respective employment group shall appoint a replacement.

The worker co-chair shall be decided by the workers.

The co-chairs will prepare for and co-facilitate the meetings by:

Making arrangements for the meeting date, time and location.

Ensuring members are notified of meeting dates, times and locations.

Creating the agendas.

Ensuring meeting agendas and reports are prepared and distributed in a timely manner.

Reviewing the previous minutes and materials prior to each meeting.

Ensuring meetings start and end on time and are conducted in accordance with the established agenda and process.

Taking a leadership role in guiding committee discussions towards definite conclusions.

Striving to achieve consensus.

Ensuring the action items identified at the meeting are completed.

Preparing recommendations and providing the employer for a response.

Preparing all correspondence on behalf of the committee; and

Call a special meeting if a situation is deemed urgent in nature without the request of an OHS Officer.

Meetings

The committee will meet as per the schedule determined by the co-chairs.

There shall be a minimum of four meetings per year.

Special meetings must be held if asked to do so by an OHS officer.

Emergency meetings may be called by the co-chairs.

Meetings can be held either virtually or in person.

Minutes will be taken at each meeting.

The committee will develop procedures it considers necessary for the meetings.

The co-chairs shall chair the JOHSC meetings on an alternating basis.

Quorum

The quorum is the minimum number of JOHSC members who must be present at a meeting to carry out business. At least half of the members must be present for there to be a quorum. Both worker and employer members must be present with at least half of those present being worker members.

Agendas and Minutes

The co-chairs will prepare and distribute an agenda to members prior to the meeting.

Within two (2) working days of the meeting, the approved minutes will be distributed as required.

Recommendations

Recommendations could include but are not limited to those:

a. Pertaining to health and safety in the workplace
b. In response to incidents/accidents in the workplace
c. Pertaining to workplace inspections or review of local workplace programs
d. Pertaining to health and safety education programs

The JOHSC will review employer's responses to their recommendations. The employer must provide a written response within thirty days of receipt of the recommendations. The response shall contain a

timeline for implementation of acceptable recommendations or reasons for not accepting recommendations.
Are directly related to occupational health and safety as it is defined in legislation.
Will be reasonably capable of being implemented.
Will be comprehensive and complete; that is, the employer will not need more information to make a decision.
May take the form of short-term (interim) corrective actions and/or long-term corrective actions when applicable.

Dispute Resolution
If the JOHSC is unable to reach a consensus on a matter relating to the health or safety of workers at the workplace:

a. The meeting will be adjourned, and the co-chairs will speak to their respective groups to determine the key points.
b. The two chairs will reconvene to discuss possible resolutions.
c. If the two chairs are amenable to the resolution, JOSHC will be reconvened to discuss and vote.
d. If an impasse continues, then a third-party member from the LBCO team, agreeable to JOHSC, will be consulted.

If the JOHSC is unable to reach a consensus (agreement) on a matter relating to the health or safety of workers in the workplace, the co-chairs of the committee may contact the Alberta OHS for advice.

Training
All members of the JOHSC are permitted to attend health and safety training, programs, seminars and courses. The employer shall pay for that training and time and any additional training recommendations made by the JOHSC co-chairs and approved by the employer.

Records
The committee co-chairs will ensure accurate records are kept of all matters that come before JOHSC. The committee will maintain copies of its minutes and reports for a period of two (2) years from the date of the JOHSC meeting to which they relate.

Recommended Revisions
Except for editorial revisions, these terms of reference may be revised on the recommendation of the committee to the Health & Safety Manager.

Review
These terms of reference will be reviewed by committee members every three (3) years and approved by the Health & Safety Manager.

Approval History
Approved by the JOHSC: May 9, 2023
Approved by the Health & Safety Manager: May 9, 2023

ELEMENT 4: TRAINING & COMMUNICATIONS

Training and Communications Policy

LBCO recognizes that ongoing training and communication are a vital part of the company's Safety Program.

The purpose of training and effective communication is to:
- Establish an effective communications link between all levels of employees at LBCO
- Diffuse potential job disruptions by providing a forum for discussion of critical safety issues
- Exchange information regarding specific safety matters
- Grow our safety culture and reinforce commitment to the Health and Safety of our team, and
- Obtain a "Loss Free" workplace through education.

It is the responsibility of every employee to communicate information about LBCO's Safety Management System to peers, contractors, our clients and any other individual with whom we do business. The Company believes that sharing information is an input that leads to safe human behavior.

Training employees' aids in the development and maintenance of job-specific skills required to work safely and efficiently. Every employee will benefit from increased learning and support in the workplace. All individuals must participate in creating a safe working environment.

No person shall perform any job or task that is beyond their ability to safely do so.

LBCO will keep up to date records of each safety meeting identifying the health and safety instruction or training received, and the date the meeting took place. Each Supervisor must ensure that all workers under their direction have been suitably trained in company and provincial safety standards.

At minimum, all employees will receive, and participate fully, in:

- Workers Health and Safety Program Orientation
- Company Rules
- Tailgate Meetings
- On-the Job Training
- General Company Safety Meetings
- Job specific training or Specialized Training (eg. Fall Protection)
- Competency assessments.
- Refresher Training
- Site-specific orientations

LBCO Contracting Ltd. will provide, and workers will participate in, all safety and related training that is necessary to minimize losses of human and physical resources of the company.
Remember: "Learning continues for a Lifetime"

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Safety Training

Training employee's aids in the development and maintenance of job-specific skills required to work safely and efficiently. Every employee level will benefit from increased learning and support in the workplace. All individuals must participate in creating a safe working environment.

No person shall perform any job or task that is beyond their ability to safely do so.

There are many techniques used in delivery of safety, health and environmental training. Three broad categories of delivery techniques are described as:

- Traditional Classroom Training
- On-the-Job Training
- Advanced Technology Training

Classroom Training

Traditional training typically occurs in a classroom setting but may include a wide array of techniques, including lecture, demonstration, discussion, practice, and assignment of project.

Advantages:

- Meets many regulatory requirements.
- Can include more than one person.

Special Considerations:

- Traditional techniques may not be the most effective way to communicate specific information to a particular group of workers.
- If training includes demonstration or practices, the equipment used must be similar as that to be used in the actual workplace.
- Trainees may not readily see the applicability of classroom training to their work setting.

Courses LBCO Contracting Ltd. trains in a classroom setting:

- Rigging Fundamentals
- Confined Space Awareness, Entry & Rescue
- Supervisor Courses
- Trenching, Excavating & Ground Disturbance
- Standard First Aid
- Transportation of Dangerous Goods
- Fall Protection

On-the-Job Training

On-the-Job Training is done in the actual workplace, ranging from short training sessions to long- term formalized training.

Advantages:

- Saves time and money because employees do not have to travel to a distant training location.
- Can use actual equipment present in the workplace.
- Training is immediately relevant and applicable to the trainee's work.

Special Considerations:

- Record Keeping – This kind of training must be properly documented.
- Location – While the workplace can be an excellent place to hold training, care should be taken to ensure that learning can occur. The work area should be quiet enough that the trainer can be heard. If materials are to be read during the training, there should be adequate lighting.

- Training Objectives – If not considered during training development, objectives may be left to the discretion of the superintendent.
- Care should also be taken that On-the-Job training does not create a safety risk for the trainee or workers in the surrounding work environment.

Courses LBCO Contracting Ltd. trains as an On-the-Job Training:

- Operating Equipment
- Flag person
- Client policies and procedures
- Safe work practices, procedures and precautions
- Where applicable, the use, care and maintenance of specialized PPE
- If hazardous materials are present or used, training in the content and SDS 's.
- Emergency Preparedness and Response

Advanced Technology Training

Advanced Technology training includes a myriad of alternative training delivery techniques that involve advanced technologies.

Advantages:

- Can allow training of persons from different facilities simultaneously. This can allow for sharing of experiences which can greatly enhance learning.
- Training can be self-paced, offered at any time of the day or night, and may not require the presence of an instructor.
- Record keeping can be automated.
- Some of these techniques are especially useful for refresher training.

Special Considerations:

- Required hardware and software must be available.
- Trainees must be comfortable with and knowledgeable in how to use the technology, e.g. have the requisite computer skills, before training begins.
- The trainer must have adequate technical support.
- There should be technically feasible backup mechanism to deliver the training if the selected method is not effective.
- Generally ineffective for training that requires hands-on experience.
- Generic or packaged programs may be a poor fit for workers at different work sites, with specific job tasks.

Courses LBCO Contracting Ltd. trains as Advanced Technology:

- Construction Safety Training System (CSTS)
- Leadership for Safety Excellence (LSE)
- Others as recommended by the HSE Manager
  All training programs should be evaluated to determine:
- The degree to which the objectives were met, and
- How the program can be improved.

Refresher Training

Refresher Training is an ongoing part of training follow-up activities. LBCO Contracting Ltd. will encourage all employees to improve and update their knowledge and proficiency.

Providing safety and health information and training helps to:

- Ensure employees are not injured or made ill by the work they do.

- Develop a positive health and safety culture, where safe and healthy working becomes second nature to everyone.
- Find out how health and safety can be managed better.
- Meet legal duties to protect the health and safety of employees. Effective training:
- Will contribute towards making employees competent in health and safety.
- Can help business avoid the distress of incidents and ill health causes.
- Can help avoid financial costs of incidents and health illness.

The law requires that your employer provide whatever information, instruction and training is needed to ensure, so far as is reasonably practicable, the health and safety of everyone.

Workers Health and Safety Orientation

The purpose of the orientation is for new employees to become familiar with how the company operates, the value attached to occupational health & safety, review of the safety policy, explain personal protective equipment and determine any required training such as the Construction Safety Training System. A new employee unfamiliar with the work activity or workplace location will be assigned by a superintendent to work with an experienced employee to become familiar with the job, equipment, procedures/processes, people and other issues. A checklist is used that will be signed off by the new employee.

Communication

Company policy states all employees will go through an orientation. Management will contact the Safety Advisor to co-ordinate the orientation date. The Safety Advisor will review the safety program with the new employee; as well will be responsible to ensure the orientation is completed within a short period of time. The overall message of the orientation stresses that workers need to take responsibility for their own personal safety, as well as the safety of those they work with and around. It also emphasizes the workers right and obligation to refuse unsafe work; the obligation to inform other employees, supervisors, management of unsafe conditions; and the right to participate in safe work processes. Upon completing the safety orientation, all personnel must sign the Orientation Acknowledgment Form, acknowledging that they have received and will comply with company policies and procedures.

Training

The Safety Advisor will review the company safety policy and expectations of complying with the Occupational Health & Safety Act. The employee will be provided with specific personal protective equipment and be told what he must purchase him/herself. Any required training such as CSTS will be scheduled at this time. Safety hazards of the job will be described, and correct procedures will be described in detail. The superintendent will take the new employee to the workplace; demonstrate the activity outlining again the hazards, protective equipment requirements and anything else of importance. The employee will be assigned to work with or near an experienced employee until the new employee is comfortable with the work or has any questions. During the shadowing the new hire will learn through observation and practical demonstration/hands on work related to their job description.

The superintendent will be in touch on a daily basis with the new employee. The time necessary for shadowing is not specific. This is determined by the pre-existing experience of the new hire, the specific requirements for the position as well as the complexity of the position. The Supervisor will ultimately determine the competency or “ready for work” date based on his or her time spent with the new hire.

Evaluation

After one week’s employment the superintendent and Safety Advisor will observe the performance of the new employee. They will ask for any comments about the work, any safety concerns, and PPE issues.

He will inquire about the tools or equipment the employee uses. The superintendent will talk to the mentor to see if there were any concerns. At the end of his probation period, he will be evaluated on his work and safety performance. This will include following safety rules, wearing PPE, taking care of tools and equipment and completing of safety training courses. The new employee could later be observed by any or all the personnel involved in the orientation. Injury records will note any injury or incident to the new employee.

Competent Worker

A competent worker is defined as adequately qualified, suitably trained, and having sufficient experience to safely perform work without supervision or with only minimal supervision.

- The supervisor/manager within 30 days of hire shall observe worker performing tasks to verify competencies.
- Completed documents shall be uploaded to company server and forwarded to HSE Manager.
- The competency documents will be managed and updated by the HSE department.
- Workers not meeting competency criteria or those that do not perform tasks safely and efficiently shall be retrained once, and further decisions shall be agreed upon by HSE Manager and the Site-Superintendent on case-by-case basis.

Competency Assessments

New employees
Each applicant will be assessed by managers to determine their qualifications and competence for the position being filled. Managers will review and assess the credentials presented during the interview and hiring process including verifying licenses, certificates or accreditation (including eligibility for accreditation/certification).

Re-assigned employees
Each prospective employee will be subjected to a competency assessment by managers to determine existing qualifications, competency and training requirements for the position to be filled.

Qualification Verification

LBCO requires that all employees maintain competence with an adequate level of training along with regulated certifications throughout their service with LBCO. Training needs and progress are reviewed annually with supervisory and management staff and appropriate training opportunities are identified. Training is one of the attributes considered in job promotion. Below is the LBCO Training Matrix, outlined for each position within our field staff.

LBCO Safety Training Matrix - by Position

R = Required NR = Not Required O = Optional	External Courses											Internal Courses								Competency Evaluation		
	CSTS	WHMIS	Standard First Aid	Ground Disturbance	Hoisting & Rigging	Fall Protection	Confined Space	Asbestos & Silica	H2S Alive	TDG	Cargo Securement	LBCO Orientation	Flagger	Incident Reporting	Hazard Control	Inspection Process	Respirator Fit Test	Environmental Protection	Fire Prevention	Heavy Equipment Operator	Hauling Truck Drivers	New Worker Competency
Underground Crew																						
Site Superintendant	R	R	R	R	R	R	R	R	R	O	NR	R	O	R	R	R	O	R	R	O	NR	R
Foreman	R	R	R	R	R	R	R	R	R	O	NR	R	O	R	R	R	O	R	R	O	NR	R
Equipment Operator	R	R	O	R	R	NR	NR	O	O	NR	NR	R	O	R	R	O	O	R	R	R	NR	R
Pipelayer	R	R	R	O	R	R	R	R	R	NR	NR	R	O	R	R	O	R	R	R	NR	NR	R
Pipelayer Helper	R	R	O	O	R	R	R	R	R	NR	NR	R	O	R	R	O	R	R	R	NR	NR	R
Skilled Labourer	R	R	O	O	R	R	R	R	O	NR	NR	R	O	R	R	O	R	R	R	NR	NR	R
Top Man	R	R	O	O	O	NR	NR	O	O	NR	NR	R	O	R	R	O	O	R	R	NR	NR	R
Labourer	R	R	O	O	O	O	O	R	O	NR	NR	R	R	R	R	O	O	R	R	NR	NR	R
Flagger	R	R	O	NR	NR	NR	NR	O	NR	NR	NR	R	R	R	R	NR	NR	R	O	NR	NR	R
Hauling Truck Crew																						
Lead Hauler	R	R	O	NR	R	NR	NR	NR	NR	R	R	R	O	R	R	R	NR	R	R	R	R	R
Driver	R	R	O	NR	R	NR	NR	NR	NR	R	R	R	O	R	R	R	NR	R	R	R	R	R
Roadworks Crew																						
Site Superintendant	R	R	R	R	R	NR	NR	R	NR	NR	NR	R	O	R	R	R	R	R	R	NR	NR	R
Foreman	R	R	R	R	R	NR	NR	R	NR	NR	NR	R	O	R	R	R	R	R	R	NR	NR	R
Equipment Operator	R	R	O	R	R	NR	NR	O	NR	NR	NR	R	O	R	R	O	NR	R	R	R	NR	R
Skilled Labourer	R	R	O	O	O	NR	NR	R	NR	NR	NR	R	O	R	R	O	R	R	R	NR	NR	R
Labourer	R	R	O	O	O	NR	NR	R	NR	NR	NR	R	R	R	R	O	NR	R	R	NR	NR	R
Flagger	R	R	NR	NR	NR	NR	NR	O	NR	NR	NR	R	R	R	R	NR	NR	R	R	NR	NR	R
Shop																						
Manager	R	R	R	NR	R	NR	NR	NR	NR	NR	NR	R	O	R	R	R	NR	R	R	R	NR	R
Licensed Mechanic	R	R	O	NR	O	NR	NR	NR	NR	NR	NR	R	O	R	R	R	NR	R	R	R	NR	R
Mechanics Helper	R	R	O	NR	NR	NR	NR	NR	NR	NR	NR	R	O	R	R	R	NR	R	R	NR	NR	R
Company																						
Senior Management	R	O	O	O	NR	NR	NR	NR	NR	NR	NR	R	NR	R	R	R	NR	R	O	NR	NR	NR
Project Management	R	R	O	O	NR	NR	O	O	NR	NR	NR	R	NR	R	R	R	NR	R	O	NR	NR	NR
Office	O	O	O	NR	NR	NR	NR	NR	NR	NR	NR	R	NR	R	R	NR	NR	R	O	NR	NR	NR
Safety	R	R	R	R	R	R	R	R	R	R	NR	R	R	R	R	R	R	R	R	NR	NR	R

Continued Assessment and Performance Evaluation

LBCO will identify the competencies to be evaluated annually. Managers will ensure maintenance of competencies for employees by:

- Verifying all credentials/training are current and in accordance with the provisions of the appropriate regulatory agencies.
- Verifying that all required training is completed.
- Conducting reviews at least annually to assess the skills, knowledge and competencies to perform essential job functions.
- Document the successful demonstration of competency for each essential job function.
- If operational changes are made, competencies will be adjusted, and all competent employees will be required to complete a refresher on that competency before they are deemed competent.

Prior to a task being completed independently by an employee, the competency of an individual must be verified by a competent person (i.e., Supervisor).
Workers must be monitored for unsafe behaviors and removed from the job site if necessary.
Records of in-house training will be recorded for each individual.

Performance Deficiencies

- All individuals unable to demonstrate proficiency in any of the required competencies will receive coaching in the performance of those competencies, until they demonstrate acceptable competencies, with a time frame determined by the Manager. Competency must be demonstrated prior to the resumption of duties by the employee.
- Individuals unable to demonstrate the required competencies will be subject to appropriate action, up to, and including additional training or termination.

Employees that have not been deemed competent are not permitted to conduct work without direct supervision.

Communication

LBCO recognizes that proper communication is key to ensuring a safe worksite, and a successful project. Prior to the project start, and during the project the following means of communication will be utilized to keep all parties informed on all necessary topics.

- LBCO Orientation
- Pre-job Safety Meetings
- Daily Toolbox Meetings
- Stop Work Authority
- Work Permits
- Job Safety Analysis
- Progress Reports
- Weekly or Biweekly update calls

Pre-job Safety Meetings

A Pre-job Safety Meeting will be conducted to discuss any potential hazards prior to commencing work. Therein after, weekly safety toolbox meetings will provide an opportunity to discuss safety concerns as the project progresses. Safety items pertinent to the crew's work such as special procedures, new types of equipment/products, PPE and HSE risks on the site will be discussed and noted. All members of the crew and any subcontractors on-site shall attend. Daily Hazard assessments will be completed.

LBCO will maintain regular communication to ensure accurate information is conveyed to appropriate worker levels, both internally and externally. On site communication will be determined by the site supervisor for the specific task. All employees and supervisors who are engaged in a Confined Space Entry shall, before entry, participate and review the approved Entry and Rescue Plan. Any confined Space Entry requires that the communication method be documented on the Emergency Response Plan.

Toolbox Meetings

Daily toolbox meetings will be held to inform all personnel of the jobs being conducted throughout the site, the hazards they present and safe work procedures to be used. Supervisors are to discuss the results of the weekly job site inspection and the appropriate corrective actions. These meetings also present an open forum for everyone to address any safety concerns they may have as well as comment on current safe work procedures and offer suggestions for improvements**.** These meetings should be approximately 10-15 minutes in length and are intended to be informal.
Notes of each meeting will be kept and recorded on the FLHA, and follow-up ideas and improvements will be monitored.
Toolbox meetings will be held for office staff four times per year.

GENERAL COMPANY SAFETY MEETINGS

Company-wide General Safety Meetings will be held on a regular basis and at least **bi-annually**. Topics include safety and statistics, legislation, fleet maintenance, changes in the company operations and human resource topics. Everyone is encouraged to contribute their ideas regarding safety and production issues. Minutes will be recorded; one copy will be filed, and a second copy will be posted for those who were unable to attend. The meeting will be held at a convenient time and location, to ensure the majority of personnel can attend. Personnel not able to attend a meeting are required to read the minutes of the meeting and “sign off” that they have done so.

Each crew or Division (i.e.. Underground, Roadworks, Paving, Concrete) will conduct a safety meeting at least **quarterly** to ensure our lines of communication are open and encouraged between all levels of the company, with the required attendance of all available supervisors, employees, contractors and subcontractors at LBCO Contracting.

Most of the agenda will be prepared in advance by the Safety Coordinator and then forwarded to each department supervisor.
Basic criteria for the meetings will include, but are not limited to discussion relating to the following:
• A review of all near misses, incidents and accidents for the past month to determine areas requiring attention or the development of undesirable trends requiring corrective actions.
• Review of incidents or accidents occurring in the industry that may apply to current or future jobs
• Review of legislation and regulation changes or requirements
• Review of selected safety program policies, elements and safe work procedures to ensure effectiveness and refresh employee understanding
• Review of emergency response plans and procedures
• Review of personal and special protective equipment requirements
• Review of site safety performance (i.e. statistics, inspection results, job observations, goals, etc.)
• Review of required training certifications
• Discussion of any other topics relevant to worker health and safety on the job or specific to the needs of the location.

Minutes will be kept for all safety meetings. Please assist us in this undertaking by noting who is present, what is discussed and what has been decided at all safety meetings.
Completed minutes shall include:
Anyone assigned to corrective action will be required to report on progress by setting deadlines.

In the event of an incident, accident or near miss an additional meeting may be called regarding investigation and further prevention of the existing hazard. This may be done in several ways, not limited to verbal communication with affected individuals, emergency safety bulletins and formal safety meetings.

Occupation Health Committee (OHC) Meetings
Meetings will be held quarterly as per OHS regulations. The OHC Committee will assist in identifying hazards in the workplace, provide communication between Management and Workers, assist with review of incidents and help with resolution of health and safety issues. It will post minutes for all workers to see and ensure that action items are assigned, and follow-through is completed.

ELEMENT 5: HAZARD ASSESSMENT

Hazard Assessment Policy

To maintain a safe work environment, we must be constantly aware of any actual or potential hazards, which may cause impaired health, injury, or damage to property or the environment. It is the goal of the company that all hazards are identified, and necessary action is followed through to eliminate each hazard as it is identified. All hazards must be documented on Job Hazard Assessment Forms and control measures put in place before commencement of work.

One of the key things that can be done to provide a safe workplace for all workers, visitors and the public is to eliminate or control hazards before they turn into incidents.

To do that first identify hazards, report them, assess them and then finally correct them and follow-up to ensure the controls remain effective. This policy applies to all managers, supervisors, and workers, including contracted personnel performing work for the Company.

Compliance with this policy and ***Alberta OHS Code Part 2 – Hazard Assessment, Elimination, and Control*** is mandatory.

Many different hazards may be encountered or created by construction activity.
Major risks that should be addressed include:

- Slips, trips and falls
- Overhead power line contact
- Underground Utilities
- Open Excavations
- Back Injuries – Repetitive work
- Working in confined spaces
- Fall from heights
- Housekeeping
- Use of power tools
- Mobile Power Equipment
- Awkward Positions

All work sites contain some sort of hazards, which must be controlled to ensure workers safety.

RESPONSIBILITIES

- Managers must ensure workers are trained on the hazard assessment process and policy
- Supervisors must ensure workers are adhering to the hazard assessment process and policy
- Workers (including contracted personnel) must adhere to the hazard assessment process and policy

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Hazard Assessment Procedures

Hazard assessment is a thorough, ongoing examination of the workplace for the purpose of identifying what and where actual and potential hazards exist. Hazard assessment is important as it creates awareness of hazards and risks. It identifies who may be at risk, i.e. (employees, trades, visitors, subcontractors or the public, etc.).
At LBCO, a thorough hazard assessment inventory of jobs or tasks shall be carried out by competent individuals. Based on the risks identified, a Critical Task Inventory List shall be developed, and mitigation plans implemented in a timely manner to prevent injuries to workers, property, environmental and the public.

For workers to be safe, they must know what is not safe. LBCO Contracting Ltd. must take the time to correctly analyze employees, the situation, environment, etc. Being able to accurately identify hazards in the workplace will allow LBCO to eliminate or control them and ensure safety.
A hazard is any condition or act which may injure or harm a worker, the environment, or physical property. Some types of hazards which you will face as a worker may include:

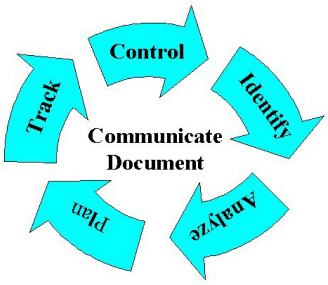
- **Physical** (hand tools, vibration, sharp objects, etc.)
- **Psychological** (stress, fatigue)
- **Chemical** (gases, fumes, sprays, etc.)
- **Biological** (bacteria, fungí, viruses, etc.)

Once the hazards have been identified, they are then prioritized by potential and risk to ensure that critical hazards are controlled immediately, and low risk or low potential hazards are controlled after the critical hazards have been effectively dealt with.

Workplace hazards typically are generated by, or exist in:

- **The people** (workers, visitors, contractors, vendors, etc.).
- **The environment** (indoors, noise, material handling, floor hazards, etc.).
- **The materials** to be worked with.
- **The tools** to be used.

A hazard assessment and analysis worksheet should use the simplest methods that adequately characterize the probability and severity of incidents.



1. Identification of the hazards.
2. Modeling of the incident scenarios.
3. Estimation of the consequences.
4. Estimation of the likelihood of hazards.
5. Quantification of the risk using a hazard matrix.
6. Judging the acceptability of the risks.
7. Development of strategies for prevention and “controlling” risks.

HAZARD REPORTING
All hazards in the office/shop, jobsite and yard must be reported to your immediate supervisor and/or designate. In the event of an incident, it must be recorded by means of “Incident Reporting & Investigation”.
It is the responsibility of all employees to report hazards.
The following are methods in which worker can use to report hazard: Employees are encouraged to use a method that documents the hazard however they may use any method they feel comfortable with.

1. Reporting the hazard to your manager or supervisor.
2. Bringing the hazard up during a safety meeting.
3. Bring the hazard up during an inspection or audit.

Without proper correction and follow-up on hazards, all the time and energy put into identifying, reporting and investigating them is wasted. Each formal method of hazard identification and follow-up ensures the hazard is addressed. Hazards communicated verbally, like any other identified hazard, it is the responsibility of management to ensure they are properly addressed and documented.

FREQUENCY

The Alberta Occupational Health and Safety Code states that employers must ensure that hazard assessment is being performed and repeated:

- At intervals that prevent the development of unsafe and unhealthy working conditions.
- When a new work process is introduced.
- When a work process or operation changes.
- Before the construction of significant additions or alterations to the work site.

Further to the legislation, hazard assessments must be completed when LBCO personnel is organizing work or introducing new types of work on the job site. Hazard assessments must be completed as follows:

- When LBCO personnel are working on a temporary or mobile work site
- When LBCO personnel are conducting work on sites not owned or managed by LBCO Contracting.
- When LBCO introduces a new work activity, either temporary or permanent to the work site.
- Prior LBCO commencing any job or task or if changes and new tasks are introduced.

"Hazard Recognition and Control" involves:

- Determining what hazards are present in the workplace
- Assessing the level of risk for the hazard identified
- Implementing strategies to eliminate or reduce the risk involved and
- Monitoring and following up to ensure the control strategies chosen are implemented and effective.

This will be achieved through the use of formal and site-specific hazard assessments.

FORMAL HAZARD ASSESSMENTS

- Will be used to assess *all* positions in the Company
- Will be conducted by trained personnel (including managers, supervisors and a selection of workers who perform the tasks)
- Reviewed at least annually
- Will be conducted
  a) In the event of process or operational change (including change in equipment, material/product use or construction)
  b) As need is identified in an inspection or incident investigation
  c) As need is identified in a site-specific hazard assessment

SITE-SPECIFIC HAZARD ASSESSMENTS

- Will be performed for all work sites, offices, yards and shops.
- Will be conducted by affected, trained workers with involvement from the Site Supervisor.
- Will be signed off by all staff acknowledging they have read, understood and will comply with it
- Will be conducted:

a) At the beginning of shift (i.e., daily basis) and re-assessed if conditions change (including the addition of new workers)
b) Before non-routine tasks are performed

RESPONSIBILITIES

The following responsibilities are applicable to the respective positions:

Management

- To ensure that the available resources are made to control all hazards as reasonably practicable.
- Copies of all hazard assessments are made and placed in files for a period up to 5 years.

Supervisors

- Using the hazard assessment, ensure all hazards associated with a particular project have been noted, and a copy is kept on site.
- Ensure that each employee on their crew is specifically made aware of the existence of all hazards and the inherent dangers.
- Ensure that each employee exposed to the hazard will be trained in the appropriate safe work practice(s) and corresponding job procedure(s).
- Changes must be reviewed with all workers.

Employees

- Participate in identifying hazards.
- Ensure that if they are exposed to the hazard, they trained in the appropriate safe work practice(s) and corresponding job procedure(s).
- Review, understand, and be aware of the hazards.

Hazard Assessment Tools

Hazard identification and control are key components in maintaining a safe and healthy workplace. Accordingly, potential hazards on a LBCO job site must be assessed using the procedures set out in this standard. These hazard assessment procedures operate at the following levels:

Project Scope Hazard Assessments: completed at the outset of the project to identify and control major project risks.
Information is used to develop the Project Specific HSE Plan

Job Hazard Analysis: completed for high risk activities
Addresses more specific risks

Field Level Hazard Assessments: completed by crews to identify and control hazards affecting those workers

Addresses more specific tasks

Project Scope Hazard Assessment (PSHA)

The PSHA is essential to identify hazards, risks and controls prior to the start of a project. Information collected during the PSHA will be used to determine if JHAs are required and to develop the Project Specific HSE Plan. Using a PSHA is one of LBCO's practices aimed at effectively managing high risk activities. The completion of a PSHA is required for high-risk activities to verify that hazards and risks associated with a specific task are identified and appropriate controls are implemented.

For the Scope of Work: the estimator will break down each stage of process into individual tasks.
The Project Manager and project superintendent confirm all relevant hazards are included for the tasks being completed.

Hazards identified are ranked with 2 categories to identify the level of risk for each hazard. The number defines severity on a scale of 1-3 with 1 being the highest severity. The letter defines the probability on a scale of A-E with A being most probable to E being extremely remote. Giving a resultant risk e.g. 2B . The higher the number and the lower the letter the higher the risk.
Suitable engineering, administrative and PPE controls are allocated using the hierarchy of controls and selected based upon the risk ranking of the hazards.
The PSHA must be communicated to all workers involved with the task. Feedback from the workers should be encouraged prior to the start of the task and must be signed off by the foreman and workers prior to starting the job.
After completion, the PSHA will be provided to all trade contractors and posted on the project board. A copy will be filed in the project HSE department office. During the life of the project, the PSHA will be updated as necessary.

Job Hazard Analysis (JHA)

The completion of a JHA by the project team is required for high-risk activities to verify that hazards and risks associated with a specific task are identified and appropriate controls are implemented prior to execution of the task. All hazards identified must be prioritized. The JHA must be communicated to all workers involved with the task. Feedback from the workers should be encouraged prior to the start of the task and must be signed off by project team/workers. The project manager must notify the HSE manager of all activities that include hazards that are classified as a Class A Hazard following implementation of the control measures specified in the JHA. The project manager must receive the HSE manager's approval prior to proceeding with such activities. The completed analysis shall meet or exceed the criteria set forth in Job Hazard Analysis Form. All forms are to be commensurate with the scope of work being performed.

Field Level Hazard Assessment (FLHA)

The FLHA program is a documented program designed to assist supervisors and workers to safely accomplish their day-to-day activities and responsibilities through the application of hazard identification and control where the work is conducted.
The FLHA is used to enhance communication between workers and supervisors resulting in increased awareness between all crew members.
Workers and supervisors will be trained in the proper completion of the FLHA. It can be found on the LBCO Safety App at this link: https://bvscanada.com/lbco/home and is titled "eHazard Assessment".

The FLHA will be completed at a minimum:
- At the start of any shift
- When tasks or conditions change; and
- Reviewed upon return from a break.

FLHA Steps are:

1. Assemble workers involved in the work at site of task
2. Identify the scope of work being performed
3. Identify actual and potential hazards
4. Identify appropriate controls for each hazard
5. Document the scope of work, actual hazards and controls
6. Review the FLHA with the entire work group
7. Workers involved shall sign the FLHA, and initial after breaks
8. Communicate the assessment to all workers involved; and
9. Review with workers after breaks.

CRITICAL TASKS

Critical Task is a task that when identified or if the procedures are incorrectly performed or absent, has a significant potential for loss to people, product, process or profit. Job Hazard Analysis or Risk Assessment shall be conducted for every task performed by LBCO employees to develop a Critical Task Inventory List.

All critical tasks shall be subject to regular review to prevent the development of conditions that may put workers at risk. These reviews shall take place on an annual basis at a minimum, or any time a new process is introduced, a change is made to the operation, or a significant addition or alteration is made.

Critical tasks shall be categorized based on these factors:

- Upon completion of a JHA, where the "Risk Rating" is high, these tasks shall be classified as "Critical Tasks". Risk rating shall be calculated based on the frequency, the severity, and the probability of the tasks being performed.

A Critical Task is one that may include the following factors:

- Jobs with high frequency of accidents or near misses which pose a significant threat to health and safety.
- Jobs that have the potential to produce fatalities, disabling injuries, illnesses or environmental harm.
- Newly established jobs whose hazards may not be evident because of lack of experience.
- Jobs that are to be performed in hazardous and/or unfamiliar environments i.e. confined spaces, restricted access, excavations, heavy equipment, elevated work surfaces, unfamiliar work sites.
- If an incident / injury has occurred in the past while performing the task, it should automatically be considered a critical task.

Where the OH&S Regulations require a detailed procedure, that task is a critical task.

Critical Task List – Office

TASKS	LOSS	FREQUENCY	SEVERITY	TOTAL	CRITICAL RATING
Walking Surfaces around the Office Areas	Medium	3	2	5	6
Stairways, halls and Storage Spaces around Office areas	Medium	4	3	7	12
Bookcases, Shelves and Cabinets	High	4	4	8	16
Office Equipment	High	4	4	8	16
Electrical Equipment	High	4	4	8	16
Computer Work	High	4	3	7	12
Handling/Lifting/Moving Material	High	4	4	8	16
General Office Work	High	4	4	8	16
Portable Heater, Electric Powered	High	3	4	7	12
Paper Shear/Cutter	High	4	4	8	16

High = The task activity must not proceed. Steps must be taken to lower the risk level to as low as reasonably practicable using the hierarchy of risk control. **Medium** = The activity can only proceed if the risk levels have been reduced to as low as reasonably practicable using the hierarchy of risk control. Low = Controlled by written safe work practices and procedures which must include application of the hierarchy of controls.

Critical Task List – Onsite

TASKS	LOSS	FREQUENCY	SEVERITY	TOTAL	CRITICAL RATING
Loading Equipment	High	3	4	7	12
Transporting Equipment	High	4	4	8	16
Unloading Equipment	High	3	4	7	12
Site Staging/Layout	Medium	3	2	5	6
Fuelling/Lubricating Equipment	High	4	4	8	16
Operation of Service Truck	Medium	3	4	7	12
Field Repairs	High	3	4	7	12
Establishing Traffic Control Zone	High	4	4	8	16
Removing Traffic Control Zones	High	4	4	8	16
Excavating & Trenching	High	4	4	8	16
Operating Excavating Equipment	High	4	4	8	16
Working Inside Trenches/Excavations	High	4	4	8	16
Trenching in Frost Conditions	High	3	4	7	12
Trenching in Snow	High	3	4	7	12

Loading Trucks	High	4	4	8	16
Abrasive Cut-off Saw	High	3	4	7	12
Air Compressor Portable & Electric	High	3	4	7	12
Arc Welder – Electric	High	3	4	7	12
Chain Hoist	High	4	4	8	16
Chain Saw – Gas Powered	High	3	4	7	12
Chemicals (Pouring/Handling)	High	3	4	7	12
Drill Press	High	4	4	8	16
Driving	High	3	4	7	12
Forklift	High	4	4	8	16
Hand Held Pneumatic Tools	High	3	4	7	12
Hydraulic Press	High	4	4	8	16
Jack Stands – Manual	High	3	4	7	12
Lifting/Carrying Objects	High	3	4	7	12
Crane Operations	High	4	4	8	16
Elevated Surfaces	High	3	4	7	12
Heavy Equipment	High	3	4	7	12
Angle Grinder	High	4	4	8	16
Ladders	High	4	4	8	16
Torch Cutting Oxygen and Acetylene	High	4	4	8	16

Hot Work and Cutting	High	4	4	8	16
Water Truck	High	3	4	7	12
Portable Generator	High	3	4	7	12
Battery Charger	Med ium	3	3	6	9
Cleaning (Sweeping/Moping/Buffing	High	4	4	8	16
Heat Gun	High	3	4	7	12
Plate Compactor	High	3	4	7	12
Propane Torch	High	3	4	7	12
Shop Vac(s)	High	3	4	7	12
Soldering Guns/Irons (HVAC)	High	4	4	8	16
Valves (Operating)	High	3	4	7	12
General Items before Leaving the Job Site	High	3	4	7	12

High = The task activity must not proceed. Steps must be taken to lower the risk level to as low as reasonably practicable using the hierarchy of risk control. **Medium** = The activity can only proceed if the risk levels have been reduced to as low as reasonably practicable using the hierarchy of risk control. Low = Controlled by written safe work practices and procedures which must include application of the hierarchy of controls.

Definitions:

Biological Hazard: A hazardous condition that pertains to life or living organisms, including such things as viruses and toxic materials that living things produce. Examples are animals and bacteria in drinking water.

Chemical Hazard: A nonliving hazardous condition that results from substances, including solids, liquids or vapors that could potentially interact. Some chemicals can damage the human body if people inhale.

Hazard: Any circumstance that poses the risk of an incident.

Hazard Assessment: Is a thorough examination of an operation (job site, shop, etc.) for the purpose of identifying what actual and potential hazards exist.

Health Hazard: A chemical, biological or radiological material for which there is statistically significant scientific evidence that acute or chronic health effect may occur in exposed employees.

Incident: Any unplanned or unwanted event, which results in damage or injury, or could have resulted in damage or injury (i.e. loss-type incidents or no loss-incidents/Near Miss).

Inspection: An observational tour of the workplace for the specific purpose of identifying hazardous acts and hazardous conditions, and for determining the levels of compliance with established safe work practices, procedures and company rules.

Loss Type Incident: Those that result in injury.

No-loss Incident: Those that could have caused harm or damage (Near Miss).

Risk: A term applied to the individual or combined assessments of "probability of loss" and potential amount of loss.

Control: Compliance with standards or requirements.

ELEMENT 6: HAZARD CONTROL

Hazard Control Methods

When hazards have been identified, assessed, and prioritized, strategies need to be developed to control them. Every SWP and SJP has been developed specifically to prevent the occurrence of incidents associated with the hazards identified through this process.

When it comes to controlling a hazard there are a variety of methods to use. The most effective system of control is the application of a combination of the four control methods:

- Elimination
- Engineering
- Administration
- PPE

Elimination

Whenever possible, the preference is to eliminate the hazard. If there is a sharp edge on the handle of a tool being used, file down the sharp edge or use another technique to eliminate it. Often elimination of hazards is done in the planning phase.

Engineering

If the sharp edge cannot be eliminated, substitute the tool for another that is free from hazards. To prevent this from occurring again, look at a design change or implement engineering controls to ensure that sharp edges are not created in the manufacturer specifications. Engineering controls are also effective in regard to barriers, guards, noise shields, etc.

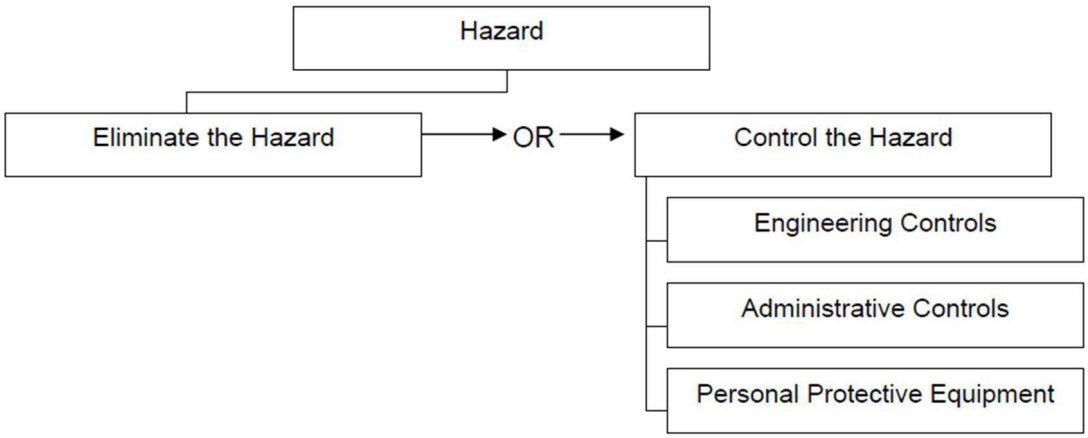
Administration

Administrative controls may be implemented in the form of increased training for use of this sharp-edged tool, or ensuring workers are maintaining equipment correctly. Administration is almost always a method of control in place.

PPE

This method of hazard control is least preferred because personal protective devices may reduce a worker's productivity, while affording less effective protection against the recognized hazard than other methods of control. PPE has limitations and placing it on a worker doesn't eliminate the hazard, but only shields them from some risk. Nevertheless, there are instances where adequate levels of risk reduction cannot be achieved through other methods, and personal protective devices must be used, either alone or in conjunction with other protective measures. Personal protective equipment (PPE) should be used by employees in those situations where engineering controls and administrative controls have not controlled the hazard to an acceptable risk.

HIERARCHY OF CONTROLS: Where possible, hazards should be controlled in order as listed above.



Training to Recognize and Identify Hazards

Training to recognize and identify hazards will consist of a combination of the following:

- Participating in LBCO Safety Orientation Processes.
- Reading and discussing the hazard assessment section of the safety manual.
- Participating in pre-job hazard assessment activities.
- Participating in pre-job safety meetings and monthly safety meetings.
- Discussing incidents that occurred within the company and within the industry.
- Working with experienced employees, contractors, clients and suppliers.

Monitoring and Evaluating Effectiveness of the Controls Implemented

It is important to know that your hazard assessment was complete, accurate and if the controls selected and implemented are effective.
It is also essential to be sure those changes in the workplace have not introduced new hazards or changed hazards that were once designated as a lower priority to a high priority.
Identified, assessed and controlled hazards must be monitored from time to time. This monitoring could include observations during monthly workplace inspections, daily informal inspections by the supervisors or lead hands, and communicating with the employees affected by the changes implemented.
It is good practice to review your assessment on a regular basis to be sure that nothing has changed and that your control methods are effective.
A new revision may be required when:

- When a new work process is introduced,
- When a job or task is seldom performed,
- When a work process or operation changes, or
- Before the construction of a new work site.

Implementing Control Strategies

Once a control method has been established, it must be implemented. Documents describing the control method, assigning the person primarily responsible for implementing it, and fixing the date that the corrective action must be completed, should be developed.

There must be a follow-up to confirm the control method or corrective action was implemented and it is effective in eliminating the potential hazard. Results of the follow –up must be documented for purposes of “due diligence.”

Good Practices that Avoid Creating Workplace Hazards

- Prior to starting work, take a few moments to evaluate the work area and work activity for potential hazards participate in a pre-job start up meeting.
- Maintain good housekeeping standards
- Prior to use inspect tools and equipment
- Maintain protective equipment in good clean condition
- Follow established procedures, and do not take shortcuts
- Report hazards and incidents as soon as possible

Workplace hazard assessment and controls are a mandatory part of a Health and Safety Program. Management, superintendents, office staff, equipment operators, construction personnel, and sub-contractors all have major roles in identifying and controlling workplace hazards.

Fewer injuries and illnesses, increased productivity, and reduced costs associated with incidents and increased health and safety awareness are some direct results of the hazard assessment process.

Recognition, evaluation, and control of workplace hazards are such a fundamental health and safety concept that it should be understood and practiced by everyone.

It is very important to recognize that the hazard assessment does not deal strictly with things that are wrong at the present time. Rather, the assessment deals with what could go wrong. When examining the four areas and the process the combines these items to produce goods or services, keep asking the question “What if?” The knowledge and experience of the people conducting the assessment is of vital importance in this step.

Before any work begins, an initial hazard assessment shall be conducted. The team approach achieves the best results. Site drawings and proposed schedules are critical tools for identifying potential hazards, evaluating them, and for making recommendations for corrective actions and controls.

Safe Work Practices

LBCO is committed to the development, maintenance and implementation of written Safe Work Practices that provide clear guidelines for safely performing a task. Due to the diversity of circumstances and situations within LBCO the information contained in Safe Work Practices cannot be considered complete or applicable in every situation.

Supervisors and workers must refer to federal and provincial health and safety legislation, industry practices, customer policy and site-specific requirements to ensure that the work is accomplished safely.

General

Safe Work Practices (SWP’s) are administrative controls that have been developed to assist employees in carrying out the work activities. Potential hazards have been identified for typical activities and work sites through Hazard Assessment and Analysis Worksheets, and SWP’s have been developed to minimize these hazards.

Safe Work Practices should not be used as substitutes for employee job training. Rather they should serve as a review for performing the tasks safely. These reviews should be conducted during Tailgate meetings, monthly safety meetings, and annual refresher training.

Development, Review and Approval

LBCO will have specific Safe Work Practices developed for their operations. Workers, Supervisors and Management of LBCO. will be involved in the development and/or review of these Safe Work Practices. All

Safe Work Practices will be developed using the standard LBCO Safe Work Practice format and are based on a task hazard assessment.

Safe Work Practices will be annually reviewed or whenever and incident occurs to ensure that they are complete, accurate and applicable. Suggestions for additional Safe Work Practices or changes to the existing Safe Work Practices will involve Workers, Supervisors and Management.

The JOHSC and HSE Manager will approve all Safe Work Practices for LBCO.

Availability

Safe Work Practices applicable to the work being performed will be available to all workers at the work site. Applicable Safe Work Practices should be reviewed at Safety Tailgate Meetings before the start of work. Safe Work Practices can be used in job-specific training to instruct workers in their job duties and to verify employee competency and understanding.

RESPONSIBILITIES

Supervisors

- Ensure all tasks performed have a current Safe Work Practice developed and, where required, a Safe Job Procedure.
- Ensure employees are initially trained for the proper operation.
- Ensure documentation is kept current.
- Ensure retraining is completed as necessary.

Employees

- Read, understand and follow all applicable Safe Work Practices.
- Ask questions if not understood.
- Attend required training sessions.

Safe Job Procedures

LBCO is committed to development, maintenance, and implementation of written Safe Job Procedures that provide a written step by step description for how to perform a task from start to finish, in the safest manner.

Safe Job Procedures will be readily accessible to employees. Safe Job Procedures will provide the regulatory, training, and PPE requirements and responsibilities for each person involved in the job. These Safe Job Procedures apply to all employees and contractors performing the specific job.

Note: The criteria for determining whether a Safe Job Procedure is required is when a job or task is deemed critical from a safety perspective and/or needs to be done in a safe, efficient and consistent manner.

General

Safe Job Procedures (SJP's) are administrative controls that have been developed to assist employees in carrying out the job activities. Potential hazards have been identified for job activities and work sites through Hazard Assessment and Analysis Worksheets, and SJP's have been developed to minimize these hazards. The Hazard Assessment and Analysis Worksheet are used to carry out the assessment and prioritize the hazards. Reviews of Safe Job Procedures should be conducted during Tailgate meetings, monthly safety meetings and annual refresher training.

Development

LBCO will have specific Safe Job Procedures developed for their operations. Procedures should be developed for high-hazard work or where historical information, legislation, a Hazard Assessment or customer requirements dictate.

Workers, Supervisors and Management of LBCO will be involved in the development and/or review of these Safe Job Procedures. All Safe Job Procedures will be developed using the standard LBCO Safe Work Procedure format and are based on a task hazard assessment.

RESPONSIBILITIES

Supervisors

- Ensure all jobs performed and/or deemed critical have current Safe Job Procedures.
- Ensure employees are initially trained for the proper procedures.
- Ensure documentation is kept current.
- Ensure retraining is completed as necessary.

Employees

- Read, understand and follow all applicable Safe Job Procedures.
- Ask questions if not understood.
- Attend training sessions.

SAFE JOB PROCEDURE ANNUAL REVIEW

Whenever an incident occurs, the practice relating to the task should be thoroughly reviewed by the workers and supervisor to ensure the procedure meets the requirements of the task and current legislation. An annual review should be conducted to ensure safe job procedures reflect current operating practices and should be recorded in the Monthly Health and Safety Meeting Minutes.

TRAINING ON SAFE JOB PROCEDURES

Each employee must be trained in an overview of the processes and Safe Job Procedures. The training is to include emphasis on the specific safety and health hazards, emergency operations including shutdown, and Safe Job Procedures applicable to the employee's job tasks. The training will be recorded on the appropriate employee training record.

HAZCOM & WHMIS

LBCO Contracting Ltd. shall plan to control any chemical or biological substance used, produced, stored or disposed of on our sites. Chemical and biological hazards are chemical, micro-organisms or products of living organisms that can cause occupational illnesses. Chemicals can exist as solids, liquid or gas.

Dust, fumes, mists, smoke and vapours may also contain chemical hazards. Biological hazards are living things or substances produced by living things that can cause illness or disease. Micro-organisms, fungi, parasites and some plants are examples of biological hazards.

LBCO Contracting Ltd. shall:

- Identify all existing and potential risks to health or safety of employees.
- Take all reasonable steps to reduce, eliminate or control identified and potential risk to employees from chemical or biological hazards. Take health and safety into consideration in purchasing decisions and selecting the least hazardous products where reasonably practical.
- Plan for responding to emergency situations where chemical and or biological hazards are involved.

Workplace Hazardous Materials Information System (WHMIS)

The purpose of the WHMIS policy is to protect and educate employees and contractors. It is essential that all LBCO workers read, understand, and comply with Safe Work Procedures and procedures for WHMIS.
All hazardous products (as classified in the classes of Schedule II to the Hazardous Products Act) that are used, stored, handled or manufactured at a work site are done in accordance with WHMIS. Workers who work with or in proximity to a hazardous product have access to all hazard information received from the supplier concerning that hazardous product as well as any further hazard information LBCO is aware or ought to be aware concerning the use, storage and handling of that product. LBCO may store a hazardous product in the workplace while actively seeking information required by WHMIS regulations.

The WHMIS program, including the instructional component, is reviewed at least annually, but more frequently if required by a change in work conditions or available hazard information.

Training

WHMIS training, as it pertains to the workplace, is provided to all LBCO workers who work with or in proximity to a hazardous product. A worker who works with a hazardous product is any worker who stores, handles, uses or disposes of a hazardous product or who immediately supervises another worker performing these duties. “In proximity” is the area in which the worker’s health and safety could be at risk during storage, handling, use or disposal of the product, maintenance operations or in an emergency situation such as a spill or fire.

Maintain a site-specific list of hazardous substances on the project and use it as a basis for training. When a worker may be exposed to hazardous substances in their work area, provide them with information and training based on the data contained in the SDS for those hazardous substances.

Training shall be implemented by a competent person, and it shall be done before workers are assigned duties that may cause exposure to hazardous substances. Training shall also be given when new hazardous substances are introduced into the work area, before nonroutine tasks are started, or when an SDS is changed.

Training shall be conducted and documented, and shall provide at least the following:
• Information on which hazardous substances are in the work area.
• How to read and interpret information on the SDS and labels.
• Any physical or health hazards associated with the use of a hazardous substance or mixture being used in the work area.
• Proper precautions for handling, including specific procedures implemented to protect workers from exposure, such as personal protective equipment and work practices.
• Emergency procedures for spills, fires, disposal, first aid, and reporting procedures.
• The methods and observations that can be used to detect the presence of a hazardous substance in the workplace (odor, visual appearance or monitoring).
• The right of workers, their physicians, or their agents to receive information on hazardous substances to which they may be exposed and appropriate medical records, if any.
• The right against discharge or discrimination due to a worker's exercise of the rights afforded by law.
• The availability and details of this written program and access to SDS or other information.

Inventory of Hazardous Substances

LBCO will keep and maintain a record of all hazardous substances that are used, produced, handled, or stored at the workplace.

Substitution with Safer Products

No person shall use a hazardous substance in a workplace where it is reasonably practicable to substitute that substance for a non-hazardous substance. If a product is available that is less hazardous that substance will be used.

Safety Data Sheet (SDS)

A safety data sheet (SDS) must be prepared for a hazardous product produced or made at a work site and obtained for all commercial products used at a work site. The SDS's must be in a form that is easy to handle and be readily available at a work site (including mobile work sites) to workers who may be exposed to a hazardous product and to the joint work site health and safety committee.

LBCO ensures that the most recent safety data sheet for hazardous products are kept at the work site where the product is being used.

Supplier Label or Work Site Label

A hazardous product or its container at a work site must have a supplier label or a work site label on it.

Supplier Label Requirements

If a supplier label is not attached to a hazardous product, then the LBCO employee is not to use the material until the supplier gives you an SDS and a supplier label.

A supplier label must appear on all hazardous products received at LBCO and contain the following information:
• Product identifier - name of product.
• Supplier identifier - name of company that sold it.
• A statement that an SDS is available.
• Hazard symbols the pictures of the classification(s).
• Risk phrases - words that describe the main hazards of the product.
• Precautionary measures (how to work with the product safely), and first aid measures (what to do in an emergency).
• WHMIS hatched border.

Worksite Label Requirements

A worksite label must appear on all hazardous products produced in a workplace or transferred (decanted) to other containers. Worksite labels may appear in placard form on hazardous products received in bulk from a supplier.

These are the minimum requirements for workplace labels:
• Product identifier (product name), as it appears on the SDS.
• Information for the safe handling of the product.
• Statement that the SDS is available.
• May contain the WHMIS hazard symbols or other pictograms.

A supplier label must not be removed, modified or altered on a container in which a hazardous product is received from a supplier if any amount of the hazardous product remains in the container. If the supplier label on a hazardous product or its container is illegible or is removed or detached, LBCO will immediately replace the label with another supplier label or a work site label.

Airborne Hazardous Substances

Workers will be kept free from an airborne exposure to a concentration of any chemical agent in excess of the value for that chemical agent adopted by the American Conference of Governmental Industrial Hygienists, in its publication entitled Threshold Limit Values and Biological Exposure Indices, dated 1994-1995 (or current version) (with the exception of grain dust in excess of 10 mg/m3 or chrysotile asbestos in excess of one fibre per cubic centimeter).

Where applicable, based on the seriousness of any exposure to a hazardous substance exists, the use of automated warning and detection systems will be utilized.

Pipes and Reaction Vessels

Pipes and reaction vessels will be marked using colour coding, or placards.

Transferring of a Hazardous product

When transferring a hazardous product, you must ensure that a workplace label is placed on the new container.

When a hazardous material/product is poured into a container that is going to be used immediately, no label is required.

Required labels for decanted products do not apply to a hazardous product at a work site if the hazardous product is contained or transferred in a piping system that includes valves, a reaction vessel, or a tank car, tank truck, ore car, conveyor belt or similar conveyance.

Hazardous Waste

If a hazardous product is a hazardous waste generated at the work site, LBCO ensures that it is stored and handled safely using a combination of any means of identification (labels or signs) and instruction of workers on the safe handling of the hazardous waste. This waste will be sent to an approved facility for disposal.

The workers must be informed by a sign and by training if fugitive emissions are present. The signage shall indicate the precautions to be taken in handling them and in case of exposure to them.

Bring Hazardous products onto site Owned by Others

Prior to bringing Hazardous products onto sites of our clients, we will give them a chance to review and approve the selection of the Product. If our client does not approve the hazardous product we will need to find an approved substitute product.

Multi-Employer Jobsites

LBCO requires all trade contractors to furnish a list of SDSs for those hazardous chemicals that may be produced, used, or stored on the jobsite, so that a master list of all on-site chemicals can be maintained.

Hazardous chemicals that might create a condition of exposure to non-workers must be identified, and the appropriate SDS must be given to those employers who might have exposure. In lieu of sending the SDS, those employers whose workers might be affected may be advised in writing of the location where we keep the SDS.

Precautionary measures that non-LBCO employees must observe on the jobsite for the above instances will be communicated to those potentially affected. We will quantify those precautionary measures in writing and distribute them to the potentially affected employer. This distribution should be made with the same letter requesting other employers' SDSs.

During the preconstruction meetings with trade contractors and vendors, or in the subsequent project HSE meetings, aspects of our program will be described. This will include the labeling used on purchased chemical products, hazardous chemicals used in portable containers, areas with hazardous chemicals, training, and spill containment and reporting.

Instruction will be given concerning the methods and observation techniques that may be used to detect the presence of hazardous materials in the work area. In the majority of instances, this will be reliance upon labels or other forms of warnings on containers. Some situations will require the use of specialized equipment for monitoring the work environment for the presence of hazardous materials.

Instruction will also include review of the physical and/or health hazards associated with the hazardous chemical/material present in the work area. This information will be developed directly from the SDS associated with the specific substance.

Protective measures for the specific hazardous material will be reviewed with the workers. In some cases, this may be appropriate work practice, such as procedures for handling gasoline. In others, it may relate to personal protective equipment that might be needed, such as rubber gloves or goggles. Any reference to personal protective equipment on the SDS will be explained, and examples shown when appropriate.

In some cases, exposure to hazardous chemicals/materials may arise due to nonroutine tasks. These tasks may develop from work being performed on systems containing hazardous materials, work that may produce hazardous material, or work in an area with hazardous materials present. When these situations develop, workers will be appraised using documented weekly safety meetings and on-site training. The information covered will include an identification of the hazardous material that may be present, the means of detecting the presence of a hazardous material, review of the specific SDS and review and instruction of appropriate protective measures, and personal protective equipment.


WHMIS Pictograms
Workplace Hazardous Materials Information System
2015
Flame
Flammable
Self-Reactive
Pyrophoric
Self-Heating
In Contact with Water, Emits Flammable Gases
Organic Peroxide
Flame over Circle
Oxidizer
Exploding Bomb
Explosive*
Self-Reactive (severe)
Organic Peroxide (severe)
Skull and Crossbones
Acute Toxicity (fatal or toxic)
Gas Cylinder
Gas Under Pressure
Corrosion
Serious Eye Damage
Skin Corrosion
Corrosive to Metals
Biohazardous
Biohazardous Infectious Materials
Exclamation Mark
Irritation (skin or eyes)
Skin Sensitization
Acute Toxicity (harmful)
Specific Target Organ Toxicity (drowsiness or dizziness, or respiratory irritation)
Hazardous to the Ozone Layer*
Health Hazard
Carcinogenicity
Respiratory Sensitization
Reproductive Toxicity
Specific Target Organ Toxicity
Germ Cell Mutagenicity
Aspiration Hazard
Environment
Aquatic Toxicity*
A GHS pictogram appropriate for the hazard
Physical Hazards Not Otherwise Classified
Health Hazards Not Otherwise Classified
NOTE: No pictogram is assigned to some hazard classes e.g., Combustible Dusts and Simple Asphyxiants, and some less severe hazard categories.
*Not required by WHMIS, but may be used
CCOHS.ca
Canadian Centre for Occupational Health and Safety
1-800-668-4284
WHMIS.org

Hazards of working in an Excavation or Trench

Refer to OH&S Code Part 32 Excavating & Trenching

- Soil stability condition – clay vs. sand
- Slope/shoring requirement
- Falling objects
- Depth/width consideration for risk
- Hazardous gases
- Underground Utilities

Discuss regulations, including shoring and pilling

Before excavating activities begin, the location of buried facilities that may be encountered during digging must be first located and marked. Buried or underground facilities include anything below the ground that transports or stores products and services such as:

- Water
- Sewage
- Oil
- Natural gas
- Chemicals
- Cablevision services
- Electrical energy
- Electric, telephonic, and telegraphic communication
- Occupational Health & Safety Code (Classification of Soil Type, Exposing Buried Facilities, Temporary Marking of Buried Facilities)

Classification of Soil Type

The employer is responsible for classifying the soil being excavated into one of the three types described in this section and summarized in Table 32.1.

The categories dictate how the walls of excavations and trenches are cut back or sloped. Table 32.1

Soil Characteristics	Soil Type		
	Hard and Compact Soil	Likely to Crack and Crumble Soil	Soft, Sandy or Loose Soil
Consistency	Hard, very dense in compactive condition	Stiff, compact in compactive condition	Firm to very soft, loose to very loose in compactive condition
Ability to Penetrate	Only with difficulty by a small, sharp object	With a moderate difficulty with a small, sharp object	With ease

Appearance	Dry	Damp after it is excavated, has low to medium natural moisture content	Appears solid but flows or becomes unstable when disturbed. Can be dry, running easily into a well-defined conical pile, or wet.
Ability to Excavate with Hand tools	Extremely difficult	Moderately difficult	With ease
Water Seepage	Shows no signs of water seepage	Shows signs of localized water seepage	
Other	Does not include previously excavated soil	Shows signs of surface cracking	Is granular soil below the water table, unless the soil has been dewatered
			Expert's substantial hydraulic pressure when a support system is used.

- If walls of an excavation in soft, sandy or loose soil are cut back, they must be slopped from the bottom of the excavation and the walls must be at an angle of not less than 45 degrees (measured from the vertical).
- Loose materials shall be scaled and trimmed from spoil piles
- A safe point of entry and exit shall be located within 8 meters of any worker in a trench that is more than 1.5 meters' deep
- Installing temporary protective structures, or
- Using a combination of the methods in both clauses above.
- A safe means of entering or leaving an excavation could include a ladder. It could also include appropriate sloping of the ground or soil so that a worker can safely walk into or out of the excavation.

For sloping of sides of excavations

Schedule 9 Shoring Component Dimensions

Soil type	Depth of excavation (metres)	Minimum dimensions (millimetres)	Maximum horizontal spacing (millimetres)	Minimum dimensions (millimetres)	Maximum vertical spacing (millimetres)	Minimum dimensions (millimetres)		Maximum spacing (millimetres)	
						Width of trench			
						Less than 1.8 metres	1.8 to 3.7 metres	Vertical	Horizontal
Hard and compact	1.5 to 3.0	38 x 235	1800	89 x 140	1200	89 x 89	140 x 140	1200	1800
	More than 3.0 to 4.5	38 x 235	1200	89 x 140	1200	89 x 140	140 x 140	1200	1800
	More than 4.5 to 6.0	38 x 235	10	140 x 140	1200	140 x 184	140 x 184	1200	1800
Likely to crack or crumble	1.5 to 3.0	38 x 235	1200	89 x 140	1200	89 x 140	140 x 140	1200	1800
	More than 3.0 to 4.5	38 x 235	900	140 x 140	1200	140 x 140	140 x 184	1200	1800
	More than 4.5 to 6.0	38 x 235	10	140 x 184	1200	140 x 184	140 x 184	1200	1800
Soft, sandy or loose	1.5 to 3.0	38 x 235	10	140 x 140	1200	140 x 140	140 x 184	1200	1800
	More than 3.0 to 4.5	38 x 235	10	140 x 184	1200	140 x 184	184 x 184	1200	1800
	More than 4.5 to 6.0	38 x 235	10	184 x 184	1200	140 x 184	184 x 235	1200	1800

Occupational Health and Safety Code

Section 447 requires ground not be disturbed until buried facilities have been identified and their locations marked. Section 448 expand and clarify requirements that affect work involving buried facilities.

Exposing buried facilities

Attention Excavators:

- An owner of buried facilities who are not members of Alberta One-Call must be contacted directly by excavators requiring locates.
- Hand expose zones for high pressure pipelines and fibre optic cables are 5m from locate marks. For all other facilities the hand exposure is 1m.

Backfill inspections are required for exposed facilities, unless locate slip indicates otherwise.

Proposed Excavation

Mark boundaries of the proposed excavation in white. Surface marks on roadways should not exceed 40mm by 450mm.

Use of Marking

If your work is going to disturb the marks, it is your responsibility to provide more permanent marks, or references that will not be disturbed during your work.

Interpretation of Marks

The marks you will find on your worksite show the type of facility, the direction the facility runs and it approximate location.

Hand Expose Zone

Any excavation within the hand expose zone must be performed with non-powered hand or non-destructive techniques until the buried facilities are exposed and visible.

Depth of Facility

Depth of facility cannot be given. Locate Flags and Wooden Stakes

For environmental and safety reasons, please remove locate flags and stakes upon completion of excavation activities.

USE EXTREME CAUTION TO AVOID CONTACT WITH THE FACILITIES. REPORT ANY DAMAGE TO FACILITY OWNER.

International Color Code for Marking Buried Facilities

UTILITY	COLOR
PROPOSED EXCAVATION	WHITE
ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES	RED
POTABLE WATER	BLUE
STEAM, CONDENSATE, GAS OR OIL COMPRESSED AIR	YELLOW
TELECOMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES OR CONDUIT	ORANGE
TEMPORARY SURVEY MARKINGS	PINK
SEWER AND STORM DRAINS	GREEN
CHILLED WATER, RECLAIMED WATER, IRRIGATION AND SLURRY LINES	PURPLE
OTHER	LIGHT BLUE

Facilities must be hand exposed and visible before mechanical equipment is used within the hand exposure zone.

Call Before You Dig!

1-800-242-3447 Alberta1Call

Provide at least 2 full working days' notice. Occupational Health and Safety Code Part 17 Overhead Power Lines

Safe limit of approach distances

225(1) An employer must contact the power line operator before work is done or equipment is operated within 7.0 metres of an energized overhead power line

(a) to determine the voltage of the power line, and

(b) to establish the appropriate safe limit of approach distance listed in Schedule 4.

(1.1) Except as provided for in subsection (2), an employer must ensure that the safe limit of approach distance, as established in subsection (1), is maintained and that no work is done and no equipment is operated at distances less than the established safe limit of approach distance.

(2) An employer must notify the operator of an energized overhead power line before work is done or equipment is operated in the vicinity of the power line at distances less than the safe limit of approach distances listed in Schedule 4 and obtain the operator's assistance in protecting workers involved.

(3) An employer 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 Schedule 4.

(4) A worker must follow the direction of the employer in maintaining the appropriate safe clearance when working in the vicinity of an overhead power line.

Transported loads, equipment and buildings

226 The safe limit of approach distances listed in Schedule 4 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.

Safe Limit of Approach for Overhead Power Lines

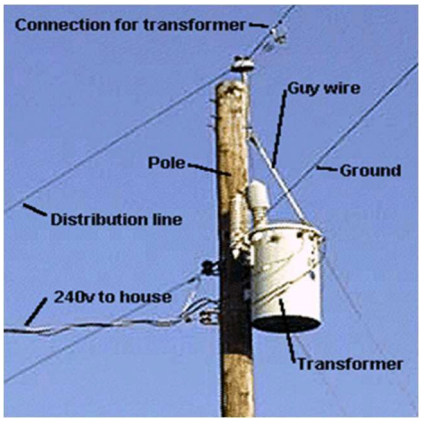
Schedule 4 Safe Limit of Approach Distances - See sections 225, 226

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
0-75 volts Insulated or polyethylene covered conductors (1)	300 millimeters
0-750 volts Bare, un-insulated	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:

Conductors must be insulated or covered throughout their entire length to comply with this group.
Conductors must be manufactured to rated and tested insulation levels.



Health Risks - For Heavy Equipment Operators

Unique risk factors

Heavy equipment operators are exposed to risk factors considerably different from those in other construction trades. Prolonged sitting, whole body vibration, and the repetitive operation of controls are major risk factors for work-related musculoskeletal disorders (WMDs) among operators.

Injuries

Research reveals that the most common work-related symptoms reported among operating engineers include shoulder problems, low back pain, stomach disorders, general fatigue, and irritability. These are caused by

- work position
- whole-body vibration (WBV)
- segmental vibration
- visual work
- environmental factors such as weather, diesel fuel exhaust, and noise
- psychological stress.

Work Position

Heavy equipment operators are required to sit for extended periods of time. Sitting exerts almost twice the pressure through the back that standing does. Sitting flattens out the small of the back. This increases pressure on the spinal discs and limits their ability to absorb vibration. In addition, back muscles tire, become stiff, and start to hurt when the back is in one position for any length of time

During extended sitting, ligaments in the back stretch and slacken. Even after you stand up, they remain stretched and slack for a while and cannot properly support the low back. For this reason, lifting immediately after prolonged sitting increases the risk of back injury.

Other causes can also contribute to injury in the heavy equipment operator. Back and neck muscles must work continuously to hold the head in position, especially in the presence of vibration. This exertion can lead to sore tired muscles and muscle strain.

The repetitive operation of equipment controls also entails risks. Holding a foot pedal down over a long period of time may cause stiffness and spasm in the legs and low back. Operating hand controls may result in a repetitive strain disorder of the arm with shoulder or elbow tendinitis.
Additionally, in colder weather operators may experience arthritic symptoms in the hands and/or Raynaud's syndrome. This syndrome is called "white finger disease" because constriction of the blood vessels causes whitening of the fingers as well as pain or numbness.

Recommendations

- Maintaining proper posture is important to good back health. Backrests are designed to support the natural curves in your spine, especially the low back lumbar curve. A backrest (lumbar support) will improve the seat's shape and your own posture. The right backrest for you will depend on your build and the size and shape of the equipment seat.
- If a back support is not available, a rolled-up towel placed in the small of your back can help.
- *Don't drive with your wallet in your back pocket.* The wallet may put your spine out of alignment and exert pressure on your sciatic nerve, which can lead to back and leg pain.
- Maintaining good sitting posture is important. But sitting is still hard on your back and requires frequent changes of position. Try to get out of your vehicle for a couple of minutes every hour or two and gently stretch backwards. Ideally, the back of your seat should be tilted at 110 degrees from your legs to reduce disc pressure and relax back muscles.
- *Avoid lifting immediately after driving.* The first two to three minutes after you exit your vehicle is a high-risk time for injury. Your muscles are tired; your ligaments are stretched and unable to support your spine properly; your spinal discs are at risk of injury. Give yourself a couple of minutes to stretch and rest before trying to lift anything heavy. A standing back bend, slow and easy, will help reduce the stress on your spine from sitting.
- Avoid jumping down from your vehicle. The impact of jumping puts additional stress and shock on your spine. Over the years this can result in low back injury. Jumping down from vehicles may also cause knee and ankle injuries. Always face your vehicle when dismounting

and maintain 3-point contact. Remember that 14% of back injuries to heavy equipment operators are caused by improper dismounting from the vehicle.

- If possible, adjust your seat and steering wheel so that you can use the pedals and still keep your low back in contact with the seat back.
- When driving for long periods, shift position occasionally to give your back a change of position.
- Before entering or exiting the cab, slide the seat back. This will give you more room and prevent the need to twist. Try to keep your back straight and avoid twisting when getting in and out. Bend at your hips and knees rather than at your back.

Consider these ergonomic points:

- Frequently used controls should be in the most favorable position for reaching and grasping. Displays should be located so that they can be read accurately from a normal operating position.
- Armrests should be available to help reduce postural stress to the back and should fold up out of the way at the operator's discretion.
- Cabs should be equipped with adjustable seating that provides good lumbar support. Seating material should be suitable to vehicle type. Ideally, an air suspension system with individual weight adjustments is best. Three Sources of Vibration

Whole Body Vibration

Whole body vibration (WBV) is a form of mechanical vibration transmitted through a supporting surface to the body. Heavy equipment vibration is transmitted through the seat of the vehicle to the operator's spine.

Operators are subjected to various sources of vibration:

- low-frequency vibration caused by tires and terrain
- high-frequency vibration from engine and transmission
- shock from running into potholes or obstacles.

Long-term exposure to whole body vibration may cause low back disorders such as disc herniation’s, may accelerate degenerative changes in the spine, and may lead to problems with the urogenital and gastrointestinal systems (abdominal pain and nausea). WBV has also been shown to affect the cardiovascular system (increased heart rate and blood pressure).

Because of these health concerns, the International Standards Organization (ISO) has developed a standard providing numerical limits for exposure to WBV. But even when vibration levels are within ISO standards, other factors may influence operator exposure, such as how well the machine is maintained, the type of terrain travelled, seat design, and vibration from other equipment.

Additionally, operators are often required to drive backwards or look from one side of their vehicle, forcing them to adopt a twisted posture. This is considered a risk factor for the development of back and neck disorders. When a vehicle hits an unexpected pothole or bump, the operator's muscles may not have time to contract properly to protect against neck and back injuries. In fact, 12% of back injuries to operators are due to shocks or jolts sustained while driving.

Poor ergonomic design of cabs, seats, and controls can also affect the operator's musculoskeletal health.

Recommendations

- Maintain equipment in sound working order. A good suspension system and correct tire pressure will help to reduce vibration.
- Use specially designed cushions with vibration-reducing material.

- Take extra care and reduce travel speed over rough terrain (shale or rock).
- If possible, tilt your seat a notch or two every 30 minutes. This alters the direction of vibration through your body and helps reduce its effects.
- Try to get out of your vehicle every one to two hours for a few minutes to give your body a break from vibration.

Segmental Vibration

Segmental vibration is transmitted through the hands and arms and is known to cause specific health effects such as Raynaud's syndrome (white finger disease). Construction workers are exposed to segmental vibration when using equipment such as grinders, jackhammers, and power tools. Heavy equipment operators are exposed to segmental vibration when they operate controls.

Equipment operators may report symptoms of Raynaud's syndrome or arthritis in their hands, especially in colder weather.

Recommendations

- Wear gloves to keep your hands warm in cold weather.
- Take breaks when possible and stretch your fingers and hands.
- Equipment controls should have vibration-reducing material built into the grips.

Visual Work

Operators must not only operate equipment but also keep an eye on site activity at all times. They have to monitor their changing environment and watch for overhead power lines, underground utilities, obstacles, site traffic, signallers, and workers on foot. As a result, eye strain and fatigue can become an occupational hazard.

In addition, poor visibility from the cab, reduced visibility in rainy or winter conditions, and glaring sunlight on bright days can contribute to eye strain.

Recommendations

- When possible, take breaks and give your eyes a rest.
- Ensure that there's an adequate number of defogging vents in the cab and that they're located in the correct position to prevent side and back windows from fogging up.
- Keep windshield wiper blades in good working condition.
- If reflection or glare makes displays difficult to read, use shields or filters.

Improved Cabs Reduces Ricks

Weather

Equipment operators must work in all kinds of weather. In summer they may have to contend with heat in cabs that aren't air-conditioned. In winter, ice and snow can make mounting or dismounting from equipment hazardous and lead to slips and falls. Controls and grips may also be cold and contribute to Raynaud's syndrome or arthritic conditions of the hand.

Recommendations

- Cabs should be equipped with adequate air-conditioning in summer and heat in winter.
- Allow extra time in winter to clean ice and snow from equipment.
- Take it slow and easy when getting in or out of equipment in winter. Always maintain 3- point contact and face the vehicle to avoid slips and falls.

Noise

Operators are exposed daily to high levels of noise from heavy equipment. Research has demonstrated that excessive exposure to noise in the workplace may induce hearing loss. Noise exposures on Ontario construction sites are not regulated. But the industrial regulations stipulate a maximum of 90 dBA exposure for eight hours.

A CSAO study concluded that operators in equipment with no cabs or with open doors may be exposed to levels exceeding 90 dBA for an 8-hour period. Bulldozer operators in the study had the highest average exposure at 102.4 dBA.

Recommendations

- Cabs of heavy equipment should be enclosed to reduce noise and air-conditioned to allow operators to keep doors closed.
- Periodic maintenance should be carried out to reduce noise caused by equipment that is not well tuned or working properly.
- Hearing protection programs, including training in the proper use of plugs and muffs, should be implemented.

Diesel Exhaust

The chronic effects of diesel exhaust exposure can include lung function disorders and lung cancer. Studies have reported an excess risk of lung cancer in heavy equipment operators, attributed in part to soot particles and constituents such as benzene in diesel fuel exhaust.

Recommendations

- Ensure that the equipment is in good working condition and properly maintained. Pay particular attention to the exhaust pipe and check for any leaks in the system.
- Further research should be conducted to determine levels of diesel exhaust exposure among equipment operators.

Psychological Stress

Heavy equipment operators are exposed to psychological stress from the physical conditions already described: the size and power of the equipment they operate, changing site conditions that require constant monitoring, exposure to hazards such as vibration and noise, prolonged sitting, and the repetitive operation of hand and foot controls.

Additionally, they may work for 4 or 5 hour stretches in virtual isolation, responding only to signals from co-workers. Operators may work 10 or 12 hour shifts during the construction season. Fatigue can be a significant factor in their overall psychological well-being.

Recommendations

- Employers and supervisors should 1) be aware of the physical and psychological stress under which equipment operators must often work and 2) understand the controls and practices that can help to reduce stress.
- Ergonomic improvements in cab design can help to reduce musculoskeletal hazards and some of the psychological stress that goes along with them.
- Operators should be encouraged to do a pre-work warm-up and take enough stretch breaks to reduce their exposure to vibration and prolonged sitting.

Exercise programs and active forms of recreation to keep fit can improve mental attitude and reduce the risk of musculoskeletal injury.

Strategies to reduce work-related health problems among heavy equipment operators should include the following:

- in-depth evaluations of vehicle designs to determine possible improvements
- in-depth evaluation of work practices to identify safer, healthier approaches
- implementing sound ergonomic procedures
- training workers in how to prevent musculoskeletal injury
- focusing attention on the psychological aspects of operating heavy equipment in the unique construction environment.

Through their coordinated efforts, contractors, equipment manufacturers, suppliers, unions and workers can help to reduce and control the occupational hazards affecting heavy equipment operators.

Personal Protective Equipment Policy

LBCO Contracting Ltd. is committed to the protection from accidental loss of all resources, especially employees. We understand that all hazards cannot be removed and the use of P.P.E. is necessary. The purpose of this policy is to eliminate injuries to employees by utilizing personal protective equipment. P.P.E. is employed when administrative and engineering controls are ineffective or insufficient. P.P.E. is the third and last means of protecting workers from injury.
Ensuring that all jobs are well planned, that workers are properly trained, and that all safe work practices and job procedures are followed should minimize hazards. Personal Protective Equipment then provides an additional degree of protection from injury.

"Basic" P.P.E. is required at all times! "Specialized" P.P.E. may be required on specific jobs or for protection from specific hazards.

All employees of LBCO Contracting Ltd. will use the proper P.P.E. for the job being performed. Employees will wear CSA approved class B hard hats, CSA 6" Grade 1 safety boots (ankle protection), long pants and a shirt with a minimum 4" sleeve length at all times.

Appropriate hand protection, CSA approved safety glasses and ear defenders when required on worksites. The preceding only applies while in the shop and does not apply to employees when they are inside the office, lunchroom, vehicle, or in a cab.

- Unless purchased by employee, all specialties P.P.E. will remain the property of LBCO Contracting Ltd.
- The employee using the P.P.E. will inspect company issued P.P.E. at time of issue and before each use.
- All specialized P.P.E. this of questionable reliability, damaged, or in need of service or repair will be removed from service immediately!
- It is the responsibility of the last person to use any specialized P.P.E., to report any damage so that the appropriate repairs may take place.
- No piece of P.P.E. will be modified or changed contrary to manufacturer's instructions or specifications or The Occupational Health & Safety Act, Regulation and Code.
- LBCO Contracting Ltd. will maintain appropriate inspection and service logs for specialty P.P.E.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Personal Protective Equipment Program

Introduction to Personal Protective Equipment
The purpose of Personal Protective Equipment (PPE) is to provide an effective barrier between a worker and potentially dangerous objects, substances, and processes. The Personal Protective Equipment Standard establishes mandatory rules regarding the use of PPE on LBCO project sites.

Engineering and administrative controls for occupational hazards shall be thoroughly evaluated before requiring personal protective equipment (PPE). Since PPE is the "last line of defense," It must be used properly and in accordance with established standards. Since the use of protective equipment is usually covered by rules and practices, most of the comments related to gaining compliance with rules relate to this subject as well. There are many specific potential problems involving proper equipment utilization by workers that deserve special attention. Those factors believed to have the greatest effect upon the success or failure of a program.

Project management is responsible for conducting a hazard assessment and identifying additional requirements for assigned projects based on the task specific risk.
PPE must be selected based on the following information:

- Hazard assessments (PSSPs, JHAs, inspections, FLHAs)
- Safety Data Sheets (SDS)
- Client requirements; and
- Legislative jurisdictional requirements.

These additional requirements are to be identified in the Project Specific HSE Plan. Additional rules regarding project specific PPE are provided below.

Selection of Equipment
PPE is available to the employee whenever there is otherwise uncontrolled exposure to hazards. The decision to use PPE should be based on Hazard Assessments. Information comes from rules or set by legislation. These Hazard Assessments should be linked to the loss control activities which identify potential hazards. Examples are:

- Observation
- Incident Analysis
- Risk Analysis
- Review of regulations, codes and industry standards.

Proper Personal Fitting
Majority of complaints about personal protective equipment will involve physical discomfort. Nearly every protective item has certain features that can be adjusted or regulated to best adapt it to the individual user. Every feature that could affect comfort or proper use should be thoroughly explained to the individual. Certain features, such as proper seal with a respirator, are critical to the safety and health of the worker. The supervisor must become familiar with all important features concerning proper fit, to save time and avert major problems that application of knowledge could prevent. By making sure the worker is fitted properly and thoroughly understands proper use and care of the equipment, the supervisor will have taken a giant step forward in prevention of future problems.

Training
Correct use of PPE is vital; therefore, it is essential that training is given to all personnel expected to wear it. Records of all training will be maintained and periodically reviewed.

Reinforcement of Use
Most supervisors recognize that an effective level of protective equipment performance is much more likely when every available opportunity is used to reinforce desired behavior. Toolbox and safety meetings as well as

hazard assessments provide excellent opportunities for promoting proper use of equipment through positive reinforcement.

Sanitation and Waste Control

Personal protective equipment must be properly maintained if people are expected to use it. For some items, such as respirators, maintenance records are required. Providing a means, when needed, to clean and sanitize equipment will affect its acceptance and use. While the supervisors are not usually responsible for some of the details involved with such a program, they must be aware of its mechanics to see that it is carried out to meet the real needs of their people. Teaching workers the proper care and use of their equipment has two major benefits as part of any good equipment program. It helps to assure that people will use equipment properly, and it minimizes the need to replace costly articles which are lost or misplaced through negligence.

Compliance Checks

Regular checks should be made by the line leadership to ensure that personal protective standards are being adhered to. These checks should be done both on an informal and planned basis and integrated into other loss control activities such as planned inspection. Basic Personal Protective Equipment

Foot Protection

Safety footwear is designed to protect against foot hazards in the workplace. Safety footwear protects against compression, puncture injuries, and impact.

Safety footwear is divided into three grades which are indicated by colored tags and symbols.

The tag color tells the amount of resistance the toe will supply to different weights dropped from different heights.

These symbols indicate the strength of the sole. For example, a triangle means puncture-resistance sole able to withstand 135 kg (300 ft. lbs.) of pressure without being punctured by a 5 cm (2 inch) nail.

Footwear - Occupational Health and Safety Code

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

(2) If the hazard assessment identifies that protective footwear needs to have toe protection, a puncture resistant sole, metatarsal protection, electrical protection, chainsaw protection or any combination of these, the employer must ensure that the worker wears protective footwear that is approved to

(a) CSA Standard CAN/CSA-Z195-M92 (R2000), *Protective Footwear,* or

(b) CSA Standard Z195-02*, Protective Footwear*.

(3) Despite subsection (2), if a worker is likely to be exposed to a hazard other than those referred to in subsection (2), the employer must ensure that the worker uses footwear appropriate to the hazard.

(4) If a worker is unable, for medical reasons, to wear protective footwear that complies with subsection (2), the worker may substitute external safety toecaps if the employer ensures that

a) The safety toecaps meet the impact force requirements of CSA Standard Z195-02, *Protective Footwear,*

b) metatarsal protection is not needed to protect the feet from injury,

c) the hazard assessment confirms that the worker will not be exposed to any sole penetration hazards, and

d) wearing the safety toecaps does not itself create a hazard for the worker.

(5) An employer must ensure that a fire fighter wears safety footwear that is approved to

(a) CSA Standard CAN/CSA- Z195-M92 (R2000), *Protective Footwear,*

(b) CSA Standard Z195-02, *Protective Footwear*,

(c) NFPA Standard 1971, Protective Ensemble for Structural Fire Fighting, 2000 Edition, or

(d) NFPA Standard 1977, Protective Clothing and Equipment for Wildland Fire Fighting, 1998 Edition.

At LBCO Contracting Ltd., it is mandatory that only green triangle grade of footwear, which also gives ankle support, be used.

Green triangle indicates sole puncture protection with a Grade1 protective toe to withstand impacts up to 125 Joules. Comparable to a 22.7 kg (50 lb) weight dropped from 0.6 m. Sole puncture protection is designed to withstand a force of not less than 1200 Newton's (270 lbs) and resist cracking after being subjected to 1.5 million flexes. Your choice of protective footwear should always over protect, not under protect.

- Choose footwear according to the CSA Standards and Occupational Health and Safety Code.
- Lace up boot and tie laces securely, boots don't protect if they are a tripping hazard or fall off.
- Use a protective boot dressing to help the boot last longer and provide greater water resistance (wet boots conduct current)
- Choose a high cut boot to provide ankle support (less injuries)
- Don't wear defective safety footwear (i.e. exposed steel toe caps)
- Under protect your feet or modify safety footwear.

Eye and Face Protection

Eye and Face protection is designed to protect the worker from such hazards as:

- Flying objects and particles,
- Molten metals,
- Splashing liquids, and
- Ultraviolet, infrared and visible radiation (welding).

Basic Eye Protection includes:

- Eyecup goggles, and
- Monoframe goggles and spectacles with or without side shields.

Standard safety glasses protect eyes from flying particles of metal, wood, stone, plastic or glass coming from the front only.

Safety glasses with semi-side shields protect eyes from flying particles coming from the front or the side.

Safety glasses with eye-cup and side shields protect eyes from flying particles coming from the front, the side, above or below.

Safety goggles with regular ventilation (direct air flow) protect eyes from dust, sparks and flying particles coming from any direction.

Safety goggles with hooded ventilation (indirect air flow) form a tight seal around the eyes to protect from dust, sparks, vapors, splashes and flying particles. They have indirect vents that allow air, but not irritants, to pass through.

Face protection include:

- Metal mesh face shields for radiant heat or hot and humid condition,
- Chemical impact resistant (plastic) face shield,
- Welder shields or helmets with specified cover, and
- Filter plates, and lens.

Welding helmets and hand-held shields protect the eyes, face, ears and neck from radiation, sparks and molten metal. They are opaque, bowl-shaped protective devices, each containing a window with filter glass that allows workers to see what they are doing while protecting their eyes from harmful radiation.

Face shields and half face shields are designed to protect the face and neck from flying particles and sprays of hazardous liquids. They also provide
antiglare protection. Such devices are always worn in addition to basic protective eyewear.

Hardened glass prescription lens and sport glasses are not an acceptable substitute for proper, required industrial safety eye protection.

Comfort and fit are very important in the selection of safety eyewear. Lens coatings, venting or fitting may be needed to prevent fogging or to fit with regular prescription eyeglasses.

Contact lens should NOT be worn at the work site. Contact lens may trap or absorb particles or gases causing eye irritation or blindness. Hard contact lens may break into the eye when hit.

Basic eye protection should be worn with face shields. Face shields alone often are not enough to fully protect the eyes from work hazards. When eye and face protection are required, advice from Management Material Safety Data Sheets (MSDS) or Occupational Health and Safety Code will help your selection.

Eye Protection - Occupational Health and Safety Code

229(1) If a worker's eyes may be injured or irritated at a work site, an employer must ensure that the worker wears properly fitting eye protection equipment that

(a) is approved to

(i) CSA Standard CAN/CSA-Z94.3-92, Industrial Eye and Face Protectors,

(ii) CSA Standard Z94.3-99, Industrial Eye and Face Protectors, or

(iii) CSA Standard Z94.3-02, *Eye and Face Protectors*, and

(b) is appropriate to the work being done and the hazard involved.

(2) Prescription eyewear may be worn if it

(a) is safety eyewear,

(b) meets the requirements of

(i) CSA Standard CAN/CSA-Z94.3-92, Industrial Eye and Face Protectors,

(ii) CSA Standard Z94.3-99, Industrial Eye and Face Protectors, or

(iii) CSA Standard Z94.3-02, *Eye and Face Protectors*, and

(c) is appropriate to the work and the hazard involved.

(2.1) Prescription safety eyewear having bifocal, trifocal, or progressive glass lenses must not be used if there is danger of impact unless it is worn behind equipment meeting the requirements of subsection (1).

(2.2) If the use of plastic prescription lenses is impracticable, and there is no danger of impact, a worker may use lenses made of treated safety glass meeting the requirements of

(a) ANSI Standard Z87.1-1989, Practice for Occupational and Educational Eye and Face Protection, or

(b) ANSI Standard Z87.1-2003, Practice for Occupational and Educational Eye and Face Protection.

(3) If a worker must wear a full-face piece respirator and the face piece is intended to prevent materials striking the eyes, an employer must ensure that the face piece

(a) meets the requirements of CSA Standard Z94.3-02, *Eye and Face Protectors*, or meets the impact and penetration test requirements of section 9 of ANSI Standard Z87.1-1989, *Practice for Occupational and Educational Eye and Face Protection*. Contact **lenses**

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

Electric arc welding

231 A worker must not perform electric arc welding if it is reasonably possible for another worker to be exposed to radiation from the arc unless the other worker is wearing suitable eye protection or is protected by a screen.

- Ensure your eye protection fits properly (close to the face)
- Clean safety glasses daily, more often if needed
- Store safety glasses in a safe, clean, dry place when not in use

- Replace pitted, scratched, bent and poorly fitted PPE (damaged face/eye protection interferes with vision and will not provide the protection it was designed to deliver).
- Do not modify face/eye protection
- Do not use face/eye protection which does not have a CSA certification (CSA stamp for safety glasses is usually on the frame inside the temple near the hinges of the glasses).

Welders and welder's helpers should also wear the prescribed equipment. Anyone else working in the area should also wear eye protection where there is a chance they could be exposed to a flash.

Hearing Protection

Hearing protection is designed to reduce the level of sound energy reaching the inner ear.

The "rule of thumb" for hearing protection is: use hearing protection when you cannot carry on a conversation at a normal volume of voice when you are three (3) feet apart.

Remember, this is only a rule of thumb, any sound over 82 dBA requires hearing protection. Hearing loss can be very gradual, usually happening over a number of years.

The most common types of hearing protection in the construction industry are earplugs and earmuffs.

It is important to have different styles of hearing protection available. Different styles allow a better chance of a good fit. Each person's head, ear shape and size are different. One style may not fit every person on the crew. If hearing PPE does not fit properly or is painful to use, the person will likely not use it. If the hearing protection is not properly fitted, it will not supply the level of protection it was designed to deliver.

Workers should have their hearing tested at least once and year, and twice a year if they work in a high noise area.

Most earplugs, if properly fitted, generally reduce noise to the point where it is comfortable (takes the sharp edge off the noise).

Directions: inserting earplugs

STEP ONE: Squeeze the plug along its length and roll it between your thumb and forefinger to compact it down for insertion into the ear canal.

STEP TWO: Do the "Hook n Grab" –

Keeping the ear plug compressed and rolled, reach over and behind your head with your opposite hand and gently pull your ear slightly out and back to straighten out the ear canal and make insertion of the plug easier.

STEP THREE: Quickly insert the plug into the ear canal until it is deeply seated. You may have to keep a finger on the plug for a few seconds to let it expand to the size of your ear canal. Do not insert the plug so deeply that you cannot pinch a bit of the plug for removal – practice the insertion a few times in front of a mirror to get familiar with proper insertion depth.

Properly inserted: side view – Properly inserted earplugs will be easily visible from the sides, but only a very small portion of the plug will project from the ear.

Properly inserted: front view – Very little (if any) of the earplug should be visible from a straight-on view. If the plugs are hanging out of your ears like a couple of hot-air balloons,

they are not going to be able to do their job as well as they should…and that means more noise for you!

Hearing protection - Occupational Health and Safety Code

222(1) An employer must ensure that hearing protection equipment provided to workers exposed to excess noise

(c) meets the requirements of CSA Standard Z94.2-02, Hearing Protection Devices – Performance, Selection, Care, and Use, and

(d) is of the appropriate class and grade described in Schedule 3, Table 2.

(2) An employer must

(a) provide workers with training in the selection, use and maintenance of hearing protection equipment required to be used at a work site in accordance with the manufacturer's specifications, and

(b) ensure that affected workers wear the hearing protection equipment required to be used.

(3) Workers who are provided with hearing protection equipment must wear and use the equipment in accordance with the training provided by the employer.

Table 1 Occupational exposure limits

for noise [See sections 218, 219(1)]

Exposure Level (dBA)	Exposure Duration
82	16 hours
83	12hours & 41 minutes
84	10 hours & 4 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 & greater	0

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

Head Protection

Safety headwear is designed to protect the head from impact of falling objects, bumps, splashes from chemical or harmful substances and contact with energized object and equipment.

At LBCO Contracting Ltd., it is mandatory the type of protective headwear you wear is the Class B hard hat which has the required “dielectric strength”. There are many designs, but they all must meet the CSA requirements for Class B industrial head protection.

Most head protection is made up of two parts:

- The shell (light and rigid to deflect the blows)
- The suspension (to absorb and distribute the energy of the blow)

Both parts of the headwear must be compatible and maintained according to manufactures instructions. If attachments are used with headwear, they must be designed specifically for use with the specific headwear used. Bump caps are not considered a helmet. In Alberta they can only be used when the only hazard is where a worker might strike his/her head against a stationary object.

Inspection and Maintenance

Proper care is required for headgear to perform efficiently. The service life is affected by many factors including temperature, chemicals, sunlight and ultraviolet radiation (welding). The usual maintenance for headgear is simply washing with a mild detergent and rinsing thoroughly.

- Replace headgear that is pitted, holed, cracked or brittle
- Replace headgear that has been subjected to a blow even though damage cannot be seen
- Remove from service any headgear if it is serviceability is in doubt
- Replace headgear and components according to manufactures instructions
- Do not drill, remove peaks, alter the shell or suspension in any way
- Do not use solvents or paints on the shells (makes shells "break down")
- Do not put chin straps over the brims of Class B headwear
- Do not use any liner that contains metal or conductive material
- Do not carry anything in the hard hat while wearing it.

Industrial headwear - Occupational Health and Safety Code

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 a 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

(e) CSA Standard CAN/CSA-Z94.1-92 (R1998), *Industrial Protective Headwear,*

(f) ANSI Standard Z89.1-1997, *American National Standard for Industrial Head Protection* for Type II head protection, or

(g) ANSI Standard Z89.1-2003, American National Standard for Industrial Head Protection for Type II head protection.

(2) 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 the possibility of lateral impact to the head is unlikely, employer must ensure that the worker wears industrial protective headwear that is appropriate to the hazard and meets the requirements of

(a) CSA Standard CAN/CSA-Z94.1-92 (R1998), *Industrial Protective Headwear*,

(b) ANSI Standard Z89.1-1997, American National Standard for Industrial Head Protection, or

(c) ANSI Standard Z89.1-2003, American National Standard for Industrial Head Protection for Type II.

Specialized Personal Protective Equipment

Before any special PPE is issued to employees, it must be determined if engineering or administrative controls can eliminate the need for special PPE. LBCO Contracting Ltd. will supply all special PPE required by its employees.

Chemical Protective Clothing Material Selection

Chemical protective clothing should not be considered as a replacement for engineering control methods. However, there are often few alternatives available, or an emergency (e.g., a spill) requires their use. Since the clothing is the last line of defence for protecting the skin, care must be taken to ensure it provides the protection expected.

The phrase commonly found on the Material Safety Data Sheet (MSDS) "Wear impervious (or impermeable) gloves" has very limited value. It is technically inaccurate. No glove material will remain impervious to a specific chemical forever. No one glove material is resistant to all chemicals. Some chemicals will travel through or permeate the glove in a few seconds, while other chemicals may take days or weeks.

Information specifying the best type of chemical protective material is what should be on the MSDS (e.g., neoprene, butyl rubber). If this information is missing, contact the supplier or manufacturer of the product. Manufacturers of chemical protective gloves and clothing may also assist their customers in making the appropriate choices.

Permeation rate is the rate at which the chemical will move through the material. It is measured in a laboratory and is expressed in units like milligrams per square meter per second (or some other [weight of chemical] per [unit area of material] per [unit of time]). The higher the permeation rate, the faster the chemical will move through the material.

Permeation is different from penetration. Penetration occurs when the chemical leaks through seams, pinholes and other imperfections in the material: permeation occurs when the chemical diffuses or travels through intact material.

Breakthrough time is time it takes a chemical to permeate completely through the material. It is determined by applying the chemical on the glove exterior and measuring the time it takes to detect the chemical on the inside surface. The sensitivity of the analytical instruments used in these measurements influence when a chemical is first detected. The breakthrough time gives some indication of how long a glove can be used before the chemical will permeate through the material.

Degradation is a measurement of the physical deterioration of the material due to contact with a chemical. The material may get harder, stiffer, more brittle, softer, and weaker or may swell. The worst example is that the material may actually dissolve in the chemical.

Based on the information, it becomes apparent that you must carefully choose the appropriate material for each job. Before deciding about which kind of glove or other chemical protective clothing to use, you should gather and analyze information on several factors such as:

- Complete, accurate description of the task.
- Identification of all hazards that may require hand protection. This should include a list of the chemicals involved as well as physical hazards such as abrasion, tearing, puncture and temperature. The kind of hazards will also affect the decision to use other chemical protective clothing in addition to gloves.
- Flexibility and touch sensitivity needed for the task. This need may significantly limit the thickness of glove material that can be used. The requirement for textured or non-slip surfaces to improve grip must also be considered.
- Type of potential contact (e.g., occasional contact or splash protection or continuous immersion of hands). This will also help in choosing the appropriate length of the glove.
- Contact period. How long the worker could be in contact with the chemical (and which chemicals) may also influence the selection of type and thickness of the glove material and the choice of lined or unlined gloves.
- Potential effects of skin exposure. The immediate irritation or corrosion of the skin must be considered in addition to the potential health effects to the entire body from absorbing the chemical through the skin.

- Decontamination procedures. Consider whether the gloves should be disposed of or cleaned after use. If they are cleaned, consider the cleaning method, how often they can be cleaned, and any special procedures required for disposing of the "decontamination wash waste"?
- Training required. This includes:
  - what are the hazards of skin contact with the chemical,
  - what are limitations of the gloves,
  - what could happen and what to do if the gloves fail, and
  - when to dispose of or to decontaminate gloves.

Suggested materials should be selected based on quantitative information such as permeation rate, breakthrough time, penetration and degradation, and the other considerations mentioned. Various factors like the thickness of the material, manufacturing methods, and product quality control can have a significant effect on these properties.

For a few specific situations when it is impossible to predict the variety of hazards, multi laminate gloves made of layers of several different materials are available.)

Guide to the selection of skin protection

Guide to the Selection of Skin Protection		
Hazard	Degree of Hazard	Protective Material
Abrasion	Severe	Reinforced heavy rubber, staple-reinforced heavy leather
	Less Severe	Rubber, plastic, leather, polyester, nylon, cotton
Sharp Edges	Severe	Metal mesh, staple-reinforced heavy leather, Kevlar (TM) aramid-steel mesh
	Less Severe	Leather, terry cloth (aramid fiber)
	Mild with delicate work	Lightweight leather, polyester, nylon, cotton
Chemicals and fluids	Risk varies according to the chemical, its concentration, and time of contact among other factors. Refer to the manufacturer, or product MSDS.	**Dependant on chemical**. Examples include: Natural rubber, neoprene, nitrile rubber, butyl rubber, PTFE (polytetrafluoroethylene), Teflon (TM), Viton (TM), polyvinyl chloride, polyvinyl alcohol, Saranex (TM), 4H (TM), Barricade (TM), Chemrel (TM), Responder (TM), Trellchem (TM)

Cold		Leather, insulated plastic or rubber, wool, cotton
Electricity		Rubber-insulated gloves tested to appropriate voltage (CSA Standard Z259.4-M1979) with leather outerglove
Heat	High temperatures (over 350 deg C)	Asbestos, Zetex (TM)

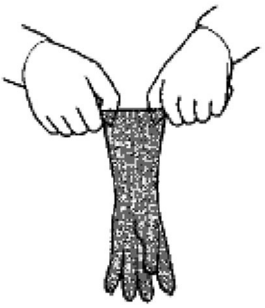
	Medium high (up to 350 deg C)	Nomex (TM), Kevlar (TM), neoprene-coated asbestos, heat-resistant leather with linings
	Warm (up to 200 deg C)	Nomex (TM), Kevlar (TM), heat-resistant leather, terry cloth (aramid fiber)
	Less warm (up to 100 deg C)	Chrome-tanned leather, terry cloth
General Duty		Cotton, terry cloth, leather
Product Contamination		Thin-film plastic, lightweight leather, cotton, polyester, nylon
Radiation		Lead-lined rubber, plastic or leather

Note: The mention of trade name products in the above table is not intended as a recommendation or endorsement of any product. Checking on any TM will take you to the web page "Personal Protective Clothing - Trade Names & Manufacturers". This document lists trade names of protective clothing material mentioned in OSH Answers, the name of companies to which the trade names are registered, and a brief description of the protective clothing material. Check with your supplier or the manufacturer to find out if a particular glove meets your requirements. This list is not intended to be comprehensive; you may know of other products that meet your needs.

Since there are many hazards, hand protection can be provided in a variety of ways: finger guards, cots and thimbles, hand pads, mitts, and gloves.

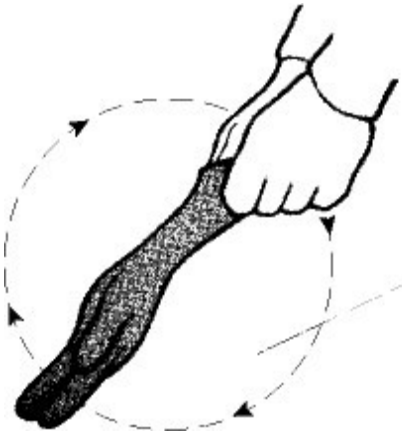
- Choose hand protection that adequately protects from the hazard(s) of a specific job and adequately meets the specific tasks involved in the job (such as flexibility or dexterity).
- Follow the manufacturer's instructions for care, decontamination, and maintenance of gloves.
- Be aware that some materials may cause reactions in some workers such as allergies to latex. Offer alternatives where possible.
- Ensure the gloves fit properly.
- Ensure all exposed skin is covered by gloves. Gloves should be long enough so that there is no gap between the glove and sleeve.
- Do not wear gloves with metal parts near electrical equipment.
- Do not use worn or torn gloves.
- Clean gloves as instructed by the supplier.
- Inspect and test gloves for defects before using.
- Test all rubber or synthetic gloves for leaks by inflating them.

Testing Synthetic Gloves



Step 1

Hold cuff as illustrated, with thumbs inside, stretch cuff slightly.

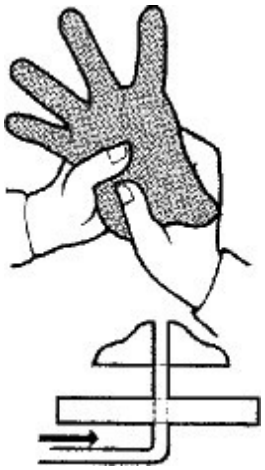


Step 2

Swing glove outward and over towards the face, two or three times, trapping air inside.

Step 3

Squeeze inflated portion of glove with left hand, causing rubber to expand and magnify any defect.



Step 4

If large numbers need testing use a compressed air jig.

Step 5

Double roll cuff over and grip with right hand.

Unfortunately, chemical protective clothing are often considered as a fast and easy method of providing skin protection. The long-term costs of setting up and maintaining a chemical protective clothing may be higher than the costs for implementing proper engineering controls.

Even with the use of gloves, the risk of contact with the chemical still remains. However, in many situations, when the engineering controls for enclosing hazardous chemicals are not practicable, a chemical protective clothing program becomes essential for the protection of workers. Since personal protective equipment such as gloves are the last line of defence, considerable effort should be expended to ensure that adequate protection is actually being provided.

Respiratory Protective Equipment Policy

The objective of this policy is to prevent adverse health effects from the inhalation of hazardous airborne contaminants through the administration of a comprehensive Respiratory Protection Program.

The control of potential health hazards caused by breathing air contaminated with harmful level of chemical, physical or biological agents shall be accomplished as feasible by accepted engineering control measures. When effective engineering controls are not feasible, or while they are being instituted, appropriate respiratory protection shall be used.

This program impacts all employees who are required, or elect, to wear respiratory protection as part of their employment. Only respirators which are applicable and suitable for the purpose intended shall be used.

Responsibilities:

Supervisors

The supervisor shall ensure that all employees in the program have been trained and use the specialized equipment when required.

Management

Management is responsible for the administration of the respiratory protection program, which includes determining the need for respiratory protection, respirator selection, training and fit testing. Management may also maintain a non-medical record pertaining to this program.

Employees

Affected employees are responsible for obtaining a medical clearance to wear a respirator, to be fit tested and receive training. The respirator when required by the specified work activity and ensure that the respirator is cleaned, stored and maintained according to manufactures specifications, and the provisions of this program.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Respiratory Protection Program

Although elimination or reduction of respiratory hazards through substitution or engineering controls is preferred, there may be instances in which LBCO Contracting Ltd. Require the use of appropriate respiratory protection for work, which involves exposure to potentiality hazardous environments, such as airborne contaminants (dusts, fumes, mists, gases, vapors, aerosols, airborne pathogens) or oxygen deficiency. The Canadian Standards Association (CSA) Standard Z94.4-02 (Selection, Use and Care of Respirators) requires a written respiratory protection program to be in place where respiratory protection is used to protect workers from inhaling hazardous atmospheres.

The basic elements of the Respiratory Protection Program are:

1. Education of employees on airborne hazards in the workplace.
2. Selection of appropriate respirators.
3. Provision of respiratory fit testing.
4. Provision of training in the proper use of respiratory protection.
5. Provision of appropriate procedures for cleaning, inspecting and storing respirators.
6. Provision for evaluating the effectiveness of this program.
7. Maintenance of training, and fit testing.
8. Control and monitoring of external contractors performing work in environments that require the use of respiratory protection.

Objective

It is the objective of this program to adequately protect the health of all workers coming into contact with hazardous atmospheres, where there is no possibility of implementing engineering or work practice controls. In addition, this program is meant to increase the awareness of respiratory hazards in the workplace and to inform employees of means available to protect themselves and others from those hazards.

Scope

This program applies to any worker who may be exposed to respiratory hazards during the course of work at LBCO Contracting Ltd.

Note: In this program, "worker" includes all employees.

Responsibilities

Supervisors and Management

Supervisors and Management shall:

- Identify situations where respirators are required.
- Conduct assessments for respiratory hazards.
- Determine the type of respiratory protection required for the specific respiratory hazard.
- Provide workers with appropriate respiratory protection.
- Ensure that training and fit testing of workers are completed prior to assigning workers a task that requires a respirator.
- Ensure that workers use the respirators in accordance with the instructions and the training received.
- Ensure that the workers use only those respirators for which they have been qualified.
- Ensure respirators are cleaned, sanitized, inspected, maintained, repaired, and stored in accordance with training and manufacturer's recommendations.
- In case of a tight-fitting face piece, ensure that respirator users are clean-shaven and do not have any object or material that would interfere with the seal or operation of the respirator.

- Notify Management of respirator users' concerns, changes in processes, equipment, or operating procedures that have impact on environmental conditions, and respiratory protection requirements.
- Notify Management of the incidents where the use of a respirator may have
- prevented or contributed to an incident or injury and
- Ensure that workers always wear appropriate respiratory protection in respiratory hazard areas.

Workers (Respirator Users)

Workers (Respirators Users) shall:

- Always wear appropriate respiratory protection when performing tasks or working in an area where respiratory hazards exist.
- Inspect the respirator prior to each use in accordance with the training received.
- Clean, maintain and store the respirators in accordance with the training received and the manufacturer's instructions.
- Perform negative and positive pressure check after each donning of a tight- fitting respirator.
- Report any damage or malfunction of the respirator to their supervisor.
- Report to their supervisor any condition or change that may impact on their ability to use a respirator safely.
- When using a tight-fitting face piece respirator, be clean shaven and ensure that no object or material interferes with the seal or operation of the respirator.
- Use the respirator in accordance with the written instructions and training received.

Management

Management is responsible for all aspects of the Respiratory Protection Program. This includes:

- Developing and administering the program.
- Providing technical advice and recommendations regarding assessments for respiratory hazards.
- Assisting supervisors in determining the type of respiratory protection required for the specific respiratory hazard(s);
- Providing training and education.
- Fit testing.
- Evaluating of Respiratory Protection Program effectiveness.
- Updating the program to maintain consistency with regulatory criteria and consensus standards.
- Creating and maintaining training and fit testing records.

HAZARD ASSESSMENT

In order to determine the presence of a respiratory hazard and to assist in selection of an appropriate respirator, a hazard assessment of the work area shall be conducted. The hazard assessment of a respiratory hazard includes the following:

- Identification of contaminants (chemical, biological) that may be present in the workplace.
- Identification of physical states of all airborne contaminants
- Determination of the likelihood of inhalation of the contaminants.
- Measurement or estimation of the concentration of the contaminants.
- Determination of oxygen level (potential oxygen deficiency)
- Identification of appropriate occupational exposure limit for each airborne contaminant.
- Determination of whether the atmosphere is immediately dangerous to life and health (IDLH);
- Determination of existence of adequate warning properties.
- Determination of skin or eye absorption and irritation characteristics.

In instances where exposure cannot be identified or reasonably estimated, the atmosphere shall be considered IDLH.

SELECTION OF RESPIRATORS

Respirators shall be selected based on the following criteria:

- Health of the worker and ability to wear a respirator.
- Review of the hazard assessment.
- Existing legislation and standards.
- Work requirements and conditions.
- Duration of exposure.
- Characteristics and limitations of respirators.
- Respirator assigned protection factors (Appendix D).
- Only accepted respirators shall be selected and used.
- Respirators shall be selected by supervisors in consultation with management.
- Respirator Selection Chart (Appendix B) can be used to assist in the selection of an appropriate respirator.
- Workers shall be issued only those respirators for which they have been fit tested.
- For air-purifying respirators for gases and vapors with no end-of-service- life indicator, the supervisor shall establish a change-out schedule for the replacement of the cartridges. Should the need arise; management can assist the supervisor with setting up the change-out schedule.
- Where an IDLH atmosphere is identified, only pressure-demand self-contained breathing apparatus (SCBA) or a combination pressure-demand supplied air respirator with auxiliary self-contained air supply, with a minimum rated service time of 15 minutes shall be used.
- Respirators approved for escape only shall not be used for non-emergency applications.
- Atmosphere-supplying respirators that make use of compressed air for breathing shall meet the standards set out in Table 1 of CSA Standard Z180.1-00, Compressed Breathing Air and Systems.
- Atmosphere-supplying respirators that make use of ambient breathing air system shall have the air intake located in accordance with Appendix B of CSA Standard Z180.1-00, Compressed Breathing Air and Systems.

RESPIRATOR FIT TESTING

- The workers must pass an appropriate quantitative or qualitative fit test when using a respirator with a tight-fitting face piece.
- The fit testing shall be conducted by a certified Fit Tester.
- A fit test shall be carried out
    - prior to initial use of a tight-fitting respirator
    - Every 2 years
    - Whenever there is a change in respirator face piece (make, model, or size)
    - Whenever the employee reports, or the supervisor, makes visual observations of changes in the employee's physical condition that could affect respirator fit.
    - Such conditions include, but not limited to:
        - facial scarring
        - dental changes
        - cosmetic surgery
        - obvious change in body weight
        - facial rash (dermatological condition)
- The worker shall be fit tested with the same make, model, style and size of respirator to be used.
- The fit test shall be performed only on workers who are clean-shaven where the face piece seals to the skin.

- When a worker is required to wear other personal protective equipment, such as eye, face, head and hearing protection during his/her course of work, the same protective equipment shall be worn during the fit test to ensure that they are compatible with the respirator and do not break the facial seal.

TRAINING

- All workers whose work requires the use of a respirator shall receive appropriate training and education.
- The workers shall receive training prior to the initial use of the respirator.
- Training shall be provided by management.
- The training shall include the following:
  - Why respiratory protection is necessary.
  - The limitations and capabilities of respiratory equipment.
  - Respiratory hazard assessment.
  - Logic for selecting a particular type of respirator.
  - How to inspect, put on and remove a respirator, and how to perform user seals checks.
  - Procedures for maintenance and storage of respiratory equipment.
  - How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator.
  - General requirements of the Respiratory Protection Program.
- Refresher training shall be provided every two years to all respirator users.
- Records of the training shall be updated and maintained by management.
- Training in the use of self-contained breathing apparatus (SCBA), if required, shall be provided by a qualified external trainer.

USE OF RESPIRATORS

Prior to being assigned any task that requires the use of a respirator, the worker shall complete all the health screening, fit testing and training requirements.

Workers with facial hair that may interfere with the face piece seal or valve function on tight- fitting respirators cannot use a tight-fitting respirator.

Other personal protective devices or equipment shall not interfere with the seal of the face piece to the face of the worker.

Side arms on eyeglasses or any other material such as hair, cloth, tissue, straps and jewelry shall not pass between the face and the sealing surface of the face piece or interfere with the seal of the tight-fitting face piece to the face or with the operation of the respirator. Workers, who must have corrective eyewear, where the eyewear interferes with the respirator seal, shall be provided with respirator spectacle kits by their department.

- The worker shall check the seal of the face piece immediately after putting on the respirator.
- The worker should never break the respirator face-to-face piece seal to communicate.
- Workers shall not remove their face pieces at any time while working in an IDLH atmosphere.
- Workers shall be permitted to leave the hazardous area for any respirator- related reason. The worker shall leave the hazardous area when:
  - The respirator fails to provide adequate protection.
  - The respirator malfunctions.
  - He/she detects air leakage around the face seal.
  - He/she detects an odor or tastes a chemical.
  - He/she has increased breathing resistance.
  - He/she experiences any illnesses or discomforts such as dizziness, nausea, weakness, breathing difficulties, sneezing, fever, chills, confusion, etc.
  - He/she experiences extreme discomfort from wearing the respirator.

- He/she needs to wash his/her face and face piece to minimize skin irritation.
- Components (including air tanks) or purifying devices need change-out.

- The respirator shall not be altered in any manner.
- All cartridges, replacement parts, etc., shall be from the same manufacturer as the respirator (e.g., use only NORTH cartridges and parts for a NORTH respirator).
- Where respirators are used for HAZMAT response, confined space entry etc.; the appropriate existing legislation, regulations, standards and guidelines shall be consulted.

CLEANING, INSPECTION, MAINTENANCE, AND STORAGE OF RESPIRATORS

LBCO Contracting Ltd. shall provide each worker requiring a respirator with a respirator that is clean, sanitary and in good working order.

Each worker issued a respirator shall properly maintain his/her respirator to retain its original effectiveness. The maintenance shall include:

- Cleaning and sanitizing
- Inspection and testing
- Proper storage

The respirator shall be cleaned and sanitized according to the respirator manufacturer's instructions and/or according to procedures found in Appendix D – Procedures for Respirator Maintenance.

The frequency of cleaning shall depend on how many workers use the respirator and what it is used for. Respirators issued to individual workers shall be cleaned and disinfected as often as necessary to maintain proper hygiene.

- A single respirator issued to multiple workers must be cleaned and disinfected before each use.
- Respirators designated for emergency use only must be cleaned and disinfected after each use.
- The worker shall inspect his/her respirator before and after each use. The procedure for respirator inspection is found in Appendix D – Procedures for Respirator Maintenance.
- The SCBA cylinders shall be inspected by a qualified person according to the requirements of CSA Standards CAN/CSA-B339 and CAN/CSAB-340, the appropriate CGA publications C-6, C-6.1, and C-6.2 the Transport Canada Regulations under the Transportation of Dangerous Goods Act, and the manufacturer's instructions.
- The emergency SCBA shall be inspected on a schedule to ensure readiness for the anticipated emergency use.
- The records of all inspections and service performed on an SCBA respirator and cylinder shall be maintained by the person responsible for the unit.
- The worker shall report defective or non-functioning respirators to his/her supervisor. These respirators shall be tagged and removed from service by the supervisor until repaired or replaced.
- Any respirator and cylinder repairs, and subsequent tests and checks shall be performed by the unit manufacturer or by a qualified external contractor. Defective or non- functioning half mask face pieces shall not be repaired but will be disposed and replaced instead.
- The worker shall store their respirators in a clean and sanitary location, in boxes or in plastic bags, marked with each worker's name. The respirators shall be stored in a manner that will protect them from dust, ozone, sunlight, heat, extreme cold, excessive moisture, vermin, damaging chemicals, oils, greases, or any other potential hazard that may have a detrimental effect on the respirator.
- When packed or stored, each respirator should be positioned to retain its natural configuration.
- Used cartridges/filters to be reused shall be stored in a manner to prevent contamination of the respirator face piece.

PROGRAM EVALUATION

The Respiratory Protection Program shall be reviewed annually by EHS. The review of the program shall include:

- A review of program elements against regulatory requirements.
- A review of definitions of roles and responsibilities.
- A review of documented program procedures.
- Examination of records to verify that documented procedures are being followed.
- Confirmation that workplace practices comply with program requirements.
- Documentation of performance problems and subsequent resolution or corrective action plans.
- Stakeholder input to verify worker acceptance (comfort, ease of breathing, fatigue, vision, mobility, job interference, utility)
- Proper selection and use of respirators.
- Effective training of all stakeholders.
- Proper inspection of respirators; and
- Proper storage and maintenance of respirators.

RECORDKEEPING

Supervisors shall maintain records of the following:

- Training for workers under their supervision
- Respirator selection
- Inspection, maintenance and storage Management shall maintain the records of the following:
- Fit testing
- Training
- Hazard assessment
- Respirator selection
- Program evaluation

The fit testing records shall consist of the:

- name and identification of the worker tested
- type of test performed
- make, model and size of the respirator fitted
- date of the fit test
- result of the fit test
- name of the person conducting the fit test

CLASSIFICATION AND DESCRIPTION OF RESPIRATORS BY MODE OF OPERATION

Air-Purifying Respirators

Air-purifying respirators can be used to protect against airborne contaminants such as dusts, mists, fumes, smokes, aerosols, gases and vapors. **Since these respirators are air-purifying only, this type of respiratory protection must NEVER be used in oxygen-deficient atmospheres or situations that are immediately dangerous to life and health (IDLH).**

The general categories of air-purifying respirators are:

a) Particulate (dust, fume and mist)

b) Gas and Vapor

c) Combination of Particulate and Gas/vapor

The air-purifying respirators are available in two modes of operation: 1) non-powered and 2) Powered. The non-powered respirators come in two designs: 1) half mask and 2) full face piece. (Quarter mask and mouthpiece respirators are also available but are not recommended). The powered respirators contain a blower and are equipped with a face piece, helmet or hood.

Atmosphere-Supplying Respirators

a) Supplied Air Respirators

The supplied air respirator consists of a half-mask, full face piece, hood or helmet to which respirable air is supplied through a small diameter hose. Two types of flow may be used: 1) continuous-flow to the mask in which the flow maintains the mask under positive pressure at moderate work rates; and 2) pressure-demand, which keeps the mask under positive pressure at moderately high work rates but limits the air quantity used to that required for breathing.
Demand airflow, which allows the pressure inside the mask to become negative during inhalation, is not recommended because it does not provide as much protection. The respirable supplied air comes from A) a compressor or B) compressed air cylinder(s).

Supplied air respirators may be used in IDLH or oxygen-deficient atmospheres only if an auxiliary tank of air is incorporated into the respirator system.

b) Self-Contained Breathing Apparatus (SCBA)

SCBAs comprise of a full-face piece connected to a source of air carried by the wearer.

The SCBAs provide respiratory protection in oxygen-deficient environments and in situations where high or unknown concentrations of toxic gases, vapours or particulates are present. The SCBA can also provide protection in emergency situations. When using an SCBA, the user's respiratory system is isolated from the surrounding atmosphere because no outside air is admitted into the respirator face piece. There are three types: 1) open-circuit devices; 2) closed- circuit (re-breathing) devices; and 3) escape units. Two types of flow are available: 1) pressure demand and 2) demand. The demand SCBAs must not be used in oxygen-deficient atmospheres or IDLH atmospheres because they allow the pressure inside the face piece to become negative.

Combination Atmosphere Supplying and Air-Purifying Respirators

These devices usually consist of an atmosphere-supplying respirator with an auxiliary air- purifying attachment that provides protection in the event that the air supply fails. A combination atmosphere-supplying respirator with an auxiliary air-purifying element may be used only when the concentration of airborne contaminants in the workplace does not exceed the maximum use concentration of the respirator when used in the air-purifying mode.

ASSIGNED PROTECTION FACTORS (APF)

	Respirator Style				
Respirator Class	Quarter Face Piece	Half Face Piece	Full Face piece	Helmet/Hood	Loose-fitting Face piece/Visor
Air-purifying (Negative Pressure)	5	10	100 (NIOSH = 50) (10 if QLFT used)		
Powered Air- purifying		50	1000	1000 NIOSH = 25 OSHA = 25 or 1000 *[1]	25
Supplied-air (demand)		10	100 (10 if QLFT used)		
Supplied-air (pressure demand)		50	1000		
Supplied-air (continuous flow)		50	1000	1000	25
SCBA (demand)		10	100 (10 if QLFT used)		
SCBA (pressure demand)			*	*	

CSA Z94.4-02 Selection, Use, and Care Respirators (with NIOSH where different)

*[1] OSHA specifies 25 for an untested hood, and 1000 for an accepted tested hood.

APF – the anticipated level of respiratory protection that would be provided by a properly functioning respirator or class of respirators to properly fitted and trained users.

QLFT – Qualitative fit test
* Pressure-demand SCBAs are currently regarded as providing the highest degree of protection. Limited simulated workplace studies have concluded that all users may not be able to achieve assigned protection factors (APF) of 10000. Therefore, based upon this data, a definitive APF could not be assigned for pressure-demand SCBA. When potential hazardous concentrations can be estimated, an APF of no greater than 10000 should be used.

PROCEDURES FOR RESPIRATOR MAINTENANCE

The principal aspects of a respirator care include:

- **A.** Cleaning/Disinfecting,
- **B.** Inspection,
- **C.** Storage, and
- **D.** Repair

Cleaning and Disinfecting

1. Remove filters, cartridges, or canisters. Disassemble the face piece. Discard or repair any defective parts.
2. Wash components in warm (43° C maximum) water with mild detergent or with a cleaner recommended by the manufacture. A stiff bristle brush may be used to remove any dirt.
3. Rinse components thoroughly in clean, warm, preferably running water. Drain.
4. When the cleaner used to clean the respirator does not contain a disinfecting agent, respirator components should be fully immersed for 2 minutes in one of the following:
   a) Sodium hypochlorite solution – 1mL of bleach to 1L of water
   b) Aqueous solution of iodine – 0.8mL of tincture of iodine to 1L of water
   c) other commercially available cleaners of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
5. Rinse components thoroughly in clean, warm, preferably running water. Drain.
6. Components should be allowed to air dry or be hand dried with a clean, lint free cloth.
7. Reassemble the face piece, replacing filters, cartridges, and canisters where necessary.

Disinfection (steps 4 &5) is not required for a respirator used by only one worker. For multiple users, however, the respirator must be cleaned and sanitized before it is transferred to another person for use.

1. Check the condition of component parts:
    a. Condition of the face piece, looking for cracks, cuts, tears, holes and distortion of the face piece;
    b. Check the head straps to ensure they are properly attached and have elasticity;
    c. Check the head straps for broken buckles and breaks and tears;
    d. Check inhalation and exhalation valves to ensure that they are in place and are not damaged;
    e. Check all rubber or flexible parts for cracks and pliability;
    f. Check cartridges, canisters, and filters to ensure that they are not spent;
    g. Check for cracks or damage to cartridge, filter or canister.
    h. Check the breathing tube (if present) for cracks, holes, missing or loose clamps, and broken or missing end connectors;
    i. Check the hood, helmet or, suit (if present) for ripped or torn seams, and for cracks or breaks in the face shield.
    j. Check the PAPR assembly (PAPR users only)
2. Check the tightness of connections between cartridges, filters and the respirator face piece.
3. Check the end-of-service-life indicator (if present).
4. Check the expiration date on the side of the cartridge, filter, or canister.
5. Check proper functioning of regulators, alarms, and other warning systems (not required on air purifying respirators).
6. If using supplied air, check the air quality of the air supply.

RESPIRATOR INSPECTION FORM

LBCO Contracting Ltd.

User's Name: _____Make of Respirator: _____

NOSH Approval: _____Model of Respirator: _____

Hood/ Face Piece			
	Defective	N/A	OK
Cleanliness			
Flexibility			
Lens			
General Condition			
Head Straps			
	Defective	N/A	OK
Elasticity			
Buckles and Attachments			
General Condition			
Inhalation and Exhalation Valves			
	Defective	N/A	OK
Valve Condition			
Valve Cover			
General Condition			
Air-Purifying Elements			
	Defective	N/A	OK
Correct Cartridge			

Correct Installation			
Gaskets Present			
Cartridge Cleanliness			
General Condition			
Storage			
	Defective	N/A	OK
General			

Approved by

Date (MM/DD/YY)

Storing

1. Before you store your respirator, clean them and let them dry. Store them as soon as they are dry so they don't collect dust.
2. Store clean, dry respirators in nonporous, sturdy, airtight containers, like a zip-sealed plastic bag.
3. Store cleaned respirators separate from cartridges.
4. Store respirators in a cool, dry cabinet specifically designated for storage.
5. When stored, position the respirator so that it keeps its natural shape.
6. Exhalation valves and face pieces should lie in a normal position to prevent the plastic or rubber from being deformed.

Repair

Repair or replace any respirator that isn't functioning properly **before** the employee returns to a situation where respirators are required. If respirators fail inspection or aren't functioning properly during use due to problems such as leakage, vapor or gas breakthrough, or increased breathing resistance **all** of the following apply:

a) Do **not** permit such respirators to be used until properly repaired or adjusted
b) Make sure repairs and adjustments are made by appropriately trained individuals. Use the manufacturer or a technician trained by the manufacturer to repair or adjust reducing and admission valves, regulators, and warning devices on SCBAs or air-line respirators.
c) Follow the manufacturer's recommendations and specifications for the type and extent of repairs.

N95 Filtering Face Piece Respirator Program

I. What Is an N95 Filtering Face piece Respirator?

N95 filtering face piece respirators are air-purifying respirators certified by the National Institute of Occupational Safety and Health (NIOSH) to have filter efficiency level of 95% or greater against particulate aerosols free of oil and greater than 0.3 microns in size.

Examples of airborne contaminants that N95 respirators filter out include dusts, fumes, mists and microbial agents such as tuberculosis bacteria & flu virus.

II. When Are N95 Respirators Required?

Depending on your job responsibilities, N95 respirators may be required as personal protective equipment. Individuals may be required to wear N95 for tasks such as entering isolation rooms, and other activities involving close contact with potentially infected persons.

III. Approval for Required N95 Use:

Per Occupational Health and Safety (OHS), personnel who are required by their employer to wear respirators, shall be approved after completing the following:

Training: to ensure users are familiar with N95 respirators, their proper use and protective limitations. Training consists of reviewing this document and taking the **training quiz** and is required on an **annual** basis.

IV. Capabilities and Limitations of N95 Respirators

N95 respirators **ONLY** filter out particulate contaminants. N95 respirators do not protect you from:

- Chemical vapors/ gases
- Oxygen deficient atmosphere
- High risk exposures such as those created by aerosol-generating procedures (i.e., bronchoscopy, autopsy) and asbestos handling
- N95 respirators are disposable – one time use only.

V. Effective Use of N95 Respirators

The effectiveness of N95 respirators relies on how well the respirator seals to the user's face. To ensure N95 respirators work effectively:

- **DO NOT** use the respirator with beards or other facial hair, which may interfere with the direct contact between your face and the sealing surface of the respirator.
- Conduct a seal-check **every time** you put the respirator on (before entering area of concern).
- If the respirator becomes damaged, soiled or you experience problems with using the respirator (breathing becomes difficult, dizziness, irritation, etc.), leave the work area immediately and remove the respirator when you are no longer exposed to the potential airborne hazard. Inform your supervisor about the issue.

VI. Training

Training needs to be repeated annually and whenever inadequacies in user's knowledge or use of the respirator indicate that the user has not retained the requisite understanding or skill to wear a respirator.

VII. Inspection

Prior to wearing the N95 respirator, inspect the respirator for damage and contamination. Verify all components of the respirator are in good condition (e.g. straps, nose piece, etc.)

VIII. Wearing the Respirator & Seal-Checking Procedures

Hold the respirator in one hand, with the nose piece at the fingertips and let the head straps hang loosely in front of the respirator.

Place respirator under the chin, with the nosepiece up. While holding the respirator with one hand, pull the top strap over your head, resting it at the top back of your head. Pull the bottom strap over your head, and place it around your neck, below your ears.

Using both hands, mold the nose piece to the shape of your nose by pushing inward with your fingertips. Note that pinching the molding piece with 1 hand will likely result in less effective respirator fit.

Seal-check: cover respirator completely w/ both hands, and exhale sharply. If air blows on your face or eyes, readjust the respirator according to Steps 3 & 4. Do not use respirator until you pass the seal-check (no leakage).

To remove the respirator, hold the respirator with one gloved hand. With the other hand, pull the bottom strap over your head, and then pull the top strap off. **If there is any evidence that respirator may be contaminated, dispose of it as a bio-hazardous waste.**

Confined Space Entry Policy

This policy establishes the minimum requirements for Confined Space Entry on any job site at LBCO Contracting Ltd. These requirements pertain to, but are not limited to, confined spaces such as manholes.

Confined space entries shall be under the direct supervision of a designated Supervisor. Implemented shall be all safe work practices, and procedures to carry out any entry in a confined space. All LBCO Contracting Ltd. employees shall follow this policy.

A permit is always required prior entering a confined space. The top side observer will fill out the "Confined Space Entry Permit" A Hazard Assessment for the confined space will be filled out in a group setting with all employees. A check of the confined space will be performed including atmospheric testing by the supervisor. The supervisor is to ensure all required equipment is present and used properly.

Training will be provided on a three-year basis. Each employee will be trained in all aspects of confined space entry. New employees must receive training before participating in any confined space entries.

All safe work practices, procedures and rules are expected to be retained and demonstrated by all supervisors employed by LBCO Contracting Ltd.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Light Weight Tripods, Winches and Safety Harnesses

Use proper fall protection equipment for safe entry and exit

Confined space entry is a specialized, niche area for fall protection equipment. Specific elements are required to assure the utmost safety in what can be a high-risk situation.
Whether a worker is entering a manhole or using a side entry opening, several basic fall protection equipment components are needed to provide an efficient and effective confined space mechanism. Equipment choices will depend mainly on the unique needs of the job site, but three basic components make up most confined space fall protection systems: support structure, winching mechanism and a full-body harness.

Support structure

A variety of support structures exist to service the unique needs of a number of environments. The variations are highly dependent on the type of work and the environments that the worker will be entering. Tripods are what we use most considering we work a lot in manholes.
Support structure:

- **Tripods.** *Ideal for manhole entry and retrieval applications, tripods are often lightweight, portable and can be easily set up by one worker. One limitation is the size of the manhole it can accommodate.*

Winching mechanism

For years, retrieval from confined spaces was accomplished by sending a man in with a piece of rope tied around him. When the work was done, three to four people would pull the man out using only muscle power. These days, winching mechanisms are used.
The key factor of the winching mechanism is its mechanical advantage, which enables, for example, a 90-pound female to hoist a 350-pound man out of the opening. The winching mechanism increases the safety of the retrieval by providing a braking system, protecting the worker being raised. If the handle of the winch is released, automatic brakes will prevent the cable from unraveling. Using a winch, a worker can descend and ascend slowly and in a controlled fashion. This allows for communication between the operator and worker.
Factors to consider regarding winching mechanisms include:

- Line Material. Line material is one of the key factors when considering the winching mechanism. The standard is a stainless steel or galvanized rope. However, in highly explosive environments, synthetic lines will reduce the amount of metal that is exposed in the volatile environment.
- Fall Protection Capability. Most man-rated winches for confined space use provide raising and lowering capabilities. Some retractable-type winching mechanisms with a built-in retrieval mechanism are equipped with an inertia break that activates to stop a fall in action. This system is termed as the three-way device, raising, lowering and fall protection.
- Means of Using Power. This is an optional feature that makes frequent raising and lowering procedures easier on workers. The winch has manual capabilities but is available with an optional power drive that automatically powers the mechanism.
- Rope and Pulley System. A rope and pulley system allows the person making the entry to pull him or herself out of the confined space, if necessary. A stand-by person can also

perform the raising or lowering operation. The rope runs through a series of pulleys that creates the mechanical advantage for this system. This would be used instead of the traditional winching mechanism.

Full-body harness

The person going into the confined space should be wearing a full-body harness with rescue capabilities. Ideally, the person should be connected to the winch line when entering and working in the space. This allows a rescuer to perform the rescue without entering the area and potentially endangering his or her life. Depending on the type of work involved and how much mobility is needed, the worker may need to disconnect from the cable, but having the emergency retrieval equipment available is crucial. Specialized harnesses outfitted with D-rings or connecting points on top of each shoulder strap are available for entry and retrieval. A separate device, shaped like an uFLHAde-down "Y," is attached to the harness. One of the Y legs attaches to each of the shoulders, and the remaining single line connects to the winching mechanism's connection line. This allows for very straight, vertical lifting, which is important if working in a very small, confined space opening (18, 20, 24 inches). If the person being raised is connected to the dorsal D-ring of a normal harness, he or she would be diagonally positioned, which can be awkward in small spaces. The person could also get caught in the surrounding structure, which can result in massive bodily injury if not freed in a timely manner.

- Select the appropriate support system
- Choose the proper option for the winching mechanism
- Make sure the full-body harness is equipped with the appropriate connectors.

Potential Effects of Oxygen-Deficient Atmospheres

OXYGEN CONTENT (% By Volume)	EFFECTS AND SYMPTOMS (At Atmospheric Pressure)
19.5 %	Minimum permissible oxygen level. (18% in Alberta)
15-19%	Decreased ability to work strenuously. May impair coordination and may include early symptoms in persons with coronary, pulmonary, or circulatory problems.
12-14%	Respiration increases in exertion pulse up, impaired coordination, perception, and judgement.
8-10%	Mental failure, fainting, unconsciousness, ashen face, blueness of lips, nausea, and vomiting.
6-8%	8 minutes, 100% fatal; 6 minutes, 50% fatal; 4-5 minutes, recovery with treatment.
4-6%	Coma in 40 seconds, convulsions, respiration ceases, death.

The values are approximate and vary as to the individual's state of health and physical activities.

In Alberta, the required minimum oxygen level is 18 kilopascals partial pressure, which is around 18% volume. Below this appropriate respiratory protection is required.
Safety Note: Exposure to atmospheres containing 12% oxygen or less is life threatening.

Potential Effects of Hydrogen Sulphide (H_2S) Atmospheres

PPM	EFFECTS AND SYMPTOMS	TIME
10	Permissible Exposure Level	8 Hours
50-100	Mild Eye Irritation, Mild Respiratory Irritation	1 Hour
200-300	Marked Eye Irritation, Marked Respiratory Irritation	1 Hour
500-700	Unconsciousness, Death	½ - 1 Hour
1000 or more	Unconsciousness, Death	Minutes

These values are approximate and vary as to the individual's state of health and his physical activity.

At low concentrations, the rotten egg odor of H_2S is easily detected, but at higher concentrations the gas seems odorless because it affects the olfactory nerves dulling the sense of smell. This can lead to a false sense of security and at higher H_2S concentrations the worker can collapse with little or no warning.

- PPM – Parts Per Million – Volume measurement of gas concentration.

Potential Effects of Carbon Monoxide Exposure

PPM	EFFECTS AND SYMPTOMS	TIME
50	Permissible Exposure Level	8 Hours
200	Slight Headache, Discomfort	3 Hours
400	Headache, Discomfort	2 Hours
600	Headache, Discomfort	1 Hour
1000-2000	Confusion, Headache, Nausea	2 Hours
1000-2000	Tendency to Stagger	1 ½ Hours
1000-2000	Slight Palpitation of the Heart	30 Min.
2000-2500	Unconsciousness	30 Min.
4000	Fatal	Less than 1 Hour

These values are approximate and vary as to the individual's health and his physical activity.

Carbon Monoxide completes with oxygen in binding to the hemoglobin in your red blood cells. It is 4 times better at binding to the hemoglobin than oxygen with the result that it is preferentially carried by the red blood cells. In high concentrations of CO the worker can asphyxiate and collapse with little or no warning, because little or no oxygen is being carried in his body.

- PPM – Parts Per Million – volume of measurement of gas concentration.

Bump Test Gas with Balloon Adapter

User Instructions:

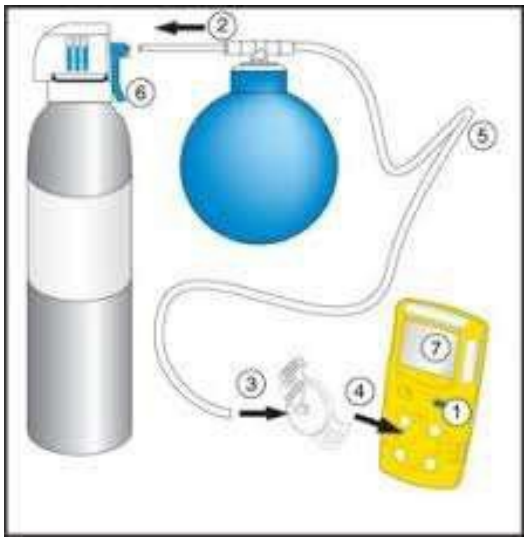
Bump Test Gas with Balloon Adapter – a cost-effective method of testing a sensor's response to gas – provides a controlled flow of calibration gas to the sensor. Use with all BW Portable Detectors and Fixed Monitors.

1. Turn on the gas detector
2. Insert the balloon adapter into gas cylinder nozzle (outlet)
3. Attach test cap provided with the detector – Insert the hose directly into the sampling pump intake.
4. Attach clear tubing to the test cap.
5. Block or pinch the tubing to the test cap.
6. Squeeze and hold the release on the gas cylinder for 3 seconds, partially filling the balloon.
7. Release the tubing, exposing the sensor to an even flow of test gas. Observe audible/visual alarm activation

If the gas alarm fails to respond:

- Check the expiration date on the test gas cylinder.
- Check that the concentration in the test gas cylinder exceeds the current alarm set points.
- Clean or change dirty sensor screens.
- Re-calibrate detector.
- Replace the sensor, if required.
- Retest the detector with gas again.
-

Note: Do not apply test gas directly to sensor. If sprayed directly on the sensor, generally most of the test gas applied will bounce off the sensor screen, requiring an excessive use of gas.



Flag person Training

The flag person ("flagman") is one of the most effective and flexible "devices" available to control traffic in work zones. For a variety of reasons, the flag person has one of the most difficult jobs to perform. In Section 77(10) of The Highway Traffic Act, a **flag person** is defined as: "a person employed by a traffic authority or a contractor doing work on behalf of a traffic authority, for directing the movement of traffic on any portion of a highway under construction, or where repair work or other work is being carried on". Under Section 77(11) of The Highway Traffic Act "every driver of a vehicle shall obey and observe the directions given by a flagman". The Highway Traffic Act gives the flag person the authority to control traffic by signalling for a motorist to stop, to reduce speed, to proceed as directed, or by advising how to pass safely through or around a work area.

Standard

To optimize this traffic control function the following guidelines/principles, in addition to those contained in the flag person's handbook, should be utilized when controlling traffic through a work area using flag persons.

- All flag person's must be trained; it is the Superintendent's responsibility to ensure that the flag person has been trained and is performing the duties of a flag person in a proper manner.
- A symbolic FLAGMAN AHEAD sign (WD-A45) should always be used in advance of the flag person. The FLAGMAN AHEAD sign must always be visible to the flag person and should not be more than 500 m from the flag person at any time. The "stop/slow" sign paddle will normally be used by all flag persons. In general, flag persons should be used when it is desirable or necessary to give some message to the motorist respecting:
- road or traffic conditions ahead
- the correct path to follow
- the existence of potential conflicts between the road user and workers or equipment
- limited approach sight distance to the work ahead

A flag person present for any of the above reasons can also be effective for the general slowing of traffic in the work area, when required. However, the length of the downstream residual slowing effect is minimal.

- Notwithstanding the criteria above, some degree of discretion must be used to reflect varying traffic volumes and conditions. Thus, a particular set of conditions may warrant one or more flag persons on high volume roads; the same conditions on a low volume road may not require any flag person's, at least during portions of the day.
- Overuse of flag persons can cause disrespect by the public, for the function. When not needed as a flag person, that person should be taken out of view of the motorist and possibly given some other duty.
- The wearing of proper flag person regalia, as outlined in the *Flag person Training Workbook*, must be strictly enforced, for reasons of safety, uniformity and communication to the motorists.
- A flag person is not normally required where: there is no requirement to slow or stop traffic.

The flag person must be kept apprised of the changing conditions in the work area so he/she can effectively communicate with the motorist.

Flagging to Stop Traffic

1. Hold the stop sign erect and away from your body. Never wave the sign.
2. Look directly at the approaching driver.
3. Raise your free arm with the palm of your hand exposed to the driver.
4. Bring the vehicle to a full stop.
5. After the first vehicle has stopped, move to a spot (near the centreline of the roadway) where you can be seen by other approaching vehicles.
6. Stop all remaining cars. (Steps 1

through 4) Caution: Never turn your

back on traffic.

7. Remain in this position with the "STOP" sign facing traffic until you can permit travel through the work area.

Flagging to Release Traffic

1. Return to your position on the shoulder in front of the stopped traffic and turn the "SLOW" side of the sign to face the vehicles.
2. With your free arm, signal the drivers

to proceed. Never wave the sign!

Flagging to Slow Traffic

1. First use the STOP paddle to bring the traffic to a complete stop.
2. Approach the driver side of the vehicle and inform the driver of the conditions within the construction zone and the importance of maintaining a slow speed through the work zone.
3. Use a SLOW paddle to indicate to the driver to proceed.

Remember that you play a vital part in keeping the public and your co-workers safe. If you are unsure of any flagging procedure, ask your superintendent for further explanation.

Lives, including yours, could depend on it!

Following these directions carefully will help keep you safe during flagging and will assist you in skilfully controlling traffic through the work area.

1. Be alert at all times. Don't be distracted by the work operation.
2. Be on your feet facing oncoming traffic.
3. Stand where you will be highly visible at all times but do not stand in the path of an approaching vehicle.

NOTE: Factors such as visibility, speed, and volume of traffic, condition of the road, and the work being done, should be considered in determining your proper location. Generally, flag person stations should be located about 200 – 300 feet in advance of the work site.

Stopping a Vehicle

Do not stand in shadows or near parked vehicles or equipment which might hide you from approaching drivers.

4. Park your personal vehicle outside the signing and work area, well off the roadway.

Definitions:

Accepted respirator: A respirator tested and certified by procedures established by the National Institute for Occupation Safety and Health (NIOSH)

Administrative Controls: Methods of controlling employee exposures by job rotation, varying tasks, work assignment, operational procedures, or time periods away from the hazard(s).

Air Monitoring: The sampling for and measuring of contaminates in a free or captive atmosphere.

Air-Purifying Respirator: Respirators that use filters or sorbents to remove harmful substances from the air.

Air-Regulating Valve: An adjustable valve used to regulate air pressure and flow rate, such as to the face piece, hard hat, or hood of an air-line respirator.

Air-Supplied Respirator: Respirator that provides a supply of breathable air from a clean air source.

Anchor (in fall arresting systems): A point or plate to which equipment can be securely attached.

ANSI: The American National Standards Institute is a nonprofit voluntary membership organization that coordinates the U.S. Voluntary Consensus Standards System and approves American National Standards.

Atmosphere-Supply Respirator: A respirator that provides breathing air from a source independent of the surrounding atmosphere.

Audible Range: The normal frequency range for human hearing is approximately 20Hz through 20,000 Hz.

Aural Insert: Usually called earplugs or inserts. The pliable material is inserted into the ear canal, to reduce the amount of noise reaching the inner ear.

dBA: Sound level in decibels read on the A-scale of a sound level meter. The A-scale discriminates against very low frequencies (as done the human ear) and is therefore better for measuring general sound levels.

Decibel (dB): A unit used to express sound power level (L_w). Sound power is the total acoustic output of a sound source in watts (W). By definition, sound power level, in decibels, is: $L_W=10 \log W/W_0$ where W is the sound power of the source and W_9 is the reference sound power.

Effective: Adequate to accomplish a purpose; producing the intended or expected result.

Efficient: Performing or functioning in the best possible manner with the least waste of time and effort.

Engineering Controls: Methods of controlling employee exposures by modifying the source, the means of exposure or reducing the quantity of hazards.

Fit test: The use of qualitative or quantitative method to evaluate the fit of a specific make, model, and size of a respirator on an individual.

Hazard Assessment: Is the process (required by law) of identifying the hazards associated with defined task, prescribing personal protective equipment and other relevant protection measures which must be employed to reduce the risk from the hazards.

Hazardous atmosphere: Any atmosphere that is oxygen-deficient, exceeds occupational exposure limits, presents a fire/explosion hazard, and/or contains an airborne toxic or disease- producing contaminant in concentrations deemed to be hazardous.

Health Care Professional: An individual who is licensed by a provincial licensing authority or equivalent to practice medicine or nursing and who possesses relevant experience and knowledge in the field of occupational health and safety.

Hertz: Frequency of oscillation measured in cycles per second. 1cps=1 Hz.

Immediately Dangerous to Life and Health Atmosphere (IDLH): an atmosphere that poses an immediate threat to life, would cause adverse health effects, or would impair an individual's ability to escape.

Metal Mesh Face Shield: Designed to protect your face and eyes from flying debris when operating power tools.

Monoframe Goggles: These goggles consist of a flexible frame forming a lens holder or a rigid frame with integral lens or lenses having a cushioned fitting surface on the full periphery of the facial contact area. A headband or other support retains the frame comfortably in place. The goggles may be ventilated, in which case the openings must not provide a direct route for chemical or physical agents to reach the eyes.

Personal Protective Equipment: Devices worn by the worker to protect against hazards in the environment.

Qualified Person: an individual who possesses the knowledge, experience, and training to fulfil the competencies of the roles defined in this Program.

Quantitative fit test: a test method that uses an instrument to assess the amount of leakage into the respirator in order to assess the adequacy of respirator fit.

Qualitative fit test: a pass/fail test method that relies on the subject's sensory response to detect a challenge agent in order to assess the adequacy of respirator fit.

Radiant Heat (Thermodynamics): Heat energy transmitted by electromagnetic waves in contrast to heat transmitted by conduction or convection.

Respirator: a device to protect the user from inhaling a hazardous atmosphere.

Service Life: the period of time during which a respirator provides adequate protection to the user.

Supplied Air Respirator: Airline respirators or self-contained breathing apparatus.

Tight-fitting face piece: a respirator inlet covering that forms a complete seal with the face. This includes a half-face piece that covers the user's nose and mouth under the chin; and a full-face piece that covers the user's nose, eyes, and mouth under the chin.

Ultraviolet: Those wavelengths of the electromagnetic spectrum that is shorter than those of visible light and longer than x-rays, 10^{-5} cm to 10^{-6} cm wavelength.

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

Ventilation: Circulating fresh air to replace contaminated air. Dilution: Airflow designed to dilute contaminants to acceptable levels. Mechanical Air: Air movement caused by a fan or other air moving device. Natural: Air movement caused by wind, temperature difference, or other non- mechanical factors.

Welder Shields/Helmets: Designed to protect eyes from UV and infrared radiation.

ELEMENT 7: INSPECTIONS & MAINTENANCE

Preventative Maintenance Program Policy

It is the policy of LBCO Contracting Ltd. to maintain all tools, vehicles, and equipment in a condition that will maximize the safety of all personnel.

To accomplish this, a Preventative Maintenance Program shall be maintained and shall include the following components:

- Adherence to applicable regulations, standards, and manufacturers specifications
- Services or appropriately qualified maintenance personnel
- Scheduling and documentation of all maintenance work.
- All employees affected are required to be familiar with maintenance schedules relevant to the equipment being used.
- All tools and equipment found to be defective will be appropriately tagged and removed from service. All tools and equipment that have been removed from service will be destroyed or tagged “OUT OF SERVICE”.
- All subcontractors are subject to tool and/or equipment inspection by LBCO.
- Tools and equipment are not to be modified beyond the manufacturer's specifications.
- Safety guards are not to be removed, hindered, or rendered ineffective.
- No one will operate the unit until the defect is repaired.

The use, care and proper maintenance is a shared responsibility of all employees and requires co-operation and collaboration between all management and employees.

An equipment inventory has been established and must be maintained to effectively track and record maintenance history and scheduled maintenance requirements.

Records for Scheduled and Non-Scheduled maintenance of Vehicles and Mobile Equipment will be kept on the company MaintainX software.

Supervisors are responsible for the application of the program in their area of responsibility.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Introduction to Preventative Maintenance

Preventative maintenance is predetermined work performed to a schedule with the aim of preventing the wear and tear or sudden failure of equipment components. Preventative maintenance helps to:

- Protect assets and prolong the useful life of production equipment.
- Improve system reliability.
- Decrease cost of replacement
- Decreases system downtime.
- Reduce injury.

Mechanical, process or control equipment failure can have adverse results in both human and economic terms. In addition to down time and the costs involved to repair and/or replace equipment parts or components, there is the risk of injury to operators, and of acute exposures to chemical and/or physical agents.

Preventative maintenance therefore is a very important ongoing incident prevention activity, which should be integrated into the company's operations process.

To be effective, the preventative maintenance function should incorporate the following elements:

Planned replacements of components designed around the following:

- Reliability of components (equipment failure is usually caused by its least reliable component)
  - Check manufactures requirements/specifications
  - Check Safe Work Practices
- Maintaining equipment service records
- Scheduling replacement of components at the end of their useful service life
- Acquiring and maintaining inventories of:
  - Least reliable components
  - Critical components
  - Components scheduled for replacement
- Replacing service-prone equipment with more reliable performers

Exploratory maintenance to anticipate and prevent breakdowns. Diagnostic measures to analyze requirements include:

- Operating and performing specifications of equipment
- Past experience with components:
  - Inspection records
  - Servicing records
  - Replacement Frequency
  - Inspected component failures
- Regularly scheduled lubrication program:
  - Identify lubrication points on equipment
  - Color code in order to identify lubrication frequency
  - Consult manufacturer to establish schedule

Hazards Associated with Maintenance Activities

Safety Hazards	Health Hazards	Ergonomic Hazards
Mechanical - Equipment - Tools	Chemical Agents - Process chemicals - Cleaning solvents - Unexpected reaction products - Dusts - Other chemical agents	Biomechanical - Lifting, pushing, pulling, (manual handling) - Stretching, ending (to reach hard to access areas)
Electrical - Live equipment	Physical Agents - Noise - Vibration	Work/Process Design - Poorly designed tools - Hard to access work locations - Ill-fitting personal protective equipment - Complex procedures
Pneumatic - Tools	Physical Agents - Noise - Vibration Chemical Agents -Dusts	Biomechanical -Repetitive and forceful movement - Vibration - Awkward postures
Hydraulic	Physical Agents - Noise -Temperature -High Pressure	Work/Process Design - Improper work methods -Improperly designed hoses, tools, and equipment
Thermal	Chemical Agents -Hydrocarbons Physical Agents -Thermal Increase or Decrease (Burns) -Inhalation of hot toxic smoke	Work/Process Design - Poorly designed tools - Hard to access work locations - Ill-fitting personal protective equipment - Complex procedures

Combustion	Chemical Agents -Carbon Monoxide	Work/Process Design -Maintained and Properly adjusted
Falls - Slippery floors - Working at heights	Chemical Agents -Wet Floors Physical Agents -Working at heights	Work/Process Design - Improper work methods -Improperly designed workstation, and equipment

Many of these hazards are interrelated. Examine the process, the layout of the process area, and the process equipment used, to determine the exact nature of the hazards likely to be encountered during maintenance activities. For example, maintenance work carried out in confined spaces carries a greater risk of critical injuries and acute exposures to chemical and physical agents. These risks are associated with equipment and materials in the space itself and from nearby operations. Fatalities are quite common.

Lock-out/Tag-out

Purpose:

To ensure that all personnel are protected from unexpected activation of electrical, mechanical, hydraulic, pneumatic, thermal (steam), chemical (natural gas or propane) and all other forms of energy.

These minimum requirements are based on de-energize of all energy sources, which could cause injury or death. All personal shall comply with the procedure.

Definitions:

Lock-out is defined as the practice of using keyed security devices (locks) to prevent the unexpected start-up or release of stored energy.

Tag-out is defined as the practice of using tags in conjunction with locks to increase the visibility and awareness that machinery/equipment is not to be energized or activated.

Absent Worker is a worker who has placed a lock on an isolation device but is not available to remove the lock.

Responsibilities:

Responsibility for complying with this procedure is binding upon all employees. Management will instruct all employees (including those who are new) who may be required to follow this procedure in the purpose and use of the lock-out/tag-out procedure.

Supervisors where applicable, are responsible for ensuring that all personnel are adequately trained in the lock-out tag-out procedures, adhere to these procedures.

Procedure

All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device bearing a lock or tag.

Specific

Prepare for Shutdown –

Identify all types of energy sources that apply to the equipment/machine being locked out. Identify types and numbers of lock-out and tag-out devices required.

Shut Down –

Shut down machine/equipment by the normal stopping procedure (i.e. turn off valves, switches, stop button, etc.) Visually check to see all motors and other moving parts have come to a complete stop.

Isolate –

Operate the switch, valve, or other energy-isolating device so that all energy sources (electrical, mechanical, hydraulic, etc.) are isolated from the equipment. Dissipate stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., by grounding, repositioning, blocking, bleeding- down, etc.

Lock-out/tag-out –

Apply an individual lock and tag to **each** energy-isolating device. Each worker's name, date, and reason for lock-out must be printed on the tag. Where several workers are involved in locking out the same energy-isolating device the use of a multi-lock hasp may be required.

Verify Isolation of Equipment –

Verify that energy is locked out by pressing all start buttons or activating controls. Return all controls to the off position and periodically verify isolation until service or maintenance is complete.

REMOVING LOCKS AND TAGS

Upon completion of work, ensure equipment is intact and all tools and other items have been removed. **Check the equipment area to ensure no one is likely to be at risk upon re- energization of equipment/machine.** Locks and tags are to be removed only by the person who placed them on the machine/equipment.

SPECIAL CIRCUMSTANCES

In the event a worker is absent when the locks are to be removed, the absent worker's Supervisor has the authority to remove the lock provided.

Upon returning to work, the absent worker is immediately notified verbally by Supervisor and in writing by way of the form of the lock removal.

Equipment Policy

This policy provides direction for the processes and procedures to ensure that all equipment and vehicles meet appropriate standards prior to use.

- All equipment operators of any equipment or vehicles must complete a visual pre-shift walk around inspection prior to starting the equipment.
- All operators must check levels in the vehicle or equipment before starting.
- All heavy equipment will have the hydraulic pumps exercised by “traveling” the equipment or doing “exercises” prior to working (introducing heavy hydraulic loads) Traveling means walking track equipment; exercising means extending and contracting hydraulic cylinders.
- All vehicles are to have a block heater plugged in for 4 hours prior to starting in temperatures less than - 10°C. It is suggested to use a timer to reduce energy/utility costs. This includes all vehicles 3 tons and under.
- All equipment is to have a block heater plugged into the site generator for 4 hours prior to starting in temperatures less than 0°C. This includes all highway vehicles over 3 tons.
- All equipment is not to be started when ambient temperature is below - 20°C unless approved by Management.
- If approval is given by Management to start equipment in severely cold temperatures, the Supervisor is to start the equipment NOT the Operators.
- All equipment and vehicles must not be left unattended while running.
- All equipment and vehicles will be given a 4-minute cool down period (if it has been working under a heavy load) prior to shutting off that piece of equipment or vehicle. If the equipment or vehicle has been idling or travelling (without load) the cool down period will be 2 minutes.
- All water trucks must be drained which includes the pump, components, and the tank at the end of every shift to prevent damage to the equipment from freezing.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Company Vehicle Policy

COMPANY VEHICLE USE
Company vehicles are not to be used for personal use.

If an employee needs to get a vehicle repaired from an outside source, confirmation is required as to what vehicle to use while the vehicle is being repaired. If the employee takes it upon himself to lease or rent a temporary vehicle without permission, the employee will be responsible for the cost.
Employees will be required to sign vehicles out when they are in use and sign them back in when not in use.
Only Approved Drivers may drive company vehicles.

DRIVER SELECTION AND APPROVAL
The selection of competent drivers forms the basis for the success of the Health, Safety, and Environmental Program. It must conform to LBCO standards, the requirements under the local, provincial and federal standards as well as industry standards for vehicle operators.
Drivers must be selected based on their experience with similar work, technical knowledge, physical ability to complete the task, and a safe attitude toward vehicle operations.
To be approved to operate a company vehicle, a driver must:

- Be a current LBCO employee.
- Possess a valid license of the appropriate class and conditions for the vehicle they are hired or required to operate.
- Provide a Driver's Abstract and/or sign Drivers Abstract authorization form

The Manager is responsible for ensuring that all employees complete and sign the "Authorization to Obtain Driver Record Abstract Form" and that form is to be kept on file.
An Approved Driver must meet all the following criteria:

- Must have a valid Driver's Abstract
- Be over 18 years of age
- Be approved by LBCO
- Have no major regulatory imposed suspensions of driving privileges in three years
- Only Approved Drivers can operate company vehicles

Without Approved Driver designation, an employee or subcontractor will not be allowed to operate a vehicle or equipment owned or leased by the company under any circumstances.
All Approved Drivers are restricted to operating vehicles allowable under their license classification specified by the Provincial Motor Vehicles Branch. It is management's responsibility to approve or revoke the driving privileges of all team members.
Accidents that occur while operating company-owned or company-leased vehicles could result in immediate suspension of driving privileges. After an internal investigation by management is completed and the findings are reviewed, driving privileges may or may not be reinstated.

RENEWAL OF DRIVING APPROVALS

- A new Driver's Abstract may be pulled semi-annually
- All Approved Drivers may be asked by management to produce a valid driver's license at any time. Failure to do so will result in their driving privileges being revoked until proof of a valid license is shown.

The onus is on the driver to inform management if their driving record changes. Changes may include traffic tickets, major violations or any regulatory imposed suspensions. Failure to inform management may result in immediate and potentially permanent loss of driving privileges.

MAJOR VIOLATIONS UNACCEPTABLE FOR DRIVING APPROVAL

- Failure to report an accident
- Failure in event of an accident to give a name or lying to police
- Improper passing of school bus
- Improper passing/speeding in a school/playground zone
- Driving while under suspension
- Racing
- Careless driving
- Driving with undue care and attention
- Dangerous driving
- Impaired driving
- Failure/refusal to take breath or blood test
- Failure to stop at the scene of an accident
- Failure to stop for a police officer

SAFE DRIVING

TRANSPORTATION AND EQUIPMENT SAFETY

This policy applies to all vehicles owned, leased or operated by LBCO and includes all employee vehicles for which an hourly or monthly allowance is paid, or for personal vehicles used for company business. Vehicle collisions and damage is almost always preventable and must always be reported. Prevention of these incidents is a shared responsibility among management and employees, customers and the public.

Definitions:

Vehicle Incident: An incident or collision involving any vehicle owned, leased or rented by LBCO.
Preventable Vehicle Incident (PVI): An incident is deemed preventable if the driver fails to exercise sound judgment in his driving practices or does not comply with all regulatory requirements and company policy and/or fails to do everything possible to prevent the incident.
Non-Preventable Vehicle Incident (NPVI): For purposes of fault as well as driving an incident is deemed non-preventable if a driver exhibits sound judgment in his driving practices, complies with all regulations and company policy and does everything reasonable to prevent the incident.
Serious Vehicle Incident (SVI): Any incident or collision that must be reported to Police, Occupational Health and Safety or other regulatory bodies.

- Incidents or collisions that result in moving traffic violations under the Highway Traffic Act.
- Incidents or collisions that result in charges under the Criminal Code of Canada.
- Incidents or collisions that result in an injury classified as Lost Time or Medical Aid for any employee at the work site.
- Incidents or collisions that result in environmental, property damage, equipment damage or other loss in excess of $5000.00.

GENERAL SAFETY

All personnel entrusted with company vehicles are expected to abide by the law when behind the wheel. Neglecting to do so may be grounds for disciplinary action or termination. We expect you to take seriously the safety of yourself, your passengers, company property and the public at all times.
We expect all our drivers to demonstrate respect on the road, and this is especially the case when in our company vehicles and vehicles with our logo.

A seatbelt must be worn always. Ensure the vehicle has an emergency road kit.

In the event of a flat tire, a worker is to replace the flat tire with a proper spare tire. All tire assembles, disassembles and repairs are to be completed by a professional. This task is not to be performed by a worker.
Use another person to guide you when backing up if you do not have a clear view of where you are going or the movements of other vehicles and people.

No cellphone use while driving.

Cellphone use may only be permitted via "hands-free" Bluetooth so long as it does not interfere with your ability to pay attention to the road.
We have a zero-tolerance policy on distracted driving.
Do not drive while under the influence of medication which could cause drowsiness; only drive while well rested. Driving under the influence of illegal drugs or alcohol is forbidden and will result in immediate dismissal. We have a zero-tolerance policy for driving while under the influence.
Supervisors are responsible for facilitating and/or provide proper instruction to their workers on protection requirements and training.

TRANSPORTATION OF EMPLOYEES AND SUBCONTRACTORS:
- Employees and subcontractors must not enter or exit a moving vehicle.
- No riding on running boards, fenders or outside of trucks, trailers or equipment.
- Always wear seatbelts while the vehicle is in motion.
- Consumption of drugs/alcohol while driving or being driven in company vehicle will result in dismissal.
- No stopping on a trestle or bridge for loading or unloading.
- If loading or unloading on a roadside, pull completely off and use emergency four-way flashers. Enter and exit vehicle only when safe to do so.
- Do not store loose equipment or flammable materials in the passenger compartment under any circumstances.

TRANSPORTATION OF DANGEROUS GOODS
The TOG Act and Regulations are designed to protect the public through safe handling and containment of dangerous goods and to protect emergency response personnel with information about the hazards of dangerous goods in the event of an incident involving a spill or release.
General Responsibilities
The following standards will be adhered to in all operations:
1. Every container of dangerous goods, no matter what shape or size, will be labelled.
2. Vehicles that transport dangerous goods must display the applicable placards.
3. All employees who handle, transport, and/or ship dangerous goods must be trained and certified or only perform the handling, shipping or transporting activities under the direct supervision of trained and certified employees.

INCIDENT REPORTING AND CLASSIFICATION
The primary objective is to eliminate injury and reduce monetary loss through the prevention of incidents. All vehicle collisions and the damage are preventable. All incidents must be reported and investigated.
Driver Response Following a Vehicle Incident:
- Stop the vehicle and shut off the engine.
- Care for the injured and provide necessary first aid.
- Protect the scene from a further mishap by placing reflective triangles or reflectors 30 meters to the front and rear of the collision. If the collision occurs at night, the reflectors must be placed 75 meters from the collision.

- Ensure witness names, vehicles and insurance information and third-party information is collected.
- Do not admit liability or provide an opinion.

Ensure all information reported to LBCO and the investigating authorities is factual.

Investigation and Follow-Up

Sound investigations provide LBCO with the tools necessary to identify the root causes of incidents and to implement appropriate corrective measures to prevent recurrences from the same basic causes.

Incident Classification

When a vehicle incident occurs, the incident must be classified as preventable or non-preventable. An incident is deemed preventable if the driver fails to exercise sound judgment in his driving practices or does not comply with all regulatory requirements and company policy and/or fails to do everything possible to prevent the incident.
For purposes of fault as well as driving, an incident is deemed non-preventable if a driver exhibits sound judgment in his driving practices, complies with all regulations and company policy and does everything reasonable to prevent the incident.

WEATHER AND ROAD CONDITIONS

The safety of our people and the public is our top priority. Every driver is responsible for matching the vehicle speed to the road conditions. Please make note of the following general winter and road condition suggestions, and also refer to your Safety Manual for additional guidance:
Drive defensively.
Icy road conditions are prone to accidents so please take it slow. Speed is to be adjusted downward for adverse weather or road conditions.
Remember to plug in your vehicles. This is especially important for diesel vehicles, as they may not start in cold weather.
Reduce your speed on gravel roads. On non-posted gravel roads, the maximum allowable speed limit is 80 km/hr if road or weather conditions permit. When travelling on gravel roads, slow down for approaching traffic to reduce the potential of damage to vehicles due to flying debris.
When driving in the winter, leave extra distance between you and the vehicle ahead of you. Stopping on ice takes about eight times the distance that it takes on dry pavement. Be especially aware of icy patches on the road.
Clear windows before starting.
Your headlights should always be on. In heavy snowfall use low beams or fog lamps if available.
Where possible, engage 4x4 in icy conditions and off-road.
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 the fuel tank is full when possible.
Ensure you are familiar with the installation and removal of snow chains. Perform a "walk around" prior to travelling.

VEHICLE SAFETY INSPECTIONS AND MAINTENANCE

Regular safety inspections are to be conducted on company vehicles. A pre-trip inspection of your vehicle must been completed before driving and noted on your daily FLHA to show that the vehicles are in proper working order. Vehicle Maintenance Requests are to be made via the Shop Manager, not including regular oil changes or carwashes.

If maintenance is required on your vehicle, be sure to address the issue immediately. All maintenance will be recorded through the MaintainX app.
Company vehicles are required to be kept clean at all times.

TRUCK TOOL INVENTORY SHEETS
Keeping up-to-date Truck Tool Inventory Sheets helps with insurance claims, equipment inventory, and SDS inventory. Please ensure that your inventory sheets track a list of the tools kept in your truck and that this list is maintained properly.

For those individuals working in the field who consider their truck their office on a day-to-day basis, all confidential documents and expensive tools/equipment must be stored in a secure area (indoors if possible) at night to avoid theft of valuables.

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Fernando Nogueira

Fernando Nogueira (Director)

Journey Management

Policy

The safety of all personnel is of the utmost importance to LBCO. The purpose of this policy and plan is to reduce or eliminate road hazards, unnecessary travel and/or issues while traveling. All drivers will be given training on journey management and will be presented with a copy of this policy for future reference.
This program contains information regarding the company's expectations and responsibilities, as well as those of the drivers.

Responsibilities

Safe driving is a responsibility shared between the company and its employees.

Employer Responsibilities
Creating a journey management plan for all employees who will be engaged in company travel
Responding quickly to eliminate workplace hazards
Ensuring all equipment is kept in good repair
Ensuring employees follow safe job procedures
Reviewing job hazard analysis whenever there is a significant change to any element of the job or there has been an injury or illness

Safety Committee Responsibilities
Assist in safe driving observations as necessary
Assist in training employees to practice defensive driving
Monitor the workplace for hazards
Encourage employees to report hazards
Implement appropriate controls
Ensure corrective action is taken promptly

Employee (Driver) Responsibilities
The responsibility for the safety of any vehicle and its passenger's rests with the driver:
The driver must be trained, qualified and licensed to operate the vehicle intended for use.
Complete vehicle safety inspections
Follow safe job procedures
Before any vehicle is driven, it must be safe. This includes the physical condition and security of the load.
Report hazards to a supervisor immediately

Safe Work Strategies

Road travel limitations:

LBCO will ensure that long road trips are only taken when necessary.
To improve safety and efficiency, multiple tasks will be combined into one trip to minimize the amount of driving.
If a trip is being taken to meet with someone, determine if the meeting can be done over the phone instead. Consider safer methods of travel (air, train, etc) where practicable.

Planning and Approving Trips:

Employees may submit trip information verbally during discussion with the Project Manager/ Project Supervisor, or through the WhatsApp Group related to the job. The WhatsApp Group will be their check-in contact. Using either format, the employee will provide the following information:

1. date of travel
2. route - highway, road name(s)
3. client/destination address and contact phone number
4. departure time
5. check-in frequency
6. expected time of return

* Employees should not plan, and supervisors should not approve, travel plans that include driving in high hazard conditions. If for unavoidable reasons an employee feels they must drive in high hazard conditions, they must get their supervisor's approval before doing so, and check in every half hour. *

After reviewing the trip information with the employee, the supervisor will either approve the trip or make recommendations for changes to the plan (e.g., delay trip until better road conditions, use a different route, etc.), and approve the trip, or decline to approve the trip.

If the supervisor approves the trip, the supervisor will record such approval and the provided details in the appropriate **WhatsApp** group for documentation purposes and to let others in the group know that the trip will take place. This procedure will provide a backup for check ins as there are multiple persons in each group who can monitor for missed checks.

Check-In Frequency:

Non-Routine Driving Check-In Frequency:

Travelling employees are required to check-in:
1. at the start of the day to confirm the travelling employee has a cell phone, and it is working
2. at the end of the shift if the employee is not returning to the shop that day, or when the employee returns to the shop
3. at least every two (2) hours during the workday
4. hourly when driving in MODERATE hazard conditions
5. every 1/2-hour when driving in HIGH hazard conditions

Routine Driving Check-In Procedure:

Travelling employees must carry a working cell phone and charger and other communicating devices while they are travelling. Check-ins are to be implemented when either the employee or the supervisor feels they are warranted. When check-ins are implemented, the supervisor and the travelling employee will agree on the frequency and/or designate specific check-in times. The supervisor will serve as the check-in contact, or they may designate another co-worker to be the check-in contact. If that occurs, the supervisor will tell both the check-in contact and the travelling employee. The travelling employee must tell their supervisor when they plan to return, and check-in with their supervisor when they have returned from the trip.

Late Check-In Response Action:

If a travelling employee does not check-in call within 10 minutes of the planned check-in time or return check-in, the supervisor or designated check-in contact will do the following:

1. Try to contact the employee using the cell phone number provided.

2. If unsuccessful, try to determine the whereabouts of the employee by contacting a client or co-worker who may have had recent contact with the employee during the trip.
3. If those attempts are unsuccessful, wait 10 minutes, and repeat step 1.
4. If those repeated attempts do not successfully contact the travelling employee or otherwise confirm their well-being and location, the check-in contact will immediately:

- notify the supervisor and,
- initiate internal emergency response, and
- contact local emergency service providers or call 911.

Training, Competency, and Orientations

Upon being hired, drivers will be orientated on the company's safety manual, health and safety policy, safe work practices, and safe job procedures. Drivers will also be required to show proof of their proper licenses and training to be kept on file. They are to receive training on the understanding of components and those conditions that may represent hazards to ensure consistent inspections. Drivers who operate any vehicle which transports cargo, shall be trained in cargo securement prior to operating the vehicle.

Commercial drivers working for LBCO are subject to federal laws under our Safety Fitness Certification and will therefore be provided training to comply with these regulations. This includes driver duties and limitations, hours of service, logbooks, record-keeping, carrier responsibilities, enforcement and penalties.

Competency tests will be completed to ensure all our drivers have the proper training and experience necessary to safely drive for LBCO Contracting. As a part of this orientation and training, the journey management plan is to be reviewed, understood, acknowledged and followed by all employees.

LBCO will maintain all records as per the prescribed time of all regulations on the company server.

Hours of Service

Hours of Service govern the maximum driving times and minimum off-duty times of commercial truck drivers. Records of the daily driving and other work activities must be recorded in a prescribed format. LBCO commercial drivers use an online App "MOTIVE Driver". These records must be maintained and made available to a Peace Officer or Inspector upon request.

Driving Conditions:

Driving is to be completed during daylight hours whenever reasonably practicable. Driving during adverse weather conditions should be avoided, whenever practicable/possible. When it is not avoidable, drivers must use extra caution and follow all rules and regulations of the road/legislation as well as the company policies and procedures. Please refer to any relevant safe work practices.

Emergency Prevention and Response:

Drivers must carry a reliable method of communication (cell phones, CB radio, etc.) in case of emergency. A list of emergency contacts should be in the truck at all times. Driving directions should be obtained before traveling to an unfamiliar destination. Hands free GPS should be used, and distracted driving is prohibited. Vehicles must be always equipped with roadside emergency kits including water, first aid kit, spill kit, eye wash bottle, flares, pylons, reflective triangles, and any other tools or safety gear deemed necessary for that vehicle by the Supervisor or Driver.

Rest Breaks

LBCO requires employees to take sufficient breaks to prevent fatigue when driving long distances. If you have trouble staying awake, while driving alone, pull off the road and get out of the vehicle for fresh air or take a power nap. If you become fatigued while driving at night, consider getting a hotel room and starting fresh the next day. If two licensed drivers are in the vehicle, take turns driving. Get plenty of rest before beginning your journey.

Vehicle Accidents
Drivers must report all vehicle incidents to the HSE Manager, and an Incident Report must be completed.

Commercial Vehicle Operation (MORE THAN 4500KG GWR)

POLICY
LBCO has implemented this policy to inform workers of the written Commercial Vehicle Operation policy. This ensures the health and safety of workers at the work site.
Sr. Safety Manager is responsible for ensuring that the following policy for control, training, personal protective equipment (PPE) and safe work practices is enforced.

REFERENCES
LBCO has adopted this policy for the general safety of its workers in compliance with all applicable Federal, Provincial or Territorial OH&S Regulations. Where there is provincial or territorial regulatory variances, this policy will adhere to most stringent requirements.

SAFE PRACTICES

Vehicle Inspection
Vehicles operated by LBCO will be inspected in accordance with the applicable NSC Daily Vehicle Trip Inspection schedule for the type of vehicle. LBCO will inspect trucks, tractors, and trailers once every 24 hours in accordance with Schedule 1 of the NSC Daily Vehicle Trip inspection.
Attached trailers must be inspected once every 24 hours in accordance with Schedule 2.
Inspections will be documented whether a defect is found or not. If a defect is found, the employee conducting the inspection must record on the inspection the defects found and report the defects to LBCO Shop Manager or person appointed by LBCO prior to the next required inspection.
Vehicles with defects that may affect safe operation must be sent for repair immediately. Vehicles may not be operated on public roads until the defect has been sufficiently repaired.

Load Securement
If a LBCO company vehicle is carrying cargo, the employee must inspect the cargo and ensure that it is contained, immobilized, or otherwise secured so that it cannot leak, spill, blow off, fall from, fall through, or otherwise be dislodged from the vehicle, and is prevented from shifting.

Fatigue Management and Impairment
LBCO employees will not operate vehicles after driving 13 hours in a 24-hour period
LBCO employees must also not operate a vehicle if the employee has worked 14 hours in total in a 24-hour period
Employees are strictly prohibited from operating any company vehicles while their ability or alertness is impaired
Employees found operating vehicles while under the influence of alcohol or other impairing drugs will be subject to discipline up to and including termination

Recordkeeping

LBCO employees who drive company vehicles must complete a driver's logbook. The driver's logbook and a copy of the most recent vehicle inspection must be always kept in the vehicle.

On-site Trailer Security Policy

LBCO Contracting Ltd. is committed to a strong safety program that protects its employees, its property and the public from any incidents. Our objective with the on-site trailer security policy is to assure that property loss is not occurring, protecting the company's tools and materials from theft, as well as preventing other employees from having access to all trailers.

Assigned is a keycode lock for each trailer, the code is held by Foreman and Supervisor's only. Supervisors are held responsible for the lock they are assigned to for the season; Managements has the master keycode for all trailer locks. Report it immediately if the lock has gone missing.

The on-site trailer is to be always locked if **not** in close line of sight, the purpose of this is the public cannot run away with materials and tools without being seen. Each night once the crew is done work, Supervisors are to have the on-site trailer locked and preferably a wheel loader (or any heavy piece of equipment) **without** an attachment parked in front of the doors of the on-site trailer for extra securement.

Increased employee safety and reduced property loss helps contribute to the overall effectiveness and efficiency of our operation and greatly adds to the quality of service we can provide to the public and our clients.

If you see any misconduct of company property or unusual activities, act immediately reporting the incident.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

HSE Inspection Policy

LBCO believes its employees are its most important resource. The inspections will cover premises, excavations, tools, equipment, machinery and safe work practices as well as procedures. The health and safety inspection forms are to be used as a guideline since specific sites may have unique situations and potential hazards that may not be covered by this list.

Formal inspections are to be conducted at stipulated frequencies and documented for the purpose of identifying and correcting unsafe conditions and behavior. Informal inspections are to be done on an ongoing basis prior to all employee activities. Planned inspections will occur weekly at worksites, and quarterly at the Office/Shop. Corrective actions will then be implemented by the Supervisor and Management.

Senior Management is responsible for the overall operation of the program. Managers are responsible for directing formal inspections on job sites that they control, and for involving workers in such inspections. Supervisors are responsible for conducting ongoing formal and informal inspections where their crews are working. Employees are responsible for participating in the inspection program, both formal and informal. The Health and Safety Officer will conduct inspections on random job sites to ensure all company health and safety rules; practices and procedures are being followed. The frequency of these inspections will be determined by specific contractor requirements and length of time spent on the job site.
During an inspection, both activities and conditions in the workplace are carefully examined. Situations that have the potential to cause injury or damage (unsafe acts or unsafe conditions) are identified and corrective actions are initiated.

The HSA will also review all inspection reports and use the results as a basis for discussion at safety meetings.

The inspection identifies conditions and hazards in the workplace which can lead to an incident. Inspections also identify positive conditions, behaviours, and observations.

All health and safety inspection reports will be reviewed once a week during toolbox safety meetings on worksites. All completed health and safety inspection reports will be evaluated and monitored by the Supervisor implementing any corrective actions.

All of LBCO's facilities and job sites shall be included in the inspection program.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Introduction to Safety Inspections

LBCO Contracting Ltd. will conduct monthly documented workplace inspections for the purpose of identifying and correcting unsafe conditions and behavior. The inspections will cover premises, excavations, tools, equipment, machinery and safe work practices as well as procedures. The health and safety inspection forms are to be used as a guideline since specific sites may have unique situations and potential hazards that may not be covered by this list.

Site Health and Safety Inspections

Inspections include the office, yard, equipment, vehicles, shop and project sites where applicable. Inspections will be conducted as per the Inspection and Maintenance Schedule. These inspections assess the site, equipment and material hazards as well as worker behaviour. If supervisors or employees notice any unsafe behaviour, work practices or conditions, work shall be stopped immediately and the problem rectified. This sends a strong signal that proper behaviour and work practices must always be followed. Also, if you witness ongoing safe work or safe work practices, let the workers involved know their efforts to maintain a safe workplace are working and are appreciated.

Planned inspections will occur weekly at worksites, Monthly at the shop/yard, and quarterly at the Office. The Health and Safety mandate is for workers to participate in conducting the inspections along with the Supervisor. Corrective actions will then be implemented by the Supervisor and Management.

All health and safety inspection reports will be reviewed once a week during toolbox safety meetings on worksites. All completed health and safety inspection reports will be evaluated and monitored by the Supervisor implementing any corrective actions.

Purpose

The purpose of workplace inspections is to identify existing and potential hazards with work methods and practices, tools, equipment, machinery, materials, building and environment so that the hazards are controlled or eliminated.

Inspections are an essential method of identifying existing and potential hazards for corrective actions. They are also a means of determining the level of compliance with established standards for hazard controls, safe work practices, job procedures and safety rules.

Responsibilities

Managers Responsibilities

Managers should be aware of the conditions that exist in the workplace and the various procedures necessary to carry out the work process. Managers should review inspection reports and ensure that proper action is taken to correct any hazards that are reported.

Managers should also:

- Provide the resources to carry out regular inspections.
- Ensure that all workers are provided with the education and training need to understand their responsibility and to co-operate with those conducting workplace inspections.
- Ensure that the JHSC members take an active role in workplace inspections,
- Review workplace inspection reports.

Health & Safety Coordinators Responsibilities

- Ensure workplace inspection procedures are developed and that it meets the regulatory requirements.

- Act as subject matter expert to management, CSO, and safety representatives
- Consult with JHSC members and management about scheduling workplace inspections; Ensure workplace inspection procedures are reviewed annually
- Monitor implementation, follow up, and evaluation of corrective actions.
- Act as a subject matter expert to employees and management at branch level.

Joint Health & Safety Committee Members & Safety Representatives Responsibilities

- Co-operate with the employer in scheduling workplace inspections; Actively participate in workplace inspections.
- Make recommendations for corrective action to the employer.
- Monitor implementation, follow up, and evaluation of corrective actions.
- Regularly monitor the effectiveness of workplace inspections and make recommendations for improvement when appropriate.
- Review workplace inspections procedures.
  Joint health and safety committee and Worker health and safety representatives should also review each inspection report to identify any trends that may be developing in the workplace. A proper analysis over time may reveal:
- A need for training in certain areas.
- Why incidents are occurring in certain areas.
- The need to establish priorities for corrective action.
- A need to develop or improve safe work practices, and
- Problem areas that may require more hazard analysis.

Supervisors Responsibilities

Continuous inspections should be carried out by supervisors and foremen each time they pass through their area of responsibility. Supervisors are accountable for the safety of workers under their control. Therefore, they should be constantly on the lookout for any hazard that might arise in the work areas. Supervisors should ensure:

- That workers are carrying out preoperational checks when and where they are required.
- Participate in regular planned safety inspections.
- Monitor implementation, follow up and evaluation of corrective actions.
- Relay safety concerns or follow up to management

Operator Responsibilities

Fill in the Operational-Checklists as required:

- Daily Drivers Checklist or
- Daily Powered Mobile Equipment Checklist

Operators must inspect their machines and work areas for hazards to ensure that they will not be injured as a result of their job.

Worker Responsibilities

It is the responsibility of the worker to ensure they report to their supervisor any unsafe conditions, acts, potential hazards, and to report if there are inadequate supplies to conduct the job safely.

Inspection Procedures

Preparation

As part of the Inspection Program, the asset manager will endorse a preventative maintenance of all tools, equipment, machinery, and environment to ensure that safe operating conditions are met.

Procedure

1. Review previous inspection reports and note any commonly reported hazards.
2. Familiarize yourself with the type of workplace and unique hazards.
3. Use your eyes, ears and other senses to identify actual or potential problems as you go about the inspection. Record the hazards on the Worksite, Shop and Yard, or Office Inspection checklists.
4. When unsafe conditions are noted requiring immediate action, correct the situation immediately.
5. Look for basic causes of sub-standard conditions, practices and procedures.
6. A copy of the inspection checklist will be provided to the inspector and the HSE Manager and a copy will be posted for all workers.
7. Review items with all workers during toolbox meetings.

Follow-Up Actions to Health and Safety Inspections

Following audits and reviews, corrective measures shall be taken as needed to re-emphasize or restructure the Health & Safety Management System to perform at optimum effectiveness. Management, supervisors, employees, and contractors / subcontractors (when required) will participate in the development of new or existing procedures.

Where unsafe conditions, practices or procedures are noted:

- Act immediately to rectify the problem if possible.
- Place warning signs and barricades to keep workers away. Use verbal warnings if applicable.
- Notify management to rectify conditions, record conditions, actions taken and the date on the inspection form.
- Record and complete the site health and safety inspection form

When a worker is noted performing an unsafe act, advise as follows:

- Inform him/her of the unsafe situation
- Discuss the unsafe condition with him/her
- Advise on how to correct the unsafe condition
- Re-visit the area to ensure the safe practice is being followed
- Discuss with the Supervisor

Select trained team members who are familiar with the workplace including members of the JOHSC team. The effectiveness of an inspection depends on the ability of the team members to identify hazards. This requires:

- A good knowledge and understanding of the nature of industrial processes, tasks and operations,
- The relevant safety requirements and standards, and
- The full range of hazards associated with equipment, machines, processes and the work environment.

Actual Inspection

No workplace can be considered perfectly safe. As a result, all workplaces including offices, shops, yards, storage, mobile worksites, must be inspected as the following frequencies.

- Work Sites – Weekly
- Shop– Monthly
- Office - Quarterly

The checklist should include inspection of these areas. Checklists are made available as points of reference but are not limited to the items on the lists. When other hazards are identified, they must be recorded and appropriate steps taken to address them.

- Identify and record actual and potential hazards posed by buildings, equipment, the environment, processes and practices.
- Record any hazards requiring immediate attention.
- Determine whether existing hazard controls are adequate and operational. Ask for suggestions or recommendations from workers.

Writing Reports

- Record any unsafe actions or conditions observed during your inspection tour.
- Worksite Safety Inspection Report shall be utilized to document the findings. It can be found on the LBCO Digital Safety App here: https://bvscanada.com/lbco/home titled "Worksite Inspections".
- Office/Shop/Yard inspection report forms are available on the company server.
- Follow up actions are to be documented to rectify any discrepancies from the inspections.
- Recommend corrective action and assign accountability for ensuring corrective action by a certain date.
- Communicate written inspection report to the management, the supervisors and the safety committee.

Implementation And Follow-Up

Analyzing of inspection reports is one of the primary functions of the JOHSC committee and the workplace health and safety representative.

Corrective action should be taken as soon as possible on any deficiencies noted in the inspections. Feedback on this action must be conveyed to the inspection teams, posted on the board and shared in the quarterly meetings.

Any deficiencies marked on the jobsite inspections report, if practicable, should be corrected within the month. Notes in the jobsite inspections report shall identify who is responsible for correcting any deficiencies with appropriate plan dates. However, items are still outstanding, these will be reviewed by the health and safety committee to further escalate and resolve the deficiencies.

Types Of Safety Inspections

Formal Planned Inspections

Formal inspections are planned, systematic and periodic examinations of the workplace which are conducted by a team consisting of both supervisors and workers. These inspections are formally documented with the use of a checklist and a report that includes recommendations for corrective actions.

Planned inspections are also the time to check on other persons who have inspection responsibilities to ensure that they are being done according to regulation and established standards.

The planned inspection will be conducted on a weekly basis.

Informal Unplanned Inspections

Informal inspections are ongoing inspections continually conducted by supervisors and workers as part of their job responsibilities. Hazardous conditions are noted and are either corrected immediately or reported for corrected action. These inspections do not usually generate inspection reports.

Informal workplace inspections are not scheduled and will not require a checklist. However, this will still be considered an important means of recognizing hazards.

Special Inspections

A special inspection will be conducted when there is a malfunction, an accident, or purchase of a new machinery / equipment.

Special inspection must, where feasible, include the participation of members of the joint committee or the worker health and safety representative.

Special inspection will also be carried out when there is an installation of a new piece of equipment or a change in a work process or procedure, which may prompt an update to the inspection checklists or guidelines

Training

Inspection should be done by employees who are familiar with the work process and the areas they are inspecting.

The HSE Manager must ensure that training and educations is provided to individuals, so they understand their responsibilities, and know how to conduct workplace inspections effectively.

Unsafe Acts

1. Operating without Authority, Failure to Secure or Warn
    a. Starting, stopping, using, operating, firing, moving, etc. without authority, or without giving proper signal.
    b. Failing to lock, block, or secure equipment and vehicles, switches, and other tools, materials and equipment against unexpected motion, flow of electric current, steam, etc.
    c. Failing to shut off equipment not in use.
    d. Releasing or moving loads, etc. without giving warning.
    e. Failure to place warning signs, signals, tags, etc.
2. Operating or working at Unsafe Speed
    a. Running
    b. Driving too rapidly
    c. Driving too slowly
    d. Throwing or carrying material instead of passing it.
    e. Jumping from equipment, platforms, etc.
    f. Walking backwards.
    g. Working too fast or too slow endangering self and others.
3. Making Safety Devices Inoperative
    a. This should be treated as a Criminal Act since it invariably leads to an accident.
    b. Removing safety devices.
    c. Blocking, plugging, etc. of safety devices.
    d. Replacing safety devices with those of improper capacity (higher amperage electric fuses, low-capacity safety valves etc.)
    e. Misadjusting safety devices.
    f. Disconnecting safety devices.
    g. Failure to secure safety devices.
4. Using Unsafe Equipment (Hands Instead of Equipment), or Equipment Unsafely
    a. Using defective equipment
        i. Unsafe use of equipment
        ii. Gripping objects insecurely, taking wrong hold of objects
        iii. Using a screwdriver as a chisel or pry bar.
5. Unsafe Loading, Placing, Mixing, Combining, etc.
    a. Overloading
    b. Crowding or unsafe piling

c. Arranging or placing objects or material unsafely (parking, placing, stopping, or leaving equipment in unsafe position for loading and unloading).
d. Injecting, mixing or combining one substance with another so that explosion, fire or other hazard is created.
e. Introducing objects or materials unsafely (moving equipment on congested workplaces, smoking where explosives or flammables are kept, etc.)
f. Placing on working surfaces (tools, materials, debris, rope, chain, hose, electrical leads, etc.)

6. Taking Unsafe Position or Posture
   a. Exposure under suspended loads (fixed or moving).
   b. Putting body or its parts into shaft ways or openings, standing to close to openings, walking on beams or edges of working surfaces when not necessary, not using proper methods of ascending or descending.
   c. Entering vessel or enclosure that is unsafe due to temperature, gases, electric, mechanical or other exposures.
   d. Working on high tension conductors from above instead of below.
   e. Lifting with bent back or while in awkward position or the load is too heavy.
   f. Riding in unsafe position (on platforms, tailboards and running boards of vehicles and equipment, tailing on or stealing rides, riding on apparatus designed only for materials, etc.)
   g. Exposure on vehicular right or way.
   h. Passing on grades and curves, cutting in and out, road hogging, etc.
   i. Exposure to failing or sliding objects.
   j. Riding on forks or other devices not intended to carry passengers.
7. Working on Moving or Dangerous Equipment
   a. Getting on and off moving equipment.
   b. Cleaning, oiling, adjusting, etc. of equipment under pressure (pressure vessels, valves, joints, pipes, fittings, etc.)
   c. Walking on electrically charged equipment (motors, generators, lines, and other electrical equipment.)
   d. Welding, repairing, etc. of equipment containing dangerous chemical substances.
8. Horseplay
   a. Calling, talking, or making necessary noise.
   b. Throwing material.
   c. Teasing, abusing, startling, horseplay.
   d. Practical joking
   e. Quarreling or fighting
9. Failure to Use Personal Protective Equipment
   a. Neglect of wearing or using Personal Protective Equipment
   b. Wearing loose clothing or sleeves, ties, cuffs on trousers, etc.
   c. Failure to report defective safety apparel.
10. Failure to Shut Down and Lock Out
    a. No service or repair work should ever be attempted unless the power is shut off at its source and so locked out and tagged that it cannot be accidentally started.

Unsafe Conditions

11. Improper Guarding
    a. Inadequately guarded gears, belts, floor opening, manholes, etc.
    b. Improper shoring, construction, excavating, defective guards, etc.
    c. Lack of warning signs.
12. Substandard Materials or Environment
    a. Rough
    b. Slippery

c. Sharp-edged
d. Low material strength
e. Inferior composition
f. Decayed, aged, worn, frayed, cracked, etc.

13. Hazardous Arrangement, Procedure, etc.
    a. Unsafely stored or piled tools, material etc.
    b. Congestion of working spaces.
    c. Inadequate aisle space, exits blocked, etc.
    d. Unsafe planning and/or layout of traffic or process operations.
    e. Unsafe processes.
    f. Oil, water, grease, paint, etc. on working surfaces.
    g. Emergency exits not marked or blocked.
14. Improper Illumination
    a. Insufficient light
    b. Glare
    c. Unsuitable location or arrangement (producing shadows or contrasts)
    d. No light
15. Improper Ventilation
    a. Insufficient air changes
    b. Unsuitable capacity, location or arrangement of system
    c. Impure air source, dust, gas, and fumes etc.
    d. Abnormal temperature and humidity (confined area)
16. Unsafe Dress or Apparel
    a. Eye or face protection, gloves or mitts, aprons or sleeves, shoes, respirators, leggings, hard hats, safety belts, etc. defective unsafe or unsuited for work.
    b. Loose hair
    c. Loose clothing
    d. Inadequately clothed
    e. Welder's helmet or hand shields defective, unsafe or unsuited for work
    f. Welder's protective clothing (spats, capes, sleeves, jackets and others) defective, unsafe or unsuited for work.
17. Unsafe Design or Construction
    a. Poorly designed, too big, small poor material, poorly constructed, inadequate bracing, etc.

****Inspections are a proven proactive method of preventing incidents and injuries.**

Definitions

Acute Effect: An adverse effect on a human or animal body, with several symptoms developing rapidly and coming quickly to a crisis.

Acute Toxicity: The acute adverse effects resulting from a single dose of or exposure to a substance.

Administrative Controls: Methods of controlling employee exposures by job rotation, varying tasks, work assignment, operational procedures, or time periods away from the hazard(s).

Adsorption: The condensation of gases, liquids, or dissolved substances on the surface of solids.

Air Monitoring: The sampling for and measuring of contaminates in a free or captive atmosphere.

Agent: The principal object, subject such as a tool, machine, or material, involved in an incident that inflicts injury, illness, or property damage.

Ampere: The standard unit for measuring the strengths of an electrical current.

Barrier Guard: Physical protection for operators and other individuals from hazard points on machinery and equipment.

Carbon Monoxide: A colorless, order less toxic gas produced by any process that involves the incomplete combustion of carbon-containing substances.

Ceiling Limit: An airborne concentration of a toxic substance in the work environment that should never be exceeded.

Chemical Cartridge Respirator: A respirator that uses changeable cartridges containing various chemical substances to purify inhaled air of certain gases, vapours, mists and fumes.

Chemical Agents: An agent that produces chemical reactions.

Chemical Burns: Generally similar to those caused by heat. After emergency first aid, their treatment is the same as that for thermal burns.

Combustion: A process in which a substance reacts with oxygen to give heat and light.

Components: A constituent element, as of a system.

First Aid: The immediate care given to the injured or suddenly ill person.

Gas: A state of matter in which the material has very low density and viscosity; can expand and contract greatly in response to changes in temperatures and pressure; easily diffuses; and is neither a solid nor a liquid.

Electrical: Using or providing or producing or transmitting or operated by electricity.

Hydraulic: Operated by the pressure of water or other liquids. Hydraulic systems, such as hydraulic brakes, allow mechanical force to be transferred along curved paths (through pipes or tubes) that would be difficult for solid mechanisms, such as levers or cables, to negotiate efficiently.

Lock Out: A positive method for disconnecting power or making something inoperative by using a physical lock to eliminate movement or operation.

Lock Out Procedure: Written procedure dictating the manner in which the positive locking out of equipment or machinery is to be done.

Maintain: To keep in a condition of good repair or efficiency.

Manpower: The power of human physical strength.

Mechanical: Pertaining to, governed by, or in accordance with, mechanics, or the laws of motion; pertaining to the quantitative relations of force and matter, as distinguished from mental, vital, chemical, etc.; as, mechanical principles; a mechanical theory; mechanical deposits.

Operate: To work, perform, function or use a machine.

Physical Agents: Are sources of energy that may cause injury or disease.

Pneumatic: Filled with or operated by compressed air. Pneumatic machines often involve the transmission of force through air pressure in pipes or tubes.

Preventative Maintenance: The care and servicing by personnel for the purpose of maintaining equipment and facilities in satisfactory operating condition by providing for systematic inspection, detection and correction of incipient failures either before they occur or before they develop into major defects.

Procedure: An act or a manner of proceeding in any action or process.

Risk: A term applied to the individual or combined assessments of “probability of loss” and potential amount of loss.

ELEMENT 8: EMERGENCY PREPAREDNESS

Emergency Response Policy

Having a good Emergency Plan in place can reduce the risk of loss during an unplanned event. Having the documentation, communication and training in place can significantly mitigate the damage caused by that event.

LBCO Contracting will ensure that all jobsites have plans in place to deal with emergency situations particular to the types of hazards identified. Emergency Response Plans will be tested at a minimum of once annually.
Identified deficiencies in the Emergency Response Plan will be corrected immediately upon discovery.

At minimum, each job site will be capable of providing:

- First aid to an injured worker
- Transportation to a medical facility
- Means of contacting outside agencies for assistance
- Means of conducting an initial attack on fire

The HSE Manager is responsible for the development of emergency procedures for any unusual hazards or tasks that employees may encounter. At minimum, the site supervisor will ensure that all emergency preparedness information is readily available and that our employees are given a site orientation to ensure they are aware of:

- Location of emergency equipment such as:
  - First aid supplies
  - Fire extinguishers
- Location of communication device and contact numbers for contacting outside assistance
- How to access SDS sheets
- Escape route and muster point
- Emergency phone numbers

All employees across our organization share responsibility for ensuring LBCO is capable of effective emergency response. By accepting this responsibility, we take control of our own health and safety and contribute to the health and integrity of the communities in which we work.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Emergency Response Plan Procedure

General

Workplace emergencies can happen at any time and prudence dictates that response procedures must be planned and prepared for in advance. Because it is hard to think clearly during an emergency, it is essential to plan our response.

LBCO has designated the HSE Manager as the administrator/supervisor for emergency preparedness and action plans. Determinations must be made as to what emergencies could affect our workplace, who will lead and make decisions during an emergency, and what procedures will ensure that employees respond appropriately. These elements are the foundation of our workplace Emergency Plan.

Emergency plans will be in writing, posted in the workplace, and available to employees for review. The names and job titles of every person in the chain of command will be posted.

Emergency response plans will be reviewed and updated as necessary whenever there are changes to operations, equipment and/or personnel.
A formal review of the emergency action/response plan will be conducted following any emergency to assess its effectiveness and determine if revision is required.

To ensure LBCO is prepared to respond effectively, we will:
• Provide training for all employees
• Develop an appropriate emergency response process for the control of emergencies
• Provide resources necessary to prepare for, respond to and recover from incidents in a timely manner
• Comply with regulatory requirements and industry best practices for all aspects of emergency response
• Adopt a positive and proactive approach to emergency response with the aim of minimizing adverse effects resulting from any emergency
• Establish methods for tracking and measuring our response capabilities during incidents, and
• Develop and follow up with a corrective action plan to improve our response and effectiveness.

It should be understood that the size and complexity of work sites, as well as their access and location, have a bearing on the degree of planning necessary for emergencies.

Development should include the following considerations:

1) Hazard identification/assessment
2) Emergency resources
3) Communication systems
4) Administration of the plan
5) Emergency response procedure
    - The identification of potential emergencies.
    - Procedures for dealing with identified emergencies.
    - The identification of location of and operational procedures for emergency equipment.
    - The emergency response training requirements.
    - The location and use of emergency facilities.
    - The fire protection requirements.
    - The alarm and emergency communication requirements.
    - The first aid services required.

- Procedures for rescue and evacuation.
- The designated rescue and evacuation workers.

6) Communication of the procedure
7) Debriefing and post-traumatic stress procedure.

Permanent Facilities

All permanent facilities (Office, Shop) will have an ERP based on a site hazard assessment that addresses or includes, at a minimum:

- Fire
- Medical emergency
- Emergency contacts
- Certified first aid personnel
- Spills, leaks, and release of hazardous materials; and
- Natural disasters.

This ERP will be communicated to workers as part of the facility orientation and made available and posted in conspicuous locations. All permanent facilities will post a map showing:

- First aid kit locations
- Fire extinguisher locations
- Evacuation routes and emergency assembly/muster points
- Controlled product storage
- Utility shutoffs; and
- Environmental spill kit (when required).

ERPs for permanent facilities will be reviewed on an annual basis.

Project Sites

All project sites must have an ERP based on a project site hazard assessment that addresses or includes at a minimum:

- Fire
- Medical emergency
- Spills, leaks, and release of hazardous materials
- Natural disasters
- Certified first aid personnel
- Nearest medical facility and travel routes; and
- Map showing/identifying:
    - o First aid attendants/services,
    - o Fire extinguisher/firefighting equipment locations,
    - o Evacuation routes,
    - o Emergency assembly/muster points,
    - o Controlled product storage.

This ERP must be communicated to all workers.
Response to spills, leaks, and release of hazardous materials must be set out in the Environmental Action Plan as required.

LBCO will conduct an emergency evacuation drill on site at least annually to ensure the proper execution of our emergency plan. A review of the drill will be held to identify areas for improvement.

Emergency Contact List
As part of the ERP for a project site, project management will complete an emergency contact list that shall be kept current and shall include the
following information and contacts:
- LBCO Project Superintendent
- LBCO Project Management
- Client representatives
- HSE representatives
- Government agencies
- Medical transportation services (land and air)
- Medical services; and
- Utility

Procedure
Please note that the following steps should be used as a guideline for all emergency situations:

- Assess the situation (major or minor)
- Secure the area and evacuate in the event of pending danger
- Report to proper authorities (ERP Contact Lists)
- Apply first aid if required
- Contact the supervisor
- Stand by for help

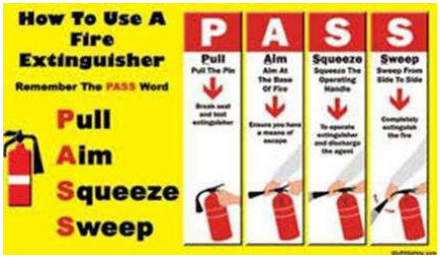
After an emergency, the following steps should be followed:
- Determine the extent of damage
- Isolate damaged equipment
- Take necessary steps to prevent further damage and control hazards in damaged areas
- Clean up the site, returning it as closely as possible to its original state
- Barricade damaged areas/sections and erect temporary shelters as necessary
- Protect evidence (marking or barricading of area)
- Properly dispose of hazardous waste
- Hire special cleanup services if required
- Document cleanup activities
- Restore the worksite and surrounding area (including vegetation)

Fire Response Procedure
If a fire occurs, notify the people and emergency response services identified in the ERP Contact List. If you can do so without personal risk, try to extinguish the flames using one or more portable appliances (fire extinguishers). If the fire cannot be contained, activate the alarm and follow the ERP Evacuation Flowchart.
For fires that can be controlled by the crew and equipment on site, please follow the steps below:
- Activate the alarm and begin the ERP Evacuation Flowchart

- Assess the situation for:
    - o Additional or contributory dangers
    - o Danger to and impact on the health and safety of emergency responders
    - o The effectiveness of remedial actions
- Cut off any fuel supplies, including heaters
- Shut off all high voltage power supplies to all equipment in the immediate area of the emergency
- Remove any nearby flammable sources (chemicals, vehicles, etc.)

Note: Only personnel trained in firefighting techniques should attempt to extinguish a fire.
Always identify an escape route before attempting to fight a fire.

Use the "P.A.S.S." method to operate a fire extinguisher:



P – PULL safety pin from handle
A – AIM the fire extinguisher nozzle at the base of the fire
S – SQUEEZE the trigger handle
S – SWEEP the spray from side to side
DO NOT PLACE YOUR OWN PERSONAL SAFETY AT RISK!

Extinguisher Types:
a. Type A (Green Triangle) – Used to combat paper and wood fires
b. Type B (Red Square) – Used for flammable liquids such as oil
c. Type C (Blue circle) – used for electrical fires involving wires or appliances.
Planning shall begin before any work commences on any work site. Although there may be little time between the award of the contract and the start of the project, a good emergency response plan can be generic and, with some minor changes, can be easily adapted to specific sites and readily implemented.

Motor Vehicle Accident Response Procedure
1. Secure the accident area
2. Set out strike flares and reflectors and designate a signal person and request the assistance of a witness or passer-by for this if required
3. Send for help. Never leave the scene of an accident. Use a radio, mobile phone or witness to get help. Witnesses should write down the assistance required (i.e. ambulance, police) before leaving the scene
4. Give first aid to any injured persons (this should only be provided by personnel who have been trained in first aid techniques). Do NOT attempt to move people who are badly injured or have broken bones, or bodies of fatalities
5. Contact management and provide complete and accurate details of the situation
6. Obtain vital information at the scene of the accident, which includes the names and addresses of ALL persons involved in, or witnessing, the accident
7. Stay at the accident site until help arrives and provide information as required
8. Complete the appropriate company report forms

Hazard Identification/Assessment

The process of hazard identification and assessment involves a thorough review that should include, but not be limited to, the following points:

- Transportation, materials handling, hoisting, equipment or product installation, temporary structures, material storage, start-up, and commissioning activities
- Environmental concerns

- Consultation with the client regarding potential hazards when working in or adjacent to operating facilities
- Resources such as material safety data sheets (MSDS) to determine potential hazards from on-site materials.
- Proximity to traffic and public ways.

Because construction sites are frequently fast-changing, the process of hazard assessment must be ongoing to accommodate the dynamic environment. Once hazards are identified, the next task is to assess the potential or risk involved in each. For each hazard identified, ask:

- What can go wrong?
- What are the consequences?

For each potential hazard it is important to identify resources necessary for an appropriate emergency response. For most events in construction, a simple analysis based on the experience of the people involved on the project is likely sufficient.

Emergency Resources

It is important to identify which resources are available and have contingency plans in place to make up for any deficiencies.

The most important resource on most projects will be a 911 system. It is essential to verify that 911 is in effect in the area. Most Alberta communities have a 911 system in place, but it is important to know the facilities or limitations available in that location. Is a high-reach rescue team available? What is the response time? What must site personnel do in the meantime?

Other work site resources such as fire extinguishers, spills containment equipment, and first aid kits must be maintained and clearly identified. Construction equipment may be included among potential emergency resources. Personnel, especially work site workers trained in first aid, should be included in the plan.

There may be situations where outside resources are so far away that an adequate response is not possible. In these situations, resources may have to be obtained and kept on site. Examples would include fire protection or ambulance/medical resources in remote areas.

Whatever the situation may be, people, equipment, facilities, and materials are needed for emergency response. Where they will come from must be determined in advance. Moreover, the people supplying these resources must be made aware of their role in the plan.

Communication Systems

An important key to effective emergency response is a communications system that can relay accurate information quickly. To do this, reliable communications equipment must be used, procedures developed, and personnel trained. It is a good idea to have a backup system in place, in case the system is rendered useless by the emergency.

The type and location of emergency communication systems must be posted on the project. This will include a list of site personnel with cellular phones or two-way radios, and any other equipment available. Emergency phone numbers and the site address/location should be posted in all work site trailers, and in the Supervisors trucks for fast access.

Administration of the Plan

The task of administering and organizing the plan is vital to its effectiveness. The person who has this task will normally be the person in charge of the emergency response operation. It is their task to ensure

- That everyone clearly understands their roles and responsibilities within the emergency response plan.

- That emergency resources, whether people or equipment, are kept at adequate levels in step with the progress of the project.

It is very important to review the emergency plan on an annual basis and especially after an emergency has occurred. Changes may be necessary where deficiencies became apparent as the plan went into operation.

An emergency can be reported from any source—a worker on site, or the public. Remember that circumstances may change during the course of an emergency. Any procedures you develop must be able to respond to the ongoing situation.

Emergency Response Procedure:

These steps apply to all emergencies and should be followed in sequence.

- Stay calm.
- Assess the situation.
- Take command.
- Provide protection.
- Aid and manage.
- Maintain contacts.
- Guide emergency services.

Stay calm – Your example can influence others and thereby aid the emergency response.

Assess the situation – Determine what happened and what the emergency is. Look at the big picture. What has happened to whom and what will continue to happen if no action is taken? Try to identify the cause that must be controlled to eliminate immediate, ongoing, or further danger.

Take command – The Foremen on the scene should take charge and call, or delegate someone to call, emergency services—generally 911—and explain the situation. Assign tasks for controlling the emergency. This action also helps to maintain order and prevent panic.

Provide protection – Eliminate further losses and safeguard the area. Control the energy source causing the emergency. Protect victims, equipment, materials, environment, and accident scene from continuing damage or further hazards. Divert traffic, suppress fire, prevent objects from falling, shut down equipment or utilities, and take other necessary measures. Preserve the incident scene; only disturb what is essential to maintain life or relieve human suffering and prevent immediate or further losses.

Aid and manage – Provide first aid or help those already doing so. Manage personnel at the scene. Organize the workforce for both a headcount and emergency assignments. Direct all workers to a safe location or command post. This makes it easier to identify the missing, control panic, and assign people to emergency duties. Dispatch personnel to guide emergency services on arrival.

Maintain contact – Keep emergency services informed of situation. Contact utilities such as gas and hydro where required. Alert management and keep them informed. Exercise increasing control over the emergency until immediate hazards are controlled or eliminated and causes can be identified.

Guide emergency services – Meet services on site. Lead them to emergency scene. Explain ongoing and potential hazards and cause(s), if known.

Communication of the Procedure

The Emergency Response Plan must be clearly communicated to all site personnel. The following activities should be considered:

- Review the procedure with new workers to ensure that it covers their activities adequately through Orientation.

- Review the procedure on a regular basis to address new hazards or significant changes in site conditions.
- Post the procedure in the work site trailers, office and shop lunchroom.

The recovery process, or what happens after the emergency response has been completed, is a critical step in the plan.

Many emergency tasks may be handled by people who are not accustomed to dealing with emergencies. People may have seen their work partners and friends badly injured and suffering great pain.

Once the emergency is over, the attitude should not be “Okay, let’s get back to work” or “Let’s go home.” Some of the people involved may need assistance in order to recover. In some cases professional counseling may be needed. As part of site emergency planning, there should be measures in place to deal with post-traumatic stress. In this case local hospitals, ambulance services, and medical practitioners may be able to help.

Debriefing is necessary to review how well the plan worked in the emergency and to correct any deficiencies that were identified. Debriefing is critical to the success of future emergency response planning.

Slow response, lack of resources, or the absence of trained personnel will lead to chaos in an emergency. To minimize human suffering and financial losses, all personnel must know their responsibilities under the emergency response plan.

EXAMPLE - Emergency Response Plan

Project Name:

Location: Project Address

Foremen: Joe Foreman

Project Manager: Joe PM

Job No.: UG-001

Project Start/End Date: Month, day, Year

POLICY STATEMENT

LBCO Contracting Ltd. is committed to protecting their employees, the community, property, and the environment in the event of an emergency. These situations will be handled through the implementation of an Emergency Response Plan in adherence to all applicable Occupational Health and Safety Regulations and Codes (Part 7).

INTRODUCTION

This plan outlines the general procedures followed for all emergency situations and incidents that could occur because of operations by natural causes, equipment failure or by human error. Any hazardous materials that may be present will be discussed.

Based on past incident reports, hazard assessments and relevant experience through the company it is believed that the following types of hazards (most of which are potentially preventable) have the potential to occur at any time:

- **Leaking Gases, and Liquids**
- **Damage to Utilities**
- **Traffic Incidents**
- **In the Event of a Severe Storm**
- **Excavation Cave-Ins**
- In the Event of a Spill
- In the Event of a Fire
- Medical Aid/First Aid Emergency

ON-SITE PERSON IN CHARGE

- The Supervisor is the acting "Emergency Response Coordinator" for emergency situations. Their responsibility consists of ensuring that all subcontractors and employees adhere to the appropriate emergency response procedures as stated in this plan.
- The Second-in-Command Emergency Response Coordinator will provide any required assistance to the Supervisor and will assume the role of Emergency Response Coordinator if the Supervisor is unable to perform the role.

Emergency Response Coordinator:	Joe Site Superintendent
Second-in-Command:	Joe Foreman

COMMUNICATION

- The project will always maintain and utilize radio communication.
- Radio systems or cell phones ensure that the 911 number is available in the working location.
- Appropriate emergency communications must be available at each site location.
- Emergency phone lists shall be posted or available to all workers.

EMERGENCY CONTACT INFORMATION

POLICE/FIRE/AMBULANCE 9-1-1

Nearest Hospital and Care Centre: **Rockyview General (403) 943-3000**

***Occupational Health and Safety (OH&S Alberta):** **1-866-415-8690**

Alberta First Call:	1-800-242-3447
Atco Gas:	403-245-7222
Enmax Corporation:	403-310-2010
Alberta Environment:	1-800-222-6514
Disaster Services/ Dangerous Goods:	1-800-272-9600
Poison Control Center:	1-800-332-1414
Stars Air Ambulance:	1-888 888-4567 or #4567
Worker's Compensation Board (WCB):	1-800-661-9608

LBCO EMERGENCY RESPONSE TEAM

LBCO Contracting Ltd. Office: 403-277-9555 623-35th Ave. N.E. Calgary, Alberta

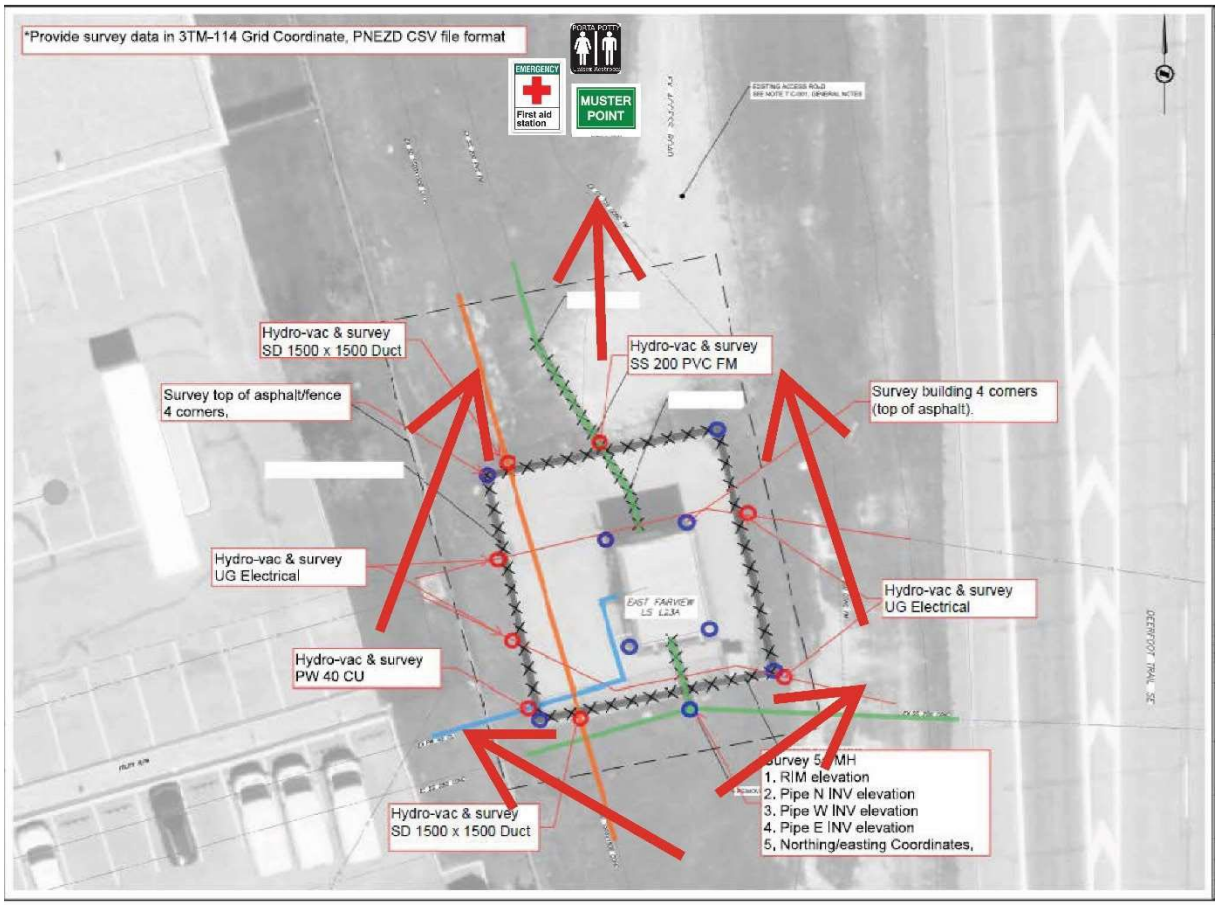
In the event of an emergency please contact the following in this order:

1.	Foreman	Yohannes Woldekidane	403-903-7812
2.	Foreman	Rui Ribeiro	403-796-5669
3.	Health & Safety Manager	Andrea Glowatsky	403-519-9185
4.	Project Manager	Dean Elladan	403-690-5468
5.	Director	Fernando Nogueira	403-828-5016
6.	JOHSC	Nahom Kidane	403-991-4046

FIRST AID ATTENDANTS	
Joe Worker	Joe Superintendent
Joe Foreman	Joe Worker 3
Joe Worker 2	

FIRST AID ATTENDANTS: There will be a various First Aid Attendants, therefore, all First Aiders will be clearly identifiable by the green sticker to be worn on their hard hats.

Site Logistics Map



EMERGENCY EQUIPMENT

Emergency equipment and supplies will be available at every worksite in accordance with OH&S regulations. Inspections are to be conducted regularly as required and documented.

GENERAL EVACUATION PROCEDURES

Emergency communication:

The person instigating the site evacuation shall:

Pull emergency alarm or instruct that the aerosol-powered horn be sounded as follows:
a. Three (3) sharp blasts, followed by a
b. Five (5) second delay, then
c. Three (3) more sharp blasts.
d. Repeat several times to ensure that all workers on site have heard this signal.
e. This person, having the site evacuated, shall ensure all workers and visitors on site have been evacuated.

Upon hearing any alarm or other notification of an emergency requiring evacuation, all individuals at the site will:

a) Advise all visitors, workers, and contractors of alarm, (if possible).

b) Shut down any equipment being used (if possible).

c) Help others who need assistance (if this does not put personal safety at risk).

d) Evacuate the site via the nearest and safest exit; and,

e) Meet at the designated area shown in the Emergency Evacuation Map –designated muster point.

f) A designated employee is responsible for taking a roll call following the evacuation, to ensure that all employees are accounted for.

g) Once it has been determined that everyone is out safely, do not leave the roll call area. If someone is unaccounted for, do not return to the worksite to search for them, rather, inform the responding fire department of the missing person(s) and wait for further instructions from them.

h) If the fire department or other applicable response personnel have not already been notified, they must be contacted by calling 9-1-1.

i) The Emergency Response Coordinator (Supervisor) shall then determine if the site is safe to reoccupy following an evacuation. No one is allowed to enter the site without authorization.

Designated Employee (Roll Call):

1. Joe Superintendent
2. Joe Foreman
3. HSE Manager

Accounting for Visitors and Employees On-Site

In an emergency, you need to be able to account for everyone on your site in the fastest and most efficient way possible.

Make sure that you take a headcount once all employees are gathered in your designated muster areas. The designated employee roll call personnel will have access to the worksite sign in log to ensure that they will successfully and accurately be able to account for all the employees and visitors on the worksite.

LEAKING GASES, LIQUIDS

1. **STAY CALM**.
2. Stop – Turn off all equipment.
3. CALL 9-1-1 (for Emergency and Rescue).
4. Protect yourself first, then others. Try to contain the blaze with a fire extinguisher (only if trained to do so) or shut off leaking gases or fluids.
5. Evacuate the site if the fire cannot be put out, or gases/liquids cannot be contained.
6. Keep all workers informed of procedures taken, ensure everything has been looked over and corrected prior to proceeding to the next step. It is **extremely important to STAY CALM.**

7. If you must rescue people:

a. Keep upwind in the event of hazardous goods, spills, leaks, or fire.
b. Administer First Aid to maintain life.
c. Keep unnecessary people away.

NOTE: Keep out of low areas.

Do not feel compelled to control the hazard.

Use your powers of observation and hearing to detect:

a. Hazards
b. Warning placards
c. Downed wires
d. Hissing sounds of gases
e. Leaking fluids
f. Flames, smoke, steam, etc.

Action In Case of an Explosion

Explosions include those caused by leaking gas, faulty heating equipment, and flammable vapors.

1. Fall to the floor/ground and take immediate shelter, or other such objects that will offer protection against flying glass or debris. Protect your face and head with your arms.
2. After the effects of explosion have subsided, assess your area, and evacuate –workers only when notified to do so by your Supervisor.
3. Phone the Fire Department.
4. Do not return to site until the "all clear" signal is given by your Supervisor, and only you're Supervisor.

IN THE EVENT OF A SPILL

When encountering a spill of any nature, it is the responsibility of the WORKER to:

1. Warn others in the immediate vicinity that a spill has taken place.
2. Designate a fellow worker to guard the area; and
3. Inform your Supervisor.

It is the responsibility of the SUPERVISOR to:

1. STAY CALM,

2. Re-assign employees to other areas or evacuate if necessary, using the following safe job procedure:

a. Unless immediate evacuation is essential, the supervisor shall decide whether to evacuate the site.
b. Evacuation procedures shall be as stated in "Emergency Evacuation Procedures."
c. Move crosswind or upwind – never downwind – to avoid toxic gases and vapors.
d. If safe to do so, render first aid always.

3. Cordon off the full spill area.

4. IMMEDIATELY Identify the spill substance through administrative controls such as (placards, suppliers and workplace labels, storage, maintenance, and care). NEVER go near the chemical substance.

5. **If the spill is considered a reportable emergency – ONLY:**

   Using your EMERGENCY PHONE LIST listed in this emergency response plan, and posted in all trailers call the nearest response team for help if regulated under the Environmental Act and is legislative to do so.

6. Keep all workers informed of procedures taken, ensure everything has been looked over and corrected prior to proceeding to the next step. It is **extremely important to STAY CALM.**

7. Provide a written report to Management of the spill incident in the "Incident Investigation Report Form," and "Supervisor's Daily Journals including required reports: Hazard Assessments, WCB Workers & Employers, Corrective Actions, and Toolbox Meetings.

MOTOR VEHICLE INCIDENTS

1. Ensure all occupants of the vehicle are accounted for and responsive. If anyone is ejected from the vehicle, unresponsive or injured call 911 immediately.
2. Assess your vehicle's condition to determine if it is safe to occupy and if it can safely be moved.
    a. If your vehicle cannot be moved, call 911 and wait for assistance.
    b. If it is safe to do so, participants should remain in the vehicle with seat belts fastened for everyone's safety until help arrives.
    c. If it is unsafe to remain in the vehicle, participants should cautiously exit and move to a safe location away from traffic but adjacent to the accident site.
3. Turn on hazard lights and put on a safety vest.
4. Do not smoke or place lit flares within 25' of damaged vehicles or fluids which have leaked from them.
5. If your vehicle can be moved without creating further hazard, move it to a safe location adjacent to the accident site.
6. Exchange the following information at a safe location off the roadway:
    a. Name, address, phone number, insurance company, policy number, driver's license number, license plate number, registration number for the driver and the owner of each vehicle.

    b. If the driver's name is different from the name of the insured, establish what the relationship is and take down the name and address for everyone.

    c. Make a written description of each car, including year, make, model, and color and the exact location of the collision and how it happened.

    d. Do not discuss who is at fault with other parties.

    e. Do not disclose your policy details.

EXCAVATION CAVE INS

1. **STAY CALM.**

2. Stop – Turn off all equipment.

3. Restrict Access/Secure Area.

4. CALL 9-1-1 (for Emergency and Rescue)

5. To get down to the casualty, use a tarpaulin, fencing, plywood, or similar material that can cover the ground and will ride up over any further cave-in.
6. Sometimes a further cave-in can be prevented by placing a backhoe bucket against the suspected area or excavating it.
7. Do a personnel count (roll call). Keep all workers informed of procedures taken, ensure everything has been looked over and corrected prior to proceeding to the next step. It is **extremely important to STAY CALM.**
8. Rescue workers should enter the trench with ropes and wear rescue harnesses if possible.
9. To prevent further injury, remove the casualty by stretcher whenever possible.
10. Tarps or ladders can be used as a makeshift stretcher.
11. Stabilize the casualty and ensure appropriate first aid is provided.

Breathing — ensure that the casualty is breathing. If not, open the airway and start artificial respiration immediately. Mouth-to-mouth is the most efficient method.
Bleeding — Control external bleeding by applying direct pressure, placing the casualty in a comfortable position, and elevating the injured part if possible.
Unconsciousness — this is a priority because it may lead to breathing problems. An unconscious person may suffocate when left lying face up. If injuries permit, unconscious persons who must be left unattended should be placed in the recovery position.

DAMAGE TO UTILITIES

1. **STAY CALM**.
2. Stop – Turn off all equipment.
3. Restrict Access/Secure Area.
4. Evaluate Potential Hazard (Minor, Moderate/Major).
5. Call the appropriate Utility Owner.
6. If Moderate/Major CALL 9-1-1 (for Emergency and Rescue).
7. If any injuries stabilize the casualty and ensure appropriate first aid is provided.

Rescue operations that are being performed can also create overhead hazards from the sudden failure of rigging wire ropes or slings that are damaged or overloaded during a lifting operation. Utilities disrupted as a result of a collapse will cause serious safety hazards for rescuers. These will include electrocution hazards from broken electrical wiring, and explosion hazards from broken natural gas and/or heating fuel lines. Sewage from broken sewer lines can release toxic gases such as hydrogen sulphide or methane and can expose rescuers to bacteria.

IN THE EVENT OF A FIRE

1. DO NOT PANIC! Stay calm.
2. Raise the alarm by shouting FIRE! to alert anyone in the immediate vicinity.

3. Size up the fire. If there is doubt as to whether it can be controlled with available employees and equipment, evacuate the area immediately - leave equipment.
4. Sound the air horn / fire alarm.
5. Dial 911
6. Fight the fire ONLY if it is SMALL and you are not alone, and you have been trained in the use of the extinguisher.
7. Always keep yourself between the fire and the exit.
8. Do not put yourself in danger.
9. Evacuate the area immediately.
10. Assist any person with disabilities or injuries.
11. Proceed to the muster point.
12. Stay clear of the arriving Fire Department while proceeding.
13. Gather for roll call. Do not talk while role call is taking place.
14. Do NOT return to the site until “all-clear” authorization has been given by the Fire Department.

Emergency Coordinator Responsibilities

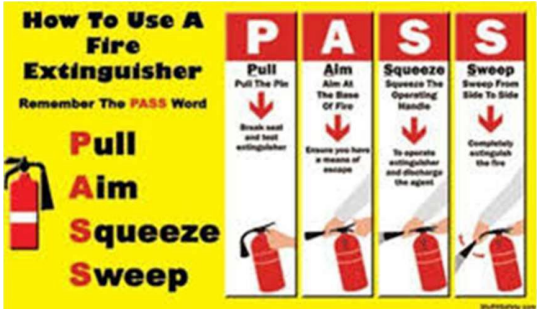
- Phone 911 or delegate some to report a fire at your location.
- Delegate a person to direct the fire emergency team to the site.
- Take a roll call at the assembly area/muster point.
- Report any missing persons to fire department and/or emergency personnel.

Fire Extinguishers and Fire Safety

Use the "P.A.S.S." method to operate a fire extinguisher:

P – PULL safety pin from handle
A – AIM the fire extinguisher nozzle at the base of the fire
S – SQUEEZE the trigger handle
S – SWEEP the spray from side to side

DO NOT PLACE YOUR OWN PERSONAL SAFETY AT RISK!



Action In Case of an Explosion

Explosions include those caused by leaking gas, faulty heating equipment, and flammable vapors.

1. Fall to the floor/ground and take immediate shelter, or other such objects that will offer protection against flying glass or debris. Protect your face and head with your arms.

2. After the effects of explosion have subsided, assess your area and evacuate –workers only when notified to do so by your Supervisor.

3. Phone the Fire Department.

4. Do not return to site until the "all clear" signal is given by your Supervisor, and only you're Supervisor.

Fire or explosion can occur when a source of ignition contacts a flammable material in the air. Ignition sources include flames, welding arcs, hot surfaces, and sparks from metal impact, motors, or static electricity. Flammable materials include gases and vapors that are between their upper and lower explosive limits and concentration of dust above the lower explosive limit.

Medical Aid/First Aid Emergency

First on Scene:

1. Assess the situation. Protect yourself and prevent any further injury to casualty.
2. Call out for someone to call 911 (if no people around the scene call 911 while staying with person).
3. Approach the person under medical distress, check to see if they are conscious.
4. Provide the following information to 911 operator:
    a. Number and location of victim(s)
    b. Nature of injury or illness
    c. Hazards involved.
    d. Nearest entrance (emergency access point)
5. Follow the instructions of the 911 operator.

Procedures:

a. Only trained responders should provide first aid assistance.
b. Do not move the victim unless the victim's location is unsafe.
c. Take "universal precautions" to prevent contact with body fluids and exposure to bloodborne pathogens.
d. Stay with the individual under medical distress. Keep people clear and away from the area.
e. Send someone to meet the ambulance at the nearest entrance or emergency access point; direct them to victim(s).

*All site work will stop. All other personnel will move to a safe location or a designated Muster station to receive further instructions. No one is to leave the project without permission.
If you are not involved in the emergency, keep clear of emergency services until the injured party is removed.

Once a First Aid Attendant(s) is at the scene,
he/she will then determine the need to cancel the ambulance or upgrade the call.

a. Inform a first aider of the situation, if they have not already been notified,

b. Shut down any equipment that may pose additional hazards to the individual or responding first aider(s),
c. Keep other workers and visitors back far enough from the scene so they will not become an additional hazard; and
d. Follow any instructions given by the first aider(s) responding.

The first aider responding to the situation will need to assess the situation and determine what initial treatment is required. All steps taken should be in accordance with the First Aid training that has been provided.
In serious injury situations, the first aider must never attempt to transport the injured worker to the hospital; an ambulance must be called. Once emergency response services arrive, they will be able to take over any treating procedures.

LBCO will provide transportation to the hospital or doctor's office when necessary, following an injury or illness. Depending upon the severity of the injury or illness, the mode of transportation will be either:

- an ambulance,
- taxi, or
- company vehicle.

The First Aid Attendant will decide if an ambulance is required and will appoint someone at the scene to call 911 and report back to them.

If the injury is not life threatening and an ambulance is not required, the Supervisor will appoint an appropriate vehicle or will call for a taxi.

When taking a taxi or company vehicle, the injured worker will be accompanied by the first aid attendant or designate, along with appropriate first aid supplies.

Responsibilities of the individual travelling with the injured worker:

- Continue to administer first aid, if required.
- Maintain contact with the company HSE or Supervisor providing updates when the worker has reached their destination (hospital, doctor's office).
- Return to the company to provide additional follow-up and assist in the completion of the injury / incident documentation.

Should the employee refuse the transportation, the company will attempt to:

- Identify any other transportation methods that the worker would prefer.
- Reiterate the importance of accepting the transportation to the hospital or doctor's office.
- Call 911 and get the ambulance attendant to administer medical attention on site.
- Employee's will not be allowed to continue work until medical clearance is provided.

Should the ambulance be unavailable or unable to reach the accident site and self-transport of the injured person is required the following procedure shall be followed:

- The supervisor or shift foreman will obtain the most suitable transport vehicle and will be the designated driver.
- In the event the supervisor/foreman is also the first aid attendant then a driver shall be designated by the supervisor/foreman.
- The driver shall proceed with all due prudence to the nearest medical aid facility or arranged location to meet the ambulance.
- The first aid attendant and any requested additional travel aid personnel shall concentrate upon the patient.
- A member of the transport team should attempt to contact the ambulance or destination medical facility by phone to advise of the incoming patient and the situation.

COMMUNICATION

LBCO recognizes that proper communication is key to ensuring a safe worksite, and a successful project. Prior to the project start, and during the project the following means of communication will be utilized to keep all parties informed of all necessary topics.

- LBCO Site Orientation
- Shift Toolbox Meetings/Talks
- Training
- Stop Work Authority
- Work Permits
- Hazard Assessments
- Progress Reports
- Weekly or Biweekly update calls

On site communication will be determined by the site supervisor for the specific task. Any Confined Space Entry requires that the communication method be documented on the Confined Space Plan.

INCIDENT REPORTING

LBCO Contracting Ltd. requires all employees to immediately report to their Supervisor all incidents that result in injury or property damage, and all near misses with the potential for serious injury as well as occupational illness and work refusals. Supervisors will report the incident promptly to management to ensure timely submission to WCB (Workers Compensation Board). Each incident will be analyzed to determine causes and contributing factors and the analysis will be used to reduce or eliminate the risk of further incident.

Depending on the severity of the situation and the outcome of the event, additional reporting requirements may be necessary. Any additional reporting must always be handled by one of the supervisor team members in the required timeline. Any specific reporting requirements have been outlined in the Incident Investigation section LBCO HSE manual.

In the case of a serious incident, no work will continue without the permission of the investigating police/peace officer or an agent of the Occupational Health and Safety Authority.

The company will investigate all emergency incidents and accidents using the Simplified Investigation Process (SIP) and analyze causation of the emergency incidents using the Loss Causation Model.

Simplified Investigation Process (SIP)
Step 1 – Secure the Scene
Step 2 – Collect the Evidence
Step 3 – Analyze the Causes (using the Loss Causation Model)
Step 4 – Write the Report
Loss Causation Model
Step 1 – Analyze the Root Causes
Step 2 – Determine the Basic (Indirect) Causes
Step 3 – Identify the Direct Causes
Step 4 – Classify the Incident
Step 5 – Identify the Loss(es)

*PRESERVE AND PROTECT THE ACCIDENT SITE UNTIL INVESTIGATIONS ARE COMPLETE

At LBCO Contracting Ltd. the following types of incidents are fully investigated:

All incidents that fall within legislative requirements must be reported to the appropriate authority (Workplace Health and Safety, Workers Compensation Board, Police, etc.).

1. All workers are to immediately report any incident, near miss, violence, property damage, workplace violence or harassment or refusal to unsafe work to their foreman immediately, and assist in the investigation when requested.
2. The Foreman informs Supervisor/HSE Manager that an incident has occurred, and conducts an initial investigation filling out all required reports.
3. The HSE Manager directs a detailed investigation, determines the basic cause, and appropriate corrective actions reporting them to management.
4. Management reviews reports, and ensures that corrective actions are implemented.

SAFETY TRAINING

- Workers must be familiar with the appropriate courses of action in place for situations requiring care, emergency evacuation, and/or rescue.
- Workers shall be trained in emergency procedures, roles and responsibilities, including emergency evacuation drills, fire extinguisher use, WHMIS and first aid training for designated first aiders.
- On-site training will be given by Management regarding the content, requirements, and appropriate actions to comply with the provisions of the Emergency Response Plan. The training will occur:
    1. At orientation.
    2. The beginning of each new project**,** and during mock drills.
    3. When there are changes to the plan.
    4. When the Emergency Response Coordinator (Supervisor) determines.

HEALTH, SAFETY & ENVIRONMENTAL RESPONSIBILITIES

The duties referenced in this ERP assign responsibilities and accountability in regard to incident prevention as it applies to all persons contributing to both the construction of this site and those conducting duties on behalf of LBCO Contracting Ltd.

SUPERVISOR

The Supervisor is responsible to:

- Foster and maintain a strong culture of health and safety on this Site.
- Ensure the Site is adequately resourced for the site team to fulfill their responsibilities for health, safety, and protection of the environment throughout the duration of the project.
- Adequately resource this site to ensure all work is performed safely and in accordance with the requirements of LBCO's HS&E program and ERP.
- Ensure a copy of this ERP is provided to and reviewed with all employees of LBCO and the acknowledgement form is signed and placed in the site file system.

- Be familiar with client construction safety and security as they relate to contractors employed by LBCO.
- Communicate directly with client management personnel with respect to major safety issues and concerns.
- Ensure all reports and other safety related documentation is provided to the client as required or requested.
- Act as liaison between local government agencies and client regarding major safety issues.
- Participate in and review site safety inspection reports and make recommendations as required.
- Coordinate the purchase of and assume that any specialized safety equipment required on the job site is acquired.

SITE FOREMAN

The Site Foreman's responsibilities for health, safety and environmental protection include:

- Implement the requirements of the Site-Specific Emergency Plan (ERP).
- Act as the Project Coordinator's representative as required.
- Be knowledgeable of all local government regulation, laws and codes including all relevant information provided or required by the client.
- Ensure the Site safety orientation is delivered to all workers new to the site.
- Ensure all trade contractors and LBCO supervisors conduct a weekly tailgate safety meeting.
- Conduct regular inspections of the site to identify any unsafe practices or conditions and ensures prompt corrective action is taken to correct the situation immediately.
- Review inspections reports conducted by others and ensure remedial measures to correct the situations are completed.
- Ensure that Field Level Hazard Assessments (FLHA's) are completed prior to any moderate or high-risk work activity commencing with involvement by LBCO supervisory staff.
- Establish a site-specific equipment maintenance schedule to ensure safe operating conditions of all vehicles, major tools and equipment, lifting devices, mobile equipment and personal protective equipment.
- Ensure that Incident Reports are completed by the immediate supervisor.
- Participate in the investigation of all serious, first aid and near-miss cases to determine basic cause and that corrective measures are taken immediately.
- Review the accident summary reports to keep informed of the Site safety performance.

SITE WORKERS

All workers on this Site are responsible to:

- Complete LBCO's site safety orientation via our safety APP prior to commencing work and be familiar with the evacuation procedures. See attached QR Code below.
- Follow all safe work practices and/or procedures that are provided.
- Immediately report to their supervisor any hazardous condition or work practice.
- Refuse any work assigned that is unsafe or has the potential to be unsafe.
- Notify their direct supervisor of any medical condition or limitation that may hinder their ability to safely perform the assigned duties.
- Immediately report any injury sustained at work to their supervisor and receive first aid or medical help without delay.
- Report any anticipated loss of working time as a result of a work-related injury to their supervisor as soon as possible.

TRADE CONTRACTORS & SUBCONTRACTORS

All trade contractors on this site directly employed by LBCO and their respective sub-contractors at any tier are required to comply with the requirements of all local government regulation, LBCO's Corporate Health, Safety & Environmental program, this Site-Specific Safety Program, client construction safety & security requirements and their own health & safety program.

Contractors on this site are responsible to:

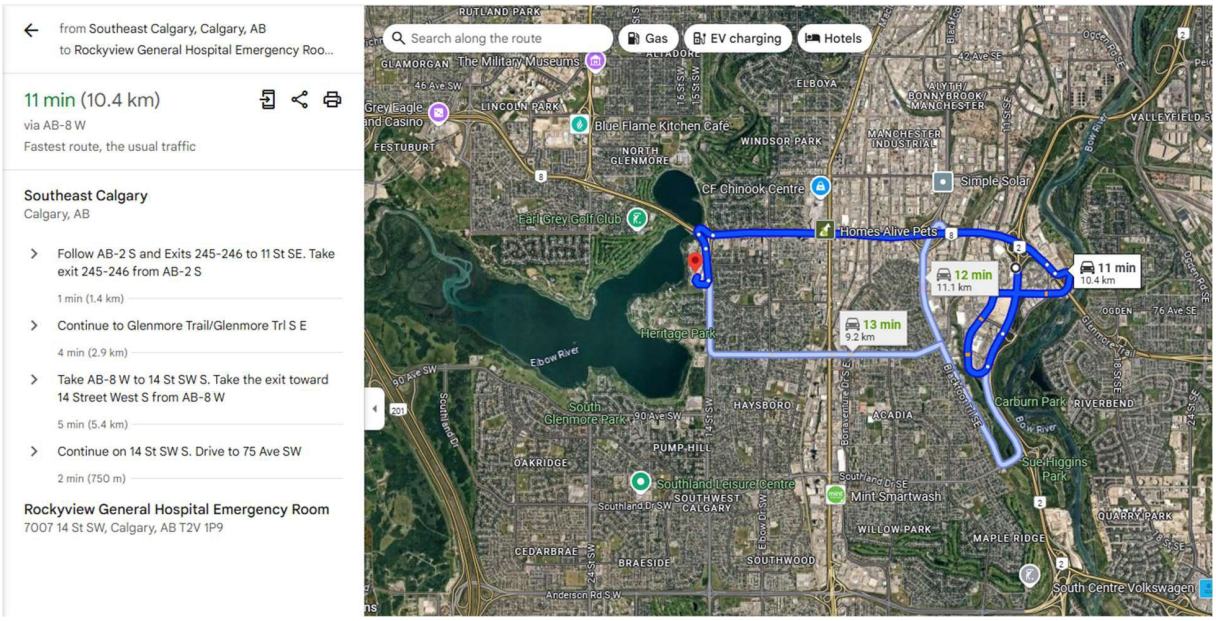
- Ensure that when employing their own subcontractors at any tier, a review of this Site-Specific Safety Program is conducted with their own subcontractor, and LBCO is to be provided with a memorandum, signed by their subcontractor confirming this has been done.
- Trade contractors contracted directly to LBCO will be held accountable to ensure that any subcontractors to them comply with this Site-Specific Safety Program, Alberta Occupational Health and Safety (OHS) requirements, client construction safety & security requirements and all other applicable local government requirements.

VISITORS TO THE SITE

- Will be greeted at the construction zone entrance by a member of LBCO's staff and will be escorted into the work zone.
- Will be briefed about emergency and evacuation procedures as soon as practical after their arrival.
- Unattended visitors will <u>not</u> be permitted into the construction zone under any circumstance.

Note: *LBCO reserves the right to deny site access to any individual not complying with HS&E standards.*

HOSPITAL ROUTE MAP & DIRECTIONS



Fire Prevention Policy

Fire Protection and Prevention shall embrace all measures relating to safeguarding human life, preserving property and continuing operations in LBCO Contracting Ltd. The best time to stop a fire is before it starts.

Our Fire Loss Control Program Policy intends to ensure that workers shall, always, know the location of fire extinguishers, fire-fighting devices, and be properly trained in how to operate them in order to respond to fires in the correct manner.

Our effective Fire Loss Control Program includes the following objectives:

- To prevent loss of life and personal injury
- To protect property
- To provide uninterrupted operations
- To prevent the opportunity for fire

"FIRES – EASIER TO PREVENT THAN TO STOP"

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Emergency Mock Drill Reporting Form

LBCO Contracting Ltd.

Completed by:		Date:	

Time Alarm Sounded:	Time took to get to Muster Point:	Time Drill Concluded:

Type of Drill:	Notification / Alert Method:	Weather Conditions:
Fire / Evacuation Excavation Cave-In Utility Strike / Damage Explosion Medical Emergency Weather Emergency Environmental Emergency Workplace Violence Traffic Incident Equipment Failure Other: _____	CB Radio Alert System Air Horn Phone Voice Notification Equipment Horns Other: _____	Clear Sunny Cloudy Raining Rain and wind Windy Snow / Sleet Hail Temperature: _____
Participants: (check all that apply)	Situation at Start of Drill:	
Management Safety Personnel Employees Law Enforcement	Before Working Hours During Working Hours Lunch Time Break	

Fire Department Emergency Medical Services	After Working Hours Other: _____	
Other _____		
Emergency Command System Used? Yes No	Emergency Response Coordinator:	Second In-Command:

Problems Encountered: (Check all that apply)	
Congestion Alarm not heard Employees unsure of what to do / proper Employees smoking to and at the muster point Weather-related problems Employees not accounted for / attendance Difficulties with evacuation of disabled personnel, customers or visitors	Radio communication problems Noise impedes communications Long time to evacuate Personnel not serious about drill Confusion Doors or Exits blocked Interagency miscommunications Emergency command problems Other: _____

Mitigation / Plans for Improvement: (check all that apply and explain below)	
Additional training Address need for additional equipment Improved emergency supplies	Cooperative planning with responders Revised emergency procedures Other:

Corrective Actions:

EMPLOYEE SIGN-IN

1. _____	8. _____
2. _____	9. _____
3. _____	10. _____
4. _____	11. _____
5. _____	12. _____
6. _____	13. _____
7. _____	14. _____

Definitions

Emergency: An abnormal situation, which to limit damage to persons, property or the environment requires prompt action beyond normal procedures.

Emergency Planning: The act of putting together an overall plan and developing it for response to emergency situations involving workers and equipment.

Modified Work Program

Modified work is available for all workers injured in the course of their employment.

LBCO Contracting Ltd. Management will approve modified work, and assist LBCO Contracting Ltd. employees, and ensure workers are getting the best medical care available.

Workers will be paid regular rate for regular hours each day (8 hours) regardless of where they perform their modified duties.

Modified work helps an injured worker return-to-work while recovering and provides the opportunity to contribute to the workplace.

Benefits of a Modified Work Program:

- Retain an experienced worker
- Decrease your worker's time away from work
- Strengthen worker relations by showing an injury doesn't threaten job security
- Boost worker morale
- Maintain a reputation as a supportive employer
- Increase the worker's independence
- Reduce any additional hiring or training costs
- Reduce costs associated with claims

What is modified work?

Temporary modified work includes any changes to regular job duties, as a result of an injury.

This includes changes in:

- Tasks or functions
- Workload (e.g. hours or schedules)
- Environment or work area

Equipment It can also include:

- Work normally performed by others

Work specifically designated as a modified work program Modified work needs to be:

- Achievable - given Worker's injury, are they able to physically do it.
- Safe - Modified work plan should not endanger their recovery or safety or the safety of others.
- Constructive – Modified work program should contribute to worker's skill development and their return to full duties.
- Productive - Worker's duties should be meaningful to the company.

Modified Work Program Policy

LBCO Contracting Ltd.

The purpose of this policy is to provide employees the opportunity to remain in the workforce by utilizing the rehabilitative effects of gradual re-entry to full capacity employment.

Modified work shall be restricted to the type of work that is not expected to result in a re-injury and that can be performed within the medical limitation(s) set forth by the attending medical practitioner.

- In the event the employee, in his/her judgment is physically unable to perform the modified work assignment, then the supervisor will modify work within their physical capabilities as per revised medical practitioner's recommendation.
- LBCO Contracting Ltd., within the limitation set for the attending medical practitioner, shall establish the modified workday and workweek. The workweek will not exceed forty hours.
- All employees, regardless of injury or illness, will be considered for placement in modified work.
- Employees eligible for the Modified Duty Program shall be subject to all of the provisions of Workers' Compensation Board Regulations.
- A form must be completed by a medical practitioner and returned to the employee's supervisor before modified work may begin and clearly state the limitation (s), push/pull, lift, use hands, etc., under which the employee may perform modified work.
- Upon learning of an employee's work status and limitations, the employee's supervisor shall immediately review opportunities to restructure a job or collaborate with other supervisors to find a job to match the employee's physical restrictions and limitations to a Modified Duty assignment.
- Once an appropriate Modified Duty Assignment is identified, the supervisors shall consult with Management to confirm the job's suitability for the employee.
- After the job is determined to be suitable, Management shall meet with the employee to explain the Modified Work Program, review the job duties and other related matters, such as time and place to report for work, and answer any questions.
- The acceptance of such position, and the good faith effort of the employee to perform the work to the best of their ability, is required as a condition of employment.

The duration of assignments under the Modified Work Program shall be determined on a case- by-case basis in accordance with the physician's professional opinion.

It is the employee's responsibility to inform the medical practitioner, that LBCO Contracting Ltd. offers a modified work program and to insure the medical practitioner complete the performance limits agreement or to obtain a note from the medical practitioner that modified work is not beneficial.

It shall be a condition of employment that, upon notification of a modified duty assignment within their documented limitations and restrictions, employees must make a good faith effort to perform the work to the best of their ability.

If the employee's condition changes, it is their responsibility to see a medical practitioner and therefore contact the employer with an update of any changes that may occur in disability status.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Fire Extinguishers

When used correctly, fire extinguishers can save lives and property by putting out small fires. LBCO Contracting Ltd. communicates and trains all employees how to use a fire extinguisher correctly in a fire emergency.

What is a fire extinguisher?

A fire extinguisher is a portable device, carried or on wheels and operated by hand, containing an extinguishing agent that can be expelled under pressure for the purpose of suppressing or extinguishing fire.

- A fire extinguisher is a device used to put out a small fire in its early stages. They are not designed to fight large or spreading fires. Even against small fires, they are useful only under the right conditions.
- A fire extinguisher is generally designed with the following characteristics:
    - a carrying handle
    - a discharge lever
    - a discharge nozzle or hose assembly
    - usually a pressure gauge
    - a cylinder/canister
    - a siphon tube
    - an extinguishing agent
    - an expelling means.

Types of Fire Extinguishers

- There are numerous types of fire extinguishers, each rated for a different fire hazard and containing various extinguishing agents including carbon dioxide, water based agents, wet chemical, dry chemical, dry powder, and clean agent gas.
- The type of extinguisher that is used should be matched to the hazard(s) being protected.
- Fire extinguishers are distinguished by their designated ratings, which indicate the fire hazard that they are suitable to be used on.
- Fire extinguishers ratings are provided on the label of the fire extinguisher and generally consist of a letter and a number (numbers are located on class A and B extinguishers only).
- The 'letters' tell you the 'classes of fire that the extinguisher is suitable for use on.
- The 'number' indicates the effectiveness of the extinguisher by measuring the time it takes to put out a certain size of fire. Generally, the higher the number, the larger the size of fire that can be extinguished up to a certain size as specified in the testing standards.
- The numeral given on a Class A extinguishers represents the cubic meters of combustible materials that an experienced individual may be able to extinguish. This rating ranges from 1A to 40A.

Classes of Fire	Class A Combustible Materials Wood, paper, cloth, rubber, plastics	Class B Flammable Liquids Gasoline, oil, grease, tar, oil-based paint, lacquer, flammable gas	Class C Energized Electrical Equipment Wires, fuse boxes, circuit breakers, motors, switches	Class D Combustible Metals Sodium, potassium, magnesium, zirconium, and titanium	Class K Combustible Cooking Media Vegetable or animal oils and fats
Fire Extinguisher Label					

- The numeral given on Class B extinguishers represents the area in square meters with no appreciable depth, (appreciable depth is defined as a depth of liquid greater than 6mm) which may be extinguished by an experienced individual. This rating ranges between 1B and 320B.
- The grade of the hazard (low, medium, or high) will determine the numeral rating, and the number of extinguishers required per floor area. Refer tables 6.2.3.3 and 6.2.3.5 of the Alberta Fire Code, for a listing of these required ratings.

How does a fire extinguisher work?

There are 5 ways that a fire extinguisher can operate:

1. Self-Expelling. The extinguishing agents have sufficient vapor pressure at normal operating temperatures to expel themselves.
2. Gas-Cartridge or Cylinder. Expellant gas is confined in a separate pressure vessel until an operator releases it to pressurize the fire extinguisher shell.
3. Stored-Pressure. The extinguishing material and expellant are kept in a single container under pressure.
4. Mechanically Pumped. The operator provides expelling energy by means of a pump, and the vessel containing the agent is not pressurized.
5. Hand-Propelled. The material is applied with a scoop, pail, or bucket.

Fire extinguishers suppress fires by discharging an agent that will interrupt the combustion process, by removing one of the key elements necessary to sustain a fire. Under the theory of the fire tetrahedron, there are four methods of fire suppression: removing the heat, removing the fuel, excluding the oxygen or stopping the chemical chain reaction. The agents in a fire extinguisher attempt to remove one or more of these elements.

Hazards of using Fire Extinguishers

- Extinguishing agents must be used with care. They can damage equipment and materials and they can burn your skin or make breathing difficult.
- Using the wrong type of extinguisher for the wrong class of fire could be extremely dangerous and make the fire emergency worse. It is particularly dangerous to use water or a type A extinguisher on a grease or electrical fire.
- A novice can cause the fire to spread and endanger life. Proper training and practice are essential before you use an extinguisher in a fire emergency.
- Fire extinguishers make it tempting to stay and fight a dangerous fire emergency. One should only use a fire extinguisher if one is confident in using it. On the whole, firefighting is the job of the fire department. The important thing is to safely GET OUT of the fire emergency.

The Law

As per Section 6.2 of the 1997 Alberta Fire Code

- Portable extinguishers shall be located in or adjacent to corridors or aisles that provide access to exits and when in proximity to a fire hazard shall be located so as to be assessable without exposing the operator to undue risk.
- Portable fire extinguishers are required in all buildings.
- Fire extinguishers in all buildings shall be provided as per the requirements given in tables 6.2.3.3 and 6.2.3.5 of the Alberta Fire Code.
- Portable fire extinguishers in all buildings require a monthly inspection, annual maintenance, recharge and hydrostatic testing as prescribed in NFPA 10.
- All agencies servicing, recharging or repairing fire extinguishing equipment shall have their facilities and equipment certified annually by an approved fire-testing agency, and by Transport Canada or its appointee for high-pressure hydrostatic testing equipment.

Using a Fire Extinguisher

- All of the requirements listed below must be met before you attempt to use a fire extinguisher. If you have the slightest doubt about whether or not to fight the fire-DON'T! Instead, get out, closing the door behind you and call the fire department.
  - The building is being evacuated (fire/smoke alarm activated).
  - The fire department has been called (9-1-1).
  - You have sized up the fire. The fire is confined to a small area, no bigger than the size of a wastebasket, and is not spreading beyond its starting point.
  - You have the right type of extinguisher. The Extinguisher is rated for the type and size of fire you are extinguishing.
  - The extinguisher is fully charged and in working order.
  - You know how to use the extinguisher.
  - You have an unobstructed escape route.
  - You are strong enough to use the extinguisher.
- Only fight a fire if you feel confident to continue. Keep your back to an unobstructed exit and begin by standing 6-8 feet away from the fire.

To operate your extinguisher use the acronym PASS -- Pull, Aim, Squeeze, and Sweep

Pull the pin at the top of the extinguisher that keeps the handle from being accidentally pressed.

Aim the nozzle toward the base of the fire, not directly into the flame. Aim away from yourself, from others and upwind if possible.

Squeeze the handle to discharge the extinguishing agent. If you release the handle, the discharge will stop.

Sweep the nozzle from side to side while carefully moving toward the fire. Sweep back and forth from the base of the fire until the flames appear to be out. Never turn your back on the fire, even if you think its out. Watch the fire area, if the fire re-ignites repeat the process.

- Know when to get out! If the fire starts to spread, the area gets too smoky or if your exit is being threatened, GET OUT.
- Many fire extinguishers discharge completely in as little as 8-10 seconds.
- Always be sure the fire department inspects the site, even if you think you've extinguished the fire.
- Leave clean up to the fire department or a professional cleaner. The smoke and char from the fire may contain toxins that can harm you.

Locating a Fire Extinguisher

- Locate the fire extinguisher near fire hazards for which they are suitable.
- Install extinguishers in an obvious place, near an exit and/or escape route, and close to a hazard area.
- Use fire extinguishers suitable for more than one class of fire.
- Hang fire extinguishers on a wall bracket. Mount no higher than 5 feet off the ground.

Hot Work Permit

The purpose of the Hot Work permit is to allow for hot work to take place in a hazardous location where the hazard is entirely controlled.
Hazardous locations are:
- those in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.
- installations or items of equipment that contain or may contain a flammable substance or its residue.
- vessels that contain residue that may release flammable vapors or gases when exposed to heat.

Some typical examples of hot work include:
- vehicles entering a hazardous area
- welding/grinding
- use of non-explosion proof or non-intrinsically safe tools
- opening explosion proof electrical systems
- igniting burners with an open flame

Permit

LBCO Contracting Ltd. will ensure that hot work is not begun until:
- a hot work permit is issued that indicates
    - the nature of the hazard,
    - the type and frequency of atmospheric testing required,
    - the safe work procedures and precautionary measures to be taken, and
    - the protective equipment required,
    - the hot work location is

- cleared of combustible materials, or
- suitably isolated from combustible materials,
- procedures are implemented to ensure continuous safe performance of the hot work, and
- 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 vapor's, or
    - the minimum ignitable concentration for dust.

First Aid

First Aid Training in Alberta has undergone a number of changes as a result of a revised First Aid Regulation that came into effect in 2000. Anyone responsible for providing first aid services at the workplace needs to understand what is required by law.

Emergency Medical Aid Act

The Emergency Medical Aid Act is the name given to Alberta's "Good Samaritan" legislation. First aiders must understand that if they use reasonable skill and care to the level of first aid that they have been taught, they need not fear legal action.

First Aid Regulation (AR 48/2000)

- This regulation requires employers to provide first aid and have designated first aiders at work sites.
- The regulation defines minimum standards in services, equipment and supplies. It stipulates the number of first aiders, the level of first aid training required, the type and number of first aid kits required and the type and quantity of supplies and equipment required. These requirements are based on how hazardous the work is that is being performed at the workplace, the number of workers per shift, and the distance of the work site to the nearest health care facility.
- The First Aid Regulation states record keeping requirements for designated worksite first aiders.
- Employers must ensure that a means of transporting injured or ill workers to a health care facility is available. If an ambulance service is not available, then the means of transport being used must provide protection against the weather, have a means of communication with the health care facility and be large enough to accommodate a stretcher and an accompanying person.

First Aid Records

The purpose of regulating workplace first aid is to ensure that every worksite in the province has the equipment, supplies, and trained staff to provide first aid care in the event of workplace injury or illness. There are minimum requirements specified – employers are free to exceed them based on a site-specific assessment of their worker's first aid needs.

First Aid Log Entry

Worker's duty to report an injury

Workers are required to report to their employer any work-related physical injury or sudden occurrence of illness experienced while at work. Prompt reporting ensures complete and accurate information and allows the injury or illness to be assessed and treated as necessary. Such information is also useful in injury surveillance. Similar, recurrent injuries reported by several workers may suggest the need to change some aspect of the worksite or the tasks performed by workers.

Written Record of Injury or Illness

LBCO Contracting Ltd. is required to create and maintain an accurate written record of all work- related physical injuries or sudden occurrences of illness that workers experience at work.

Although the cause of the injury or illness may be unknown at the time it is being treated, every effort will be made to determine the cause within a reasonable period of time. The cause of work injuries should be added to the record and if an illness is the result of occupational causes, this information will also be added. Even if no first aid is administered, an injury or illness reported by a worker will be recorded.

All first aid records will be kept as this helps demonstrate due diligence with respect to the record keeping requirement.

Occupational Health and Safety Act

- The *Occupational Health and Safety Act* is the umbrella legislation for all occupational health and safety regulations in Alberta.
- According to the *Act,* employers, workers, contractors and prime contractors are all responsible for ensuring health and safety at work.
- Although the *Act* outlines numerous requirements, subsection 18(2) pertains to first aiders. It allows Workplace Health and Safety's Director of Medical Services to ask for first aid reports and requires first aiders to provide them.

Chemical Hazards Regulation

- Two sections in the regulation are relevant to work site first aiders. Section 27 requires employers to ensure that Safety Data Sheets (SDS's) are available to workers who may be exposed to hazardous products. SDS's contain information on proper first aid treatment and can be a valuable resource.
- Physicians or nurses may ask for and are entitled to information on hazardous products for the purpose of rendering medical treatment under Section 32 of the regulation. Work site first aiders may be involved in these types of requests.

Workers' Compensation Act

- Work site first aiders need to know that workers injured at work are required to report their injury to their employer and submit a Workers' Compensation Board claim.
- Section 32 of the *Workers' Compensation Act* allows first aid records to be inspected by members of the Board, the injured worker to whom the record(s) relates, or a designate of the Board.

First Aid Requirements

You are required to have:

- A list of personnel with First Aid posted in all worksites.
- At a minimum 1 first aider per shift must be available and first aid trained designated backup,
- First aid equipment has to be available and accessible.
- Table 7 First aid requirements for high hazard work

- * Highlighted for our area of work on work sites needed.

Confined Space Entry

Hazard Assessment

All employees, and supervisors who are engaged in a Confined Space Entry, shall, before entry, participate in a Hazard Assessment. The hazards that may be encountered, the means of eliminating the hazards and the rescue equipment and plan must be identified.

The Hazard Assessment shall be reviewed and adjusted if necessary at least on a daily basis or as conditions warrant, to take into consideration any changes from the original Hazard Assessment.

When the Confined Space Entry is complete a debriefing should be held. The purpose of the debriefing is to learn from experience and to provide the safest possible work environment for employees.

The need for pre-entry planning cannot be overemphasized.

Remote Work Locations

All remote work locations within the province of Alberta will be registered with the STARS Emergency Link Centre by calling 1-888-888-4567 or #4567 from your cellular.
Provide the following information:

- Your name and number, and the name/number/company of the primary onsite contact.
- Name of the Leaseholder you are contracted out to, if applicable.
- Your location LSD (Legal Subdivision).
- What is the nearest geographical town and town with a hospital to the site, in what direction is the site from the nearest geographical town/town with hospital, and how long does it take to drive there.
- Type of work being done and any associated hazards.
- Highest level of medical training onsite, including available equipment, i.e. a fire crew, shower truck, AED (Automatic External Defibrillator) and patient transport resources.
- Details regarding any road access restrictions to your site.
- Landing zone confirmation:

I. The landing zone should be on level ground (less than 5% slope) at least 30 x 30 meters (100 x 100 feet) and more, if possible, to include a safety zone.

- If the location is more than a 40-minute drive from the nearest town with a hospital, additional information will be required.

A detailed Emergency Response Plan specific to the actual worksite location and conditions must be prepared for each remote worksite. This will include STARS Emergency Link Centre telephone number, the STARS registration number, local and Provincial emergency contact information, and all applicable company contact information. A detailed map must be attached with written directions to the site from the nearest geographical town which can be read as a script to emergency responders.
The ERP along with all communications systems must be tested prior to the commencement of work and periodically as the job progresses.

Definitions:

Acute Toxicity: The acute adverse effects resulting from a single dose of or exposure to a substance.

Air Monitoring: The sampling for and measuring of contaminates in a free or captive atmosphere.

Carbon Dioxide: a colorless, odorless, incombustible gas, CO_2, present in the atmosphere and formed during respiration, usually obtained from coal, coke, or natural gas by combustion, from carbohydrates by fermentation, by reaction of acid with limestone or other carbonates, or naturally from springs: used extensively in industry as dry ice, or carbon dioxide snow, in carbonated beverages, fire extinguishers, etc.

Carbon Monoxide: A colorless, order less toxic gas produced by any process that involves the incomplete combustion of carbon-containing substances.

Certified: Holding appropriate documentation and officially on record as qualified to perform a specified function or practice a specified skill.

Combustion: The act or process of burning.

Competent Person: One who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.

Confined Space: Any area that has limited openings for entry and exit that would make escape difficult in an emergency, has a lack of ventilation, contains known and potential hazards, and is not intended nor designated for continuous human occupancy.

Hazardous Product: Is any substance which is a compressed gas, an oxidizing material, or a substance that is poisonous, infectious, flammable, combustible, corrosive or dangerously reactive and meets the criteria in The Hazardous Products Regulations.

Corrosive Material: Materials that can cause severe burns to skin and other human tissues such as the eye or lung, and can attack clothes and other materials including metal.

CST: Construction Safety Training

Dangerously Reactive Material: Material that is considered to be dangerously reactive if it shows three different properties or abilities.

Demotivated: To make someone lose motivation, esp. to carry out a task or job.

Discharge: To unload or empty (contents).

Dry Chemical: A powdered fire extinguishing agent usually composed of sodium bicarbonate, monoammonium phosphate, potassium bicarbonate, etc.

Electric Shock: Trauma caused by the passage of electric current through the body (as from contact with high voltage lines or being struck by lightning); usually involves burns and abnormal heart rhythm and unconsciousness.

Explosives: A substance, especially a prepared chemical, which explodes or causes explosion.

Extinguishing Agent: The firefighting substance used to stop combustion. It is usually referred to by its generic name, such as CO_2, foam, water, and dry chemical.

First Aid: The immediate care given to the injured or suddenly ill person.

Flagperson: A person employed by a traffic authority or a contractor doing work on behalf of a traffic authority, for the purpose of directing the movement of traffic on any portion of a highway under construction, or where repair work or other work is being carried on.

Flammable: Any substance that is easily ignited, burns intensely, or has a rapid rate of flame spread.

Flammable Liquids: Any liquid having a flash point below 37.8 C (100 F).

Gas: A state of matter in which the material has very low density and viscosity; can expand and contract greatly in response to changes in temperatures and pressure; easily diffuses; and is neither a solid nor a liquid.

Granular Materials: is a conglomeration of discrete solid, macroscopic particles characterized by a loss of energy whenever the particles interact (the most common example would be friction when grains collide).

Hazard: An unsafe condition or activity that, if left uncontrolled, can contribute to an incident.

Hazardous Material: Any substance or compound that has the capability of producing adverse effects on the health and safety of humans.

Health: Personal freedom from physical or mental defect, pain injury, or disease. **Incident:** An unintentional event that may cause personal harm or other damage. **Leadership:** Capacity or ability to lead.

Liquid: A state of matter in which the substance is a formless fluid that flows in accord with a law of gravity.

SDS: Material Safety Data Sheet. A document prepared by a chemical manufacturer, describing the composition, properties, and hazards of a chemical along with recommended safe guards to handling storage, and use.

Near Miss: A narrowly avoided mishap; also, an attempt that falls just short of success.

Operating: To work or use a machine.

Orientation: An introduction, as to guide one in adjusting to new surroundings, employment, and activity.

Oxidizing Material: Are liquids or solids that readily give off oxygen or other oxidizing substances (such as bromine, chlorine, or fluorine). They also include materials that react chemically to oxidize combustible (burnable) materials; this means that oxygen combines chemically with the other material in a way that increases the chance of a fire or explosion. This reaction may be spontaneous at either room temperature or may occur under slight heating.
Oxidizing liquids and solids can be severe fire and explosion hazards.

Permit: A written order granting special permission to do something.

Personal Protective Equipment: Devices worn by the worker to protect against hazards in the environment.

Poisonous and Infectious Material: Materials which can cause harm to your body. They are divided into three major divisions.

Portable: Capable of being borne or carried; easily transported; conveyed without difficulty.

Potential: Something that can develop or become actual.

Precedence: The fact, state, or right of preceding; priority.

Pressure: Force applied to, or distributed over a surface; measured as force per unit area.

Preventing: To keep from happening.

Regulate: To adjust to some standard or requirement, as amount or degree.

Safety Culture: Is a term often used to describe the way in which safety is managed in the workplace, and often reflects "the attitudes, beliefs, perceptions and values that employees share in relation to safety".

Sodium Hydroxide: A white, corrosive, solid compound that absorbs water and carbon dioxide from the atmosphere and forms lye when in solution. Sodium hydroxide is toxic and strongly alkaline and is used to make chemicals and soaps and to refine petroleum. Chemical formula: NaOH.

Solid: Firm, hard, or compact in substance.

Suggestions: The sequential process by which one thought or mental image leads to another.

Sulphuric Acid: H_2SO_4 a highly corrosive acid made from sulfur dioxide; widely used in the chemical industry.

Suppressing: To put an end to forcibly; subdue.

TDG: Transportation of Dangerous Goods, Regulations established to cover transporting hazardous materials. A legislated program for information and training on the transportation of dangerous goods.

Technologies: The application of science.

Toxic Substance: Any substance that can cause acute or chronic injury to the human body, or which is suspected of being able to cause diseases or injury under some conditions.

Training: The education, instruction, or discipline of a person or thing that is being trained.

Vapours: The gaseous form of substances that are normally in the solid or liquid state (at room temperature and pressure).

Ventilation: Circulating fresh air to replace contaminated air. (Dilution: Airflow designed to dilute contaminants to acceptable levels. Mechanical: Air movement caused by a fan or other air moving device. Natural: Air movement caused by wind, temperature difference, or other nonmechanical factors.)

Wet Chemical: is a specially formulated, aqueous solution of an inorganic salt. The agent is pre- mixed, eliminating the need for dilution before system charging. When used as an extinguishing agent, it will produce no toxic by-products.

WHIMS: Workplace Hazardous Information Material System

Definitions:

Barrier Guard: Physical protection for operators and other individuals from hazard points on machinery and equipment.

- **Fixed:** A non-movable physical enclosure attached to the machine or equipment
- **Interlocked:** An enclosure attached to the machinery or equipment frame and interlocked with the power switch so that the operating cycle cannot be started unless the guard is in the proper position.
- **Adjustable:** An enclosure attached to the frame of the machinery or equipment with front and side sections that can be adjusted.
- **Gate or Movable:** A device designed to enclose the point of operation to exclude entry prior to equipment operations.

Follow-up: The term used to indicate an action (usually corrective action) that is supposed to take place after some kind of occurrence and based on an incident report.

Inspection: A systematic examination of a worksite or equipment which, in the process is compared against an established standard.

Incident: Any unplanned or unwanted event, which results in damage or injury, or could have resulted in damage or injury (i.e. loss-type incidents or no loss-incidents/Near Miss).

Near Miss: A narrowly avoided mishap; also, an attempt that falls just short of success. For example, *it was a near miss for that truck, since the driver had crossed the center strip into on- coming traffic.*

Prevention: The application of measures designed to reduce incidents, or potential incidents within a system, or activity to avoid injury to personnel and/or damage to property.

Unsafe Act: The actions of a person in a manner which vary from the accepted or legislated safe practice and create a hazard to themselves, another person, or equipment.

Unsafe Condition: A condition in which something exists that varies from a normal accepted safe condition and, if not corrected, could cause injury, death, or property damage.

ELEMENT 9: INVESTIGATIONS & REPORTING

Introduction to Investigation and Reporting

LBCO Contracting Ltd. requires all employees, including contractors, to immediately report to their supervisor all incidents that result in injury or property damage, and all near misses with the potential for serious injury as well as occupational illness and work refusals. Supervisors will report the incident promptly to management to ensure timely submission to WCB (Workers Compensation Board). Each incident will be analyzed to determine root causes and contributing factors and the analysis will be used to reduce or eliminate the risk of further incident.

Responsibilities

Management

Manager must follow up with all parties involved and report the incident as soon as possible to the HSE Manager and as per client/ Prime Contractor rules. A preliminary report must be forwarded to the executive group ASAP, and no later than 24 hours of the incident. All investigations requiring immediate notification to WCB will be attended by the appropriate management personnel.

Supervisors

The Supervisor must investigate all incidents. This includes completing the Incident Investigation Report, taking statements from witnesses and collecting any other pertinent information and ensuring the injured worker has received the necessary medical assistance.

The Supervisor is responsible for ensuring that all incident reports are transmitted to Management as described below. If a worker sustaining a First Aid later seeks medical aid, the Supervisor must advise Management.

The Supervisor shall contact the injured worker as frequently as the injury deems, or at least once a week. If you require assistance, contact Management.

Worker

A worker will report to the supervisor/safety representative all incidents including near misses. A worker will attend the incident investigation process unless unable to do so as a result of injury. Workers supervisor, who will be responsible for completing the document.

Joint Occupational Health and Safety Committee (JHSC) Member or a Safety Representative

A JOHSC member should be included in an incident investigation. If not available, another employee knowledgeable in the investigation process may participate and contribute in the investigation process.

Note: Incident Investigations are NOT conducted to fix blame. They are conducted to find facts to help prevent recurrence.

Investigation and Reporting Procedure:

1. The employee reports a work-related incident
2. Administer first aid as required
3. Arrange for transportation for injured employee to medical treatment if required
4. Eliminate the hazard if possible or guard the incident scene if worker is critically injured
5. Investigate the cause of the incident and report findings in the Incident Report form. Ensure all areas of the form are completed.

Corrective Actions

In the event of an incident, it is required that that the details of the issues are to be reviewed immediately with management or the JOHSC. As such, it is crucial that the review be taken place in a reasonable time frame to ensure that any deficiency is resolved immediately.

The Incident Report Form is used to record deficiencies, and corrective actions must be included. The report identifies an issue, determines the appropriate action, assigns the action to a person, assigns a date for completion of the action, and has an actual completion date. The HSE Manager shall review all Safety Department reports, determine the corrective action to be taken, and ensure that such action is implemented.

For every incident, a root cause analysis helps us identify system deficiencies that may have contributed to the event. The manager responsible and/or HSE representative will review the information collected during the investigation to *determine the causal factors related to the incident.*

A corrective action should be assigned to address each causal factor identified during the investigation.

Review of all incidents and corrective actions is included with the JOHSC quarterly meeting minutes, and it will be determined as to the whether the deficiency was addressed to prevent recurrence or if further measures are required.

Training

Managers, supervisors and JOHSC members must be familiar with this policy. Training in the investigation process and the company's specific forms will be administered by company safety manager and communicated to the Supervisors and the JOHSC at least annually.

The requirement to report and investigate near misses and other incidents will be covered during new employee orientation.

Types of Incidents

Fatalities	A death resulting from a workplace incident.
Lost Workday Incident	A work related injury which results in the employee being off work beyond the day of the incident
Modified Duty Incident	A work related injury that results in a physician ordered change to the employee's regular job duties beyond the day of the incident. This includes the employee being prevented from performing one or more of the routine functions of his/her job, and/or a change to the employee's work schedule
Medical Aid Incident	A work related injury that involves medical treatment from a health care professional followed by immediate return to work without restrictions. Medical treatment includes issuance of prescription medication, wound closing, removal of foreign bodies from a wound (complicated), removal of foreign bodies from an eye (except irrigation and cotton swab) treatment of infection, treatment of 2nd/3rd degree burn, positive x-ray diagnosis, issuance of a rigid means of support, vaccine (except Tetanus), cutting away dead skin, admission to hospital, and requirement for a follow-up visit.

First Aid Incident	A work related injury that typically does not require attention from a health care professional and may include restricted duties. First aid is limited to a one-time treatment, with follow-up visit if needed, for observation purposes only, of injuries such as minor cuts, scrapes, scratches, treatment of minor burns, removing splinters, etc., or other minor injuries which do not require medical treatment beyond the date of accident. First aid is the type of treatment performed regardless of who performs the treatment. In most cases, first aid treatment is provided by a first aid practitioner.
Near Miss	A near miss occurs when an incident is narrowly avoided. It may have resulted in no consequences or minor consequences, but the potential for more severe consequences was great.
Vehicle Incidents	Work-related incidents which involve a worker-used vehicle on any roadway and which result in damage over $1000 excluding normal wear and tear.

Reporting Injuries and Incidents –Quick Facts

The Occupational Health and Safety Act requires workplace injuries and incidents to be reported to the nearest Workplace Health and Safety Office if they:

- Result in death
- Cause a worker to be admitted to hospital for more than 2 days
- Involve an unplanned or uncontrolled explosion, fire, or flood that causes or has the potential to cause a serious injury.
- Involve the collapse or upset of a crane, derrick or hoist
- Involve the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

Don't disturb the scene of an incident involving in any of these injuries or incidents unless:

- You're permitted to do so by an occupational health and Safety Officer or a peace officer.
- You have to attend to someone who has been injured or killed.
- You have to prevent further injuries.
- You have to protect property that is endangered as a result of the incident.
- The prime contractor or employer responsible for the work site is responsible for reporting the injury or incident and preparing an incident investigation report.
- This report explains what happened and what will be done to prevent the same or similar injury or incident from happening again. The investigation report needs to be kept for 2 years and must be available for inspection by an occupational health and Safety Officer.
- The Worker's Compensation Board (WCB) injury report must be completed.
- Report the injury or incident to the Workplace Health and Safety Contact Centre by dialing toll-free: 1-866-415-8690.
- If you are unsure about whether to report the injury or incident, call it in.

Incident Reporting & Investigation Policy

LBCO recognizes that every effort should be made to ensure that incidents and accidents do not occur in the workplace. However, every job contains the potential for unsafe acts and conditions that can result in injury, equipment and environmental damage.

Reporting and investigation are critical steps in preventing events from reoccurring. Events will be investigated to determine the facts surrounding the specifics of the occurrence so that root causes can be identified and preventative measures and corrective actions are implemented to prevent reoccurrence.

At LBCO Contracting Ltd. the following types of incidents are fully investigated:

- Incidents that result in injuries requiring medical aid.
- Incidents that cause property damage or interrupt operations with potential loss.
- Incidents that have a strong potential to result in either of the above.

All incidents that fall within legislative requirements must be reported to the appropriate authority (OH&S, Workers Compensation Board, Police, etc.).

- All workers are to immediately report any incident, near miss, violence, property damage, workplace violence or harassment or refusal to unsafe work to their supervisor immediately and assist in the investigation when requested.
- The Supervisor informs Management that an incident has occurred and conducts an initial investigation filling out all required reports.
- The Supervisor directs a detailed investigation, determines the basic cause, and appropriate corrective actions reporting them to management.
- Management reviews report and ensures that corrective actions are implemented.
- Management will make employees aware of investigation policies and procedures and share investigation results with employees at weekly safety meetings and post at the work site. Communication of the investigation results is key to preventing a similar occurrence elsewhere in the organization.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

REFUSAL TO UNSAFE WORK REPORT FORM

Date:_____Time:_____a.m./p.m

Employee Refusing Unsafe Work: _____Location: _____

Supervisors Name: _____

Safety Advisor: _____Time of Arrival: _____
Time Departed: _____

Work/Task Refused as Unsafe:

_____
_____
_____
_____
_____

Employee's Reason For Refusal:

_____
_____
_____
_____
_____

Corrective Action:

_____
_____
_____
_____
_____

Supervisor: _____Date:_____Time: _____

Employee: _____Date:_____Time: _____

Definitions:

Critical Injury: is defined as an injury of a serious nature that,

a) Places life in jeopardy;
b) Produces unconsciousness;
c) Results in substantial loss of blood;
d) Involves the fracture of a leg or arm but not a finger or toe;
e) Involves the amputation of a leg, arm, hand or foot but not a finger or toe;
f) Consists of burns to a major portion of the body; or
g) Causes the loss of sight to an eye.

First Aid: Refers only to injuries that can be treated on the job without any days lost.

Incident: Any unplanned or unwanted event, which results in damage or injury, or could have resulted in damage or injury (i.e. loss-type incidents or no loss-incidents/Near Miss).

Incident Report: A document containing the information and facts about an individual incident, or put in chronological order to province a complete picture as to what happened. Also a tool to help establish the root cause.

Loss Type Incident: Those that result in injury.

Lost Time Injury: (LTI) refers to any injury that prevents a worker from coming to work on the day following the day of the injury.

Medical Aid: Refers to any injury not severe enough to warrant more than the day of injury off, but where medical treatment by a doctor is given.

Near Miss: Is a situation in which no injury or damage occurred but might have if conditions had been slightly different.

No-loss Incident: Those that could have caused harm or damage (Near Miss).

Occupational Illness: Is defined as a condition resulting from a worker's exposure to chemical, biological or physical agents in the workplace to the extent that the health of the worker is impaired.

Potential Incident: A condition (such as unidentified hazard), or an event (such as a near miss), or sequence of events that does not have actual consequences, but that could, under slightly different circumstances, have unwanted consequences.

Risk: A term applied to the individual or combined assessments of "probability of loss" and potential amount of loss.

Significant Potential Incident: An incident without actual consequences where the coordinates of probability and potential consequences meet in the higher or medium risk area of the Hazard Assessment.

Worksite: Means any location where a worker is engaged in an occupation and includes any vehicles or mobile equipment used by the worker in an occupation. It also means the entire area required for the performance of the work including right-of-way and temporary working space.

Worker: Means any person engaged in an occupation at the worksite.

ELEMENT 10: PROGRAM ADMINISTRATION

Introduction

An important step in reducing or eliminating accidents is a determination of the area most in need of attention. Compiling records and statistics is one way to gain some understanding of where to best focus our energy within the program.

The HSE Manager will collect the data necessary to track the effectiveness and performance of the HSE Program.

The data collected will be analyzed to determine where corrective or preventive actions should be taken and will be communicated throughout the organization as deemed appropriate. To preserve LBCO's employees' right to privacy, names of affected personnel will not be reflected in any safety performance evaluation report or in support documentation.

The Health, Safety & Environmental Program will be evaluated at least annually during the management review process to assess the effectiveness of the program in protecting employee health and safety. Such evaluations will help identify strengths and weaknesses in the program so that appropriate action can be taken. The evaluation will include the following:

a. Review of legislated updates,
b. Review of any changes in employee's job responsibilities,
c. Review of any new or modified equipment and/or processes, and
d. A review of employee-training records, including new-hires, transferred or promoted employees.

Records should relate to injuries, inspections, investigations, training and maintenance. This information assists in identifying trends, problem areas and in the evaluation of the Health and Safety Program.

WCB and OH&S Regulation requires employers to maintain certain records, statistics and reports meaningful to an effective Health and Safety program and to make them available to workers and to WCB. All documentation pertaining to our safety performance will be retained on file for future reference/assessment.

Although such reports contain valuable information, it is often necessary and more meaningful to summarize the data. For example:

- Total number of incidents/injuries for a given period of time
- Average cost per injury
- Total and average number of days lost per claim
- How often and how severe injuries/illnesses are

Records and statistics are important components of Health and Safety programs for the prevention of injuries and illnesses. They help employers, managers, and superintendents to:

- Identify the nature, extent and cause of health and safety hazards
- set prevention activities
- determine if control measures are working

Record Keeping

Good record keeping is an essential component of successful Health and Safety programs for the prevention of occupational injury and disease. Historical safety data shall be collected and retained for a minimum of three years.

Each piece of information in a record must be accurate. Forms (e.g. inspection reports, incident investigation reports) must be user-friendly and designed or modified to collect meaningful information

What Records must be kept?

All employers are required to maintain specific information about work related injuries and illnesses.

This type of information typically comes from the 3 main sources:

1. First aid records (of all injuries and manifestations of disease reported or treated)

2. Incident investigation records (including accidents that result in injury)

3. The Employer's Report of Injury or Occupational Disease (WCB Form 7 – claim form)

The focus here is injury and illness data that is needed to generate work injury and illness statistics.

What Types of Injury/Illness Statistics are most useful?

Determining what injury/illness statistics are most useful depends on what information you need to know. Statistics often include determination of injury or illness frequency and severity.

- **Frequency** gives information on how *often* injury or illness happens.
- **Severity** gives information on how *serious* an injury or illness is. Some statistics are better than others but, in general:

The more specific and current the statistics are, the more helpful they will be.
Statistics that identify specific tasks, occupations, departments, agents (e.g. chemical), body part injured, contributory causes and hazards that account for the greatest frequency and/or severity of injury deserve priority attention.
No single statistics report will give you everything you want to know about injury and illness. Various reports will be necessary (e.g. monthly summary report, annual summary report, etc.)

To get a reasonable picture of the injury/illness history and trends for the workplace, basic statistics in the form of counts and rates is needed.

The injury frequency rate and injury severity rate, as set in the American National Standards Institute (ANSI) Z16.4 code, are two commonly used indicators.

The **Injury Frequency Rate** is calculated as follows:
No. of recordable cases x 200,000 No. of employee-hours of exposure

A recordable case is an injury incident that results in one or more lost workdays other than the day of the incident.

The **Injury Severity Rate** is calculated as follows:

No. of work days lost x 200,000 No. of employee-hours of exposure

Records and statistics are very useful tools for employers. They can be used to:

- Collect and analyze data on causes of injury and disease so that specific control measures can be taken

- Identify specific work locations, departments, occupations and tasks (such as heavy lifting) where there is a high risk of injury and/or illness so prevention efforts can be directed in those areas provide employers, managers, health and safety representatives factual information needed to objectively evaluate health and safety programs.
- Measure the progress and effectiveness of accident and injury prevention efforts.

Employers should ensure that the information in records and reports is periodically and clearly summarized (e.g. in monthly and annual reports). This information should then be used to improve the health and safety of workers.

Annual Summary Reports should be prepared as soon as possible (e.g. within 30 days) after the end of each year, and as required information becomes available. The incident history for the previous month can then be analyzed and preventive action taken where necessary. A summary of injury and illness cases with year end totals, and the data needed to calculate injury rates and trends. This will be reviewed the health and safety committee.

Safety Audits

While a hazard assessment or inspection looks for particular issues on the worksite, a health and safety audit looks at the overall effectiveness of the company's health and safety program.

The goal of the health and safety audit is to identify strengths and weaknesses in the company's health and safety program. The audit is designed to ensure that there are appropriate mechanisms in place for carrying out all aspects of the health and safety program. An audit is not a test to be either passed or failed. It is a good way to find identify and correct unsafe acts and conditions that have developed in the health and safety program.

The Alberta Construction Safety Association (ACSA) audit document analyses documentation, records, observations, and interviews employees to gather information.

Safety audits are performed on LBCO Contracting Ltd. activities periodically to determine the effectiveness of the Health and Safety program. Topics that will be evaluated and included in a safety audit are:

- Effectiveness of Health and Safety Development.
- Safe Work Practices, and Safe Job Procedures.
- Safety Meeting Legislative Requirements.
- Incident Investigation Reports.
- Hazard Identification and Corrective Measures.
- Development of Unhealthy or Unsafe Conditions.
- Employee Health and Safety Education and Training.
- Health and Safety Statistics; and
- Employee Participation.

Auditing is done on an ongoing basis and continually changing. LBCO Contracting Ltd. Supervisor will conduct formal internal audits once per year. Formal external audits are conducted every three years by a Peer or External Auditor.

Definitions:

Lost Time Claim: A lost-time claim (LTC) is a claim for an occupational injury or disease, which disables the worker beyond the day of injury. Included are claims for which wages compensation are paid, permanent disability claims, fatalities, and cases in which the injured worker is assigned light duties or other modified work.

Person-Years: Person-year estimated are calculated form wage and payroll data provided by account holders to the WCB. Alberta Labour uses this data to estimate an average

industry wage, and uses the average industry wage and employer payroll data to estimate person-year for each employer and each industry. One person-year is equivalent to one full-time worker working for one year, and can be assumed to equal 2,000 hours worked.

LTC Rate: The lost time claim (LTC) rate is calculated by dividing the number of lost-time claims by the person-year estimate, and multiplying the result by 100. The LTC rate represents the probability of risk of disabling injury or disease to a worker during a period of one year's work. Comparisons of LTC rates between industries, or between years, can be used to indicate increases, decreases, or differences in this risk.

Number of LTCs x 100 Estimated person-years

Duration: The duration of disability is the number of days following the injury or disease for which the worker was disabled, and unable to perform normal work duties. This information is obtained for this report from data on compensation days paid on each claim from WCB. Alberta Human Resources and Employment obtains this data on March 31 of the year following the claim year, and does not update the information, even though many injured workers continue to be disabled beyond this date. As a result, the duration information reported here underestimates the true impact of loss-time injury and disease.

Duration Rate: The duration rate is calculated by dividing the number of work days lost (disability days) by the person-year estimate, and multiplying by 100. The result is expressed as "days lost per 100 person-years worked", and indicates, in part, the economic impact of occupational injury and disease. Duration rates are not recommended as reliable indicators of full economic costs. In addition, readers are warned that duration rates are highly unstable when based on only a few lost-time claims; it is recommended that the duration rate not be calculated based upon fewer than 30 lost-time claims.

Disability Days x 100 Estimated Person-years

Industry Coverage: This report includes all industry activity in Alberta by the Alberta WCB for occupational injury and disease to workers. Most industry sectors are included but notable exceptions include agriculture and finance. Several professional groups (e.g., the teaching and medical professions) are also excluded. Government of Canada is excluded except where the WCB pays administration or enhanced disability costs. Claims from the government of lberta employees are only included if the duration is longer than 80 days. About 75% of the employed persons in Alberta are represented in this report.

WCB Accepted Fatality: An occupational fatality is the death of a worker which results from a work- related incident or exposure and which has been accepted by the WCB. A fatality is counted in the year it is accepted.

Fatality Rate: The fatality rate is calculated by diving the number of fatalities by the person-year estimate and multiplying the rate by one million. The result is expressed as fatalities per million person- years worked. Government of Canada fatalities are excluded from the calculation of the fatality rate.

Number of fatalities x 1,000,000 Estimated Person-years

NEC: Means "Not Elsewhere Classified."

UNS: Means "Unspecified."

Lost Time Claim Rate Alberta 1994 – 2013

Due Diligence

Why care about due diligence?

Commonly referred to as the "General Duty Clause", every province and territory in Canada has similar Occupational Health and Safety legislation that describes the obligations of employers and workers.
Alberta's clause reads as follows:

2(1) Every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

(a) the health and safety of
    i. workers engaged in the work of that employer, and
    ii. those workers not engaged in the work of that employer but present at the work site at which that 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 this Act, the regulations and the adopted code.

(2) Every worker shall, while engaged in an occupation,

(a) take reasonable care to protect the health and safety of the worker and of other workers present while the worker is working, and
(b) co-operate with the worker's employer for the purposes of protecting the health and safety of
    i. the worker,
    ii. other workers engaged in the work of the employer, and
    iii. other workers not engaged in the work of that employer but present at the work site at which that work is being carried out.

(3) Every supplier shall ensure, as far as it is reasonably practicable for the supplier to do so, that any tool, appliance or equipment that the supplier supplies is in safe operating condition.

(4) Every supplier shall ensure that any tool, appliance, equipment, designated substance or hazardous material that the supplier supplies complies with this Act or the Regulations.

(5) Every contractor who directs the activities of an employer involved in work at a work site shall ensure, as far as it is reasonably practicable to do so, that the employer complies with this Act and the Regulations in respect of that work site.

Source: Alberta Occupational Health and

Safety Act Revised Statutes of Alberta

2000

By including the words "reasonably practicable", legislators make the *Occupational Health and Safety Act* "strict liability" legislation and introduce the possibility of a "due diligence defense".

Strict liability laws give you the opportunity to make rational decisions. You have the option of deciding if you do or do not proceed with a particular action depending upon the circumstances. Instead of
complying with the specific rule presented in the law, you could do everything "reasonably practicable" and demonstrate "due diligence". Due diligence is demonstrated by your actions before an incident occurs, not after the fact.

Consider the following example. You give specific instructions to a competent worker to lock out a piece of equipment before working on it, using locks you provide for that purpose. (According to the *Occupational Health and Safety (OHS) Code* – governing occupational health and safety practices at Alberta workplaces – a competent worker is someone who is adequately qualified, suitably trained, and has sufficient experience to safely perform his or her work. A competent worker is not considered to require direct supervision.) The worker then forgets to lock out the equipment and is injured when someone incidentally turns it on. Even though the law was violated, you could still be acquitted and not be charged because you did everything "reasonably practicable".

Absolute liability laws differ from strict liability laws in that you do not have any choice – you must do whatever an absolute liability law states. An example of this is a speeding infraction. Your only defense is to prove that the officer made a mistake, perhaps because of faulty radar equipment, you cannot get off by saying "I did everything reasonably practicable to control my speed".

Failure to prove that you have been duly diligent in complying with occupational health and safety legislation can result in significant penalties. The penalty for a first offence in Alberta can be up to 6 months in jail or $500,000.00 or both; for second or subsequent offences the penalties double. While these costs are significant, the human and economic costs can be far greater in the event of an incident. When an Occupational Health and Safety Advisor is notified about a serious injury or incidence, their first response is to immediately stop work at the workplace to protect other workers from injury.
Officers will only allow work to resume if they are sure that other workers are not at risk of injury.

In a recent fatality at an Alberta meat packing company, the investigating office required work at the plant to stop until the company developed safe work procedures to prevent a similar incident. In the meantime, hundreds of workers were left idle and the product became unfit for human consumption, costing the company considerably more than the maximum fine stated in legislation.

What does "reasonably practicable" mean?

At first glance "reasonably practicable" looks like a subjective way of determining someone's guilt or innocence. However, "reasonably practicable" is a legally defined term that is assessed using the "reasonable person test".

What would a dozen of your peers consider reasonable in a similar set of circumstances?

Your peers would likely review what you did and compare it against what they do in their own operations. Some of them might do more, others less. The result would be a balanced and wise judgement that could be defended to others.

What factors are considered in establishing a due diligence defense?

In determining whether your defense of "due diligence" is valid, a judge or jury considers three main factors:

(1) *Foreseeability* – could a reasonable person have foreseen that something could go wrong?
(2) *Preventability* – was there an opportunity to prevent the injury or incident?
(3) *Control* – who was the responsible person present who could have prevented the injury or incident?

Foreseeable

In making a defense that the incident could not have been foreseen, your lawyer would have to show that the event was so unlikely that you or a group of your peers would never have

expected it to occur. Reasonable employers know about their businesses and about the hazards of operating them. Ignorance is not an adequate defense of others in your industry knew about the hazard.

Preventable

In making a defense that the incident was not preventable, your lawyer would have to show that you did everything reasonable to prevent it. This would include:

(a) Identifying hazards – performing a hazard assessment is extremely important;
(b) Preparing and enforcing safe work procedures – ignoring a worker's poor compliance or non- compliance with company procedures is not an adequate defense;
(c) Training the worker, this includes training in appropriate safe work procedures;
(d) Monitoring the worker after they receive their training to verify that their performance is acceptable (or corrected if unacceptable) – reasonable employers are expected to monitor the work of their employees. Unsafe behavior must be corrected before a worker is allowed to perform work unsupervised; and
(e) Having a progressive disciplinary policy to ensure continued compliance with company safety policies and procedures.

Each of these steps would have been

documented. Control

The last argument that your lawyer could use is that you had no control over the circumstances that resulted in the incident. If for instance you note a problem with the brakes of the car you borrowed from the company auto pool and report that to the Auto Pool Manager, you would not be expected to fix the brakes yourself. The person responsible for the car is the Auto Pool Manager. If there was an incident involving the brakes of the car, your lawyer could argue that you had no control over the circumstances related to the incident.

In response to each of these defenses the prosecutor would compare the practices of you and your company against:

(1) Relevant provincial, national and international standards;
(2) Current industry best practices and specifications; and
(3) Company's programs, procedures and policies.

The prosecutor would attempt to show that you and your company did not behave reasonably. In addition, the prosecutor would attempt to point out all the reasonable alternatives that you and your

company could have followed to prevent the incident. In the eyes of the law, if something is reasonably practicable, then it must be done.

When does the government decide to prosecute?

Just because you are not in compliance with the *Occupational Health and Safety Act* does not always mean you will be prosecuted. The purpose of prosecution under occupational health and safety legislation is not to punish the offenders as in criminal law, but to deter others from committing the same infraction. In fact, only a small percentage of identified infractions are prosecuted. The decision process used when considering prosecution is shown in Figure 1.

What can you do now to show due diligence to prevent a future prosecution?

Due diligence is as much a culture and way of doing business as it is a legal defense. Companies with managers and workers that always ask themselves “Have I done everything reasonably practicable to make my workplace safe?” before they do their work will always outperform those that do not. You can go a long way towards developing this culture within your own workplace if you understand your responsibilities under the Occupational Health and Safety Act and implement a management system to identify, evaluate, and control hazards. The systems and procedures you choose need to be at least as good as those used within your industry and must be specific to your workplace. Workers and superintendents need to understand their roles and be trained in safe work procedures.

The work you do to ensure the safety of workers needs to be documented. These records are needed so that you can evaluate your system to be sure it works. The records can also form the basis for a due diligence defense. To make a credible defense you need proof that you did everything reasonably practicable. Having regular audits of your health and safety management system by a third-party auditor can help you identify gaps in your current program. It can also provide proof of your company’s commitment to health and safety of its workers.

Alberta Employment and Immigration (AE&I) has developed its Partnerships Program to promote the use of health and safety management systems within Alberta workplaces. Companies work through Certifying Partners to establish a system and have it audited by an external auditor. Companies that pass the audit receive a Certificate of Recognition (COR) from a Certifying Partner that is co-signed by AE&I.
In addition, the Workers’ Compensation Board offers premium incentives to employers who reduce their claim costs below predicted targets and achieve a COR.

How does my workplace compare against the due diligence standard?

Once prosecution starts, the only way you can prove due diligence is to show that you did everything reasonably practicable to prevent the incident. The checklist shown in Figure 3 has developed by the Canadian Centre for Occupational Health and Safety to give you an idea about your ability to make a successful due diligence defense. A negative answer to any of the questions points to a potential hole in your defense.

ELEMENT 11: ENVIRONMENTAL PROTECTION

Introduction to Environmental Protection

LBCO Contracting Ltd. Environmental Management Program is intended to provide information to all personnel for the purpose of eliminating or minimizing exposures which could have a negative or harmful effect on people property or the environment.

All Site Personnel are responsible for:

1. Complying with the Environmental Management Program
2. Performing all work activities with due care and attention for other personnel and the environment
3. Immediately reporting any potential or actual hazards to your supervisor.

Storage Areas

Where bulk hazardous materials must be contained on site, Management will review and approve storage areas.

Hazardous materials storage areas will be situated such that the materials are protected from damage and that any potential release can readily be contained and cleaned up.

LBCO Contracting Ltd. recognizes that hazardous material storage areas may require:

1. Secondary contaminant systems
2. Special security requirements
3. Bonding and/or grounding grids where materials are explosive in nature
4. Special lighting
5. Protective clothing and other
6. Special closures and entry procedure
7. Signage
8. Spill response kits
9. Fire suspension equipment

Waste Minimization

One of the primary considerations in a successful environmental program is to minimize waste streams.

LBCO Contracting Ltd. considers "Waste Minimization" as an important element in environmental protection. Our program includes regularly reviewing strategies for waste reduction, reuse, recycling, and recovery.

The Foreman is designated as the person to manage waste generated on each project. Prior to project commencement, the Foreman and Project Manager are to discuss and estimate the quantity and type of waste to be generated. Appropriately sized receptacles and bins shall be sourced for each project. Should an excess of a singe material waste be generated, measures shall be taken to reduce and/or recycle the materials when practical.

Environmental Policy

LBCO is committed to protecting the environment from adverse effects of construction operations through compliance with applicable federal, provincial, and local environmental laws and regulations

We recognize that a sound environmental protection policy makes business sense. Our company is committed to delivering safe, reliable services in the utmost environmentally responsible manner to the clients that we serve.

We are committed to the conservation of resources and the continual improvement of our environmental management systems and performance.

LBCO is committed to:

- Minimizing the quantity and degree of hazardous waste resulting from day-to-day operations
- Use, store, and dispose of products in such a manner that will provide appropriate protection to the environment
- Providing information on key environmental issues related to Company operations to our clients.
- Remaining sensitive to the concerns of the public
- Providing employees with the information necessary to make informed decisions, and ensuring all employees recognize and understand their responsibility to follow LBCO's environmental policies and procedures.
- We shall strive to prevent incidents that result in environmental impacts.
- Environmental considerations shall be recorded in the pre- job analysis and be made aware to the crew(s) before starting a new project.
- Plan for appropriate emergency responses to minimize negative consequences and implement remedial measures in an efficient and effective manner, if Company activities result in environmental damage.
- Updating our Environmental Policy on a regular basis and setting environmental targets and objectives accordingly.

While doing our work, we shall consider the appropriate protection of humans, animals, plant life, air, water, and soil.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Environmental Inspection Checklist and Subcontractor Evaluations Policy

LBCO Contracting Ltd. will conduct weekly documented workplace environmental inspections for the purpose of identifying and correcting non-complaint conditions and behavior. The inspections will cover premises, excavations, tools, equipment, machinery and safe work practices as well as procedures. The environmental inspection forms are to be used as a guideline since specific sites may have unique situations and potential environmental hazards that may not be covered by this list.

Site Environmental Inspections – Weekly

Planned inspections will occur weekly at worksites. The Health and Safety mandate is for workers to participate in conducting the inspections along with the Supervisor. Corrective actions will then be implemented by the Supervisor and Management.

All environmental inspection reports will be reviewed once a week during toolbox safety meetings on worksites. All completed environmental inspections reports will be evaluated and monitored by the Supervisor implementing any corrective actions.

Subcontractors are to complete and participate in inspection reports and take every reasonable precaution to protect the environment and to be compliant with LBCO's Environmental Management Program.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Environmental and Hazardous Waste Management

No person shall dispose of any hazardous waste or materials that will cause harm to the environment, the public's health or safety, and the recycling of all items possible.

Management, and Supervisors shall manage employees, site visitors and subcontractors to ensure that hazardous waste generated in their workplaces are safely contained, identified, and disposed via an agency authorized Ministry of Environment and in coordination with all stakeholders.

ACTION	INFORMATION
Planning and Assigned Responsibilities	Assess the potential negative effects upon the environment for all jobs in the Pre-job planning process.
	Develop strategies to implement an action plan to ensure that impacts and risks are managed.
	Supervisors must report issues of non- compliance in a timely manner. Assess the requirements for PPE use during the handling of all waste.
Consultation	Provide relevant information to all stakeholders.
Compliance	Identify, inspect, and monitor potential exposures and their impact on the company.
	Action plans and controls, that are site specific may need to be developed to detect and minimize unanticipated incidents and ensure that all applicable laws and regulations are adhered to.
Corrective Action	In a timely and efficient manner corrective steps for day to day management and control of identified environment risks will be taken based on established industry guidelines and procedures.

	This must include all required permits and licenses: handling, use, transportation and disposal of hazardous materials and statutory reporting procedures.
Training	Adequate training must be given to on-site personnel in the area of legislative, technical, environment policy and procedure, health and safety to properly handle the products on-site.
Monitor	Environment management and compliance will be tracked through Spot-Checks.
	Contingency plan to effectively deal with on-site foreseeable emergency situations must be developed, reviewed, tested, and posted on site.
Emergency Response	Define who is in control of the site, method of implementation, resources required and communication required internally and externally.
References – Legislative	Alberta Environmental Protection Enhancement Act **Regulation 257/93**
Attachments	Schedule A: Site Specific Guideline for Handling Environment and Hazardous Materials
	Schedule B: Environmental and Hazardous Waste Management Guide
	Schedule C: Environmental Risk and Management – Due Diligence
	Exhibit A: Waste Handling Environment concerns Directory
	Exhibit B: Transportation of Dangerous Goods
	Exhibit C: Oil Spill Cooperatives
	Exhibit D: WWS Co-operative Chairmen

Site Specific Guideline for Handling of Environmental and Hazardous Material

All personnel, including employee, visitors and subcontractors are to ensure that handling environmental and hazardous material is done safely.

OBTAIN, GENERATE A PERMIT:

1. Determine emergency response, if the controlled product presents an acute risk to health or environment the emergency response employees should be contacted prior to commencement of work.

HOLD A SITE-SPECIFIC MEETING AND DOCUMENT:

2. Determine occupational exposure limit. Designate restricted area and provide means of traffic control. Recognize designated authority onsite.
3. Appraise the level of risk, job safety and Hazard Assessment.
4. Identify locations of emergency facilities (i.e. eye wash station, first aid kits, and fire extinguishers)
5. Ensure all employees are adequately trained or receive training for managing waste on site.

REFER TO SAFETY DATA SHEETS (S.D.S.)

1. Determine
2. Physical Properties
3. Reactivity Date
4. Fire and Explosion Data
5. Health Hazard Information
6. First Aid Measures
7. P.P.E. Requirements
8. Safe Storage and Handling
9. Environmental Protection
10. Incompatible Materials

ENSURE WORK SITE LABELS ARE ON ALL CONTAINERS:

1. W.H.M.I.S. labels are required on all controlled products. A work site label should indicate the product identifier, safe handling instructions and a reference to the location of the M.S.D.S.
2. When transferring liquids from one container to another, attach a bond wire between the two containers.

TRANSPORTATION OF DANGEROUS GOODS:

1. Ensure that all T.D.G. regulations are followed; T.D.G. documentation will be done by a worker trained in T.D.G.
2. The load must be secured so that it will not shift, even under emergency

conditions. SAFE HANDLING OF CONTAINERS:

1. Use the proper equipment to move containers.
2. Visually inspect the containers to identify any defects.
3. When handling drums ensure that the bungs are tight and sealed properly. Avoid laying drums on their sides.
4. Refer to S.D.S. for safe handling instructions.

CONTROL WORK AREA:

1. Post appropriate signs and barricades to control

unauthorized entry. WORKING WITH CONTROLLED PRODUCT:

2. When dealing with inflammable material ensure that a 30lb. Fire extinguisher is onsite and in good working order.

STORAGE:

3. Refer to S.D.S. for safe storage procedures. Ensure that containers are stored in such a way that they are stable and present no risk of falling over.

DETERMINE CONTINGENCY PLAN IN CASE OF SPILL TO MINIMIZE ENVIRONMENT IMPACT:

4. Refer to codes of practice on Environment and Hazardous Waste Management.

Environment & Hazardous Waste Management

1. REDUCE	**2.** REUSE	**3.**RECOVER	**4.**RECYCLE
EMERGENCY SPILL RESPONSE	Onsite: **1.** Unrefined products, greater than $2m^3$ must be reported to the E.U.B & A.E.P. **2.** Refined products exceeding min. reported quantities as per T.D.G. legislation must be reported to Alberta Environmental Protection (A.E.P.)		Onsite & Yard: **1.** Spills of refined, unrefined or dangerous oilfield waste products must be reported to A.E.P.
WASTE PRODUCT	TREATMENT		DISPOSAL
Absorbents used to control spills or leaks	Store in a separate container		Approved industrial landfill if absorbent used on hazardous products, take to Waste Management facility.
Containers Aerosols	Use completely or blown down until empty and deposit in garbage bin.		Municipal Landfill
Alcohol Antifreeze Other Containers Paint Thinners	Triple rinse and reuse or recycle (where possible). Other unusable, triple rinse and deposit in garbage bin or recycle.		Municipal Landfill
Batteries: Dry Cell Wet Cell	Store upright in area to contain spillage, ventilated area. Package in clearly identified containers.		Recycle Municipal Landfill
Contaminated Soil Spills: (refined and unrefined substances) Oil Diesel Hydraulic Fluids	Onsite, unrefined substance spills less than $2m^3$ in non-sensitive area – contaminated soil should be mixed with neutralizer and fresh soil in a ratio of 1:3, then land spread. Operator should be notified. Recover as much as possible, collect in sealed container. Spills of		Return recovered / used product to supplier. If soil has to be disposed of, contact soil treatment facility.

Glycol Lubricating Oil	unrefined materials greater than $2m^3$ must be reported immediately.	

Engine Oil Varsol		If untreatable, take to an approved oilfield or industrial landfill. Take to used hydrocarbon collection tank.
Grease Cartridges	Wipe through with rag, Make sure cartridges is empty as can be and deposit in garbage bin.	Municipal landfill

2. REDUCE	**3.** REUSE	**4.** RECOVER	**5.** RECYCLE

ACTION STEPS:

1. Protect Workers/Public
2. Contain/Control the Spill
3. Contact Supervisor
4. Take Control of the Sector Site
5. Follow Reporting Procedures
6. Establish Clean-Up Procedures

WASTE PRODUCT	TREATMENT	DISPOSAL
Oil Filters	Store to used product in sealed container.	Contact recycle facility or filter Crushing & pickup.
Oily rags (Contaminated with used oil).	Store in a covered container clearly marked as soiled rags; keep separate from used oil and filters. Store in ventilated area from heat and electrical sources. Dry-Clean and reuse.	Contaminated rags (used oil); approved oilfield or industrial landfill. Other rags, municipal landfill.
Paint Container and Brushes	Use completely, and then leave can open in a ventilated area for residue to dry & harden. Once dry deposit in garbage bin. Clean and reuse brush. Once unusable, leave to harden & deposit in garbage bin.	Municipal Landfill

Rubber Products	Triple Rinse	Municipal Landfill
Scrap Steel:	Store in racks, place in recycle bin	Recycle

Wire/Cable conduit/pipe Welding Rod Grinding Disc Pressure Cylinders	Decommission (i.e. Remove valve & puncture)	

ALBERTA ENVIRONMENTAL PROTECTION: 1-800-667-7525

Environment Risk Management

DUE DILIGENCE

Offences:	
Mensrea	Act & Intent
Strict Liability	Act alone, but opportunity to demonstrate due diligence and avoid conviction.
Absolute Liability	Act alone.

HOW DOES IT WORK?	
Onus on Crown:	Crown proves the act, e.g. Proves that an unauthorized spill occurred in contravention of the law.
Reverse Onus:	The onus of proof then shifts to the defendant. If the defendant proves it exercised due diligence to prevent the spill it will not be convicted. If it was not duly diligent, then it will be convicted.

DUE DILIGENCE DEFENCE

What is it?

6. Originally a legal defence to criminal charges for public welfare offences.

7. Created by the Supreme Court of Canada and subsequently adopted in various status.

8. To avoid prosecution, the party charged must establish that they took all reasonable care to avoid the event giving rise to the prosecution.

1. It is a standard by which employers can judge the content and effectiveness of their environmental, health and safety programs.

2. The change brought about by the Supreme Court gave parties the opportunity to defend against a charge by demonstrating appropriate conduct.

3. Due diligence must be expressed in the attitude and action of management and all employees. It is just defence. Avoiding the problem is still the best solution.

What is it not?

1. Due diligence shouldn't be a narrow goal. It should be result of appropriate practices.
2. It cannot be created after the fact. It is preventative in nature and must pre-exist the event.
3. A one-time obligation.

Elements of Due Diligence:

Due diligence involves "…remedial and contingency plans for spills, a system on ongoing environment audit, training programs, sufficient authority to act and others indices of a pro-active environment policy".

Policies, Practices and Procedures.	Review the company's activities and identify those that are potentially hazardous. Procedures for safe performance must be developed, kept up-to-date and reinforced by the company.
Monitoring	You must ensure that the policies, practices and procedures are actually following in the workplace.
Communication	Because the work environment is not static, management is expected to be vigilant and constantly communicate to employees about hazards and problems.
Training	Employers have an obligation to properly train employees so that they can competently complete their work.
Accident Investigation and Reporting	A system for reporting accidents and investigating events is important as a source of information for improving policies, practices and procedures.
Documenting Due Diligence	The defence is based upon their presentation of evidence to show "reasonable care": therefore it is important to document the steps taken.

Challenges:

Information. Keeping up to date with regulatory requirements in different jurisdictions is difficult. Communicating the

information to employees in a cogent, timely and consistent manner is equally difficult.

Indemnification. Increasing concern of employees. A changing increased proactive standard"…what was sufficient to establish a defence of due diligence in the past may not be now, given current practices." Statutory erosion of the principle of due diligence.

EXAMPLES OF DUE DILIGENCE

1. Training and Information:	Due diligence include appropriate hiring and training. General instructions to avoid pollution are inadequate. (R. V. North Arm Transport) Due diligence requires successful communication of adequate information and instructions from the company, right down to the job. (R. V. McMillan- Bloedel).
2. Staffing:	It is not due diligence to employ one person; no matter how highly trained when the operation requires two persons to perform it safety. (R V The Vessel "Gulf Hathi")
3. Equipment:	Due diligence requires the use of equipment designed to avoid pollution as far as reasonably possible. The use of older equipment is not necessarily of negligence, or lacking due diligence. However, neither is it an excuse for failing to meet the requirement of law. (Re: Industrial Hygiene Decision No. 167). As scientific knowledge advances, and more and more effective testing becomes available, what was excusable ignorance yesterday becomes negligence ignorance today.
4. Maintenance:	Due diligence requires adequate, regular maintenance of all equipment whose failure could risk an offence (R. V. Rio Algom). The key consideration is the potential risk posed by the continuing use of old technology. Those engaged in ordinary activities cannot be obliged to rip out working equipment and replace it with the very latest thing.
5. Emergency Planning:	A defendant cannot show due diligence if lack of preparation leaves it powerless to minimize damage when an accident occurs.

SOME CONCRETE THINGS YOU CAN DO

1. Make sure environmental and health and safety matters are taken seriously in your group. Make environmental and health

and safety protection part of the main business of the business, not merely an obstacle to getting on with the "real" job.

2. Be aware of LBCO Contracting Ltd. written environmental and health and safety policies. Mean it, communicate it and make it stick.

3. Reward compliance with the policy and discourage non-compliance.

4. Ensure that your staff receive environmental, health and safety training and understand the importance of these matters for your company.

5. Set up systems to investigate and determine the environmental, health and safety impact of the activities and assets of the organization. Ensure that appropriate "feedback" information reaches you and that in turn you pass it on.

SYSTEMS

Systems should be designed to identify the environment and health and safety hazards of all aspects of the company's operations, including both ongoing (normal) emissions and those discharged which may occur out of the normal course (spills). One essential element is a thorough environmental health and safety audit of your operations and assets.

Update your audit regularly. Get periodic health and safety status reports. Take them seriously.

6. Designate at least one person whose primary job is to keep your group out of environmental or health and safety trouble. Make sure that person has adequate resources, keeps up to date in the field and gets proper information. Listen to him or her when they have something to say.

7. Assessment of risk should be more conservative than in the past and the standard of care should be higher. Don't think that the company can continue to do something just because it has done so in other years. Keep in mind that:

The greater danger of harm from an activity or property the more serious the consequences and the greater should be the corporation's standard of care and degree of effort, and the less important is the cost of protective measures:

For activities, which endanger human life or health, which threaten major health and safety degradation, the officers and directors of an operating company should expect to be held to the standard of fiduciaries. That is, they should act in utmost

good faith and make every possible effort to prevent pollution, or health risks;

In extreme cases even the use of the best available technology may not justify the continuation of an activity.

8. Set up systems to obtain and keep track of regulatory requirements such as approvals, permits, generator registrations, waste manifests, etc., and to keep track of and respond to all correspondence, visits and other contacts for regulators.

9. Require all proposals submitted for your approval to contain information on their environmental or health and safety impact.

10. All decisions should be environment, health and safety conscious. Before every decision you should consider its actual and potential health, and environmental impacts, just as you should its financial or tax impacts.

11. Move rapidly to take remedial action when problems are identified. Even if you can't solve the whole problem right away do something while you work on the long-term solution.

12. Have an emergency plan (including personnel and equipment) ready.

13. Try to get the regulators and the public on your side. Maintain contact with them, listen carefully to their concerns and try to do something to respond to public concerns.

TRANSPORTATION OF DANGEROUS GOODS TABLE

TDG Class	Class	Example	Volume Report
Class 2.1, 2.2	Flammable Gas	Propane	> 100 litres (L)
Class 3	Flammable Liquid	Diesel	> 200 litres (L)
Class 4	Flammable Solid	Diesel Soaked Absorbants	> 25 kg
Class 6.1	Poisonous	Boiler Compound	> 5 kg or > 5 L
Class 8	Corrosives	Caustic Soda	> 5 kg or > 5 L

Class 9.2	Environmental Hazard	Chemicide	> 1 kg
Class 9.3	Dangerous Waste	Used Lubricated Oil	> 5 kg or > 5 L

REFER TO T.D.G. REGULATIONS FOR COMPLETE LIST

Release Contingency Plan

The main objectives of the Release Contingency Plan are complying with all regulatory requirements pertinent to projects and responding to occurrences within the shortest time to protect people, property and the environment. To meet these objectives the plan includes mechanisms for initiating and carrying out the required notifications, spill containment, clean-up and remedial actions.

Adequate training must be given to on-site personnel in the proper procedures for spilled materials and products on-site. This shall include training on the materials available for use, proper waste disposal and communication procedures.

Releases are referred to as minor, moderate or major and defined with regard to response capability and perceived impact as follows:

Minor - Releases of such magnitude and nature that does not cause significant adverse effects, or public concerns and that the "releaser" can, utilizing his own resources or resources available to him/her, undertake the necessary measures to control, contain and clean-up the substance released.

Moderate - A release of such magnitude and nature that causes or is likely to cause significant adverse effects in the immediate vicinity of the release for which the resources under a municipal or co-operative contingency plan may be required to effectively contain and clean-up the substance released.

Major - A release of such magnitude and nature as to require the resources of the provincial and/or federal agencies in addition of those available municipally or from the responsible party.

All releases, which are abnormal in quantity and quality and are NOT subject to exemption, shall be reported as required by this Release Contingency Plan.

Reportable Incidents
Releases are reportable when they cause or are likely to cause any of the following:

- Impairment of the quality of the environment - air, water, or land
- Injury or damage to property and/or animal life
- Harm or material discomfort
- Adverse health effects
- Loss of enjoyment of normal use of property
- Interference with normal conduct of business

Of primary concern are those releases of pollutants which are abnormal in quantity and quality.

Environmental Incident Management & Reporting

Environmental incident reporting is important for the following reasons:
• To maintain regulatory compliance
• Share information within the company to prevent a recurrence
• To provide educational resource information
• To promote and maintain awareness; and
• To provide documentation for corrective measures as due diligence, evidence, future review and analysis for continuous improvement.

Environmental Incident Categories
There are essentially two types of environmental incident reporting categories:
• Incidents which are not in compliance with legislative jurisdictional requirements and must be reported to the relevant government agencies such as the Environmental Protection Agency; and
• Incidents which are not serious in nature but have a serious hazard or liability potential are reported within the company only.

Reportable quantities of releases of hazardous and/or toxic substances vary widely.
Therefore, there is no standard exemption. If a release of any quantity is detected, Management must be notified to determine if external notification is necessary.

All releases will be cleaned up in an acceptable manner such that the release site is restored to its pre-release condition, where this can be reasonably expected. This clean-up requirement covers all releases.

The Supervisor shall maintain records of all potentially releasable substances on site and volumes involved. SDS for all such substances will be kept in a location that is readily accessible.

The Supervisor shall verify that hazardous substances on-site are properly stored and labelled.
The Supervisor shall update and revise the Release Contingency Plan as required to meet changing site conditions, changes in personnel, contacts to be notified, etc. The supervisor shall periodically check the spill response kit and ensure that it is adequately stocked and available in the event of a spill.

A clearly marked Spill Response Kit containing miscellaneous is located in all company vehicles and in the portable safety stations.

Initial Response
The initial response by persons working in the immediate area of the spill or those who discover the spill includes the following:

1. Evacuate personnel from the immediate work area as required
2. Inform the Supervisors immediately
3. Assess the release and the hazards involved
4. Take initial containment actions
5. Minimize/control hazards to person
6. Cover/fill drains and drainage paths
7. Construct soil berms
8. Deploy booms and sorbents

In the case of minor releases of a non-reportable nature, the released substance and any contaminated materials or soils will be placed in a drum or other suitable container (with lid) for subsequent disposal. The Supervisor shall inform the LBCO Contracting Ltd. Supervisor.

Primary Response and Notification

The Supervisor shall take charge and direct the spill response. The Supervisor shall:

1. Assess the release
2. Activate release containment and clean-up measures
3. Notify Management
4. Notify external representatives as appropriate
5. Commence documentation of the release (through a delegate if necessary)
6. Request external help for containment, clean-up, and disposal activities as required.

Remediation
Release containment and clean-up includes the following actions:
As appropriate:

1. Transfer spilled substance to tanks or drums
2. Transfer contaminated soil/water to drums
3. Transfer used sorbents to drums
4. Dispose of recovered release substance and clean-up materials adhering to all applicable laws.
5. Restore the site of the release.

Spill Response

Initial observation includes determining the general nature of the release; this assessment will be relayed to the primary contacts on the Notification List.
The following will be determined during the assessment:

1. Substance released
2. Location of release
3. Quantity released
4. Total quantity involved (potential for additional release)
5. Surface area affected
6. Hazard involved (consulting MSDS and project personnel)
7. Potential to stop the leak or contain the release
8. Requirements for containing the release, criteria, equipment, etc.
9. Weather conditions anticipated while the countermeasures are underway.

The following list is a sample of information which will be gathered in response to a release:

1. Discharge (spiller) company name
2. Location
3. Name of caller and return telephone number
4. Type of incident
5. Injuries or casualties
6. Substance and quantity released
7. Quantity contained/released
8. Time incident started/stopped
9. Cause of spill
10. Potential environmental impact
11. Description of nature of containment and recovery actions underway
12. Time clean-up will be completed
13. Names of other agencies contacted

Wastewater Handling and Disposal Policy

LBCO Contracting Ltd. is committed to ensuring the protection of all employees, the public and the environment. This policy provides the requirements and best management practices for all employees when handling Wastewater and for the safe disposal at the appropriate disposal facility.

Prior to any handling or disposal, the Supervisor shall be responsible for coordinating with all stakeholders, including the owner/client, regulatory bodies (Alberta Environment, City of Calgary, etc.) and all employees.

The Supervisor shall undertake the responsibility of determining the if the wastewater is hazardous or non-hazardous before discharge. This will include the necessary steps to determine the contents of any wastewater. This may be performed by a certified testing agency or facility. Should the wastewater or materials be determined hazardous, the materials shall only be disposed of in an authorized facility. All precautions must be taken to ensure that no discharge may occur into any public space, waterway or non-authorized facility.

All applicable permits and compliance regulations shall be coordinated with the client to ensure proper disposal and records are kept.

LBCO shall provide all its employees with the necessary training for handling and disposing of wastewater. This will include the identification of and responsibility to report any hazardous materials to the Supervisor. All employees will be provided adequate PPE to protect themselves from hazardous materials.

*** The information in this policy does not take precedence over applicable government legislation with which all workers should be familiar.**

Fernando Nogueira

Fernando Nogueira (Director)

Element 12: EROSION & SEDIMENTATION CONTROL

Silt Fence Installation / Maintenance

Prior to the commencement of any project, the Project Manager, Foreman and client are to discuss erosion protection and control measures. All phases of construction are to be considered including the pre, during and post stages of construction. This program is to ensure the mitigation of soils from leaving site and entering roadways, watercourses and sewer systems. All efforts are to be made to minimize the duration that bare soil is exposed; this shall be done thru appropriate scheduling for completion of the project.

We shall utilize one or more of the following products in combination to help prevent Erosion and Sedimentation. We shall use temporary seeding, temporary mulching, permanent sodding, erosion control blankets, vegetative buffer strips, gravel pads, V-Ditching, Sediment Ponds, Silt Fencing, inlet control devices, etc.

A Silt fence or silt screen is temporary sediment and erosion control device made of geotextile fabric designed to intercept and slow the flow of sediment – laden runoff from small areas of disturbed soil. The purpose of the silt fence is to prevent sediment carried by overland flow from leaving the disturbed site and entering rivers, creeks, wetlands, lakes and artificial drainage systems such as a storm drainage system, by intercepting water run-off and causing the deposition of sediment at the fence.

Inlet Protection

A storm inlet sediment barrier is constructed to minimize the amount of sediment entering a storm drain by ponding sediment laden runoff at the inlet.

All points of entry and exit for any water run off shall be controlled and prevent from entering waterways. Typically, we will use silt fencing, straw bales, rock check dams and intercepting berms to maintain all drainage on site.

1. Maximizing inlet protection ponding volume maximizes the sediment trapped…
2. Sediment barriers around inlets must be especially durable...
3. Inlet protection generally provides limited sediment removal; it shouldn't be the principle means of sediment control...

1. Stockpiles should be located away from watercourses, environmentally sensitive areas, drainage courses, ravines, and existing adjacent developments. The stockpiles should be stabilized against erosion immediately following stripping operations. Stabilization can include, but is not limited to, establishment of a cover crop or a hydro seed matrix consisting of seed, fibre bond, and tackifier.
2. All construction vehicles should leave the site at a designated point or points. Gravelling or paving (where practical) of frequently used access roads will help ensure that minimal material such as mud is tracked off-site. The access road should consist of a bed of non- erodible material (i.e. gravel) of sufficient length to ensure that a minimum of material (mud) is tracked offsite onto adjacent municipal streets. Internal haul roads and\or track packs can also be designated and maintained to help reduce offsite tracking. In situations where mud tracking becomes a major problem, a high-pressure pump and hose installation may be used to provide a wash down facility for truck wheels.
3. When sewers have been installed or are existing, measures should be undertaken to ensure sediment and debris does not get into the municipal sewer system. Both catch basins and manholes should be protected. This may be accomplished by sealing the openings, setting up sumps or weirs inside the structures or by providing appropriate

   inlet protection (filter fences, sediment traps, etc.). A temporary drainage system should be used with appropriate velocity controls and temporary storage areas for sediment control. This will ensure that sediment and debris do not get into the municipal sewer system and into the downstream waterways.

Diligent efforts must be taken to ensure that the temporary drainage system does not flood adjacent properties.

4. Where on-site or downstream detention facilities are provided, use can be made of a quantity control facility (through the placing of temporary weirs or check-dams) for sediment control during construction. **(Therefore, all temporary and permanent detention facilities must be constructed prior to the installation of any services on the site or the commencement of earth-moving operations).**
5. Dust control measures should be implemented to prevent wind transport of dust from disturbed soil surfaces. This may be accomplished several ways. Vegetate, hydro seed, or mulch areas that won't receive vehicle traffic. Otherwise, construct windbreaks or screens. The site may also be sprinkled with water or a chemical dust suppressant to control dust; however, care must be taken to prevent the tracking of mud that may result. Otherwise, another effective tool is to reduce vehicle speeds to decrease the amount of dust stirred up.
6. All accumulated sediment and debris should be removed as required. Once construction activities are complete, all related materials and temporary structures should be removed and properly disposed of.

Dust Control

Water will be used as the primary method of dust control.
Soil erosion by wind can be a significant problem. Dust control prevents wind
Transport of dust from disturbed soil surfaces onto roadways, drainage ways and into watercourses.

Dust can be controlled by:

4. Clearing vegetation only from areas that will be worked right away.
5. Vegetating or applying mulch to areas that won't receive vehicle traffic.
6. Constructing wind breaks or wind screens.
7. Sprinkling the site with water until the surface is wet. Care should be taken that this does not lead to tracking of mud onto nearby streets.
8. Spraying exposed soil areas with a dust palliative. Used oil is prohibited as a dust suppressant.
9. Stopping work in serious adverse wind conditions.
10. Using and maintaining internal haul roads. To protect adjacent roads and property owners:

1. Lower speed limits to decrease dust stirred up from unpaved roads and lots.
2. Add surface gravel to reduce the source of dust emission. The amount of fine particles should be limited to 10 to 20%.
3. Use geotextiles to increase the strength of new roads or roads undergoing reconstruction.
4. Encourage use of alternate paved routes if possible.
5. Encourage use of internal haul roads and maintain as required.
6. Restrict use by tracked vehicles and heavy trucks to prevent damage to the road surface and base.
7. Apply chemical dust suppressants.

Limitations
Silt fence should not be installed along areas where rocks or other hard surfaces will prevent uniform anchoring of fence posts and entrenching of the filter fabric. Silt fences are not suitable for areas where large amount of concentrated run-off are likely to occur. Silt fence should not be installed across streams, ditches or waterways where flows are concentrated.

Safe Work Practices
DO:

4. Receive proper training and information regarding the measures to be implemented on site.
5. Set up the control methods prior to commencement of work.
6. Inspect control measures daily to ensure they are effective.
7. Ensure length of fence is appropriate to the area.

8. Place fabric side towards the disturbed site.
9. Ensure wooden stakes are secure in the ground.
10. Ensure stakes are no more than 2 meters apart.
11. Ensure fence and stakes are connected together.
12. Inspect fence daily.
13. Ensure proper body techniques are used while installing fence, bend at knees, stretch when body feels tired.
14. Use around stockpile.
15. Always use storm inlet sediment barriers.
16. Ensure sediment barriers are properly set up.
17. Ensure proper P.P.E is being worn.

DO NOT:

1. Install silt fence across streams, ditches or waterways where flows are concentrated.
2. Use damaged silt fence.
3. Staple fence to trees.
4. Allow soil to enter into water sources.
5.

Safe Job Procedure for Silt Fence Installation / Maintenance

1. Filter fabric can be purchased in a continuous roll and cut to the required length of the area to be protected.
2. Place wooden stakes into the ground and ensure the stakes are securely in the ground. Stakes should not be more than 2 meters apart and can be closer depending on the length of the silt fence.
3. Where installation with wooden stakes is difficult, such as hard or frozen ground, the use of steel stakes is recommended.
4. Place the fabric along the stakes with the fabric side facing the disturbed site.
5. Fasten the fence securely to the stakes using heavy-duty wire staples, or tie wire.
6. Excavate a trench where the bottom edge of the silt fence must be buried at least 15cm (6 inches) into the ground.
7. Backfill and compact the area to ensure effectiveness, and to ensure that no gaps exist between the ground and the fabric.
8. The ends of the silt fence should be extended upslope (resemble an arc or horseshoe), this will prevent water from flowing around the ends of the fence.
9. Sufficient area should exist behind the fence for ponding to occur without flooding or overtopping the fence.

Maintenance

Regular inspections should be done especially before and after each rainfall to ensure that the fence is intact and accomplishing the original intention of its establishment.
Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site, disposed of and replaced with new silt fence barrier.
Soil that has accumulated to one-half the original height of the silt fence should be removed and properly disposed of. Soil removed during maintenance may be incorporated into earthworks on the site or disposed of at an appropriate location. Silt fence should remain in place until disturbed areas have been regenerated and permanently stabilized.
The removal must be undertaken in such a manner as to prevent the release of soil into any water source.

Site Dewatering /Pumping

Dewatering a jobsite maybe required when there is water accumulating within the area and needs to be removed so the task / job can be completed.

The procedure and materials involved in dewater the site are in place to prevent silt from entering the storm drains. Silt bags are an effective way for removing sediments.
Safe Work Practice DO:

10. Obtain a dewatering permit from City of Calgary Inspector.
11. Set up pumps properly.
12. Connect hoses up properly.
13. Inspect hoses and pump for damage, leaks, rips etc.
14. Replace silt bag as required.
15. Pump water into storm line.
16. Verify and disclose the presence of any contaminates on site.
17. Inspect the flow conditions, bag conditions daily. DO NOT:
18. Pump water into sanitary line.
19. Pump without a permit.
20. Use damaged or full bags.

Safe Job Procedure

1. Inform city of Calgary inspector, that you will require a dewatering permit.
2. Set up pump at location, making sure the pump in on stable, level ground. Place a wheel choke under wheels to prevent the pump from moving.
3. You may need to build a berm around the pump, depending on how close to the water the pump is.
4. Below the intake hose, dig a hole, place gravel around suction hose to minimize silt intake.
5. Place a silt bag on the end of the discharge hose. Ensure bag is on securely.
6. Inspector will inspect the pump set up, and if satisfied they will issue you a dewatering permit.
7. Inspect silt bag daily, when bag is full replace silt bag and dispose of the used bag.

VEHICLE IDLING

Person(s) who drive LBCO Contracting Ltd. vehicles are encouraged to help reduce carbon dioxide emissions by eliminating unnecessary vehicle idling. "Vehicle idling is tough on the environment, on Albertan's health and on our vehicles, so it makes good environmentally and economically to start changing this driving habit," said Alberta Environment Minister.

What can you do?

21. Turn off your engine when your vehicle is parked or stopped for more than 10 seconds, except in traffic.
22. Start driving after no more than 30 seconds of idling, even in cold weather.
23. Use block heaters to warm up the

engine in winter. Did you know?

1. More than 10 seconds of idling uses more fuel than turning your engine off and restarting it again.
2. Excessive idling can cause engine damage.
3. Winter conditions fuel injected engines require 30 seconds to a few minutes to circulate engine oil.

Exemptions

1. Emergency vehicles, while engaged in operational activities.
2. Vehicles that is required to idle in order to power hydraulic equipment or lights.
3. Vehicles equipped with temperature sensitive equipment.

Exemptions also apply during an initial engine warm-up period in weather below –10 Celsius and during periods of extreme cold weather below –10 Celsius. When engines must be left operating, for any reason, the operator will remain with the unit.

All person(s) are required to do their part in reducing unnecessary carbon dioxide emissions.

VEHICLE AND EQUIPMENT MAINTENANCE

Description and Purpose:

Prevent or reduce the contamination of storm water resulting from vehicle and equipment maintenance by running a “dry and clean site”. The best option would be to perform maintenance activities at an offsite facility. If this option is not available then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. Employees and subcontractors must be trained in proper procedures.

Suitable Applications

These procedures are suitable on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

Onsite vehicle and equipment maintenance should only be used where it is impractical to send vehicles and equipment offsite for maintenance and repair. Sending vehicles/equipment offsite should be done in conjunction with TR, Stabilized Construction Entrance/Exit. Outdoor vehicle or equipment maintenance is a potentially significant source of storm water pollution. Activities that can contaminate storm water include engine repair and service, changing or replacement of fluids, and outdoor equipment storage and parking (engine fluid leaks).

Implementation

1. Use offsite repair shops as much as possible. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate maintenance area.
2. If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas should be protected from storm water run-on and runoff, and should be located at least 50 ft from downstream drainage facilities and watercourses.
3. Drip pans or absorbent pads should be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
4. Place a stockpile of spill cleanup materials where it will be readily accessible.
5. All fuelling trucks and fuelling areas are required to have spill kits and/or use other spill protection devices.
6. Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
7. Inspect onsite vehicles and equipment daily at start-up for leaks, and repair immediately.
8. Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
9. Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
10. Train employees and subcontractors in proper maintenance and spill cleanup procedures.
11. Drip pans or plastic sheeting should be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
12. For long-term projects, consider using portable tents or covers over maintenance areas if maintenance cannot be performed offsite.

13. Consider use of new, alternative greases and lubricants, such as adhesive greases, for chassis lubrication and fifth-wheel lubrication.
14. Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
15. Do not place used oil in a dumpster or pour into a storm drain or watercourse.
16. Properly dispose of or recycle used batteries.
17. Do not bury used tires.
18. Repair leaks of fluids and oil immediately.

Listed below is further information if you must perform vehicle or equipment maintenance onsite.

Safer Alternative Products

24. Consider products that are less toxic or hazardous than regular products. These products are often sold under an "environmentally friendly" label.
25. Consider use of grease substitutes for lubrication of truck fifth-wheels. Follow manufacturers label for details on specific uses.
26. Consider use of plastic friction plates on truck fifth-wheels in lieu of grease. Follow manufacturers label for details on specific uses.

Waste Reduction

Parts are often cleaned using solvents such as trichloroethylene, trichloroethane, or methylene chloride. These materials are harmful and must not contaminate storm water. They must be disposed of as a hazardous waste. Reducing the number of solvents makes recycling easier and reduces hazardous waste management costs. Often, one solvent can perform a job as well as two different solvents. Also, if possible, eliminate or reduce the amount of hazardous materials and waste by substituting non- hazardous or less hazardous materials. For example, replace chlorinated organic solvents with non- chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check the list of active ingredients to see whether it contains chlorinated solvents.

The "chlor" term indicates that the solvent is chlorinated. Also, try substituting a wire brush for solvents
to clean parts.

Recycling and Disposal

Separating wastes allows for easier recycling and may reduce disposal costs. Keep hazardous wastes separate, do not mix used oil solvents, and keep chlorinated solvents (like, - trichloroethane) separate from non-chlorinated solvents (like kerosene and mineral spirits). Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
Provide cover and secondary containment until these materials can be removed from the site. Oil filters can be recycled. Ask your oil supplier or recycler about recycling oil filters. Do not dispose of extra paints and coatings by dumping liquid onto the ground or throwing it into dumpsters. Allow coatings to dry or harden before disposal into covered dumpsters. Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries, even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Inspection and Maintenance

27. Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP

are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.

28. Inspect BMPs subject to non-storm water discharges daily while non-storm water discharges occur.
29. Keep ample supplies of spill cleanup materials onsite.
30. Maintain waste fluid containers in leak proof condition.
31. Vehicles and equipment should be inspected on each day of use. Leaks should be repaired immediately or the problem vehicle(s) or equipment should be removed from the project site.
32. Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as

Material and Equipment Use Over Water
Definition and Purpose:

Procedures for the proper use, storage, and disposal of materials and equipment on barges, boats, temporary construction pads, or similar locations that minimize or eliminate the discharge of potential pollutants to a watercourse.

Appropriate Applications

These procedures shall be implemented for construction materials and wastes (solid and liquid) and any other materials that may be detrimental if released. Applies where materials and equipment are used on barges, boats, docks, and other platforms over or adjacent to a watercourse.

Limitations

None identified.

Standards and Specifications

18. Use drip pans and absorbent materials for equipment and vehicles and ensure that an adequate supply of spill cleanup materials is available.
19. Drip pans shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is expected to be idle for more than one hour.
20. Maintain equipment in accordance with manufactures specifications, “Vehicle and Equipment Maintenance.” If a leaking line cannot be repaired, remove equipment from over the water.
21. Provide watertight curbs or toe boards to contain spills and prevent materials, tools, and debris from leaving the barge, platform, dock, etc.
22. Secure all materials to prevent discharges to receiving waters via wind.
23. Identify types of spill control measures to be employed, including the storage of such materials and equipment. Ensure that employees are trained regarding the deployment and accesses of control measures are being used.
24. Ensure the timely and proper removal of accumulated wastes.
25. Comply with all necessary permits required for construction within or near the watercourse, such as, Department of Fish and Game and other local permitting agencies.
26. Discharges to waterways shall be reported to the Engineer immediately upon discovery. A written discharge notification must follow within 3 days.

Maintenance and Inspection

1. Inspect equipment for leaks and spills on a daily basis, and make necessary repairs.

2. Ensure that employees and subcontractors implement appropriate measures for storage and use of materials and equipment.
3. Inspect and maintain all associated BMPs and perimeter controls to ensure continuous protection of the watercourse.

City of Calgary Landfill Information

Waste loads must be tarped/tied down and secure to prevent littering.

1. Charges apply to all loads of waste taken to the landfills.
2. Clean fill disposal requirements have changed. A soil analysis test may be required before disposal. For more information, call 3-1-1.

Locations and hours

Spyhill Landfill Site – 69 Street & 112 Avenue N.W. (via Sarcee Trail N.W.)

1. Winter hours – Monday to Saturday, 7:30 a.m. to 5 p.m. (November 1 to March 31)
2. Summer hours – Monday to Sunday, 7:30 a.m. to 5 p.m. (April 1 to October 31)
3. Closed on all statutory holidays during winter hours, with the exception of Remembrance Day (Nov. 11); Spyhill Landfill Site will be open.

East Calgary Landfill Site – 17 Avenue & 68 Street S.E.

1. Winter hours – Monday to Saturday, 7:30 a.m. to 5 p.m. (November 1 to March 31)
2. Summer hours – Monday to Sunday, 7:30 a.m. to 5 p.m. (April 1 to October 31)
3. Open all statutory holidays year-round excluding Christmas and New Year's Day.

Shepard Landfill Site – 68 Street and 114 Avenue S.E.

1. Winter hours – Monday to Saturday, 7:30 a.m. to 5 p.m. (November 1 to March 31)
2. Summer hours – Monday to Sunday, 7:30 a.m. to 5 p.m. (April 1 to October 31)
3. Close on all statutory holidays during winter hours, with the exception of Remembrance Day (Nov. 11); Shepard Landfill Site will be open.

Release Contingency Plan

The main objectives of the Release Contingency Plan are complying with all regulatory requirements pertinent to projects and responding to occurrences within the shortest time to protect people, property and the environment. To meet these objectives the plan includes mechanisms for initiating and carrying out the required notifications, spill containment, clean-up and remedial actions.

Releases are referred to as minor, moderate or major and defined with regard to response capability and perceived impact as follows:

Minor - Releases of such magnitude and nature that does not cause significant adverse effects, or public concerns and that the “releaser” can, utilizing his own resources or resources available to him/her, undertake the necessary measures to control, contain and clean-up the substance released.

Moderate - A release of such magnitude and nature that causes or is likely to cause significant adverse effects in the immediate vicinity of the release for which the resources under a municipal or co- operative contingency plan may be required to effectively contain and clean-up the substance released.

Major - A release of such magnitude and nature as to require the resources of the provincial and/or federal agencies in addition of those available municipally or from the responsible party.

All releases, which are abnormal in quantity and quality and are NOT subject to exemption, shall be reported as required by this Release Contingency Plan.

Reportable Incidents

Releases are reportable when they cause or are likely to cause any of the following:

1. Impairment of the quality of the environment - air, water, or land
2. Injury or damage to property and/or animal life
3. Harm or material discomfort
4. Adverse health effects
5. Loss of enjoyment of normal use of property
6. Interference with normal conduct of business

Of primary concern are those releases of pollutants which are abnormal in quantity and quality.

External Reporting Exemption

Reportable quantities of releases of hazardous and/or toxic substances vary widely.

Therefore, there is no standard exemption. If a release of any quantity is detected, Management must be notified to determine if external notification is necessary.

All releases will be cleaned up in an acceptable manner such that the release site is restored to its pre- release condition, where this can be reasonably expected. This clean-up requirement covers all releases.

The Supervisor shall maintain records of all potentially releasable substances on site and volumes involved. MSDS for all such substances will be kept in a location that is readily accessible.

The Supervisor shall verify that hazardous substances on-site are properly stored and labelled.

The Supervisor shall update and revise the Release Contingency Plan as required to meet changing site conditions, changes in personnel, contacts to be notified, etc.

A clearly marked Spill Response Kit containing miscellaneous is located in all company vehicles.

Initial Response

The initial response by persons working in the immediate area of the spill or those who discover the spill includes the following:

7. Evacuate personnel from the immediate work area as required
8. Inform the Supervisors immediately
9. Assess the release and the hazards involved
10. Take initial containment actions
11. Minimize/control hazards to person
12. Cover/fill drains and drainage paths
13. Construct soil berms
14. Deploy booms and sorbents

In the case of minor releases of a non-reportable nature, the released substance and any contaminated materials or soils will be placed in a drum or other suitable container (with lid) for subsequent disposal.

The Supervisor shall inform the LBCO Contracting Ltd. Supervisor.

Primary Response and Notification

The Supervisor shall take charge and direct the spill response. The Supervisor shall:

15. Assess the release
16. Activate release containment and clean-up measures
17. Notify Management
18. Notify external representatives as appropriate
19. Commence documentation of the release (through a delegate if necessary)
20. Request external help for containment, clean-up, and disposal activities as required.

Remediation

Release containment and clean-up includes the

following actions: As appropriate:

21. Transfer spilled substance to tanks or drums
22. Transfer contaminated soil/water to drums
23. Transfer used sorbents to drums
24. Dispose of recovered release substance and clean-up materials adhering to all applicable laws.
25. Restore the site of the release.

Spill Response

Initial observation includes determining the general nature of the release; this assessment will be relayed to the primary contacts on the Notification List.

The following will be determined during the assessment:

26. Substance released
27. Location of release
28. Quantity released
29. Total quantity involved (potential for additional release)

30. Surface area affected
31. Hazard involved (consulting MSDS and project personnel)
32. Potential to stop the leak or contain the release
33. Requirements for containing the release, criteria, equipment, etc.
34. Weather conditions anticipated while the countermeasures are underway.

The following list is a sample of information which will be gathered in response to a release:

1. Discharge (spiller) company name
2. Location
3. Name of caller and return telephone number
4. Type of incident
5. Injuries or casualties
6. Substance and quantity released
7. Quantity contained/released
8. Time incident started/stopped
9. Cause of spill
10. Potential environmental impact
11. Description of nature of containment and recovery actions underway
12. Time clean-up will be completed
13. Names of other agencies contacted

Definitions

A release: A discharge or spill of a pollutant from a structure, vehicle or other container, that is abnormal in quantity and quality in light of all circumstances of the discharge, and which has caused, is causing or may cause an adverse effect to people, property or the environment.

Bonding: A process used to keep conductive parts at the same electrical potential, e.g., to prevent static electricity or during fault conditions.

Triple Rinse: In accordance with A.E.U.B. recommended requirements "Triple Rinse" means container or product that has been rinsed three times using for each rinse a clean solvent that is in an amount equal to 10% of the container volume and is capable of removing the contained waste, or an equivalent method. (Rinsing once with a wash gun is not an equivalent method).

Sustainability

Definition and Purpose:

LBCO Contracting Ltd. is committed to the long-term sustainability of the community we work and live in. We recognize that our business can have a negative impact on the environment, and we are committed to finding ways to reduce our impact. LBCO is committed to be a leader and model of sustainability by doing business in a way that contributes to an environmentally, socially, and economically sustainable future.

It is our policy to:

- Use a waste minimalization policy by avoiding excessive material ordering
- Maintain detailed material inventory and coordinate with suppliers to avoid oversupply
- Recycle as much waste material as possible. Meaning shipping and storing of materials for future use rather than disposing

- Avoid the use of paper wherever possible. For example, sending invoices and quotes via email as PDF files.
- Eliminate idling in all non-critical machinery and vehicles
- Purchase products with a lower environmental impact. For example, purchasing materials from nearby as opposed to shipping materials.
- Minimize the amount of single user vehicle transportation by organizing car-pooling to worksites
- Avoid unnecessary travel by making use of instant messaging, video and audio conferencing, telephone and email.
- Work towards a zero-trace work environment. For example, at the completion of a project leaving no negative impact to the site.
- Creating and implementing Erosion and Sediment Control plans to minimize our impacts on the local waterways and ecosystems

It is our policy to continually evaluate and mitigate our impacts on the environment we are operating in. We understand that we often operate large machinery in the course of our business. We reduce our impacts by restricting the idling of all machinery that is not immediately in use. Vehicles and equipment are to be maintained in good condition and to be kept in an up-to-date maintenance schedule. This greatly increases the operating efficiency, reducing the greenhouse gas emissions.
We understand Water is one of our most precious resources and are committed to its conservation. This is done by means of reducing the number of times we wash machinery, opting for broom cleaning when possible. Further, educate employees on water conservation when working with large mains that require extensive flushing for commissioning. This may include coordinating with the municipality in scheduling a flush during times of drought.
Within the office, we utilize energy efficient lighting and heat fixtures. We avoid the use of paper whenever possible, requesting sub-contractors to email files as opposed to paper copies.

Element 13: Legislation

Occupational Health & Safety

Safety legislation is designed to protect workers, the public and the environment. Compliance with legislation helps prevent personal injuries, fines and legal actions. The specific legislation that governs the worksite depends on the combination of conditions, people, equipment, materials, environment, tools and situations.

The legislation governing workplaces in Alberta is known as the Alberta Occupational Health and Safety Act. The "Act" is the LAW and is common to all workplaces regardless of the type of work being done.

The Alberta Occupational Health and Safety Act, Regulation and Code apply to most work sites in the province. The legislation sets out obligations for employers, workers, suppliers, manufactures, owners, contractors and prime contractors. The legislation stipulates that these grounds must be knowledgeable and must follow the legislation on their worksites. The legislation describes performance standards, assigns responsibility, designates authority and sets penalties.

It is the employer's responsibility to ensure that:

- Workers are competent or work under the direct supervision of a competent worker.
- Workers are aware of their responsibility for their own safety and the safety of other workers.
- Equipment is the correct type for the job.
- Workplace hazards are identified, evaluated and

controlled. Workers have the responsibility to:

- Refuse work which presents an imminent danger to themselves, or other workers, which is not normal to their occupation or which would not be normally done.
- Co-operate with the employer for the purpose of protecting themselves and other workers.

Occupational Health and Safety and Worker's Compensation Board legislation have addressed specific topics in various Acts and Regulations. LBCO Contracting Ltd. shall adopt the information found in these Acts and Regulations as a minimum standard in our continued attempt to provide the safest work environment possible.

Provincial legislation requires that every employer shall inform the respective Occupational Health and Safety authorities (WCB, Workplace Health and Safety) immediately of the occurrence of any incidents which:

- Result in death,
- Cause a worker to be admitted to hospital for more than 2 days,
- Involve an unplanned or uncontrolled explosion, fire or flood that causes or has a potential to cause a serious injury,
- Involve the collapse or upset of a crane or hoist,
- Involve the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.
- Involved the major release of a toxic or hazardous substance, or
- Involve illegal harassment or violence

Incident sites should not be disturbed unless the safety of workers is at risk.

Titles of typical Acts and Regulations that affect workers and employers have been listed below. Copies pertinent documents will be made available to all personnel upon request.

- Alberts Occupational Health and Safety Act and Regulations
- Alberta Workers Compensation Act
- Alberta Environmental Protection and Enhancement Act and Regulations
- Canadian Environmental Protection Act

In additions to the above legislation, any or all of the following codes and standards is also applicable:

- Alberta Fire Code
- Misc. Canadian Safety Association (CSA) Standards
- Natural Gas and Propane Installation Codes
- Permits issued by the Alberta Energy and Utilities Board (EUB)

Highlights of the Occupational Health and Safety Act, Regulation and Code

The following general provisions apply to every construction project, no matter how many trades are involved.

- Employers must ensure the health and safety of their workers.
- Workers must take reasonable care to protect the health and safety of themselves and of other workers and must cooperate with their employers for the purpose of protecting others and their own health and safety.
- If serious injury, or an accident that has the potential for serious injury occurs at a worksite, the employer must notify Workplace Health and Safety – and must conduct an investigation.
- No worker is to carry out any work if they have reasonable and probable ground to believe that the work presents imminent danger to their own or to another worker's health and safety.
- In any case where work could endanger any worker, the employer must ensure that the work is done only by a worker who is competent for that task, or under the direct supervision of a worker who is competent for the task.
- A person who contravenes the Alberta Occupational Health and Safety Act or Safety Regulation and Code, or who fails to comply with an order made under the Act or the Safety Regulation and Code, is guilty of an offence and is liable for fines or imprisonment.
- Where a provision of this regulation imposes a duty on an employer or a worker, that duty applies to situations or events within the employer's or the worker's area of occupational responsibility.
- Where a provision of the Act or Safety Regulation and Code imposes a duty on the employer, a contractor must comply with the provision as if it were directly imposed om the contractor.

Applicable Legislation -But NOT Limited to:

- Dangerous Goods Transportation and Handling Act, and Regulation
- Workplace Hazardous Information Legislation
- Workers Compensation Act
- Environmental Protection and Enhancement Act, and Regulation
- Building Code Regulation

- Commercial Vehicle Safety Regulation, Dimension and Weight Regulation, Certificate and Insurance Regulation
- Driver's Hours of Service Regulation
- Fire Code Regulation
- Wastewater and Storm Drainage Regulation
- Employment Standards Code, and Regulation
- Province of Alberta Traffic Safety Act
- North America Cargo Securement Standard
- Canadian Standards Association
- Alberta Human Rights Act
- Occupational Health and Safety Act, Regulation and Code

The following list summarizes all topics covered by the OH&S Code. If any other Parts of the OH&S Code apply to your work site refer to the OH&S links on the LBCO Safety APP.

Part 1 Definitions and General Application
Part 2 Hazard Assessment, Elimination and Control
Part 3 Specifications and Certifications
Part 4 Chemical Hazards, Biological Hazards and Harmful Substances
Part 5 Confined Spaces
Part 6 Cranes, Hoists and Lifting Devices
Part 7 Emergency Preparedness and Response
Part 8 Entrances, Walkways, Stairways and Ladders
Part 9 Fall Protection
Part 10 Fire and Explosion Hazards
Part 11 First Aid
Part 12 General Safety Precautions
Part 13 Joint Health and Safety Committees and Health and Safety Representatives
Part 14 Lifting and Handling Loads
Part 15 Managing the Control of Hazardous Energy
Part 16 Noise
Part 17 Overhead Power Lines
Part 18 Personal Protective Equipment
Part 19 Powered Mobile Equipment
Part 20 Radiation Exposure
Part 21 Rigging
Part 22 Safeguards
Part 23 Scaffolds and Temporary Work Platforms
Part 24 Toilets and Washing Facilities
Part 25 Tools, Equipment and Machinery
Part 26 Ventilation Systems
Part 27 Violence and Harassment
Part 28 Working Alone
Part 29 Workplace Hazardous Materials Information System (WHMIS)
Part 30 Demolition
Part 31 Diving Operations
Part 32 Excavating and Tunnelling
Part 33 Explosives
Part 34 Forestry

Part 35 Health Care and Industries with Biological Hazards
Part 36 Mining
Part 37 Oil and Gas Wells
Part 38 Expired.
Part 39 Tree Care Operations
Part 40 Utility Workers — Electrical
Part 41 Work Requiring Rope Access
Schedule 1 Chemical Substances
Schedule 2 First Aid
Schedule 3 Noise
Schedule 4 Safe Limit of Approach Distances
Schedule 5 Cable Clips on Wire Rope
Schedule 6 Dimensions of Scaffold Members
Schedule 7 Toilets at a Work Site
Schedule 8 Saw Blade Crack Limits
Schedule 9 Shoring Component Dimensions
Schedule 10 Minimum Separation Distances
Schedule 11 Repealed
Schedule 12 Radiation Exposure

Summary

The above highlights are general only and each worker has the responsibility to obtain and become familiar with the content of the Act and the applicable regulations. This company has a link to the Occupational Health and Safety Act, Regulation and Code on our digital safety app that is readily available to every worker for their review. A hard copy is also provided at the head office.

This company requires that all its personnel be familiar with and practice the safety standards of the company. We insist that the safety standards of the client are the absolute minimum when on site and that, as individuals,
all employees and contractors are to conduct themselves in such a way that safeguards them, their fellow workers,
and the assets of the company. It will be the responsibility of Management to ensure the compliance by employees with established rules and regulations for the health and safety of the company.

The provincial regulations outline safety responsibilities and minimum safety requirements. It is the responsibility of all personnel, to read, understand and comply with the regulations that are applicable to their job.

This manual supersedes all previous Safety Policies previously issued. This is a consolidated update of existing procedures to ensure that Occupational Health and Safety practices are carried out in an approved manner and in accordance with regulatory laws and regulations, codes and specifications of federal, provincial and local governments, and company policies as it relates to Health and Safety.

This manual will be revised and/or amended at any time as the need arises. Suggestions for its improvement are encouraged from employees and should be submitted in writing to the president of the company.