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**Attachment C**

**Contractors Health and Safety Management System**



# ALLEN SERVICES & CONTRACTING LTD.



## HEALTH & SAFETY MANAGEMENT SYSTEM V. 1.0



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## 0.1 Introduction

Allen Services transportation division has been providing freight solutions throughout North America including remote destinations within the Northwest Territories since 1980.

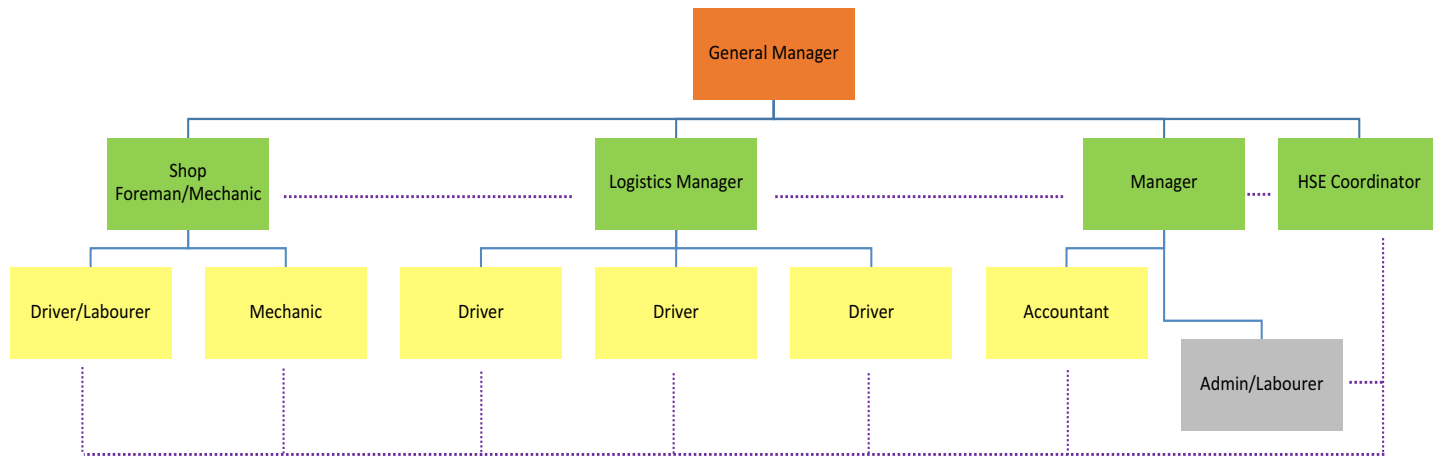
Allen Services & Contracting Ltd. has its locations in Sturgeon County, Alberta and in Inuvik, Northwest Territories. The company employs on an average 30 employees throughout the year at both locations. Employees include equipment operators, mechanics, drivers, labourers and administrative staff.

Our Alberta operations mainly transports freight; Inuvik operations are busy in civil construction.



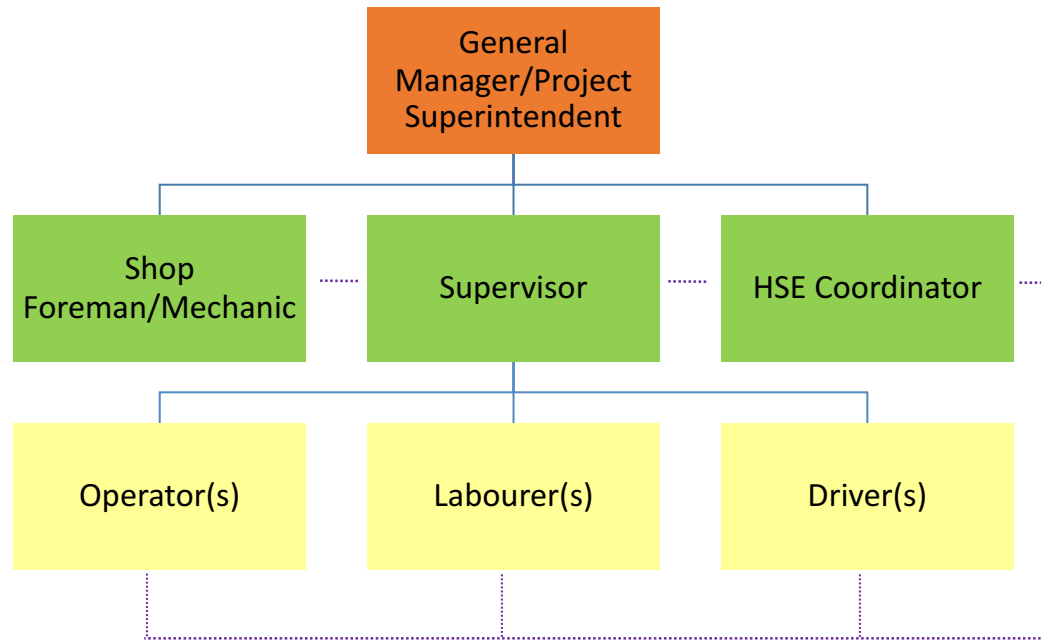



## ORGANIZATIONAL CHART - ALBERTA OPERATIONS





### ORGANIZATIONAL CHART - NORTHWEST TERRITORIES OPERATIONS



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## 1.1.0 CORPORATE HEALTH & SAFETY POLICY

The management of Allen Services & Contracting Ltd. acknowledges the right of all our employees and subcontractors to work in a healthy and safe work environment. Management is actively involved in and committed to providing a healthy and safe environment to our employees, subcontractors, clients, suppliers, visitors, and those who could be affected by conduct of our work in all our operations. We strive for no harm to people, environment, property and an incident free workplace.

We are dedicated to identifying, correcting and preventing health, safety and environmental hazards that could adversely affect persons involved with our business. We strive for continuous improvement and for meeting or exceeding applicable Federal and Provincial health and safety legislation in both provinces of our operations; Alberta and Northwest Territories. We base our improvement on the monitoring of health and safety performances, regular reviews of the Safety Management System for efficiency, as well as on the analysis of incidents that cause injury, property or environmental damage.

Allen Services & Contracting Ltd.'s management provides the required resources to sustain the Safety Management System, provides properly maintained equipment and tools, and applicable training to all employees.

It is the responsibility of each employee and subcontractor to adhere to our Corporate Health & Safety Policy, Programs and applicable occupational health & safety legislation in the provinces of Alberta and Northwest Territories. Allen Services & Contracting Ltd. is committed to implementing a system of monitoring methods to ensure our Safety Management System is adhered to by all parties.


We welcome any suggestions on how we might improve our Safety Management System and actively encourage participation by all involved parties.

Management trusts all of Allen Services & Contracting Ltd. employees will join management in a personal commitment to make safety a way of life.

Brian McCarthy, General Manager	Date

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## 1.1.1 RESPONSIBILITIES & ACCOUNTABILITIES FOR HEALTH & SAFETY


### Senior Management – Company Standards

1. Provide a safe and healthy workplace.
2. Provide sufficient resources to sustain and improve health and safety in the workplace.
3. Establish and maintain a safety program including a statement of policy in relation to said program.
4. Ensure that all established safety policies are administered and enforced in all areas.
5. Provide information, instructions, and assistance to all managerial and supervisory staff in order to protect the health and safety of all employees, subcontractors and visitors.
6. Ensure policies, practices, and procedures are reviewed on an annual basis.
7. Ensure equipment is maintained as per manufacturer specifications and in good working condition.
8. Ensure insurance and registration compliance.

### Managers – Company Standards

1. Ensure all personnel are aware of and effectively practice the policies and procedures set out in the health & safety and NSC programs.
2. Ensure resources are allocated properly to sustain and improve health and safety in the workplace.
3. Understand and enforce Occupational Health and Safety Legislation in Alberta and Northwest Territories.
4. Comply with and enforce NSC Standards and requirements.
5. Provide ongoing health and safety education, programs and training courses as required.
6. Ensure all employees are suitably trained, adequately qualified and competent to perform their work in a safe manner
7. Monitor departments and projects and hold them accountable for their individual safety performance.
8. Understand and enforce the Incident Reporting Procedure.
9. Ensure incidents and accidents, including motor vehicle accidents, are thoroughly investigated.
10. Coordinate maintenance, ensure all equipment is maintained as per manufacturer specifications, according to NSC Standards and in good working condition.
11. Coordinate and ensure insurance and registration compliance.

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### Senior Management and Managers (shared) - Legislated

1. Take every reasonable precaution to ensure the workplace is safe and to protect the health and safety of workers.
2. Provide and maintain a safe means of entrance to and exit from work sites.
3. Train employees about any potential hazards, how to safely use, handle, store and dispose of hazardous substances and how to handle potential emergencies relating to hazardous substances and spills.
4. Supply personal protective equipment where required and ensure workers know how to use the equipment safely and properly.
5. Ensure workers are trained in and know how to use specialized protective equipment properly (respiratory protection, fall protection, H2S monitors, etc.).
6. Immediately report all critical injuries to the government department responsible for OH&S in Alberta and Northwest Territories and all recordable injuries to WCB/WSCC within 72 hours.
7. Appoint a competent Supervisor who sets the standards for performance, and who ensures safe working conditions.
8. Ensure that workers are adequately and suitably trained.
9. Keep written records of training.
10. Establish and maintain a comprehensive OH&S programs, including a written Health & Safety Policy and an Incident Investigation Procedure.
11. Support Supervisors, Safety Coordinators and workers in their health and safety activities.
12. Take immediate action when a worker or Supervisor reports a potentially hazardous situation or condition.
13. Initiate an immediate investigation of incidents.

### Supervisors – Company Standards

1. Know and apply Allen Services & Contracting Ltd.'s policies, procedures and relevant OH&S Legislation in Alberta and Northwest Territories.
2. Ensure all employees are trained and competent to perform their work in a safe manner.
3. Advise all employees of any potential or actual hazards and how to isolate, eliminate or control them.
4. Arrange for medical treatment in case of injury or illness including transportation to a doctor or hospital, as necessary.

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5. Report all incident/accidents, including Near Mises, and injuries to management immediately.
6. Investigate all incidents, including near misses, in cooperation with the Safety Coordinator and advise management on how to prevent similar incidents in the future.
7. Carry out regular inspections of the workplace to ensure a safe and healthy environment.
8. Ensure all workers comply with legislative and company requirements.
9. Ensure workers wear prescribed PPE.
10. Ensure workers work in accordance with practices and procedures.
11. Ensure workers complete their hazard assessments as required and aid in hazard identification, assessment and control.


### **Supervisors – Legislated**

1. Ensure workers use and wear prescribed protective equipment devices.
2. Advise workers of potential and actual hazards.
3. Take every reasonable precaution in the circumstances for the protection of workers.
4. Instruct workers in safe work procedures.
5. Train workers for all tasks assigned to them, and check that their work is being conducted safely.
6. Ensure that only authorized, suitably trained workers operate tools and equipment or use hazardous chemicals.
7. Ensure that equipment and materials are properly handled, stored, and maintained.
8. Enforce health and safety requirements.
9. Correct unsafe acts and conditions.
10. Identify workers with problems that could affect safety at the worksite.
11. Follow up with interviews and referrals where necessary.
12. Formulate health and safety rules and inspect the workplace for hazards.
13. Supervisors (and Managers) act on behalf of the employer, and hence have the responsibility to meet the duties of the employer as specified in the Act.
14. Supervisors (and Managers) have a double role under the OH&S Act, Regs, & Code – the role of an employer and worker.

### **Workers – Company Standards**

1. Read, understand, and comply with Allen Services & Contracting Ltd.'s safety programs, Health & Safety Policy, safe work practices, safe job procedures and rules.
2. Refuse unsafe work.

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3. Know and understand your rights and responsibilities.
4. Follow and comply with the Safety Intervention Program.
5. Wear the appropriate PPE and clothing for the job as required by Allen Services & Contracting Ltd. and OH&S regulations in Alberta and Northwest Territories.
6. Notify his/her Supervisor immediately of all unsafe conditions or acts that may affect the health and safety of themselves or others.
7. Report all incidents/accidents, including motor vehicle accidents, and injuries immediately or as soon as reasonably practicable to his/her Supervisor.
8. Take every reasonable precaution to protect the health and safety of everyone in the workplace including Allen Services & Contracting Ltd. subcontractors, visitors and other trades/workers on site.

#### **Workers - Legislated**


1. Work in compliance with OH&S Act, Regulations and Code in Alberta and Northwest Territories.
2. Refuse unsafe work.
3. Use personal protective equipment, safeguards and safety equipment as required by regulations.
4. Report workplace hazards and dangers.
5. Work in a manner as required by the employer and use the prescribed safe work practices and safe job procedures.
6. Immediately report any injury to a (first aid attendant and/or) Supervisor.
7. Take initiative and to make suggestions to improve health and safety.
8. Work safely, and encourage co-workers to do the same.

#### **Drivers (of commercial vehicles under NSC)**

In addition to Workers' Responsibilities listed in this section, drivers have additional responsibilities. The driver has sole responsibility to make sure their truck and trailer are in good condition at all times. All drivers must:

1. Operate vehicles and/or equipment trusted to their care in a safe, careful and efficient manner.

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2. Report all tickets and/or violations received to management.
3. Train and supervise “new hires” to do the work safely.
4. Keep truck interior/exterior and trailer clean.
5. Prepare documents and records to be submitted to carrier according to (AR 314/2002) including driver’s daily logs, weigh slips, time records, and to;
6. Complete a daily vehicle inspection report according to (AR 121/2009 NSC standard 13) on the vehicle they are assigned, which must be submitted within 20 days to the employer.
7. Interact with clients and Allen Services & Contracting Ltd. employees in a professional manner.
8. Follow all company safety rules, practices and procedures.
9. Comply with National Safety Code Standards and carrier requirements.
10. Comply with OH&S Regulations and Laws.
11. Comply with Federal and Provincial Laws.
12. Know, understand and comply with NSC Standards.

### **Subcontractors**

Subcontractors are expected to fully cooperate and participate in all aspects of Allen Services & Contracting Ltd.’s Health and Safety Programs. Subcontractors will be pre-qualified with a review of their safety programs, if applicable, and performance, safety training documents, and safety statistics. Allen Services & Contracting Ltd. reserves the right to deny subcontractors work with the company should their safety metrics indicate substandard safety performance. The subcontractors will:

1. Review Allen Services & Contracting Ltd.’s Health & Safety Programs, read, understand and comply with the company safety policies, follow safe work practices, safe job procedures and all company rules.
2. Comply with their own Health & Safety Programs.
3. Refuse to perform unsafe and/or imminent danger work.
4. Attend and participate in safety meetings/toolbox talks as required by Allen Services & Contracting Ltd.
5. Respect Allen Services & Contracting Ltd.’s and its clients’ property and facilities.
6. Conduct hazard assessments before work begins, and as conditions change.
7. Take every reasonable precaution to protect the health and safety of themselves and others.

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8. Report all hazards to Allen Services & Contracting Ltd.'s Supervisor, eliminate or mitigate the hazard, and complete a hazard report form.
9. Wear Personal Protective Equipment, use safety equipment and safety devices as required by regulations, client- and Allen Services & Contracting Ltd. policy.
10. Have all required training to perform their job in a safe manner.
11. Stop work, shut down operating equipment, and secure the area if a near miss or incident occurs.
12. Cooperate with Allen Services & Contracting Ltd.'s management and regulatory bodies during investigations.
13. Report all incidents, hazards and near misses, injuries and accidents to Allen Services & Contracting Ltd.'s Supervisor.

### Visitors

All visitors will:

1. Follow instructions of Allen Services & Contracting Ltd.'s Supervisor, Manager and their personal escort.
2. Attend site safety orientation, if required to access a job site.
3. Wear personal protective equipment at all times when on site.
4. Never walk about a job site unescorted.
5. Comply with all site and company safety rules.
6. Access only areas where they are authorized.

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## 2.1 HAZARD ASSESSMENT, ELIMINATION & CONTROL

### Purpose

- To provide guidelines for identifying, assessing and controlling workplace hazards;
- To ensure that potential hazards of new processes and materials are identified before they are introduced into the workplace;
- To identify the jobs/tasks which require risk assessment

### Key Responsibilities

- As specified within this program.
- Allen Services & Contracting Ltd. and its employees must assess a work site and identify existing or potential hazards before work begins and as conditions change.

### Introduction

The foundation of a good safety program is the ability to identify workplace hazards. By recognizing, identifying, assessing and eliminating or controlling hazards, we can eliminate or reduce the possibility of injuries to persons, damages to property and environment.

### Types of Hazard Assessments and Frequency

At Allen Services & Contracting Ltd. different types of hazard assessments are completed at each stage of the job and for different jobs.


- 1) Pre-Job Hazard Analyses (PJHAs) – Before a project begins
- 2) Field Level Hazard Assessments (FLHAs) – Every day before work begins on project sites
- 3) Formal Hazard Assessments (FHAs) – At implementation of safety management system
- 4) Job Hazard Analyses (JHAs) – When developing a SWP or SJP
- 5) Journey Management Plans (JMPs) – Before a driver completes a trip on an unknown road

#### 1) Pre-Job Hazard Analyses (PJHA)

The Pre-Job Hazard Analysis process is used before a project begins to identify, assess and recommend controls for hazards workers will come across when working on a project site.

Before a project begins on site, the Site Supervisor and/or the HSE Coordinator shall conduct a Pre-Job Hazard Analysis (**PJHA**) using the PJHA form. This formal process shall identify the various tasks that will be performed, the hazards the jobs/tasks/environment/people/equipment may create and shall recommend controls. The results shall be included in a report and the methods to be used to control or eliminate identified hazards shall be communicated to all workers

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on site before any work begins. The PJHA process will not be used on all jobs that Allen Services & Contracting Ltd. may perform. Some smaller jobs, or regular jobs such as driving highway trucks, will not require a PJHA.

Inputs into the baseline hazard identification include, but are not limited to:

- Scope of work;
- Legal and other requirements;
- Sources of energy, contaminants and other environmental conditions that can cause injury;
- Walk through of work environment;

**Hazard identifications (as examples) are to include:**

- Working Alone
- Thermal Exposure
- Isolation of Energy
- Hearing Protection
- Musculoskeletal Disorders
- Bloodborne Pathogens
- Confined Spaces
- Driving
- General Safety Precautions
- And any other established policy or procedures by Allen Services & Contracting Ltd.
- Site specific work/scope of work


## 2) Field Level Hazard Assessments (FLHAs)

Procedures are in place to identify potential hazards by the use of PJHA, Field Level Hazard Assessment (FLHA), Formal Hazard Assessments, work permits, inspections, site-specific or Allen Services & Contracting Ltd. audits, toolbox talks meetings, incident reports, worksite observations and incident investigations.

All workers and subcontractors working on a project site are required to review the initial PJHA (if applicable) when accessing the site for the first time and complete a Field Level Hazard Assessment every day before beginning their work. All identified hazards must be assessed and controls must be assigned within the work site hazard assessment (FLHA) for that specific hazard. The Supervisor is required to review and sign off on each FLHA to ensure all hazards have been identified, assessed and controls are implemented. FLHAs must be repeated when new tasks are to be performed that have not been assessed yet, when a work process or operation changes,

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before the construction of a new site or when significant additions or alterations to a job site are made.

New hazards must be reported immediately using the “Near Miss/Hazard/Unsafe Act/Unsafe Condition” form and addressed by the Supervisor. Controls for newly identified hazards must be implemented and the new hazards and its controls must be communicated to all workers on site during either a safety meeting or toolbox talk as soon as reasonable practicable.

### 3) Formal Hazard Assessments (FHA)

Formal Hazard Assessments are developed for all tasks/jobs completed within the company. The Formal Hazard Assessments are an useful tool to new and existing employees to review the tasks/jobs they are, or will be, performing. The Formal Hazard Assessments show the hazards associated with the specific task/job and recommendations for controlling the hazards.

Existing Formal Hazard Assessments are reviewed annually to ensure any changes in operations, new equipment, alterations to work sites are addressed.

The respective Supervisor must inform the Safety Coordinator when additional jobs/tasks are introduced into the work place in order to revise planning and assessment needs.

### 4) Job Hazard Analyses (JHA)

Job Hazard Analyses are developed whenever a new task is performed within the company that has not been previously assessed for risk and no Safe Job Procedure (SJP) or Safe Work Practice (SWP) has been developed. While developing the Job Hazard Analysis, a SJP or a SWP must be developed at the same time. This SJP or SWP must be transferred to the SJPs or SWPs section of the safety manual.


### 5) Journey Management Plans

Journey Management Plans are developed by drivers and their Supervisors in cooperation when drivers prepare to drive an unknown/unfamiliar route or a route that presents more hazards than other routes. The drivers and Supervisors review the route using GeoTrac and google maps, review weather forecasts and discuss control measures. The Journey Management Plan must be with the driver during the trip.

### Types and Sources of Hazards

Every workplace consists of four major components. These are:

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- The people
- The environment
- The materials
- The equipment/tools

The following are types of hazards in the workplace that fit in one of these four major components:

- **Mechanical/Physical** – such as being struck by or being caught in rotating, reciprocating or transverse motion of machinery.
- **Ergonomic** – relating to the interactions of man, machine and repetitive motion.
- **Chemical** – any toxic substance. Exposure may be acute or chronic; may be in the form of a liquid, solid or gas; and may enter the body by inhalation, absorption, injection or ingestion. It constitutes any substance that creates an explosive, flammable or oxygen deficient atmosphere.
- **Electrical** – any type of energy that could potentially send a current through the body or create a voltage potential difference between a person and another structure with the potential of discharge.
- **Biological** – any biological agent that causes adverse effects to the human body, such as bacteria, viruses or fungi.
- **Radiation** – can be “non-ionizing (includes microwaves, radio waves, ultraviolet or infrared) or ionizing (includes gamma rays, x-rays and radioactive materials).
- **Environmental** – any type of condition created by the surroundings or atmosphere that will affect the function of the body such as heat, cold, humidity, noise or air quality. Wildlife and domestic animals living in an area may also be considered an environmental hazard.
- **Acts and Behaviours of People** – where standards exist and an individual person or persons do not act in accordance with those standards.


### Hazard Assessment Process

When completing a hazard assessment four steps must be taken:

1. **Task inventory**
2. **Hazard identification**
3. **Prioritization**
4. **Control measures**

As well, different hazard assessments will be generated at different times throughout the job scope. Following is a breakdown of each section.

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### 1. Task Inventory

In order to perform any hazard assessment, a task inventory must first be developed. List all tasks that are needed to complete the job. These tasks will be discussed during the weekly toolbox talks.

### 2. Hazard Identification

**Hazard:** A dangerous object, event, behavior or condition that can cause personal injury, property damage and loss of containment or environmental impairment. Once all tasks have been listed, hazards must then be identified for each task. Some tasks may have one or two hazards while others may have many. Refer to “Types and Sources of Hazards” mentioned earlier in this section.

Hazards that may be present in the workplace are identified utilizing:

- Pre-Job Hazard Analyses
- Formal Hazard Assessments
- Field Level Hazard Assessments
- Journey Management Plans
- Inspections
- Incident/Accident Investigations
- Observations


Hazardous conditions will be communicated to all personnel at risk of exposure prior to commencing work, through the use of job planning, toolbox talks, orientations, safety meetings, memos and postings.

### 3. Prioritization

Once all the job tasks are listed and the hazards are identified, the next step is to prioritize. Prioritizing is the process of “ranking” identified hazards so that the appropriate hazard controls can be implemented and so that high risk hazards easily stand out. A matrix system is used to rank the hazards. The first ranking estimates the severity of the problem if the potential incident/accident were to occur.

1. **Imminent Danger** – causing loss of life or body part, permanent disability, widespread occupational illness and loss of facilities. All workers must be notified and controls implemented immediately to eliminate or reduce the hazard to an acceptable level of risk.
2. **Serious** – sever injury, serious illness, temporary disability, property and equipment damage. Any worker who is or may be affected by the hazard must be immediately notified. Hazard controls must be implemented with training provided where required.

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3. **Minor** – minor or non-disabling injury or illness or non-disruptive property damage. Affected workers must be notified and controls must be implemented and training provided as required
4. **Negligible** –no potential for injury, property or environmental damage.


The second ranking estimates the probability of an incident/accident occurring:

- A. Probable** – Likely to occur immediately or soon
- B. Reasonably probable** – Likely to occur eventually
- C. Remote** – Could occur at some point
- D. Extremely Remote** – Very unlikely to occur

Each hazard is assigned both rankings and the result determines priority on terms of corrective action. The most sever hazards encountered would be ranked 1A and would be more critical to correct than a hazard ranked 4D.

		PROBABILITY			
		A	B	C	D
SEVERITY	1				
	2				
	3				
	4				

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### Potential Consequence Level

Impact on business and operations:

Consequence Level	Health & Safety	Environment	Operation	Reputation
Imminent Danger/ Catastrophic 1A	Fatality (s), loss of property and/or equipment (explosion, collapse of building)	widespread, long-term, public involved	Significant disruption (shut-down for several days), loss of client	Extended Media coverage (national), Radio and TV, several times a day
Serious 1B, 1C, 2A, 2B	Severe injury, lost time (amputation, long-term-disability) damage to property and/or equipment (requires extended repairs)	widespread, short-term, public involved	disruption (shut-down for several hours - 1 day), loss of contract	Media coverage (local), TV and Radio
Medium 1D, 2C, 2D, 3A, 3B, 4A, 4B	Medical treatment injury, damage to property/equipment (requires some repairs)	non-widespread, no public involved	disruption (shut-down for up to 2 hours)	no media coverage
Minor 3C, 3D, 4C	Minor injury (e.g. First Aid, bruises, scratches), damage to property/equipment (requires minimal repairs)	Minor - no impact	No significant disruption	no media coverage
Negligible 4D	No injury, no property/equipment damage	No impact	No disruption	no media interest

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#### 4. Control Measures and Hierarchy

Once hazards are identified, they must be eliminated or controlled. Once control measures are established, your level of risk should be minimal or non-existent.

Ensuring that control measures are in place will reduce your chance of injury, incidents, production and financial losses. There are five strategies for controlling hazards.

They are as follows:

##### Hierarchy

1. **Elimination** – This is the best control measure to use. If you can completely eliminate the hazard, then it no longer poses a threat to the workers or anyone else present at the worksite.
2. **Engineering** – This is when we use physical items to control the hazards. Examples of engineering controls would be signs, barricades, positive air shut offs, etc. The implementation of engineered controls will help minimize hazards and potential injuries.
3. **Administrative** – Focuses on the work process and the worker. Examples would be practices, procedures, training, monitoring etc. Throughout this manual you will find various administrative control measures.
4. **PPE** – Is the last line of defence. Personal protective equipment should be used in accordance with another control measure and not as a standalone control. Refer to the Personal Protective equipment section to help determine which is most suitable for the task.
5. **Combination** of the above (2 – 4)

#### Conducting an FLHA or Shop Hazard Assessment

Every workplace consists of four major components. These are:


1. The people
2. The environment
3. The materials
4. The equipment/tools

#### Steps in Conducting an FLHA or Shop Hazard Assessment

##### Ask yourself: “WHAT IF?”

1. Assemble the people that will be involved.
2. List all task steps in order of work being performed in the column “TASKS”.
3. Discuss possible hazards with workers.
4. Tour the entire operation.

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5. Look for hazards originating with environment, materials, equipment and people.
6. Keep asking “What if?”
7. Mark on the checklist all items that need attention.
8. Review the checklist.
9. Identify potential and known hazards in the column “HAZARDS”. Examples may include: slips/trips/falls, chemical exposure, high traffic area, etc.
10. Prioritize the hazards.
11. Refer to all applicable legislation, safe work practices and trade specific training to identify control measures best suiting the work and enter all control measures in the column “CONTROL” (number the tasks for an easier overview and accordingly to the task and hazard).
12. Date the hazard assessment.



**Remember that hazards exist on every worksite.** Eliminate hazards when possible, if hazards cannot be eliminated they must be mitigated (controlled) by using the appropriate procedures or devices. At Allen Services & Contracting Ltd. Hazard Assessments must be conducted as described under “Types of Hazard Assessments and Frequency” to prevent the development of unhealthy and safe conditions and:

- as conditions change
- When a new work process is introduced
- When a work process or operation changes
- Before the construction of significant additions or alterations to a work site

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### **Training**

Allen Services & Contracting Ltd. shall provide health and safety education to each employee which shall include the hazard prevention program implemented to prevent hazards applicable to the employee, including the hazard identification and assessment methodology and the preventive measures taken by Allen Services & Contracting Ltd.; the nature of the work place and the hazards associated with it; the employee's duty to report; an overview of the Alberta OH&S Code, Part 2. for Alberta employees and the Northwest Territories & Nunavut Codes of Practice – Hazard Assessment for Northwest Territories employees.

### **Review Process**

The hazard assessment program will be reviewed to ensure no new hazards derived from the corrective measures. The review shall include a management of change consideration as well. The Supervisor shall be involved in the review process.

### **RIGHT AND RESPONSIBILITY TO REFUSE IMMINENT DANGER/UNSAFE WORK**

The right to refuse unsafe work / Imminent Danger is a fundamental right and obligation of all workers in Canada granted through provincial and territorial Occupation Health and Safety acts.

Unsafe work or imminent danger is defined as a danger that is not normal for your occupation or a danger under which a person engaged in that occupation would not normally carry out the persons work.

### **Workers**


- Refuse to perform work that possesses an imminent danger or is in any way unsafe to yourself or any other worker at the work site.
- Refuse to operate any tool, appliance or equipment if, on reasonable and probable grounds, the worker believes that it will cause an imminent danger to the health or safety of themselves or any other worker at the work site.
- Report any work refusal that is based on unsafe acts or imminent danger to your immediate supervisor.
- Cooperate in the investigation conducted by supervision and management.

### **Management**

- Investigate the situation and take any action required to eliminate the imminent danger.
- Ensure that no other workers are assigned to the tasks subject to the work refusal.
- Prepare a written record of the worker's notification, including the actions taken to make the operation safe.
- Provide a copy of the investigation to the workers that initiated the work refusal.

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- During the investigation, workers may be assigned to another task.

**NOTE: WHEN COMPLETING A JOB HAZARD ASSESSMENT OR FIELD LEVEL HAZARD ASSESSMENT UNSAFE WORK / IMMINENT DANGER MUST BE PRIORITIZED AS “1A” IN THE PRIORITY FIELD. IN CASE OF “1A”, THE PROCEDURE FOR “REFUSAL OF UNSAFE WORK/IMMINENT DANGER” MUST BE FOLLOWED AS DESCRIBED IN SECTION 2.3 OF THIS MANUAL.**

## OCCUPATIONAL HEALTH AND SAFETY ACT

### Alberta OH&S Act, Section 35 - Existence of Imminent Danger

#### 1. No worker shall

- carry out any work if, on reasonable and probable grounds, the worker believes that there exists an imminent danger to the health or safety of that worker,
- carry out any work if, on reasonable and probable grounds, the worker believes that it will cause to exist an imminent danger to the health or safety of that worker or another worker present at the work site, or
- operate any tool, appliance or equipment if, on reasonable and probable grounds, the worker believes that it will cause to exist an imminent danger to the health or safety of that worker or another worker present at the work site.

#### 2. In this section, “imminent danger” means in relation to any occupation

- a danger that is not normal for that occupation, or
- a danger under which a person engaged in that occupation would not normally carry out the person’s work.


#### 3. A worker who

- refuses to carry out work, or
- refuses to operate a tool, appliance or equipment pursuant to subsection (1) shall, as soon as practicable, notify the worker’s employer at the work site of the worker’s refusal and the reason for the worker’s refusal.

#### 4. On being notified under subsection (3), the employer shall

- investigate and take action to eliminate the imminent danger,


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- b. ensure that no worker is assigned to use or operate the tool, appliance or equipment or to perform the work for which a worker has made a notification under subsection (3), unless
  - i. the worker to be so assigned is not exposed to imminent danger, or
  - ii. the imminent danger has been eliminated,
- c. prepare a written record of the worker's notification, the investigation and action taken, and
- d. give the worker who gave the notification a copy of the record described in clause (c).

**5. The employer may require** a worker who has given notification under subsection (3) to remain at the work site and may assign the worker temporarily to other work assignments that the worker is reasonably capable of performing.

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## 2.2 NEAR MISS IDENTIFICATION

### Purpose

This program was developed to provide a guideline for employees and subcontractors for identifying and recognizing near misses in our workplace.

Near miss incidents have the same basic causes as loss producing and injury events. By understanding these basic causes and taking the necessary actions to eliminate them, loss-producing events and injuries can be prevented. Proactive reporting of near miss events and the identification of hazards remains a fundamental part of our approach to safety. The management of Allen Services & Contracting Ltd. does not only encourage the reporting of all near misses but expects from all employees and subcontractors that all near misses will be reported and investigated.

### Definitions

- A near miss is an event where there has been no loss or injury but under slightly different circumstances an event with consequences could have occurred.
- A hazard is a condition in the workplace that could result in an injury or loss if it remains uncorrected.

### Key Responsibilities

#### Workers


- Report the near miss
- Record why the near miss occurred

#### Supervisor and/or HSE Coordinator

- Determine the level and intensity of the investigation
- Determine the root cause factors
- Identify follow up actions and assign responsibilities

Research and investigation of major accidents adds new data and shows that for every major accident there are several preceding minor accidents with limited impact and near miss incidents with little or no significant damage. Therefore, it has been recognized that by focusing on minor incidents it is possible to reduce the probability of having major accidents.

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To ensure that Allen Services & Contracting Ltd.'s Near Miss Identification Program is successful, the following 8 steps must be followed:

**1. Identification**

An individual must recognize an incident or condition as a near miss. Allen Services & Contracting Ltd. employees will receive training on near miss identification.

**2. Disclosure**

Once a near miss is identified, it must be disclosed. At Allen Services & Contracting Ltd. the prepared form for Near Miss/Hazard Identification must be used.

**3. Prioritization**

Once a near miss has been reported, it must be prioritized. This very critical step determines the path forward as to what level of attention is needed. This will be reviewed by Supervisors and management to help determine the risk.

**4. Distribution**

Distribution of the near miss information to the people that can help properly analyze the cause of the incident must be completed.

**5. Identification of Causes**

Both indirect and direct causes must be determined. It could be a behavior based, lack of training or equipment condition cause or other. Look at all possible aspects of causes.

**6. Solution Identification**

A solution for each identified cause should be determined.


**7. Dissemination**

Once solutions are identified, the information should be communicated to the people who will execute the solution.

**8. Resolution (Tracking)**

Once solutions are identified and the implementers are informed, it is important to track all suggested changes to ensure that they are properly executed.

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Allen Services & Contracting Ltd. employees and subcontractors must use the Near Miss/Hazard Identification form for reporting all near misses and hazards. Allen Services & Contracting Ltd. Supervisors will investigate all near misses as described in the Incident Reporting and Investigation program.

Near miss and hazard reports address safety issues in this part of the safety pyramid



Near misses are the best leading indicators of accident potential. By having a comprehensive near miss system, where near misses are not only recognized but also resolved properly, we can expect both, to reduce the number of accidents and to improve the quality and productivity of our operations.

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## Training

Allen Services & Contracting Ltd.'s Near Miss Identification training will include the following:

- What are near misses
- Why are near misses important and how they can help
- What is the role of each person in near miss reporting
- How will near misses be managed and by who
- What is the near miss process (eight steps)
- How do you report a near miss
- How would you prioritize a near miss
- Where to find near miss reporting forms

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### 2.3.0 RIGHT AND RESPONSIBILITY TO REFUSE UNSAFE WORK POLICY

#### Purpose

The purpose of this policy is to establish procedural guidelines as per the Occupational Health & Safety Act in Alberta and Northwest Territories for a work refusal.

Allen Services & Contracting Ltd. is committed to the protection of its employees, sub-contractors and visitors, the environment and its physical assets. Allen Services & Contracting Ltd. will continue to maintain a safe work environment in order to prevent occupational injuries and illnesses.

It is the policy of Allen Services & Contracting Ltd. to resolve health and safety concerns before a work refusal occurs and provide an uniform reporting procedure. The right and responsibility to refuse unsafe work/imminent danger is a fundamental right and obligation of all workers in Canada granted through provincial and territorial Occupation Health and Safety Acts.

Allen Services & Contracting Ltd. recognizes the workers' right and responsibility to refuse unsafe work/imminent danger and will develop procedures for the refusal of unsafe work/imminent danger. The procedures shall be followed by all levels of employees and subcontractors at all times in the event of unsafe work/imminent danger occurrence.

Brian McCarthy, General Manager	Date

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### Definition

Unsafe work or imminent/unusual danger is defined as a danger that is not normal for your occupation or a danger under which a person engaged in that occupation would not normally carry out the persons work.

### Responsibilities

All employees and subcontractors of Allen Services & Contracting Ltd. are equally responsible for complying with the requirements of the Alberta and Northwest Territories Occupational Health & Safety Act and its Regulations.

### Employee Responsibilities

- Refuse to perform work that possesses an imminent/unusual danger or is in any way unsafe to yourself or any other worker at the work site.
- Refuse to operate any tool, appliance or equipment if, on reasonable and probable grounds, the worker believes that it will cause an imminent danger to the health or safety of themselves or any other worker at the work site.
- Report any work refusal that is based on unsafe acts or imminent/unusual danger to your immediate supervisor.
- Cooperate in the investigation conducted by Supervision, Management and HSE Coordinator.

### Management Responsibilities

- Investigate the situation and take any action required to eliminate the imminent/unusual danger.
- Ensure that no other workers are assigned to the tasks subject to the work refusal.
- Prepare a written record of the worker's notification, including the actions taken to make the operation safe.
- Provide a copy of the investigation to the workers that initiated the work refusal.
- During the investigation workers may be assigned to another task.

### Unsafe Work/Refusal of Imminent/Unusual Danger Procedure

Allen Services & Contracting Ltd. recognizes the legal right to refuse unsafe work if there are reasonable grounds to believe that there exists an imminent/unusual danger to life, health or safety. Allen Services & Contracting Ltd. will respect this right and will work with its workers and subcontractors to prevent and deal with these situations.

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## General

- All workers have the right to refuse to do work, use equipment, or work in environments which they reasonably believe may:
  - A) result in imminent/unusual danger to their own health or safety, or
  - B) result in imminent/unusual danger to another person's health or safety as a result of their work.
- It is the responsibility of the worker to immediately report the circumstance of any unsafe condition to his/her Supervisor or Manager. If the worker believes that such unsafe condition constitutes an imminent/unusual danger and refuses such work, then this must be clearly and immediately communicated on a reporting form.
- If the matter is not resolved through discussion between the Supervisor or Manager and the worker, the HSE Coordinator must be notified. A thorough investigation must be completed by the HSE Coordinator.
- While awaiting the arrival of the HSE Coordinator, the worker must be removed to a safe location. Alternative safe work may be assigned to the worker. The original work requested of the worker who made the refusal may be offered to another worker, providing the details surrounding the first worker's refusal are clearly explained to the second worker and the second worker does not feel any danger.
- The HSE Coordinator will act as adjudicator in the work refusal dispute. The decision will be in writing and copies given to the worker, the worker, Supervisor and Manager.
- In the event that the worker does not agree with the HSE Coordinator's investigation and decision, the worker and the employer may contact the

AB OH&S Government Safety Inspector at **1-866-415-8690**

or

NWT Chief Safety Officer at **1-800-661-0792**

to investigate the incident and make a final decision.

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## Reporting

All unsafe work refusals which are not resolved by the Supervisor and affected worker, must be documented. The documentation should include:

- Date
- Time
- Location
- Name of worker
- Name of manager
- Name of worker safety representative
- Details of circumstances surrounding refusal
- Details of investigation findings
- Name of HSE Coordinator (if applicable)
- Final resolution of unsafe work refusal

## Discipline

Under existing legislation, discipline or reprisal is not permitted unless the work refusal was made in bad faith or, after a government Safety Inspector (Alberta) or Chief Safety Officer (Northwest Territories) has found the job to be safe, the worker continues to refuse to do the work. If either of these circumstances can be clearly established, with agreement of the government Safety Inspector or Chief Safety Officer, discipline may be considered.


## Conclusion

In the vast majority of incidents when unsafe conditions are brought to the attention of Supervisors, they are resolved immediately. Workers should be encouraged, and required, to report unsafe conditions immediately.

In the rare instance that the Supervisors and worker do not agree, it is important to have a procedure in place to resolve the issue with a minimum of disruptive conflict.

For further information on Refusal of Unsafe Work/Imminent Danger consult the **Safe Job Procedure 4.1 for Refusal of Unsafe Work/Imminent/Unusual Danger of this safety manual, the Alberta Occupational Health & Safety Act, section 35 - Existence of Imminent Danger and the Northwest Territories Occupational Health & Safety Act, section 13, Imminent Danger.**


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### 3.01 SAFE WORK PRACTICES POLICY

The personal health and safety of each worker and subcontractor of Allen Services & Contracting Ltd. is of primary importance. The prevention of occupationally induced illness and injuries is of utmost importance to management. All workers and subcontractors have the right to work in a healthy and safe work environment. To minimize the impact and dangers of work performed by workers and subcontractors, Allen Services & Contracting Ltd. has developed a set of Safe Work Practices (SWPs).

Safe Work Practices are general guidelines of Do's and Don'ts on how to perform tasks in a safe manner. Safe Work Practices do not consider specific situations, work environment, conditions or acts. They are a guideline on how a task can be performed safely as to prevent injury, property damage or illness.


Safe Work Practices will be reviewed at least annually utilizing the SAFE WORK PRACTICES CHANGE REQUEST form, but may be reviewed more often as need arises. Such needs may include changes to operations, upgraded tools, equipment or machines, or as a result of an incident. Allen Services & Contracting Ltd. will make every effort to involve all employees in the development and review of SWPs to ensure appropriate personnel, field and office staff, is involved in the process.

The review may be done in the field with workers and Supervisors, in the office with management and administrative staff, or during safety meetings.

Employees at all levels are expected to follow the written SWPs, to suggest changes/updates to existing SWPs and to make recommendations for new SWPs. Subcontractors are expected to follow Allen Services & Contracting Ltd.'s SWPs should they not have developed their own SWPs.

Brian McCarthy, General Manager	Date

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### 3.02 Safe Work Practice Change Request Form

Name of Requester: \_\_\_\_\_ Date: \_\_\_\_\_

Safe Work Practice Number(s): \_\_\_\_\_

Reasons for requesting changes:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Please submit this form for review to the HSE Coordinator**

---

**Office Use Only:**

Request Approved

Request Not Approved

If not approved, reason:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

If request not approved, please provide a copy of this form, including reasons, to the requester.

Copy provided to requester: Yes


No

\_\_\_\_\_  
Reviewer Name:

\_\_\_\_\_  
Reviewer Signature:

\_\_\_\_\_  
Date:

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### 3.03 Safe Work Practice Review Form

#### Purpose


The purpose of the Safe Work Practices is to provide documented and safe means as well as a guideline for performing critical tasks and a means of interpreting the requirements of legislation into actual operating practices that will provide compliance with the regulatory requirements and the requirements of Allen Services & Contracting Ltd.

This SWP Review form must be used each time SWPs are reviewed by Allen Services & Contracting Ltd. employees.

SWP #s	Reviewed by (First Name, Last Name):	Date: mm/dd/yyyy

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### 3.1 General Housekeeping

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	Safety boots and as per site requirement
Developed by:	Position:	Date:
Robert Pierce		November 28, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

The Alberta OH&S Code - Part 12 says that "An employer must ensure that a work site is kept clean and free from materials and equipment that could cause workers to slip or trip". Employees are responsible for their work areas. Supervisors are responsible and accountable for overseeing employees and insuring that proper housekeeping is maintained. In order to reduce the risk of injury the following good housekeeping practices must be followed at all times:

- Always ensure adequate lighting. If a light is out, report it. Replace it immediately if you can.
- Always keep openings to stairways and ladders clear and free of debris.
- Never block walkways/stairs when laying out extension cords, welding leads, hoses, etc.
- Always coil up when not in use and return to storage or hang out of the way.
- Always keep less commonly used equipment or materials in storage - if possible.
- Always sheathe, cover or store sharp or pointed tools/materials.
- Never block eyewash stations, fire extinguishers, walkways, fire exits, stairs.
- Always report and clean up spills at once. If it's not possible, cover them with sand or some other absorbent material until they can be cleaned up. Flag and tag if required.
- Always store/stack materials in such a way that they will not tip, collapse or fall - secure if necessary.
- Always keep electrical panels closed - DO NOT block.
- Never use electrical rooms for storage.
- Never store compressed gases or any flammables near heat sources.
- Always store compressed gases in an upright position - chain or secure as needed.
- Always remove protruding nails and other sharp objects or hammer them flat to prevent someone from stepping on them or snagging themselves.
- Always dispose of combustibles and flammables properly.

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### 3.2 Use of Fire Extinguishers and Fire Prevention

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Fire Extinguisher	n/a	As per site requirement
Developed by:	Position:	Date:
Robert Pierce		January 16, 2012
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

#### General

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

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

#### Types of Fires

##### Class A:

These consist of wood, paper, rags, rubbish and other ordinary combustible materials.

Recommended Extinguishers:

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

Fighting the Fire:

Soak the fire completely – even the smoking embers.

##### Class B:

Flammable liquids, oil, and grease.


Recommended Extinguishers:

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

Fighting the Fire:

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

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### Class C:

Electrical Equipment:

Recommended Extinguishers:


Carbon dioxide and dry chemical (ABC units) extinguishers.

Fighting the Fire:

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

- Ensure you are fully trained with operation and maintenance of fire extinguishers.
- All workers should know the location of the firefighting equipment in their area(s).
- Never attempt to fight a fire if you are alone or heavy smoke or toxins are present.
- Before fighting a fire have an escape route at your back – Behind You!
- Never turn your back on fire!
- Fire Extinguishers will work for approximately 30 seconds – if you have not put the fire out in that time – leave the area immediately.
- Never return an empty fire extinguisher to its docking location, exchange it for a charged unit.
- All fire extinguishers will be inspected on an annual basis by a certified company and verified monthly upon site inspection.
- Always keep fire extinguishers visible and easy to access.
- Keep all entrances and exits clear of obstructions such as vehicles, equipment and general clutter at all times. It is also important to keep an area clear of at least three feet (3') in front of the electrical panels.
- Never overload an electrical outlet.
- Keep your work area free of unnecessary combustible materials.
- Use proper degreasing agents. Never use gasoline or other “flammable liquids” for degreasing or cleaning.
- Always inform your Supervisor and/or site supervision immediately or as soon as possible.
- All Flammable and combustible materials are to be stored in explosion/fire proof cabinets away from sources of ignition. A record of these materials is to be kept as well as an inventory.
- Reference to the SDS is mandatory before handling these materials. All safety precautions listed in the SDS are to be followed.

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- Any equipment used with an internal combustibile engine is required to have a positive air shut-off when working in allocation that poses a hazard with combustibile/flammable materials and gases present.

**Remember the word – PASS**

**P**ull the pin;  
**A**im low, pointing the extinguisher nozzle at the base of the fire;  
**S**queeze the handle...this releases the dry chemical;  
**S**weep form side to side.

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### 3.3 Defective Tools

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Defective tools	n/a	As per site requirement
Developed by:	Position:	Date:
Robert Pierce		November 06, 2013
Revised by:	Position:	Date:

Defective tools can cause serious and painful injuries. If a tool is defective in any way, **DO NOT USE IT.**

Be aware of problems like:

Chisels and wedges with mushroomed heads;  
 Split or cracked handles;  
 Chipped or broken drill bits;  
 Wrenches with worn out jaws; and  
 Tools which are not complete, such as files without handles.  
 Stretched chains  
 Damaged tie down straps (torn, burned cut etc.)  
 Missing pieces of tools

To ensure safe use of hand tools, remember:


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

Air, gasoline or electric power tools, require skill and the operators' complete attention, even when they are in good condition. Don't use power tools when they are defective in any way.

Watch for problems like:

- Broken or inoperative guards;
- Insufficient or improper grounding due to damage on double insulated tools;
- No ground wire (on plug) or cords of standard tools;
- The on/off switch not in good working order;
- Tool blade is cracked; and


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- The wrong grinder wheel is being used, or the guard has been wedged back on a power saw. If tools are damaged they must be tagged with a defective tool tag and placed in a specified location for repair or replacement. Tools found defective must be recorded as well.

**Remove all defective tools from the work area and mark,  
“DEFECTIVE – DO NOT USE.”**

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### 3.4 Working Alone

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement
Developed by:	Position:	Date:
Robert Pierce		November 04, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

- Review the Working Alone Program, Section A3.0 of the Safety Manual before working alone
- Review the Limitations on or Prohibitions of Specified Activities of the program
- Always carry a communication device with you such as a 2-way-radio or cell phone
- Ensure somebody knows where you are and contact him or her periodically at predetermined intervals.
- Ensure doors are secured after you enter a building, if applicable. Do not open back doors or leave them open and unattended.
- When leaving a building ensure you have your keys ready prior to exiting.
- Be aware of your surroundings when entering and exiting a building, remain in brightly lit areas as much as is practical.
- Do not let strangers into the building, if somebody is asking for your assistance offer to call for help.
- Try to vary your routine.
- If someone grabs your bag or other personal property, **do not** resist and **do not** chase the thief.
- Do not perform any tasks that require you to have assistance of others, such as carrying large and heavy objects, tasks that require safety watch, such as confined space entry or welding.
- Ensure that you have a fully charged cell phone, radio or landline available.
- Before beginning work always have the appropriate emergency phone numbers and address of closest hospital or medicenter available.
- If driving, know your route and its hazards.
- If driving, review weather conditions, route and potential hazards before beginning trip.

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### 3.5 Use of Explosive/Powder Actuated Fastening Tools

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Powder actuated tools	User manual	Safety boots, safety glasses/goggles, hearing protection, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017
Revised by:	Position:	Date:

#### General

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


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

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

- Only properly trained and qualified operators are to use this type of tool. The user shall possess proof of this training issued by the manufacturer, authorized dealer/distributor or other competent source. .
- The tool must be CSA approved for "Powder Actuated Fastening Tools". .
- The tool should be loaded just prior to use with the correct load for the job anticipated. Tools should never be loaded and left to set or be moved to an alternate work site after being loaded. If you decide not to use it - UNLOAD IT. .
- The tool should never be pointed at anyone, whether loaded or unloaded. Hands should be kept clear of the muzzle end at all times. .
- Explosive/powder-actuated tools should always be stored in their proper, lockable boxes. .
- Explosive/powder-actuated tools must never be used in an explosive or flammable atmosphere. .
- When used, the tool must be held firmly and at right angles to the surface being driven into. .


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- Eye protection must be worn by the operator. Where there is a danger of spalling, full-face protection must be worn. Hearing protection is also to be worn in confined areas.
- To prevent free-flying studs, ensure that the material being driven into will not allow the stud to completely pass through it (i.e., glass block, hollow tile, etc.).
- Manufacturers' recommendations should be consulted and followed whenever there is a doubt about the material being driven into, maintenance procedures, or load strength to be used. .
- Always be aware of the other workers. Where a hazard to other workers is created by this operation, signs and barricades identifying the hazard area are mandatory. .

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### 3.6 Use of Powered Tools


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Powered tools		Safety boots, safety glasses/goggles, hearing protection, hard hat, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017
Revised by:	Position:	Date:

### General Safety Rules

Each power tool has its own unique safety hazards that must be taken into consideration when operating power tools. In addition to the recommended safe work practices for power tools listed below, all workers should review the appropriate safe job procedure for the powered tool to be operated.


- Keep the work area clean. Cluttered areas and benches create accident situations. Avoid dangerous environments. Avoid using power tools in the rain or in any damp or wet conditions. Do not use in the area of combustible liquids or gases.
- Wear proper clothing - loose clothing or jewelry could get caught in moving parts.
- Check the electrical connections - make sure the tool is properly connected and the circuit is properly grounded. Only three wire extension cords are to be used on electrical power tools. .
- Do not abuse the cord. Check to see that the cord does not get tangled with the machine. Do not carry tools by the cord or yank the cord from the receptacle. Keep the cord clear of heat, oil and sharp edges. .
- Secure the work. Use clamps or vice to hold work. This is safe and allows two hands free to operate the tool. .
- Use the tool correctly. Operate only at designated voltage. Do not modify the tool - use it only as intended. .
- Maintain tools properly. Keep tools sharp and clean. Protect them from dirt and dampness. Make sure all parts are tight. Lubricate and change accessories as per manual. .
- Use the safety guards as provided and check to ensure they are in good working condition.

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- Disconnect all tools when not in use, before servicing and when changing accessories such as blades, bits or cutters. .
- Work in areas clear of other employees as much as possible. .

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### 3.7 Use of Powered and Hand Held Tools – Requirements

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	Safety boots, safety glasses/goggles, hearing protection, hard hat, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017
Revised by:	Position:	Date:

#### General

- Electrical tools must have a 3-wire (grounding) cord and plug, excluding double insulated tools.
- Grinding and cutting discs are to be used only for designed application and rated speed.
- All tools must have Original Equipment Manufacturer (O.E.M.) guards.
- On/Off switches must be functional and positioned so Operator has access.
- To prevent employees from tripping and falling, cords and hoses must be kept out of walkways, off stairs and off ladders.
- Only specifically designed accessories can be used for specific tools
- Chisels, punches, hammers, wrenches, etc. to have all burrs ground from striking area as required.
- Chisels, punches, screwdrivers, etc. to have tips properly dressed.
- Cracked and/or splintered handles must be replaced.
- All tools must be cleaned after use and repairs made prior to properly storing.
- Tools to be used for designed purposes only, DO NOT modify any tools.

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### 3.8 Use of Compressed Air

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Compressed Air Equipment	n/a	Safety boots, safety glasses/goggles, hearing protection, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:

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

Compressed air is often misjudged and not recognized as a hazard because people often think of air as harmless. **CAUTION: SERIOUS INJURY MAY OCCUR!**


#### Safety Facts

- Air forced into body tissues through the skin can cause an air embolism (air bubbles in the blood stream), which can be fatal if it reaches the heart, lungs, or brain.
- Inflation injuries of the intestine can be caused by air being directed at private body areas.
- Air blown into the mouth at only 5 PSI can rupture the esophagus or the lungs.
- Eye and ear injuries can occur from a blast of air or flying particles. These types of eye and ear injuries can cause partial or total loss of sight or hearing.
- The sound from a compressed air hose can reach 120-130 dB that is well above OSHA's 85 dB permissible exposure limit.
- 40 PSI can blow out an eardrum from 4 inches away and possibly cause brain damage.
- As little as 12 PSI can blow an eye out of its socket!
- Flying particles can cause cuts and bruises to any part of the body.

#### To ensure the safety of all workers the following practices must be followed:


- Compressed air must not be used to blow debris or to clear dirt from any workers' clothes.
- Ensure that the air pressure has been turned off and the line pressure relieved before disconnecting the hose or changing tools.
- All hose connectors must be of the quick disconnect pressure release type with a "safety chain/cable".
- Wear personal protective equipment such as eye protection and face shields, and ensure other workers in the area are made aware of or have restricted access to the hazard area.

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- Hoses must be checked on a regular basis for cuts, bulges, or other damage. Ensure that defective hoses are repaired or replaced.
- A proper pressure regulator and relief device must be in the system to ensure that correct desired pressures are maintained.
- The correct air supply hoses must be used for the tool/equipment being used.
- The equipment must be properly maintained according to the manufacturers requirements.
- Follow manufacturer's general instructions and comply with legislated safety requirements.

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### 3.9 Use of Pneumatic and Stapling Tools

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Pneumatic Stapler	n/a	Safety boots, safety glasses/goggles, hearing protection, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:


#### General

Pneumatic nailing and stapling tools can be very dangerous tools if not used correctly. When using pneumatic nailing and stapling tools, the following practices should be always followed:

#### DO:

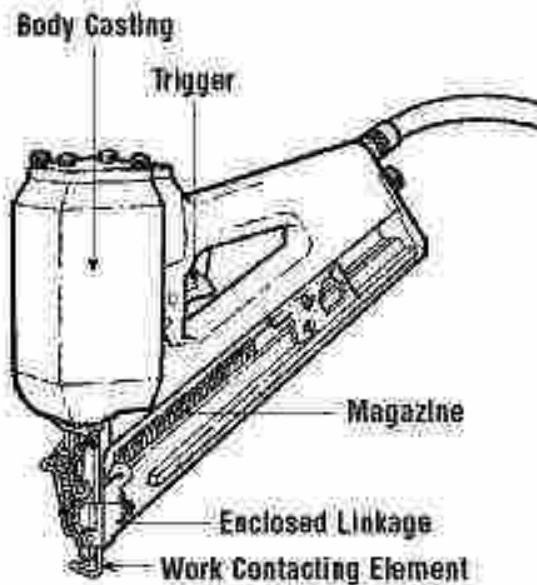
- Only experienced and trained people must operate pneumatic nailing and stapling tools.
- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles) and, where necessary, use hearing protection.
- Inspect each tool before connecting it to the air supply:
- Check tool safety mechanisms if applicable.
- Tighten all screws and cylinder caps securely.
- Check for correct air supply and pressure before connecting a tool.
- Check that the tool is correctly and securely connected to the air supply hose, in good working order, and has a fully operating safety mechanism before using.
- Always handle a tool as if it is loaded with fasteners (nails, staples, etc.).
- Equip tools with a work-contacting element that limits the contact area to one that is as small as practical.
- Make sure that the mechanical linkage between work-contacting element and trigger is enclosed.
- Disconnect tool from air supply when not in use and during cleaning or adjustment. Before clearing a blockage, be sure to depress the trigger to exhaust all air from the tool.
- Use only fasteners recommended by the manufacturer.
- Only properly trained and competent personnel must carry out tool maintenance.

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### DON'T:

- Do not point the tool toward yourself or anyone else whether it contains fasteners or not.
- Do not operate at a pressure above the manufacturers' rating.
- Do not depress the trigger unless the nose-piece of tool is directed onto a safe work surface.
- Do not carry a tool with the trigger depressed.
- Do not load a tool with fasteners while the trigger is depressed.
- Do not overreach. Keep proper footing and balance.
- Do not use compressed air to blow debris or to clean dirt from clothes.



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### 3.10 Driving Vehicles (General, non-NSC regulated vehicles)

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Vehicle, cell phone, radio		Safety boots
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:

#### General


- Company vehicles may be only operated by personnel with a valid driver's license and approved by management. This shall be reviewed by Allen Services & Contracting Ltd.'s management and HSE Coordinator during the initial onboarding process including driver's abstract, if required.
- Ensure proof of insurance for both the vehicle and/or trailer (if applicable) are present prior to driving the vehicle.
- ALWAYS have your driver's license with you when operating company vehicles.
- Be conversant with traffic laws and regulations. Do not exceed posted speed limits.
- Drive defensively - If you are driving to an unfamiliar area, plan your route in advance. Always schedule enough time to drive safely to your destination.
- Ensure vehicle has an emergency road kit.
- NEVER drive while under the influence of drugs or alcohol.
- Avoid driving when fatigued.
- The driver and all vehicle passengers must be properly seated and **wear a seat belt.**
- Be familiar with vehicle and its capabilities.
- Offering rides to strangers or hitchhikers is prohibited.
- Do not operate a cell phone (this includes use of call features, text, internet or social media) or other electronic devices while driving.
- Perform a "walk around" prior to traveling and completed an inspection.
- Ensure equipment is secured to prevent movement during transport or quick stop.
- Use good judgment and understand the basic recovery skills appropriate to the vehicle you are driving. Adjust vehicle speed with respect to visibility, weather and proximity to other vehicles.

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- Report any maintenance requirements to management.
- Report any violations on vehicles and collisions to management.
- Do not operate any vehicle with a defect that would jeopardize the safety of the driver or any other person.
- When stopping, vehicles must be parked away from traffic in safe locations.

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### 3.11 Winter Driving (General, non-NSC regulated vehicles)

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Vehicle, cell phone, radio		Safety boots, winter gear, blankets, winter packs
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:

#### General

- Anyone operating a motor vehicle must have a valid operator's license.
- Be conversant with traffic laws and regulations.
- Drive defensively.
- **Always wear a seat belt.**
- Ensure vehicle has an emergency road kit.
- Ensure vehicle is equipped with blankets, matches, candles, additional winter clothing, non-perish food, shovel and any other winter equipment.
- Ensure you clear snow and ice from all windows, lights, mirrors and the hood. Ensure your lights are clean and working and that your washer bottle is filled with washer fluid.
- Avoid using cruise control on icy roads.
- Accelerate and break gently to reduce skids and spinouts.
- Increase following distance to three (3) times that followed in the summer months.
- Check tires regularly (at least every 2 weeks) and keep them properly inflated. Make sure, you have the legal minimum tread depth of 1.6 mm.
- Ensure winter clothing does not restrict movement, vision or hearing.
- Keep your vehicle well ventilated. Too much heat in the vehicle can cause fatigue.
- Ensure fuel tank is full when possible. Don't let the fuel tank go below half full.
- Eat a good breakfast when you know you will be travelling in bad weather – but don't eat immediately before driving as this can make you drowsy.
- Ensure you are familiar with the installation of snow chains, if used.
- Before beginning a trip, check the weather forecast and traffic news.

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### 3.12 Using Cleaning Solvents and Flammables

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
	Cleaning Solvents	As per site requirement and: rubber gloves, safety boots, mask, safety glasses/goggles
Developed by:	Position:	Date:
Robert Pierce		October 23, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017


#### General

Cleaning solvents are used in day-to-day construction work to clean tools and equipment. Special care must be taken to protect the worker from hazards that may be created from the use of these controlled products. Wherever possible, solvents should be non-flammable and non-toxic. Allen Services & Contracting Ltd. Supervisor and/or Supervisor must be aware of all solvents/flammables that are used on the job (including all other controlled products), and be sure that all workers who use these materials and products have been instructed in their proper use, storage, handling, and the hazards they pose.

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

- Use non-flammable solvents for general cleaning. .
- When flammable liquids are used, make sure that no hot work is permitted in the area. .
- Store flammables and solvents in special storage areas. .
- Check toxic hazards of all solvents before use. (SDS) .
- Provide adequate ventilation where all solvents and flammables are being used. .
- Use goggles or face shields to protect the face and eyes from splashes or sprays. .
- Use rubber gloves to protect the hands. .
- Wear protective clothing to prevent contamination of worker's clothes. .
- When breathing hazards exist, use the appropriate respiratory protection. Refer to Respiratory Protection Program, Section A4.0 of the Safety Manual for further information on respiratory protection.
- Never leave solvents in open tubs or vats - return them to storage drums or tanks. .
- Ensure that proper containers are used for transportation, storage and field use of solvents/flammables. .

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### 3.13 Using Step Ladders


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Step Ladder		As per site requirement and: safety boots
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:

#### General

As with all ladders, make sure that the step ladder is in good condition, and is the right ladder for the job to be done:

- Step ladders are to be used only on clean, uncluttered, and even surfaces.
- Step ladders must be in original condition and not modified.
- Step ladders must be kept clean and free of mud or other slippery dirt and products.
- No work is to be done from the top two steps of a ladder, counting the top platform as a step. .
- When in the open position, ready for use, the incline of the front step section shall be one (1) horizontal to six (6) vertical. .
- The step ladder is only to be used in the fully opened position with the spreader bars locked. .
- Tops of step ladders are not to be used as a support for scaffolds. .
- Don't overreach while on the ladder. Climb down and move the ladder over to a new position. .
- Only CSA approved ladders must be used. .

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### 3.14 Using Portable Ladders

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Portable Ladder		As per site requirement and: safety boots
Developed by:	Position:	Date:
Robert Pierce		January 17, 2012
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017


#### General

Ladders can be used safely if they are given the respect they deserve. Before using any ladders, make sure that it is in good condition and is the right ladder for the task to be undertaken. Only ladders meeting CSA/ANSI standards may be utilized.

Only use ladders for entering or leaving an elevated or sub-level work area if there is no other safe or recognizable means to do so.

- Before using any ladder, make sure that it is in good working condition and that it is the right ladder for the job to be done. .
- When setting up a ladder, secure the base and "walk" the ladder up into place. .
- The ladder should be set at the proper angle of one (1) horizontal to every four (4) vertical.
- Before using a ladder, make sure it is secured against movement. Ladders with safety feet are recommended. .
- When in position, the ladder should protrude one (1) meter above the intended landing point. .
- Workers shall not work from the top two rungs of a ladder. .
- Don't overreach while on a ladder. It is easier and safer to climb down and move the ladder over a few feet to a new position. .
- Always face the ladder when using it. Grip it firmly and use the three-point contact method when moving up or down. .
- The minimum overlap on an extension ladder should be one (1) meter unless the manufacturer specifies the overlap. .
- Keep both metal and wood ladders away from electrical sources. .
- Wooden ladders must not be painted. Clear varnish or linseed oil can be used as a satisfactory coating. .

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### 3.15 Using Propane

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	Propane	As per site requirement, as per tasks and: safety boots, face masks,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:

#### Safety Facts


Propane as a Fuel:

1. Propane is non-toxic – it will not contaminate the soil or the surrounding environment.
2. Propane is odorized – an odorant called Ethyl Mercaptan is added to propane so that leaks are easily detected. Propane is lead-free.
3. Propane contains extremely low levels of Sulphur.
4. Propane has the lowest flammability range of all alternative fuels (2.4 – 9.5%) – so there must be the right combination of propane and oxygen, if there is too much or too little propane it will not burn.
5. Propane's ignition temperature is approximately 920° - 1020°F, gasoline ignition temperature is 495°F – therefore, gasoline will burn or explode at a much lower temperature than propane.

**Since propane is heavier than air and invisible, it is a special concern when it is used in the workplace. All installations and use of this product on the job site must comply with the government legislation set out for its safe use. Suppliers delivering the product and subcontractors setting up the equipment at the site must be familiar with the safe work practice:**

- Nylon slings must be used in a "choker" fashion when loading, off-loading or lifting propane tanks. .
- "Lifting Lugs" provided on tanks are not to be used. Slings are to be wrapped around the shell of the tank. .
- Tank valves and regulators are to be removed from the tank prior to any movement of the tank.
- All trucks, cranes or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of tank being handled. Crane hooks shall

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be equipped with a "Safety Latch". .

- Except in an emergency, any movement or repositioning of tanks shall be performed by a competent worker. .
- Tanks are not to be heated to increase flow. .
- When in use, propane bottles are to be securely held in an upright position. .
- Tanks are not to be hooked up and used without proper regulators. .

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### 3.16 Using Propane Fueled Vehicles/Equipment

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Propane Fueled Equipment		As per site requirement, task requirement and: safety boots, safety glasses, hi-vis stripes, hard hat, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:


#### General

- Be alert for odor of propane gas (as a safety measure, an odorant is added to aid detection). .
- Tanks are to be filled to a **MAXIMUM** of 80% capacity. Only tanks designed for the vehicle are to be used. .
- Do not smoke when servicing or handling propane fuel equipment. .
- All tanks, whether empty or full, must be stored outside and away from all ignition or heat sources. .

#### Propane-driven equipment or vehicles, when stored or not in use must be:

- Kept clear of sewer drains, lubrication pits, and any low-lying areas (propane vapours are heavier than air, and may accumulate in low areas).
- Main valve at tank must be closed (this is very important in small, poorly-ventilated areas such as garages). .
- When maintaining vehicles, keep tanks away from all sources of sparks, heat or open flames. .

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### 3.17 Using Tiger/Cutting Torch

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Tiger Torch, Propane, Fire Extinguisher	Metals, coppers, etc.	As per site requirement, task requirement and: safety boots, safety glasses/goggles
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 07, 2017
Revised by:	Position:	Date:

#### General


- Light torches with friction lighters or other suitable lighters and not matches.
- Point the tip away from people.
- Always have a fire extinguisher close by when using tiger/cutting torches.
- Torches must not be used for heating of work areas or thawing of lines and equipment. .
- Ensure that the propane bottles are properly shut off when torches are not in use.
- Fuel lines must have regulators. .
- Propane bottles shall be secured in an upright position. .
- Never put down a torch until the gases have been completely shut off.
- Never open or turn the pressure adjusting screws on the regulators all the way out. Always adjust flames at torch valves, not with regulator adjusting screws.
- ALWAYS use fuel gases at safe pressures. Many gauges permit higher, unsafe pressures. If you find a gauge that permits unsafe pressures, take it out of service immediately.
- Oxygen is not a fuel and will not burn, but contact with it can cause combustible materials such as oil and grease to burn rapidly at room temperature. Therefore, keep oxygen away from grease or oil on surfaces such as gloves, clothes, cylinders, valves, couplings, regulators, and hoses. Do not use oxygen instead of compressed air in pneumatic tools, in oil preheating burners, to start internal combustion, to blow out pipelines, to dust clothing or work, or to create pressure for ventilation.
- Oxygen and fuel gas hoses must be different in color (green for oxygen and red for fuel gas) or otherwise identified.

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- Inspect hoses and connections every day for leaks. Look for holes, cracks, and loose cylinder fittings or track connectors. To check for leaks: close the oxygen and fuel gas torch valves, then turn the regulator pressure adjusting screws clockwise to give normal working pressure on oxygen valves and about 10 PSIG on fuel gas valves. Use non-fat soapy water or approved leak test solution to test for leaks. At the same time, check regulators for creeping.
- If a torch backfires frequently, inspect it and clean the tip. If it continues to backfire or you find other problems, remove it from service immediately. Take it to a qualified technician for repair.
- Ensure How Work Permit was completed
- Ensure Fire/Spark watch is available
- Ensure Fire Inspection was completed after work is complete

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### 3.18 Welding, Cutting and Burning


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Welding Equipment, Fire Extinguisher	Metals, coppers, steel, etc.	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, gloves (see practice)
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 09, 2017
Revised by:	Position:	Date:

#### General

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

- Before beginning work ensure you have a work permit/authorization.
- Always ensure that adequate ventilation is supplied since hazardous fumes can be created during welding, cutting or burning. .
- Prior to commencing work, ensure that you know the location of the nearest fire extinguisher. .
- Check the work area for combustible material and possible flammable vapors before starting work. .
- A welder should never work alone. A fire or spark watch should be maintained. .
- Workers are not to use burning/cutting or welding equipment unless authorized and are qualified to do so.
- Workers must wear the necessary protective clothing when cutting or using welding equipment. .
- Whenever possible, screens must be erected around any arc welding operation to shield other workers/persons in the area from the arc flash.
- Open all cylinder valves slowly. The wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use. .
- Never look at a welding arc without proper eye protection. .
- Standard safety glasses should be worn under the welding helmet whenever possible. .
- The welding cables, stingers and ground clamps must always be in good condition. These


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must be replaced if damaged. .

- Oxy/acetylene must always be stored and used in an upright supported position.
- All leaks in the hose and/or connections must be repaired before the equipment can be used .
- Bottle valves must be closed, and the hoses neatly coiled when the job has been completed or before going home at the end of the day. .
- Prior to any cutting operation, all flammable materials must be removed or covered with fireproof material. .
- When cutting is conducted in high places, provisions must be made to protect persons or equipment below from injury or damage caused by falling materials. .
- Proper eye protection must be worn when using a cutting torch. .
- All oxygen and their respective acetylene cutting equipment will have one- way check valves installed at regulators. .

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### 3.19 Using Portable Arc Welders

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Portable Arc Welders, Propane	Metals, coppers, steel, gasoline, etc.	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, gloves (see practice)
Developed by:	Position:	Date:
Robert Pierce		November 28, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 09, 2017

#### General

- Portable arc welders must be operated only in a well-ventilated area.
- Be sure the machine is firmly attached to the transporting unit. .
- Check all fluid levels (water, oil and gas) to be sure they are at acceptable levels for operation. .
- When fueling, **DO NOT** "top off" the gas tank. Gasoline expands as the outside temperature rises; this may result in seepage and an ensuing fire..
- Do not fuel the machine while it is running. .
- Be sure the radiator and gas caps are in proper working order and securely attached. .
- Do a "walk around" to check for damage and obvious leaks. .
- Any repairs should be done by authorized and qualified mechanics or technicians. .
- Make sure all cables are wound securely when transporting. .
- Ensure the side covers are kept closed to protect the machine from any damage from external objects and outside weather, as well as to protect the operator and others from the moving parts of the machine. .
- When welding and burning/cutting with Portable Arc Welders, please refer to SWP # 3.18. Welding, Cutting and Burning

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### 3.20 Using Routers

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Router	Metals, coppers, steel, gasoline, etc.	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, gloves, hearing protection
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 09, 2017
Revised by:	Position:	Date:

#### General


#### What should you do before start cutting with a router?

- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles) and appropriate hearing protection.
- Disconnect the power supply before making any adjustments or changing bits. Inspect bits carefully before installing
- Ensure that the bit is securely mounted in the chuck and the base is tight.
- Put the base of the router on the work, template or guide. Make sure that the bit can rotate freely before switching on the motor.
- Secure stock. Never rely on yourself or a second person to support or hold the material. Sudden torque or kickback from the router can cause damage and injury.
- Before using a router, check stock thoroughly for staples, nails, screws or other foreign objects.
- Keep all cords clear of cutting area.

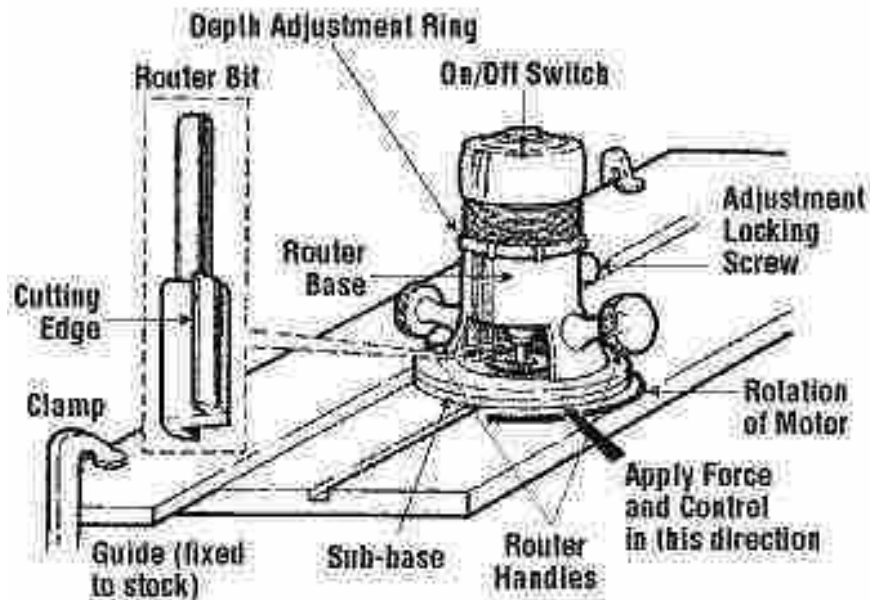
#### What should you do to work with a router safely?

- Hold both hands on router handles always, until a motor has stopped. Do not set the router down until exposed router bit has stopped turning.
- Do not overreach. Keep proper footing and balance.
- When inside routing, start the motor with the bit above the stock. When the router reaches full power, lower bit to required depth.
- When routing outside edges, guide the router counter clockwise around the work.
- When routing bevels, moldings and other edge work, make sure the router bit is in contact with the stock to the left of a starting point and is pointed in the correct cutting direction.

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- Feed the router bit into the material at a firm, controlled speed.
- With softwood, you can sometimes move the router as fast as it can go.
- With hardwood, knotty and twisted wood, or with larger bits, cutting may be very slow.
- The sound of the motor can indicate safe cutting speeds. When the router is fed into the material too slowly, the motor makes a high-pitched whine. When the router is pushed too hard, the motor makes a low growling noise.
- When the type of wood or size of the bit requires going slow, make two or more passes to prevent the router from burning out or kicking back.
- To decide the depth of cut and how many passes to make, test the router on scrap lumber similar to the work.



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### 3.21 Using Planers


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Planers	Metals, coppers, steel, gasoline, etc.	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection
Developed by:	Position:	Date:
Robert Pierce		November 28, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 09, 2017

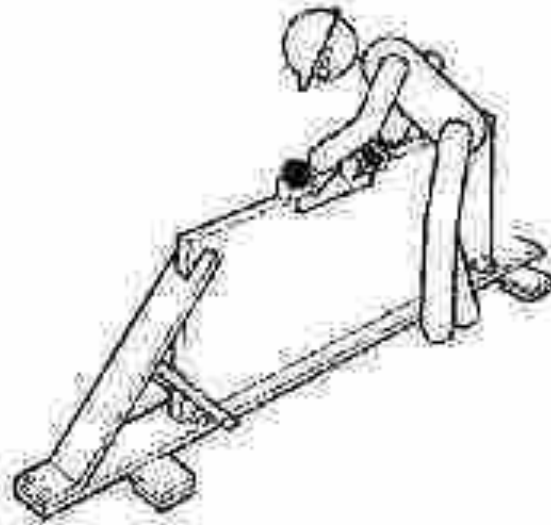
#### General

#### What should you do before you start cutting with a planer?

- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles), and use the appropriate hearing protection.
- Disconnect the planer from the power supply before making any adjustments to the cutter head or blades.
- Ensure switch is in off position before plugging in.
- Use blades of the same weight and set at the same height.
- Ensure that the blade-locking screws are tight.
- Remove adjusting keys and wrenches before turning on power.
- Support the material (stock) in a comfortable position that will allow the job to be done safely and accurately.
- Check stock thoroughly for staples, nails, screws, or other foreign objects before using a planer.
- Do not cut stock less than 20 cm (8 in) long or 1 cm (0.5 in) thick.

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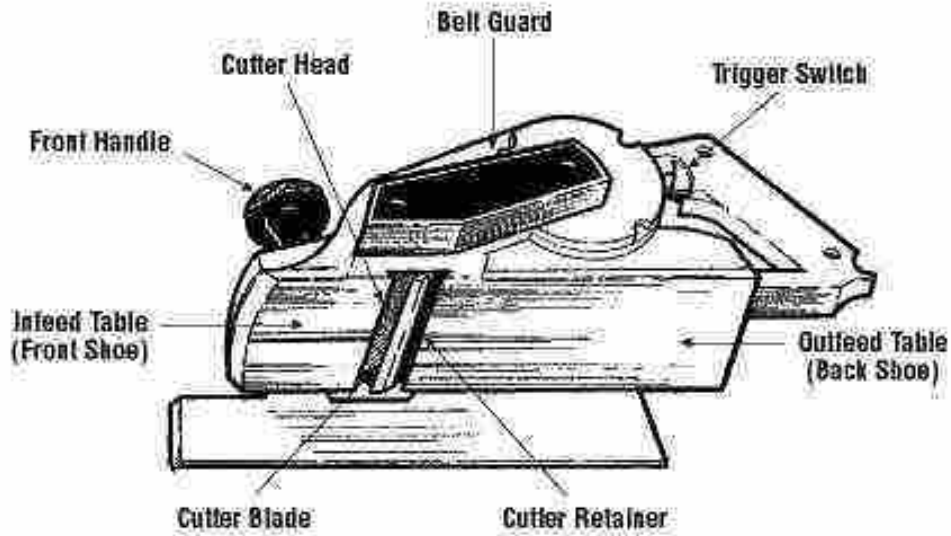


### What should you do while cutting with a planer?


- Start a cut with the infeed table (front shoe) resting firmly on the stock and with the cutter head slightly behind the edge of the stock.
- Use two hands to operate a planer - one hand on the trigger switch and the other on a front handle.
- Do not put your finger or any object in a deflector to clean out chips while a planer is running.
- Disconnect the power supply when stopping to dump out chips.
- Do not set a planer down until blades have stopped turning.
- Stand on the side of the planer near the controls. Never stand behind stock when being fed into the planer.

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### 3.22 Using Sabre Saws, Jog Saws and Reciprocating Saws

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Saw	Materials to be cut	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection
Developed by:	Position:	Date:
Robert Pierce		November 28, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 09, 2017

#### General


#### What should you do before start cutting with powered hand saws?

- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles).
- Disconnect power supply before changing or adjusting blades.
- Use lubricants when cutting metals.
- Keep all cords clear of cutting area.
- Position the saw beside the material before cutting and avoid entering the cut with a moving blade.
- Make sure guards, if present, are installed and are working properly.

#### What should you do to work with powered hand -saws safely?

- Hold reciprocating saw with both hands.
- Remember sabre saws cut on the up stroke.
- Secure and support stock as close as possible to the cutting line to avoid vibration.
- Keep the base or shoe of the saw in firm contact with the stock being cut.
- Select the correct blade for the material being cut and allow it to cut steadily. Do not force it. Clean and sharp blades operate best.
- Set the blade to go no further than 0.32 to 0.64 cm (1/8 to 1/4 inch) deeper than the material being cut.
- Do not start cutting until the saw reaches its full power.
- Do not force a saw along or around a curve. Allow the machine to turn with ease.
- Do not insert a blade into or withdraw a blade from a cut or lead hole while the blade is moving.

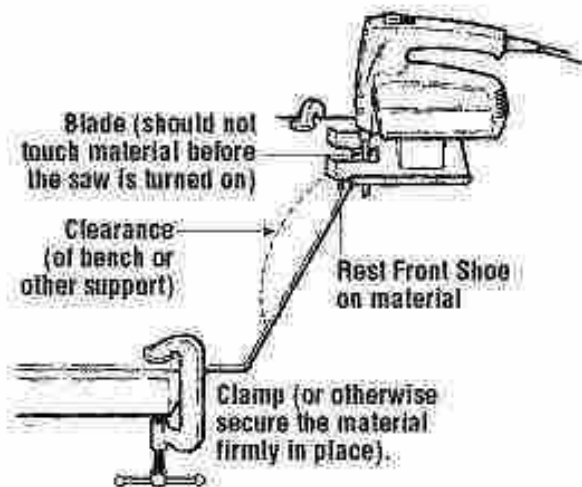
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- Do not put down a saw until the motor has stopped.
- Do not reach under or around the stock being cut.
- Maintain control of the saw always. Avoid cutting above shoulder height.

### How should you start an external cut?


- Place the front of the shoe on the stock.
- Make sure that the blade is not in contact with the material or the saw will stall when the motor starts.
- Hold the saw firmly down against the material and switch the saw on.
- Feed the blade slowly into the stock maintaining an even forward pressure.



### How should you start an inside cut?

- Drill a lead hole slightly larger than the saw blade. With the saw switched off, insert the blade in the hole until the shoe rests firmly on the stock.
- Do not let the blade touch the stock until the saw has been switched on.

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### 3.23 Using Belt Sanders

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Belt Sanders	Materials to be sanded	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:

#### General


#### What should you do to work safely with belt sanders?

- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles).
- Wear a dust respirator for dusty operations.
- Make sure the sander is switched "OFF" before connecting the power supply.
- Disconnect power supply before changing a sanding belt, making adjustments, or emptying dust collector.
- Inspect sanding belts before using them. Replace those belts worn or frayed.
- Install sanding belts that are the same widths as the pulley drum.
- Adjust sanding belt tension to keep the belt running true and at the same speed as pulley drum.
- Secure the sanding belt in the direction shown on the belt and the machine.
- Keep hands away from a sanding belt.
- Use two hands to operate sanders - one on a trigger switch and the other on a front handle knob.
- Keep all cords clear of sanding area during use.
- Clean dust from the motor and vents at regular intervals.

#### What should you avoid while working with belt sanders?


- Do not use a sander without an exhaust system or a dust collector present that is in good working order. Empty the collector when 1/4 full. The dust created when sanding can be a fire and explosion hazard. Proper ventilation is essential.
- Do not exert excessive pressure on a moving sander. The weight of the sander supplies adequate pressure for the job.

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- Do not work on unsecured stock unless it is heavy enough to stay in place. Clamp the stock into place or use a "stop block" to prevent movement.
- Do not overreach. Always keep proper footing and balance.
- Do not cover the air vents of the sander.

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### 3.24 Using Drills

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Drills		As per site requirement, task requirement and: safety boots, safety glasses/goggles,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:

#### General

##### How do you select the proper bit or attachment?

- Follow manufacturers' instructions when selecting and using a bit or attachment, especially with unfamiliar drills or work.
- Select the bit or attachment suitable for the size of the drill and the work being done.
- Ensure that the bit or attachments are properly seated and tightened in the chuck.
- Use only bits and attachments that turn true.
- Use the auxiliary (second) handle for larger work or continuous operation.

##### What should you do when working with powered hand drills?


- Wear safety glasses or a face shield (with safety glasses or goggles).
- Keep drill air vents clear to maintain adequate ventilation.
- Keep drill bits sharp always.
- Keep all cords clear of the cutting area during use. Inspect for frays or damage before each use.
- Disconnect power supply before changing or adjusting bit or attachments.
- Tighten the chuck securely. Remove chuck key before starting drill.
- Slow the rate of feed just before breaking through the surface.
- Drill a small "pilot" hole before drilling large holes.

##### What should you do when working with small pieces?

- Clamp stock so work will not twist or spin.
- Do not drill with one hand while holding the material with the other.

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### What should you avoid when working with powered hand drills?

- Do not use a bent drill bit.
- Do not exceed the manufacturer's recommended maximum drilling capacities.
- Do not use a hole saw cutter without the pilot drill.
- Do not use high speed steel (HSS) bits without cooling or using lubrication.
- Do not attempt to free a jammed bit by starting and stopping the drill. Unplug the drill and then remove the bit from the work piece.
- Do not reach under or around stock being drilled.
- Do not overreach. Always keep proper footing and balance.
- Do not raise or lower the drill by its power cord.
- Do not use in wet or muddy locations. Use a non-powered drill instead.
- Do not use excessive force to drill into hard material. Reduce drill speed if possible.
- Secure work piece being drilled to prevent movement.

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### 3.25 Using Chain Saws

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Chain Saw	Materials to be cut/chopped, gasoline	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection, leg protection
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:


#### General

Chain saws are used for many jobs in construction. Since this tool was primarily meant for use in the logging industry, it can be an unfamiliar tool to some workers. Workers must be trained in the safe use of a chain saw.

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

Chain Saws MUST comply with CSA Standard Z62.1-95.

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### 3.26 Using Mitre Saws

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mitre Saw	Materials to be cut	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection, mask
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:

#### General

#### What should you do before using a mitre saw?


Mitre saws can be dangerous if not used properly. To ensure your safety you must:

- Read the owner's manual carefully.
- Make sure you know and understand the instructions before attempting to use any tool or machine.
- Learn the applications and limitations before use.

#### What safety precautions should you follow when using a mitre saw?


- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles).
- If work is dusty, use a respirator or dust mask.
- Wear appropriate hearing protection.
- Wear protective footwear when required.
- Attach the saw firmly on a workbench or other rigid frame and operate saw at waist height. The saw can also be taken to remote locations by mounting it on a piece of plywood 13 mm (1/2 in.) or thicker. This must be clamped to a waist high work surface on the job site with large "C" clamps.
- Keep one hand on the trigger switch and handle and use the other hand to hold the stock against the fence.
- Keep hands out of the path of the blade.
- Keep guards in place and in working order.
- Remove adjusting keys and wrenches.
- Use a crosscut or combination blade.

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- Ensure that the blade rotates in the correct direction.
- Ensure that the blade and arbor collars are secure and clean. Recessed sides of collars should be against blade.
- Keep blade tight, clean, sharp and properly set so that it cuts freely and easily.
- Allow motor to reach full speed before cutting.
- Follow instructions for lubricating and changing accessories.
- Keep the work area clean. Cluttered areas and benches invite accidents.
- Keep the work area well lit.
- Reduce the risk of unintentional start up. Make sure saw switch is in OFF position before plugging in.
- Unplug tools before servicing and when not in use.
- Check for damage. Repair or replace damaged parts.
- Keep motor air slots clean and free of chips.
- Use only the accessories designed for the specific saw and job.

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### 3.27 Using Circular Saws

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Circular Saw	Materials to be cut	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection, mask
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 14, 2017
Revised by:	Position:	Date:


#### General

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

The following are the minimum accepted practices to be used with a circular saw:

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

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### 3.28 Using Bench Grinders


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Bench Grinders	Materials to be cut	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection, mask
Developed by:	Position:	Date:
Robert Pierce		January 17, 2012
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017

#### General

Severe injury may occur if Proper Protective Equipment is not used and a bench grinder is not properly maintained. To avoid injuries follow these practices:

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

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### 3.29 Using Hand-Held (Portable) Grinders

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Bench Grinders	Materials to be cut	As per site requirement, task requirement and: safety boots, safety glasses/goggles, face shield, hearing protection, mask
Developed by:	Position:	Date:
Robert Pierce		January 17, 2012
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017

#### General


#### What safety precautions should you follow when using a portable grinder?

- Guards must be provided and adjusted to protect you. Replace damaged guards because if an abrasive wheel breaks while rotating, it can cause a serious injury.
- Clean and service grinders according to manufacturers' recommendations. Record all maintenance for grinders.
- Ensure that a machine will not operate when unattended by checking the dead-man (constant pressure) switch.
- Wear safety glasses or goggles, or a face shield (with safety glasses or goggles) to protect against flying particles. Gloves, aprons, metatarsal safety boots, and respiratory protection may be required, depending on the work.
- Ensure the floor around the work area is clean.
- Do not use wheels that are cracked or those that excessively vibrate.
- Do not operate grinder on wet floors.
- Use both hands when holding the grinder.
- Keep the power cord away from the grinding wheel and the material being ground.

#### When and how should you check the speed of the wheel?

- The maximum speed in revolutions per minute (rpm) is marked on every wheel. Never exceed this speed.
- Check that the wheel speed marked on the wheel is equal to or greater than the maximum speed of the grinder.
- Measure the speed of any new machine. Take several readings.
- Measure the speed of governor-controlled air-driven grinders after twenty hours of use

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- or every week, whichever comes first. Measure the speed after any repairs.
- Measure the speed of electrically driven grinders monthly and after repairs

### What should you do when using portable grinders?


- Check that grinders do not vibrate or operate roughly.
- Use racks or hooks to store portable grinders.
- Stand away from the wheel when starting grinders. Warn co-workers to do the same.
- Inspect all wheels for cracks and defects before mounting.
- Ensure that the mounting flange surfaces are clean and flat.
- Ensure the wheel guard is in place while operating the grinder.
- Use the mounting blotters supplied.
- Run newly mounted wheels at operating speed for 1 minute before grinding.
- Wear appropriate eye, ear and face protection. Use other personal protective equipment or clothing, as required under the circumstances.

### What should you avoid when using portable grinders?

- Avoid using grinders near flammable materials.
- Do not clamp portable grinders in a vise for grinding hand-held work.
- Do not use any liquid coolants with portable grinders.
- Do not force wheels onto a grinder that is the wrong size or change mounting hole sizes.
- Do not tighten the mounting nut excessively.
- Do not put the grinder on the floor or working surface until the wheel has stopped turning.
- Do not keep any materials close to the grinding wheel when it is not in use

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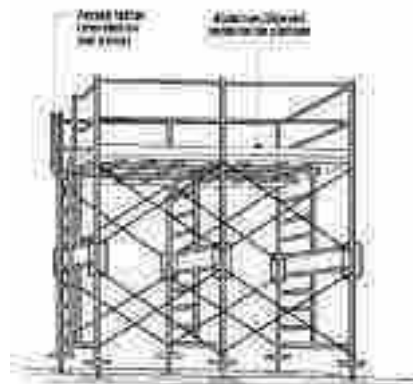
### 3.30 Using Scaffolds – General

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Scaffolds		As per site requirement, task requirement and: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:


#### General

#### What should you check before using scaffold?

- Install, inspect, maintain and repair scaffolding in accordance with standards, regulations, and manufacturer's instructions.
- Check the following before using scaffolding and inspect on an adequate basis:
  - base is sound, level and adjusted,
  - legs are plumb and all braces are in place,
  - locking devices and ties are secured,
  - cross members are level,
  - planks, decks and guardrails are installed and secure,
  - keep a log of inspections and related items or repairs.



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### What should you do when using scaffold?

- Use an access ladder, not the scaffold frame, unless it is specially designed to be climbed. Build a staircase if the scaffold will be used for a length of time.
- Build a rest platform for every 10 m (30 ft) in height beside the ladder.
- Remove snow and ice from scaffold platforms, ladders and access areas.
- Ensure that scaffold is securely attached to the building structure.
- Effects from winds increase when scaffolds are covered (hoarded).
- Adequate ventilation for the work activity inside must be supplied if the scaffold is completely hoarded.
- Protect all planked or working levels with proper guardrails, mid rails and toe boards along all open sides and at the ends of scaffold platforms.
- Replace any guardrails that were removed while hoisting materials. Wear fall protection until guardrails are reinstalled.

### What should you not do when using scaffold?

- Do not load in excess of its rated working load.
- Do not jump on planks or platforms.
- Do not force braces to fit. Level the scaffold until a proper fit can be made easily.
- Do not climb or stand on cross braces or guardrails.
- Do not work on scaffolds during storms or high winds.
- Do not use ladders or makeshift devices on top of scaffolds to increase height.
- Do not overload scaffold frames or platforms.
- Do not load in a way that affects its stability.
- Do not rest materials or equipment on guardrails.
- Do not try to repair bent or kinked frames. Throw them out.
- Do not work below a scaffold without head protection.
- Do not use scaffolds near electrical wires.

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### 3.31 Using Metal Scaffolds

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Scaffolds		As per site requirement, task requirement and: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
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#### General

There are various types of metal scaffolds and they all have a right and wrong way to be erected. The misuse of scaffolding is the cause of numerous injuries.


Every worker who designs or constructs a scaffold should be competent and know what the manufacturer's specifications are for that type of scaffold. The scaffold type that will be best suited for the job and capable of withstanding the loads to be imposed on it, must be determined before the job begins.

#### Ensure that:

- The scaffold you intend to use is the correct one for the job. .
- The location in which the scaffold is to be constructed is level or is capable of presenting secure footing by use of mudsills or some other device. . .
- The scaffold will be erected by a competent worker. .
- Legislative and manufacturer's requirements have been complied with. .
- Safe access and egress to both the scaffold and the general work areas has been provided. .
- Leveling adjustment screws have not been over extended. .
- Tower scaffolds have outriggers or are guyed and have all component parts secured in place (i.e., cross braces, pins, lateral braces).


(a) Scaffold work platforms have perimeter guardrail - Horizontal rail: .092 metres to 1.07 metres above platform. .

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- (b) Intermediate rail - Horizontal rail midway between scaffold platform and top rail. .
  - (c) Toe board - Horizontal member at platform level no less than 140 mm in height above the platform level. .
- Scaffold planks are of #1 grade materials with maximum spans of 3.1 metres on light duty and 2.3 metres on heavy duty with a maximum projection beyond the ledge of no more than 300 mm. .

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### 3.32 Using Rolling Scaffolds


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Rolling Scaffolds		As per site requirement, task requirement and: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
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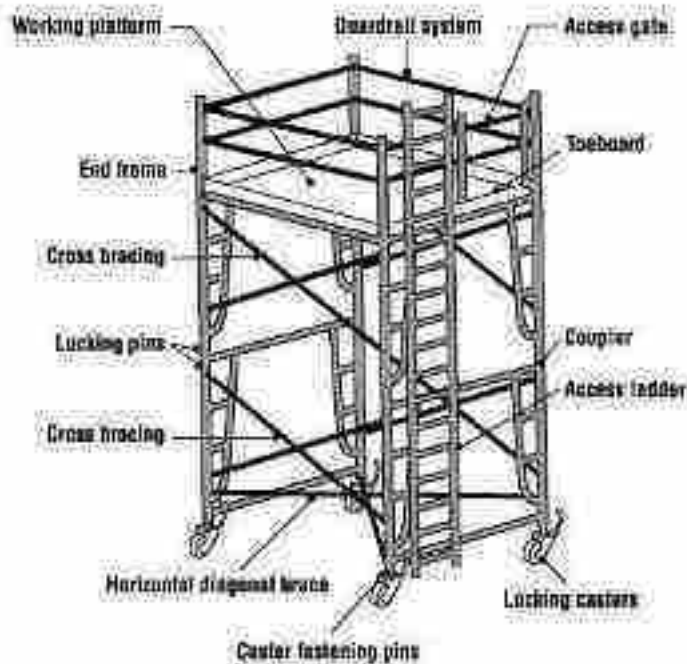
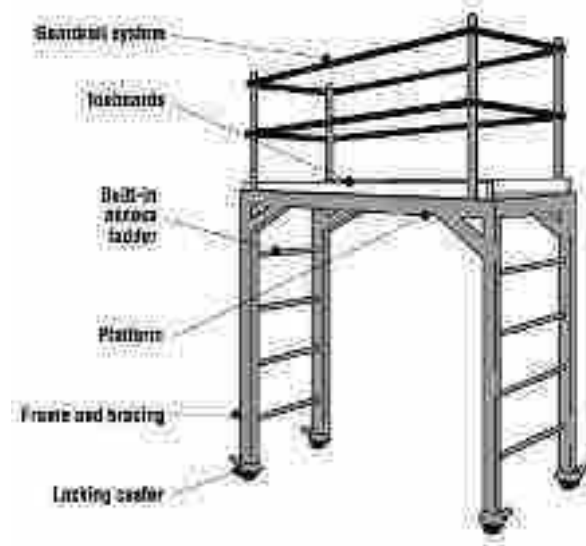
#### General

#### What should you do when using a rolling scaffold?


- Assemble the rolling scaffold according to manufacturer's instructions.
- Ensure that the surface on which the scaffold is moved is level and without holes or obstructions.
- Brace all rolling scaffolds horizontally and diagonally.
- Cleat or secure all planks.
- Prevent joints from separating.
- Secure access ladders.
- Make sure the platform has appropriate guardrails (hand, mid, toe).
- Ensure that each wheel or castor is equipped with brakes to prevent rolling and swivelling.
- Lock the caster brakes before climbing onto scaffold.
- Secure or remove all material, equipment and personnel from platform before moving it.
- Push towards the base when moving.
- Use the built-in access ladders to reach the platform.
- Refer to safety regulations and manufacturer's specifications for height stability requirements.

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### What should you not do when using a rolling scaffold?

- Do not stay on the scaffold when it is being moved. If a worker must remain on the scaffold, make sure the worker is secured to the building (not the scaffold) with appropriate safety harness and lanyard.
- Do not try to move a rolling scaffold without enough help. Watch out for slopes, holes, debris, and overhead obstructions.
- Do not extend adjusting screws more than the manufacturer recommends.
- Do not allow the working platform height to exceed three times the base width, unless it is guyed and equipped with outriggers or otherwise stabilized.
- Do not use powered devices to move scaffolds.
- Do not lean access ladders against rolling scaffolds.
- Do not over-reach from the scaffold.
- Do not climb using the frame.

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### 3.33 Using Wood Scaffolds

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Wood Scaffolds		As per site requirement, task requirement and: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:

#### General


The construction of wood scaffolds is closely regulated by Legislation. Materials and material dimensions are specified in detail in OH&S General Safety Regulations.

Because the construction of these scaffolds can vary greatly as to use, shape, location and the type of job to be done, they sometimes are built in a haphazard manner. To avoid this, the following practices must be followed:

- Construction, alteration, design and removal of wood scaffolds is to be done by competent workers. .
- The material used to construct these scaffolds should be sound, close-grained and finished on all four sides. .
- The scaffold must be capable of supporting four (4) times the load that might be imposed on it. .
- All component parts should be tight together and properly fixed to each other. .
- Proper perimeter failing must be set in place: top rail - intermediate rail - toe board. .
- Scaffold work platforms shall be at least 500 millimeters wide for light duty and one (1) meter for heavy-duty scaffolds. .
- When used as a scaffold work platform, plants shall be secured from movement by cleats or by being wired in place. .
- Safe access and egress is to be provided to all work platforms by the use of ladders. .
- Scaffold work platforms shall not span more than 3.1 meters on light-duty scaffolds or 2.3 meters on heavy-duty scaffolds. .

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### 3.34 Manual Lifting and Carrying

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Scaffolds		As per site requirement, task requirement and: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
Revised by:	Position:	Date:


#### General

Manual material handling operations are carried out in most construction activities. Each handling task poses unique demands on the worker. Most lifting accidents are due to improper lifting methods. All manual lifting should be planned and safe lifting procedures followed.

The best control measure is to eliminate the need for workers to perform manual handling tasks. Since this is not always possible, Foremen are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training.


- Perform a hazard assessment before assessing need to lift, lower, push, pull or carry a load manually. Plan your move, make sure your pathway is clear.
- Ensure that you know your physical limitations and the approximate weight of materials.
- Whenever a load is particularly heavy or awkward and equipment cannot be provided the load will be adapted to make it easier to handle. Examples of load minimizing include: 1) using two more workers to move the load, or 2) dividing the load into two more manageable loads.
- The use of power equipment or mechanical lifting devices should be considered and employed where practical.
- Obtain assistance in lifting heavy objects.
- Stand close to object being lifted, ensure a good grip before lifting and employ proper lifting techniques.
- Prepare for the lift; stretch and warm up before moving anything manually.
- Lift using thigh, leg and abdominal muscles, but keep your back straight.
- Lift only to the level required; only light objects should be lifted above shoulder height.

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- Avoid reaching out and twisting motions. When turning, follow your feet – do not twist your body.
- Never attempt to catch falling objects.
- Pipes, piles, reinforcing rods and other conductive materials should not be carried on the shoulder near exposed live electrical equipment or conductors.
- If a worker reports symptoms of a muscular skeletal injury, an incident report must be completed and subsequent investigation done. Corrective follow up measures will be put into place and reviewed with all employees.
- Wear clothes that are comfortable around the hips, knees and shoulders, and that do not have exposed buttons or loose flaps and non-slip shoes with broad based low heels.
- Materials shall be transported, placed or stored so that the materials will not tip, collapse or fall and so that materials can be removed without endangering the safety of any worker.
- Materials to be removed from a storage area, pile or rack, shall be removed in a manner that will not endanger the safety of any worker.

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### 3.35 Hoisting and Rigging

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Hoisting and Rigging Equipment	Objects/Items to be Hoisted	As per site requirement, task requirement and: safety boots, safety glasses, hard hat, gloves
Developed by:	Position:	Date:
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#### Evaluating The Load

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

#### Landing The Load

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


#### Balance Loads

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

#### DO's and DON'Ts to remember:

- Select only alloy chain or cable slings and NEVER exceed the working load limits. .
- Make sure hoist or crane is directly over the load. .
- Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts. .
- Never permit anyone to ride the lifting hook or the load. .
- Make sure all personnel stand clear from the load being lifted. .
- Never work under a suspended load unless the load is properly supported. .
- Never leave a load suspended when the hoist or crane is unattended. .
- Inspect all slings thoroughly at specified intervals and maintain them in good condition. .
- Inspect each chain or sling for cuts, nicks, bent links, bent hooks, etc., before each use. If in doubt, don't use it, destroy and discard. .
- Ensure that safety latches on hooks are in good working condition. .

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- Ensure that the signaler is properly identified and understands techniques of proper signaling. .
- Make sure a tagline is used to control the load

## Rigging


### General

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

### DO's and DON'Ts to remember:

- Name one member of the crew to act as a signalman, and instruct the equipment operator to recognize signals from that person only. The signalman must be careful not to order a move until he has received the "all ready" signal from each member of the crew. .
- Each rigger must be sure he's in the clear before he gives an "all ready" to the signalman. When you have positioned the sling or choker you're using, release it, if possible, before you give the "all ready" signal. .
- If you must hold the sling or choker in position, be sure your hand is clear of pinch points. In fact, your hand should be far enough away so there's no possibility of a frayed wire catching your glove and jerking your hand into a pinch point. (frayed cables should never be used.) .
- Watch out for the roll or swing of the load. Since it's almost impossible to position the hook exactly over the load center, there will almost always be a swing or roll. Anticipate the direction of the swing or roll and work away from it. .
- Never place yourself between material, equipment or any stationary object and the load swing. Also, stay away from stacked material that may be knocked over by a swinging load. .
- Never stand under the load, and keep from under the boom as much as possible. . Look over the place where the load is to be set. Remove unnecessary blocks or other objects that might fly up if struck by the load.
- When lowering or setting the load, be sure your feet and all other parts of your body are out from under. Set the load down easily and slowly so that if it rolls on the blocking, it will be a slow shift that you can get away from..
- Identify the designated signalman by the use of distinctive vest, armllets, etc.
- Use taglines to control the loads.

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### 3.36 Back Injury Prevention

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement.
Developed by:	Position:	Date:
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- Eliminate manual lifting whenever possible. .
- Adjust work heights.
- (a) Lifting above the waistline has high injury potential. .
- (b) Raise floor level bending by platforms, benches, etc. .
- Keep floor surfaces even and unobstructed. .
- Footwear must be in good shape. Avoid high heel-type boots. .
- Eliminate body twisting during lifting functions. .
- Space confinement restricts proper body position and lifting procedures. .
- An unevenly balanced load creates a "jolt" potential. .
- Assure a firm grip of load .
- Two or more men lifts must be done smoothly.
- Abnormal or increase of lifting requirements should be regarded as an increase injury potential and preparation (warm-up) exercise should precede. .
- Avoid long duration of one-man lifting functions (a)
- Relieve periodically whenever possible. .

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### 3.37 Getting On or Off Equipment (Mobile, Trucks, Trailers, etc.)

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment	n/a	As per site requirement and task requirement: hi-vis stripes, hard hat, safety boots, safety glasses
Developed by:	Position:	Date:
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- Wear appropriate footwear with required ankle support, hard hat and hi-vis stripes.
- Clear all mud from soles of boots prior to climbing onto a machine.
- Keep steps clean of mud, clay, snow and ice.
- Use the grab rails and steps provided on the equipment.
- Always face the machine when getting on or off, avoid twisting using your back.
- Maintain three points of contact at all times (two hands/one foot, or one hand/two feet).
- Do not jump from the equipment or get off while it is in motion.
- Be extra cautious under wet, muddy or icy conditions.
- Maintain good housekeeping in your work area.
- Report all injuries/sprains/strains to your Supervisor immediately.

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### 3.38 Working On or Around Machinery or Equipment

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment	n/a	As per site requirement and task requirement: hi-vis stripes, hard hat, safety boots, safety glasses
Developed by:	Position:	Date:
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- Wear safety toed boots and proper personal protective equipment when working on or around machinery.
- Ensure boot laces are tied and tucked in.
- Wear appropriately fitted clothing and gloves, remove all strings from hoodies.
- Remove rings, earrings and chains. No jewellery is permitted with the exception of medical alert bracelets.
- Long hair should be tied back; beards may not grow longer than one inch (1”) below chin.
- Do not operate any machine or equipment, large or small, if you are feeling sick. Illnesses and fevers can dampen your judgment and can create hazardous working conditions.
- Machinery must be in park or neutral and brake engaged prior to exiting machine.
- Shut off engine and lock-out the equipment before any maintenance work is completed on machine/equipment.
- Walk around the vehicle/equipment to check for hidden hazards prior to moving the machine/equipment, a spotter should be used at all times.
- Only use equipment and machinery in good working condition.
- Inspect all safety guards, if any guards are missing or broken then tag the machine/equipment out of service.
- When working on the ground, be aware and steer clear of all moving equipment.
- Operators should always be aware of ground personnel.
- Workers should always be aware of operators and machines/equipment.
- Stay clear of all pinch points.

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### 3.39 Vehicle and Equipment Maintenance, Cleaning and Storage


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
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#### General

- Maintenance of vehicles and equipment should only be performed in the “home” shop.
- Should emergency repairs need to be performed on site then precautions must be made to prevent lubricants, additives or other contaminants from spilling onto the earth.
- Prior to any servicing, workers are required to review the appropriate Safety Data Sheet for any hazardous materials they will be handling and follow the appropriate precautions.
- Impervious barriers such as plastic sheeting or tarpaulins must be used underneath the vehicle prior to commencing maintenance or cleaning.
- Catch pans, large enough to collect all drained fluids, must be utilized.
- All contaminants collected must be placed in approved disposal containers (and in the case of site maintenance, removed from site) and clearly marked for disposal at an appropriate facility.
- Ensure the proper protective clothing, gloves and safety glasses are worn while handling any contaminants or while washing a vehicle.
- Vehicle cleaning should be performed at the shop and wash bay.

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### 3.40 Use of Compressed Gas Cylinders

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Compressed Gas Cylinders	n/a	As per site requirement and task requirement: safety boots, safety glasses
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 11, 2017
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#### General

Compressed or liquefied gas containers must be used, handled, stored and transported in accordance with the manufacturer's specifications, the following safe work practices, OH&S code & site specific requirements.

#### Safe Handling and Use

- Review all applicable hazard assessments, job procedures and safe work practices.
- Approved PPE must be properly worn at all times. This will include as a minimum Hard Hat, Safety Glasses, proper clothing for the task, proper gloves (unless their use would be hazardous) and Safety Boots. Site specific rules, MSDS sheets and environmental conditions may dictate other requirements.
- Check cylinders for date of last hydrostatic date. Do not use if more than 5 years have passed.
- All cylinders must be clearly identified with WHMIS labels.
- All compressed gas cylinder valves must be CSA approved.
- Ensure that on each hose of an oxygen-fuel system, a flashback device is installed at either the torch end or the regulator end, and a back-flow prevention device is installed at the torch end.
- Cylinders must be kept in an upright position and securely fastened by chain or approved retaining device. Fasten in such a manner that there is no danger of the cylinder falling or being knocked over.
- DO NOT remove cylinder cap until chain and/or retaining devices are in place.
- Always keep cylinders, valves, gauges, regulators, threads and other fittings clean and free from oil, grease or other contaminants.

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- Testing for cylinder leaks can be done with a soap and water solution. Move leaking cylinders to a safe location and allow to depressurize. Consult supplier for instructions and tag. DO NOT ship leaking cylinders.
- Do not use hammers or wrenches to open valves.
- When compressed gas cylinder is in use, the cylinder valve must be fully opened to prevent valve stem leakage or possible damage to the valve.
- Cylinder caps must be securely in place when the cylinder is being moved.
- Always shut the cylinder valve and release the pressure in the hose when work is not in progress.
- DO NOT lift cylinders using the valve protection caps. Use a proper cart when moving.

### Regulators

- Ensure that compressed gas equipment designed to be used with a specific gas is only used with that gas. e.g. Oxygen regulator for oxygen.
- Adaptors must not be used between a regulator and the compressed gas cylinder to which it is attached.
- Never force connections that do not fit.
- After removing valve caps and prior to fitting regulator, slightly open valve for an instant to clear the opening.
- Open cylinder valves slowly, standing to one side and with the regulator pointing away from the operator.
- Before removing a regulator from service, close the cylinder valve and release all gas from the regulator.


When the cylinder is not in use, close the main cylinder valve.

### Storage

- Protect cylinders from wet/damp conditions to prevent cylinder corrosion.
- Ensure storage area for cylinders containing flammable or toxic gases is well ventilated.
- Segregate full and empty cylinders to avoid confusion.
- Oxygen cylinders must be stored at least 6.1 meters away from cylinders containing combustible gases.
- Acetylene cylinders must always be secured and stored upright.

**ALWAYS Ensure fire extinguishers are readily available as required**

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### 3.41 Man Lift Platform

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Man Lift	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, fall protection
Developed by:	Position:	Date:
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- A man lift platform should only be used by a worker who has been instructed in using the equipment, the daily inspection as required by the manufacturer, the types of working surface on which the equipment is designed to be used, the maximum rated workloads, special conditions or limitations of the equipment, the significance of alarms and the location of every emergency control.
- A man lift platform which is not working properly or which has sustained damage to critical components should not be used until repaired by a qualified mechanic.
- In the raised position, a man lift platform should only be used on surfaces specified by the manufacturer.
- A man lift platform should not be driven in the raised position close to holes, depressions, trenches or similar hazards.
- A man lift platform should not bear more than its rated working load and where possible, the loads should be distributed over the platform.
- When man lift platforms are used to lift material, ensure the material is firmly secured to the platform.
- Do not place makeshift platforms such as boxes or proper access equipment such as ladders and scaffold on a man lift platform to gain access to the areas above.
- Overhanging loads should not be lifted on a man lift platform.
- A man lift platform or any other part of a man lift device must not be erected or moved closer than 3m (10 ft) to an overhead power line.
- A man lift platform should not be used for pulling, pushing or dragging material.

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- The platform on a man lift device should not be extended by using cantilevered planks or similar platform materials. Only manufacturers' platform extension devices should be used.
- Planks or similar platform materials should not be used to bridge the gap between a man lift platform and other work areas.
- When operating a man lift platform always ensure not to endanger other workers or yourself.
- Workers should always maintain three-point contact with their legs and arms when getting onto or off of a man lift device.
- For all types of off slab devices, the terrain on which the device is placed on or over which it will travel, must be firm enough to support the device and its rated working load.
- A man lift platform should not be used under high wind conditions. This is especially important for smaller scissor lifts and boom type devices.
- When the man lift platform is not being used, turn off the power to the system to prevent exhaust fumes from accumulating in an enclosed work area.

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### 3.42 Scissor Lifts

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Scissor Lifts	n/a	As per site requirement and task requirement: safety boots, safety glasses, fall protection
Developed by:	Position:	Date:
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#### General

Scissor lifts are being used more and more in the construction industry. Again, it's a piece of machinery that people think that they can just jump on and go to work. But in reality, there is a lot of training involved to a worker for them to be qualified and competent before they can jump on. Any personnel lifting device can be potentially dangerous in the hands of untrained or careless operators.

The following rules will help ensure the safety of personnel and help prevent needless downtime because of damaged equipment.


- ONLY TRAINED/COMPETENT operators will be permitted to operate the equipment.
- All manufacturer's operating instructions and safety rules and all employer's safety rules must be strictly adhered to
- Repairs and adjustments will be made only by qualified/competent maintenance personnel.
- No modifications will be made to the equipment without prior written consent of the manufacturer.
- You must make a pre-start inspection of equipment at the beginning of each shift. A malfunctioning machine must not be used
- Inspection of the work area must be done to locate possible hazards before operating equipment.
- Any person who maintains, inspects, tests, or repairs this equipment must be properly trained and competent.
- Any workers engaging in "horseplay" or "stunt driving" will be IMMEDIATELY DISMISSED
- Keep all ground workers from under the platform when the platform is raised
- Workers are NOT permitted to ride on the machine anyplace other than the work platform.
- DO NOT DRIVE the machine when work platform is in the raised position

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- Never steady the platform against another platform.
- DO NOT CLIMB the rails to get extra height
- DO NOT USE ladders, planks, or other devices to extend or increase your work position from the platform.
- DO NOT USE the boom for any purpose other than to position personnel, tools and materials.
- Be sure the guard rail system, including the gate, is in place and secure, there are to be in place at ALL times during operation of the lift.
- DO NOT jump off the machine, do not dismount while the machine is in motion, always use three points of support when getting on or off the platform (two hand and one foot or a similar set of points).
- Look for and obey ALL safety decals and place cards. See attached for locations.

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### 3.43 Overhead Hazards/Working Around Power Lines


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Power Lines, Mobile Equipment, Vehicles, etc.	n/a	As per site requirement and task requirement: safety boots, safety glasses
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:

#### General

The leading cause of fatal electrical incidents while on the job is contact with overhead power lines. The following guidelines have been developed to protect workers from injuries associated with equipment activities near overhead power lines. Do not operate heavy equipment near or under a power line until a permit and/or crossing agreement has been obtained.

- Walk down and survey the work site before beginning the work to identify all overhead power lines. Consider equipment travel paths and movement. **Look Up!**
- All overhead power lines will be considered energized until proven otherwise.
- Ensure proper permits and/or crossing agreements have been obtained from the owner of the power utility.
- Maintain minimum safe clearances. Do not allow equipment or objects to approach the overhead power line closer than the safe limit of approach specified.
- Vehicle and their loads must not exceed 4.15 meters in height when operating on a highway unless Alberta Transportation has granted a special permit to do so.
- If work is being carried out near the safe limit of approach, assign a worker to act as an observer to ensure that the required distance is maintained.
- Use spotters that maintain radio contact with operators. Spotters should be trained in the use of proper hand signals.

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### Minimum height above ground of overhead power lines


Location of overhead power line	Height above ground
Areas normally accessible to pedestrians only	3.6 m
Driveways to residences or residential garages	4.1 m
Areas where agricultural equipment is normally used	4.2 m
Lanes, alleys or entrances to commercial or industrial premises	4.8 m
Roads and highways	5.3 m
Right of way of underground pipelines	5.4 m

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

Operating voltage between conductors of overhead power line	Safe limit of approach distance for persons and equipment
0-750 volts Insulated or polyethylene covered conductors (1)	300 millimeters
0-750 volts Bare, un-insulated	1.0 meter
Above 750 volts Insulated conductors (1) (2)	1.0 meter
750 volts-40kilovolts	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

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### 3.44 Machine, Tool and Equipment Safety


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Machines, Tools	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:

#### General

Machine, tool and equipment safety is very important to Allen Services & Contracting Ltd. and its workers. To ensure a safe workplace when operating or using machines, tools or equipment always follow the practices below:


- Machines, tools and equipment must be capable of safely performing the functions for which it is intended.
- They must be selected, operated and used in accordance with the manufacturer's instruction, safe work practices and the OHS Regulation and Code.
- Only authorized and competent workers may operate and use machines, tools and equipment. Only trained and adequately instructed workers who have demonstrated that they can use and operate machines, tools and equipment safely will be authorized for use and operation.
- Before putting any machine, tool or equipment in operation or use it must be ensured that the operation or use of it does not endanger the operator and other workers and that all required safeguards and air contaminant controls are in place and functioning.
- Any modification of a machine, tool or equipment is not allowed. Should a modification be required the management needs to be contacted first.
- No worker shall remove, impair, or render ineffective any guard provided for the protection of workers unless permitted by the OHS Regulation and Code.
- A machine, tool or equipment which is determined to be unsafe must be taken out of service and tagged according to the tag out / lock out procedure.
- All contact from machines, tools and equipment by clothing, hair or jewellery must be avoided at all times.

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- If dismantling machines, tool and equipment in whole or in parts and subsequently re-assembling, the machines, tools and equipment must be checked by a qualified person and determined to be safe before operation or use.
- No machine, tool or equipment shall be left unattended or in a suspended position unless it has been immobilized and secured against accidental movement or enclosed by a safeguard to prevent the use or operation by another worker.
- All tools, machines and equipment must be inspected and maintained in accordance to the manufacturer.
- Inspection and maintenance records must be kept and available to the operator and all other workers involved in inspection and maintenance.
- Where reasonably practicable machines, tools and equipment shall have stopping devices which are good visible, easy to reach for the operator and readily identifiable.

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### 3.45 Lock-Out/Tag-Out

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:

#### General

This practice is to ensure the protection of workers who are working with equipment which could endanger them and/or cause possible equipment damage. A lock out / tag out is required where workers work on dangerous equipment which could be a hazard to life or property.

Before workers start maintenance on equipment the Supervisor or leader of repair should make sure the equipment is locked out/tagged out. Only when this is present workers can start working on it. Only authorized personnel can lock out/tag out equipment.

#### Lock out:


- Use scissor pad locks if possible
- Needs to identify who locked it out

#### Tag out:

- The tags are stating “do not operate”
- Needs to identify who tagged it out
- Tags on tools should state the damage
- Tagged out tools should be removed and submitted to the Supervisor to arrange for repair and/or maintenance

No workers will work on equipment which is hazardous unless it is locked out/tagged out. All workers working on this equipment shall know the lock out/tag out procedure and the conditions used to return the equipment to active state.

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### 3.46 Removal of Lock-Out/Tag-Out

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
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- A lock out/tag out is only to be removed by the person who installed it.
- In the event that equipment is found locked out and the responsible person is not present, workers should contact their Supervisor.
- He/she will attempt to contact the person who installed it and ask for permission to remove it.
- If the person who installed the lock out cannot be contacted, a qualified person will examine to determine if it is safe to remove.
- All workers are responsible to report all defective tools and equipment and to use the tag out procedure.
- Only authorized workers shall repair defective tools and equipment.

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### 3.47 Electrical System Lock-Out


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
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#### General

Only competent personnel must lock out an electrical system. If you do not have the required training, do not attempt to lock - out an electrical system. Contact your Supervisor and request a competent person to lock out the system, such as an electrician.

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

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### 3.48 Using Mobile Equipment – General

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
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- No employee or subcontractor shall operate mobile equipment unless he/she has been trained in its operation.
- All vehicles and equipment must be inspected by the operator. The following equipment is to be checked to ensure it is in safe mechanical condition: lights, brakes, steering, tires, horn, fire extinguisher, oil and coolant levels, back-up alarm, and trailer hitches where applicable. .
- Before moving mobile equipment, the operator must walk around his vehicle and ensure that no obstructions are present. .
- Windows, head lamps and tail lamps are to be kept clean and functional.
- All mechanical defects must be immediately reported to your Supervisor.
- Except for testing, instructional purposes or in exceptional circumstances, an operator will not allow any person to ride in/on a piece of mobile equipment. .
- Mobile equipment equipped with a ROPS will not be started or put into motion unless the operator is seated in the normal operating position and has his seat belt properly fastened.
- Operators are not to shift a vehicle into neutral and allow the vehicle to free wheel or coast down-hill. .
- When ascending or descending very steep grades, the operator will carry the bucket low so that it can be dropped to the ground quickly in emergencies. .
- Operators must not undermine any piled material. .
- When turning an articulated steering vehicle, a loaded bucket is to be kept as low as possible. .
- Mobile equipment should be parked in such a manner as to leave the roadway clear for other equipment or pedestrians to pass. .
- Mobile equipment should be parked on a level area and all raised components lowered to the ground before the operator leaves the machine.
- Mobile equipment should not be left unattended without the hand brake applied or the


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machine blocked. .

- Gas vehicles must be shut off during refueling. .
- When hydraulically suspended mobile equipment blades, buckets, etc. are being serviced in the raised position, they must be pinned or blocked. .
- Mobile equipment must be blocked while it is being repaired. .
- When any piece of mobile equipment is being serviced, the person doing the servicing must remove the ignition key and retain it in his possession until such time as he has completed the servicing. A tag should be placed on the ignition or steering wheel indicating the vehicle is being serviced. .
- No one may work under any equipment supported by jacks. Properly designed stands substantial enough to support the full weight of the equipment must be used. .
- Any work platform on a forklift must be securely fastened to the mast of the forklift with safety chains or other means to prevent the platform from falling off the forks. .
- When mobile equipment is utilized as a work platform, a trained operator must remain at the controls of the machine as long as persons are on the work platform. .
- When, due to the nature of the job, a mobile equipment operator requires signals from another person, a standard set of signals will be used and only one person will be permitted to give signals to the equipment operator. .
- All operators, Foremen, and maintenance personnel have the legal right to shut down any equipment they deem to be unsafe. .
- No equipment shall be altered in any way that will jeopardize the safe operation of that equipment. .

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### 3.49 Backing Up Mobile Equipment/Trucks

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment, Trucks	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:


#### General

A large percentage of construction site accidents and injuries involve mobile equipment and trucks. Most of these accidents occur while machines are backing up. Operators must be continually aware of people/traffic movements and obstacles around them.

- All vehicles over 6000 kg or with restricted visibility must have an audible back up alarm (Alberta)
- Circle your machine before mounting, particularly when in residential and commercial areas
- Always look back on both sides of the machine before backing up
- Where ground workers are involved, ensure all are clear of the machine and accounted for before moving. All ground workers must wear a fluorescent vest when working around mobile equipment
- Use a flag person to guide when:
  - a) Backing up in an area where vision is limited
  - b) Aid in judging distance between the machine and obstacles as required
  - c) Backing into traffic areas
  - d) When equipment does not have an audible backup alarm
- Flag person must:
  - e) Be properly trained and competent to do such work
  - f) Stay alert to recognize and deal with dangerous situations
  - g) Wear a fluorescent vest and a bright red hard hat to be easily recognizable
  - h) Know driver or operator's blind spots
  - i) Stand where they can see and be seen by the driver, operator and general public traffic
- The use of cell phones is strictly prohibited while operating equipment

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### 3.50 Using A Forklift

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Forklift	n/a	As per site requirement and task requirement: safety boots, safety glasses,
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
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#### General

Knowledge, skill and confidence are the essential tools of a professional forklift operator. The knowledge that your equipment is in safe working condition and the skill that comes from practicing safe operating techniques will produce the confidence you need to get the job done right.

Following these rules will greatly reduce the risk of turning the forklift over the injuring the worker:


- Any worker using a forklift must be fully trained and competent to operate the forklift, these are NOT toys, so they should not be treated as such.
- Operating surface is very important to the safe use of a forklift. Floors, wherever possible, must be level, free of holes, free of oil and grease and as dry as possible, noted, this can't always happen. If the ground is wet or muddy, the operator MUST take extra care when operating the forklift. Also, the operator must be aware of overhead hazards, i.e. electrical lines, lights, and utility pipes.
- DO NOT OPERATE forklift in enclosed or confined areas. The build-up of carbon monoxide can prove to be deadly (carbon monoxide is a colourless, tasteless, odourless poisonous gas).
- DO NOT OPERATE forklift beyond manufacturer's recommendations. Do not try to lift more weight than it is rated for. This may cause the forklift to tip.
- Always inspect the forklift before you operate it. Look for things like cracked or broken lines. Are there any puddles underneath the forklift? Are any of the tires flat?
- MAKE SURE THE BACK UP ALARM IS WORKING. In Alberta, mobile equipment over 6000 kg, or has limited visibility MUST have an audible back-up alarm or a competent flag person.

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- When it comes to the maintenance, follow the manufacturer's recommendations and only properly trained, competent workers are allowed to perform maintenance on forklifts.
- Operators must be aware of their surroundings, are there obstacles, is there pedestrian traffic, watch the blind spots. Be sure that you have enough room to turn. Operate the machine safely.
- **DO NOT ALLOW ANY RIDERS ON THE FORKS.** The forklift is not a taxi, it is made to move materials, not humans.
- Operators must handle each load differently, not all loads are the same, watch for things like the height of the load, the position of the load on the forks, the speed you are travelling at, the load weight and the centre of gravity of the load.
- On some loads, because of the size of the cargo, visibility may be obstructed, at these times the operator **MUST** stop to have a flagman or signaler to help out.
- Watch for steep grades, these may require the operator to travel backwards, again, a trained/competent signaler may be required. **NEVER** turn on ramps, slopes or inclines. This may cause the forklift to turn over, wait until you are back on level ground.

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### 3.51 Control of Traffic Flow (fenced non-public work site)

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Vehicles	n/a	As per site requirement and task requirement: safety boots, safety glasses, hi-vis vest, hard hat
Developed by:	Position:	Date:
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#### General

- Erect signs and barricades to direct traffic safely around work site.
- Restrict on-site traffic to necessary vehicles and equipment.
- Assign parking areas.
- Vehicles should back up into parking spots.
- Vehicles should be left unlocked and the keys in the ignition or visibly placed on the seat (if possible).
- Prior to operation, the operator must perform a walk around check of the vehicle.
- Operate vehicles in a safe, courteous manner.
- Wear your seat belt at all times when driving.
- Do not block passage ways, gates, etc.
- When backing up, all vehicles should sound the horn 3 times (or as per site requirement/rule).
- When moving forward, all vehicles should sound the horn once (or as per site requirement/rule).
- Mobile equipment has the right-of-way on site.
- Follow posted speed on site.
- Never drive, pass by or maneuver behind mobile equipment
- If you are following mobile equipment, ensure you have at least 200 feet safe distance to the equipment, or as per site requirement/rule.
- Always have eye contact to other vehicle and equipment operators

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### 3.52 Flagging Traffic- General

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Stop/Slow Paddle	n/a	As per site requirement and task requirement: safety boots, safety glasses, hi-vis vest, hard hat
Developed by:	Position:	Date:
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#### General

The objective for properly flagging traffic is to reduce the risk of personnel injury and damage to commercial and residential vehicles.


Flagging traffic is not as easy as it looks, there are a number of rules and regulations that must be followed in order to keep traffic moving and never have construction vehicles at a standstill.

Flagging personnel must be very distinguishable from other workers, they must stand out in order for drivers and operators to see them. For this reason, all flagging personnel must wear fluorescent orange vests, a bright colored hard hat (i.e. red or orange) and the flagmen **MUST** have a regulation size **STOP/SLOW** paddle.

The following are rules that will prevent accidents at or near construction sites:

- Workers **MUST** be adequately trained and competent to perform the job of flagmen (in Alberta, documentation must be available to prove that proper training has been completed)
- Flagmen must stand 100 meters (330 feet) from equipment crossing in order to give construction vehicles enough room to run or stop and general public enough warning there is a hazard
- The **SLOW** sign must be raised if approaching traffic is encountered. The **STOP** sign will be shown if construction traffic is present
- The sign must be held so oncoming traffic can clearly see it
- Flagmen must be alert at all times, they must know what is going on around them, they must be able to recognize potential hazards

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### 3.53 Confined/Restricted Space Entry

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	Safety boots, safety glasses, hard hat <u>and</u> as per site requirement, task requirement <u>and</u> <u>confined space safe work plan</u> .
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:

#### General

The material will define the legislative requirements for confined space entry work and the need for a specific job procedure when selecting, maintaining and using respiratory protective equipment when a worker works in a confined space.

This material will identify the different types of confined and restricted spaces and the attendant hazards, as well as the need to recognize whether the space contains harmful substances, an oxygen deficiency, a flammable atmosphere or other hazards.

Other areas to be covered are: the training and qualification of workers, isolation, ventilation, the testing of the space, the availability and proper use of personal protective equipment including breathing apparatus and the need for rescue procedures and equipment.


Hazards can be avoided or overcome if basic rules are followed every time a confined or restricted space entry is made.

#### Definition of a Confined Space

A restricted space which may become hazardous to a worker entering it because

- (a) An atmosphere that is or may be injurious by reason of oxygen deficiency or enrichment, flammability, exclusivity, or toxicity,
- (b) A condition or changing set of circumstances within the space that presents a potential for injury or illness, or
- (c) The potential or inherent characteristics of an activity that can produce adverse or harmful consequences within the space.

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### Definition of a Restricted Space

An enclosed or partially enclosed space, not designed or intended for continuous human occupancy, that has a restricted, limited or impeded means of entry or exit of it construction.

- Only workers who have completed a confined space entry training are permitted to work in a confined space.
- Refer to the Confined Space Entry Program for additional information, Section A5 of the safety manual.
- A confined space should be considered hazardous unless determined otherwise by a comprehensive hazard assessment.
- Workers who have to work in confined spaces must be advised of the existence of and dangers posed by confined spaces.
- Workers are not permitted to enter or remain in a confined space that contains or is likely to contain an explosive or flammable gas or vapour.
- Do not enter a confined space if a new hazard is present that was not identified by the initial hazard assessment.
- Do not create an obstruction by storing materials near or adjacent to a confined space access/egress.
- Ensure there is reasonable means of exit from all areas of the confined space.
- Ensure that ventilation and purging is established and allows acceptable air levels to be achieved and maintained.
- Ensure that a method of communication is established to allow immediate contact with necessary personnel if rescue or assistance is required.
- Confined Space entrants must be trained in H2S Alive (if required).
- Before entry, the vessel or confined space must be tested by a competent worker wearing breathing apparatus, for oxygen content, combustible gas (L.E.L.) and H2S.
- Continuous monitoring may be required of the vessel or confined space atmosphere.

For further information on Confined/Restricted Space, review the Confined Space Program, Section A5 of the Safety Manual.

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### 3.54 Use of Fall Protection

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Lanyard, harness, Cable sling (dog leash), hooks, connectors, etc.	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:

### General

- Workers must complete certified fall protection training. .
- **Refer to the Fall Protection Program Section A2.0 of the Safety Manual for additional information. .**
- All fall protection equipment and components must be inspected before each use.
- A fall protection plan must be developed when using fall protection including rescue of fallen workers.
- Fall prevention configurations are the preferred form of fall protection. .
- Fall arrest configurations should only be used when fall prevention systems are not practical or as a back-up to fall prevention. .
- At least 2 workers must be present when a restraint or arrest system is used..
- Keep your free fall distance to a minimum. .
- Attach the lanyard directly overhead, where practicable. .
- Ensure that a fall arrest system is attached to a suitable anchorage point.
- Take into consideration obstructions that are below the work area. .
- Ensure that barricades, warning tape and signs identify restricted areas. .
- Fall protection equipment must comply with CSA and ANSI standards. .
- Do not use defective equipment or components. .
- Do not use a harness or lanyard that has arrested a fallen worker. .
- Do not attach two lanyards together to make them longer. .

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### 3.55 Use of Aerial Work Platforms

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Fall Protection Equipment, Aerial Work Platform/Equipment	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
Revised by:	Position:	Date:


#### General

Aerial Work Platforms include scissor lifts, man lifts and any other equipment that can raise a worker to the required height.

- Read and follow manufacturer operator's instructions.
- Perform job site inspection and walk around inspection of the equipment.
- All personnel using aerial work platforms must be trained to do so.
- Ensure ground is firm and level.
- Be aware of surroundings above, below and around - power line proximity if outdoors, ceiling heights, ventilations systems and fixtures if indoors.
- Ensure correct aerial platform is utilized for the job to be done.
- Do not overload the machine at any time. Check the equipment's load limitations.
- When driving the equipment, ensure a flag person can give directions.
- No platform is to be made higher by the use of a scaffold, boxes, or ladders.
- Wear the applicable safety harness (fall protection) attached to the machine's **designated** anchor when operating any aerial platform.
- Get on and off the platform when it is in the lowered position only.
- While operating an aerial work platform, the operator shall not use any hand-held device(s) such as cell phones, while the equipment is being operated.
- Review the operator's manual, follow training and good practices.

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### 3.56 Directional Drilling in Construction

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
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#### General

- Ensure barricades and warning signs are in place.
- Ensure to expose utilities before drilling.
- Ensure proper placement of mats, stakes and cones.
- Ensure grounding-stakes are utilized.
- Do not use pipe wrenches to uncouple drill rods.
- Do not modify any equipment.
- Only qualified and trained personnel may perform directional drilling.
- Follow SWP and SJP at all times.

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### 3.57 Excavating and Trenching Basics

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment, Shovels	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, hi-vis vest
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 15, 2017
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#### General

- Prior to commencement of any excavation ensure that all underground and/or overhead lines have been identified, exposed and well marked/flagged.
- Control traffic near roads or busy access ways.
- Use traffic controllers/flaggers.
- Set up barricades.
- Provide ladders in immediate area for access/egress of trenches, excavations.
- Where the cut back method is not possible, provide timber shoring, trench jacks, sheet piling, cage or other approved method.
- Ensure qualified and trained personnel performs excavation, sloping and shoring.
- Keep heavy equipment away from trench edges.
- Keep excavated soil and other materials at least 2 feet from trench edges.
- Ensure trenches are inspected by a competent person at start of each shift.
- Do not work under suspended or raised loads or materials.

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### 3.58 Excavating to Expose Existing Lines or Underground Line Crossings

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment, Hydrovac, Shovels	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, hi-vis vest, gloves
Developed by:	Position:	Date:
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#### General

- Locate all lines and determine the probable depth of the lines to be crossed.
- Sweep R.O.W. using radio detection units for line alignment, where applicable.
- Existing pipeline(s) and/or cables must be exposed “BEFORE” commencing any mechanical excavation.
- Hydrovac to expose the line(s) within the critical area to allow for mechanical excavation as per Regulations.
- If for any reason hand excavations are temporarily filled in, they shall be re-exposed before excavation takes place.
- A Signal Person must be present at all times to direct the mechanical excavation during line crossings.
- Workers and operators must be conversant in proper hand signals.

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### 3.59 Assisting in Pouring Concrete Foundations – Basics

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Concrete Truck	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, hi-vis vest, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
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#### General

- Foremen are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and hazard analysis.
- Ensure barricades and warning signs are in place.
- Ensure Rebar Protection is in place (end caps).
- Ensure excavation is of proper design.
- Ensure the concrete forms are secured from movement.
- Ensure you are conversant with concrete pour procedures.
- Ensure you are visible to the concrete pump operator.
- Ensure equipment is in good working order.

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### 3.60 Opening and Guarding Manholes – Basics

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, hi-vis vest, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
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#### General

- Ensure obstructions to traffic are guarded by adequate signs, barricades, lights, flares or flags and a flag person.
- Ensure a blow-torch or other open flame is not utilized to melt ice around a manhole or vault cover.
- Ensure covers are removed and replaced by means of approved hooks or hoists and appropriate key tool.
- Never use grinders to cut the manhole cover, always use the key tool.
- Ensure forced ventilation is used for oxygen deficiency.
- Ensure equipment is in good working condition.
- Ensure you are trained in the use of breathing air apparatus.
- Before any work is done on a cable, it must be identified by an approved method.

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### 3.61 Planned Lifts and Suspended Loads

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, hi-vis vest, gloves
Developed by:	Position:	Date:
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### General

- Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and hazards.
- Determine type of equipment
- Ensure barricades and warning signs are in place.
- Determine the weight of the load.
- Determine the shape and the size of the load.
- Determine the maximum height and final position of the load to be raised.
- Determine the centre of gravity of the load so proper length of slings can be determined.
- Ensure that safety inspections are completed on equipment and rigging.
- Ensure potential hazards are identified within the work area.
- Communicate with all personnel involved of potential hazards.
- Ensure clear communications with equipment operators are in place.
- Ensure tag lines are used and constructed of non-conductive material. Ensure atmospheric conditions are monitored such as temperature, humidity and wind may affect the operator.
- Ensure you understand proper hand signals.
- Ensure ground is firm and level.
- Establish load chart rating of crane.
- Follow safe lifting procedures.

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### 3.62 Piling Installation

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Piling Rig, Piles	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, hi-vis vest, gloves
Developed by:	Position:	Date:
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### General

- Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and hazards.
- Inspect worksite.
- Review (subcontractor's, if applicable), piling safe work procedures.
- Set up signs and barricades.
- Determine line locations and scope of locations.
- Hand-expose lines and cables.
- Maintain minimum clearance from underground, overhead lines and structures.
- Be aware of pinch points.
- Ensure tag lines are utilized.
- Ensure proper isolation/ barricading/ covering/ of open excavations/ cages/ drive piles.
- Ensure proper off-loading of piling materials.
- Ensure that augering or drilling equipment is on stable ground and anchored properly.
- Ensure you are visible at all times to the rig operator.
- Follow piling safe job procedures.

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### 3.63 Use and Care of Respiratory Protective Equipment – Basics

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, respiratory protective equipment
Developed by:	Position:	Date:
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- Review the Respiratory Protective Equipment Program in Section A4.0 of the Safety Manual.
- Ensure you are fully trained on respiratory protective equipment and fit tested.
- Ensure you are using the proper respiratory protective equipment.
- Ensure you are conversant with safe work procedures and/or site-specific procedures.
- Inspect before each use.
- Inspect after each use.
- Ensure to utilize “Buddy” system.
- Ensure work masks are cleaned and disinfected after each use.
- Ensure equipment is stored properly.

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### 3.64 Use of Cell Phones and Two-Way Radios While Driving

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots
Developed by:	Position:	Date:
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#### General

- Always make driving your first priority.
- If necessary, always pull over to take or make a call or read/send a text.
- Whenever possible, let your voice mail take your incoming calls.
- Do not engage in stressful or emotional conversations.
- Utilize a hands free device if possible.
- Ensure you know your wireless phone and its features such as speed dial and redial.
- Do not take notes or look up phone numbers while driving.
- Do not use cellular phones when refueling.
- All the same points apply to the use of a two-way radio.
- If you have to talk on the phone or two-way radio for any reason, be sure to pull over and come to a complete stop before talking.


#### Bill 16 - Distracted Driving Legislation

Driver distraction is a growing traffic safety concern among policy makers and the public. Several studies have shown that 20 to 30 per cent of collisions involve driver distraction. To address this serious traffic safety issue, the Alberta government has introduced Bill 16- the Traffic Safety (Distracted Driving) Amendment Act, 2010 - to help make our roads safer.

#### Highlights:

- Restricts drivers from holding/using hand-held/portable communication/ entertainment devices such as cell phones, laptops or MP3 players while driving;
- Restricts drivers from reading, writing or attending to personal hygiene or grooming while driving;
- Allows enforcement officers, at their discretion, to charge distracted drivers;

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- Complements the current driving without due care and attention legislation;
- Applies to all vehicles as defined by the Traffic Safety Act.


**The following is added after section 115:**

**Cellular telephones, electronic devices, etc.**

**115.1 (1)** Subject to this section and the regulations made under section 115.5, no individual shall drive or operate a vehicle on a highway while at the same time:

- (a) holding, viewing or manipulating a cellular telephone or other communication device that is capable of receiving or transmitting telephone communication, electronic data, electronic mail or text messages, or
- (b) holding, viewing or manipulating a hand-held electronic device or a wireless electronic device.

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### 3.65 Equipment Right-Of-Way – Basics

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Mobile Equipment	n/a	As per site requirement and task requirement: safety boots, safety glasses, hi-vis vest
Developed by:	Position:	Date:
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#### General

- **Emergency Vehicles** always have right-of-way.
- Subsequently, loaded equipment has the right-of-way, with the exception of road maintenance equipment (i.e. cats and graders).
- Erect signs and barricades to direct traffic safely around worksite.
- Restrict on-site traffic.
- Obtain authorization to enter restricted work areas.
- Vehicles should park pointed towards the exit with the doors closed.
- Prior to operation, the operator must perform a walk around check of the vehicle.
- Operate vehicles in a safe, courteous manner.
- Ensure your own vehicle is visible to others (i.e. headlights or hazards on), or visible parked.
- Traffic control procedures should be discussed during morning toolbox talks or daily hazard assessment procedure.
- Always ensure to have eye contact with the operator and communicate.
- Whenever equipment is near you, give the equipment right-of-way.
- Never walk behind mobile equipment as the operator can't see you.

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### 3.66 Demolition

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Hammers, Hand-Held Tools, Mobile Equipment, Shovels, Lock-Out Equipment (Locks)	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, gloves
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

### General


- Standard industry safe practices as well as provincial regulations must be followed when demolition is required.
- Some existing utilities may remain energized in some demolition areas. Procedures for isolation and identification must be addressed before demolition may proceed. It must be confirmed by a trained/competent electrician that all power has been turned off to the area that is being demolished.
- All workers must extend courtesy and right of way if demolition is being done around tenants or the general public.
- All workers must wear adequate P.P.E. while demolition is in progress, i.e. CSA approved hard hat, safety boots and safety glasses at all times. Adequate respiratory protection must be worn if the demolition creates excessive dust, i.e. clean up. Hearing protection must be worn when required.
- All work areas must maintain proper access and egress during demolition.
- All material that accumulates must be removed from the area immediately, do not let debris hinder ongoing work.
- If glass breaking is required, all workers must be adequately protected, i.e. glass must be covered with a tarp to avoid flying shards.
- If working at heights, all work platforms must be fully decked, c/w guardrails and toe boards and must be kept clean and free of debris which could cause a potential tripping hazard or may fall and cause injury to workers working below.
- Floor areas must be swept as required to ensure debris does not migrate to occupied or public areas. All precautions must be exercised to keep the dust to a minimum in public areas, i.e. drape a tarp around demolition area, and/or use electric exhaust fans to blow dust outside.

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- All cutting tools (i.e. pliers, cutters, etc.) must be adequately insulated against transmitting electrical shock to workers.
- Before any demolition work is done, a specific job procedure must be in place and reviewed prior to work beginning.

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### 3.67 Dust in Construction

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots, safety glasses, hard hat, masks
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
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#### General

Dust comes in many forms, from general dirt and debris to concrete, wood, brick, marble, granite and gypsum dust. Quartz or silica dust is also present either in the form of abrasive sands or as a component of concrete, brick or granite dust.

Although these dusts are not as dangerous as solvents, they may also cause the same effects years later. The tragedy of black lung among coal miners is strong evidence of that. The amount of harm that can be caused by dust will depend on which dust you come into contact with, how much you come into contact and how long you come into contact with it.


Some common dusts are Silica. Silica occurs in two forms: Crystalline and amorphous. The crystalline form is the type of silica known to cause severe health effects. Most crystalline silica comes from quartz. Quartz is extremely common in nature. It is found in rocks and sand. Some rocks, such as granite, contain a high percentage of quartz.

The hazards posed by silica will depend on how much quartz dust is generated. Processes that cause mechanical disturbance of quartz contain materials present in silica dust hazard. These processes include cutting, grinding and crushing. The most hazardous processing involving quartz is sandblasting. Sandblasting causes quartz to breakdown into smaller particles and creates very high dust levels.

Exposure to crystalline silica causes the lung to become fibrous or scarred around the trapped silica particles. This condition is called silicosis. Silicosis causes shortness of breath, fever and bluish skin. Having silicosis increases the risk of getting tuberculosis. There are three types of silicosis:

1. Chronic silicosis which may develop after 10 years or more to relatively low concentrations

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2. Accelerated silicosis which may develop 5-10 years after exposure to high concentrations
3. Acute silicosis which may develop within a few weeks to 4-5 years after exposure to very high concentrations

One reason silicosis is such a serious disease is that the condition can worsen even after exposure has ended. There is no evidence that crystalline silica may cause cancer.


Some other common dusts on construction sites are excavation dusts, concrete dust, gypsum, brick, marble and granite dusts. These dusts may be very harmful if exposed in high concentrations for a long period of time.

Construction dusts may contain small amounts of very hazardous materials. For instance, cement may contain small amounts of nickel, cobalt and chromium. The most abundant metal found in cement is hexavalent chromium. Hexavalent chromium is a skin sensitizer. This means that after repeated exposure, the skin may become sensitive to chromium and bring to break out and become irritated. Hexavalent chromium causes other respiratory problems and has been associated with lung cancer.

Construction dust may have the following long-term health effects:

1. Lung overload: the lungs have a number of protective mechanisms. Included among these are the macro-phages (tiny fingers) that remove particles from the small air sacs of alveoli. If too much dust is collected in the lung, this system is overloaded. Even relatively harmless dust can interfere with normal function at high exposure levels
2. Pulmonary Alveolar Proteinosis (PAP): the small air sacs or alveoli are filled with unwanted fluid and the walls between the air sacs are thickened. The result is shortness of breath. Severe cases of PAP can result in death
3. Chronic bronchitis: mucous produced in the lungs helps carry larger dust up and out of the body. Too much dust can cause too much mucous production. The result is irritation of the throat and coughing. This condition is called bronchitis. If it doesn't go away, it's considered chronic bronchitis
4. Cancer: a Canadian study which looked at 20 types of cancers and 10 types of dusts common to construction found a higher risk for cancer among workers with exposures to silica, excavation dust, concrete, cement dust, brick, lime and gypsum dust
5. Silicosis: silica is found in a number of construction materials including concrete, bricks and excavation dust. Cutting, drilling, chipping or grinding these materials produces exposures to silica. Long term exposures to high dust levels containing silica may increase the risk of chronic silicosis

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## Precautions

The best protection against the hazards of dust is the use of exhaust ventilators, i.e. dust collections fitted into power tools, like hammer, drills and jack hammers.

High Efficiency Particulate Air Filter (HEPA) vacuums should be used rather than sweeping. Wetting down dust before sweeping will also control some of the dust.


If respirators are used, they should be part of a respiratory protection program that includes training and testing on use and limitations, regular cleaning, proper storage and regular inspections. Workers must be trained and competent in the use of respirators before they are allowed to work in environments that require respirators.

If an air purifying respirator is used, they must be equipped with HEPAS cartridges. Disposable masks will only be used for very low exposures to a dust atmosphere. 3M 8210, 8710, or equivalent will be permitted.

For further information on respiratory protection refer to Respiratory Protection program, Section A4.0 of this Safety Manual.

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### 3.68 Hoarding

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	Hoarding Materials: i.e. Plastic Sheets	As per site requirement and task requirement: safety boots
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
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#### General


Hoarding is used in construction in many situations, for example: to hoard off areas to prevent contamination by dust, to hoard off areas to provide heat during the winter season to specific areas or the warp up frozen ground, etc.

The two main things to be aware of when planning to erect a temporary enclosure are wind and snow/rain loads. Nothing will bring down hoarding that has been erected improperly faster than the wind and weight on the structure.

Following these steps will help reduce the risk of the hoarding coming down.


- Complete a Hazard Assessment before beginning any work that may cause injury to workers.
- Discuss the plan with the workers, input from others might help with problem areas.
- When placing tarps to the framing structure, be sure to close tarps so that there is no or very little opportunity for the wind to get inside the hoarding.
- Never leave a large opening in the hoarding for an extended period of time where the wind may be allowed to get inside and cause a sail effect.
- Be sure to close off the hoarding if not finished in one day.
- Be sure that the tarps are securely fastened. If a wind comes up, this will prevent the tarps from coming loose.
- Entryways must be constructed for easy access and egress, but to keep the heat in and the wind out.
- If using a scaffold, scaffold must be tied back to an adequate anchor point at the ground and top by guide wires at the proper angle, and must be done from both sides.
- If in public areas, make sure the area is well marked to prevent public access
- Make sure the wall is sealed to prevent dust or debris from entering public areas.

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- If heaters are used to warm up frozen ground or the area itself, ensure heaters are positioned a good distance away from the tarps o prevent the tarp catching fire.
- Only industrial/commercial heaters with shut-off switch may be used for heating up hoarded areas.

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### 3.69 Lead in Construction

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: safety boots
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
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#### General

Lead presents a potential hazard to workers. Worker exposure to lead can occur during its refining or in its many commercial and industrial applications.

Lead can be found in air, food and water—in either inorganic or organic forms. The most common form of organic lead has been tetraethyl lead (TEL) found in “leaded” gasoline. Inorganic forms of lead include both metallic lead and its inorganic compounds. Only the inorganic forms of lead are covered in this section.

To ensure protection against exposure to lead, workers and employers must be aware of its properties, how it affects the body and methods to control exposure.


#### Use of Lead

Because of its unique properties, metallic lead finds wide industrial applications. It is a major component of many alloys such as solder, type metal and bronzes. Inorganic compounds formulated from metallic lead have a variety of uses, especially as pigments in paints and ceramics.

The danger of excessive lead exposure is most serious in:

- scrap metal salvage and recycling
- the manufacture of lead-acid storage (e.g. automotive) batteries, paint,
- ammunition and ceramics
- smelting and casting operations
- the soldering or welding of metal materials such as radiators, automobile bodies,
- saw blades and piping
- painting operations using lead based paints

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## Properties of Lead

Metallic lead is a heavy, bluish gray, very soft metal. Its other properties include high density, low melting point, resistance to corrosion and good shielding ability from gamma and x-rays. Molten lead gives off noxious fumes of lead and lead oxide.

Inorganic lead compounds are often highly colored solids, making them excellent pigments for use in paints. Some of these compounds (e.g. lead chromate) can

be more toxic than element lead. It is, therefore, important to check the supplier material safety data sheet (MSDS) to determine the composition of any material being used at the worksite.

## Effects on the Body

Inorganic lead can enter the body through the lungs and the digestive system, but is not usually absorbed through the skin. Very fine dust or fume particles can enter the lungs where the lead is absorbed into the blood stream. Lead can also enter the blood stream through ingestion of contaminated food, drink or cigarettes. Once in the blood stream lead is carried to a number of organs.


Too much lead can affect the nervous system. The result can be headaches, dizziness, irritability, memory problems and sleep disturbance. Lead can affect the digestive system and cause nausea, vomiting, constipation, appetite loss and abdominal pain. Lead also effects the formation of red blood cells and can result in anemia.

Overtime, the nerve muscle system can be damaged. This can result in muscle weakness, decreased feeling in hands and feet and a metallic taste in the mouth. Lead may damage the kidneys and lead to high blood pressure. Exposure of pregnant women to excessive lead can cause miscarriages and stillbirths. In men, there is evidence that fertility may be affected by overexposure to lead.

The health of a worker's family may also be at risk if lead dust is taken home on clothes, foot wear, on the skin or in hair. Children are more readily affected by lead than adults. In addition to the problems seen in adults, some children with high lead exposure may suffer mental and physical developmental problems.

Although there are many possible symptoms of overexposure to lead, some of the changes take a long time to develop. Workers may absorb too much lead without noticing a change in their health. The best protection against such exposure is for workers and employers to ensure that proper controls are used to minimize exposures before health is affected.

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## Controlling Exposure to Lead

Preventing harmful exposure to lead requires an awareness of the potential hazards, a clear understanding of the work process and continued use of effective control measures.

Written safe work procedures are an effective way to communicate information to workers. These should include instructions for the routine handling of lead and for dealing with accidental spills or releases to the environment. The procedure should be site specific because of the differences encountered among work sites.


Other control measures may be required to prevent overexposure:

- Enclosures that isolate lead processes to reduce the number of workers exposed
- Local Exhaust Ventilation to capture lead dust and fumes at their source (e.g. in soldering, welding and casting operations).
- Substitution of Other Materials which are less hazardous to workers (e.g. use of lead free paints).
- Administrative Controls to limit the time period of worker exposure to lead through job rotation or work assignment away from lead.
- Appropriate Respiratory Protection to be provided when other control measures are not technically possible, are impractical due to the nature or duration of work. Or fail to provide workers with adequate protection. Only respirators approved by NIOSH/MSHA can be used.
- Good Personal Hygiene can prevent lead from clinging to clothing, footwear and the skin. Workers should wash their hands and face before eating, drinking or smoking. Shower and change facilities should be provided for employees require to work in close contact with lead materials. Do not take work clothing home.
- It may also be necessary to measure the level of lead in the air and/or use biological monitoring. The results of these measurements may help to evaluate worker exposure to potentially hazardous levels and/or evaluate the effectiveness of controls.
- Pre-employment medicals may be required for workers to ensure that their health is not adversely affected by the requirements of the job (e.g. the need to wear a respirator). An occupational health specialist should be consulted to determine the need for monitoring or medical examinations at specific work sites.

## Employer Responsibilities

Alberta's Occupational Health and Safety Act sets out the employer's responsibilities to ensure the protection of workers at the work site. Regulations under this Act have been established to define standards related to protection from specific hazards. The General Safety Regulation (AR 448/83) provides standards respecting various safety aspects at the work site. The Chemical

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Hazards Regulation (AR 393/88) covers requirements relating to the control of chemical hazards and the Workplace Hazardous Material Information System (WHMIS). It also lists Occupational Exposure Limits (OEL's) for various chemicals. OEL's are subject to periodic change. Please check the Chemical Hazard Regulations for current exposure limits.

In Alberta and Northwest Territories, workers may not be exposed to airborne levels of inorganic lead which average more than 0.05mg/m<sup>3</sup> over an 8 hour work day. Since it is possible to exceed the limit during many operations involving lead, it is important to consider appropriate controls measure before work begins.

It's important to note that OEL's represent minimum standards for worker protection. In order to protect workers from the hazards of lead, the employer must use control measures which will be effective in keeping lead levels as low as possible.

As previously outlined there are several control options available to the employer (e.g. good housekeeping). The methods used will depend on the conditions at the work site. If personal protective equipment is used, it must be properly selected and cared for. Workers must also be trained in its use.


### **Worker Responsibilities**

Alberta's and Northwest Territories' Occupational Health and Safety Act also places responsibilities on the worker for health and safety at the work site. The Alberta and Northwest Territories Occupational Health and Safety Act and regulations require the worker to take reasonable care of himself and others at the work site. This includes co-operating with the employer for the purpose of protecting him/herself and others.

The worker must:

- be aware of the hazards associated with lead
- follow safe work procedures developed by the employer
- practice good personal hygiene
- wear protective equipment requires to ensure protection, and follow instructions on correct use
- participate in education programs provided by the employer

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### 3.70 Ergonomics

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement:
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:


#### General

Workplace design should accommodate the variety of workers' shapes and sizes and provide support for the completion of different tasks.

Here is a list of to do's and don'ts to help take the strain off the problem areas of your body:

- If possible, adjust the height of the work surface according to your dimensions.
- Organize your work so that the usual operations are performed within easy reach.
- Face your work at all times, do not twist your body to see your work.
- Keep your body close to your work, do not reach or over extend beyond the point of comfort.
- Sit, if at all possible.
- Bend the tool, not your wrist.
- Lift with your legs, not your back, let your larger leg muscles do all the work, keep your back straight at all times.
- If an object is too heavy, use a lifting device, i.e. pallet jack. If you cannot use a pallet jack, get help from a co-worker.
- If work is higher than you can reach, use a ladder, do not stand on your tip-toes, this puts strain on your ankles and back.
- Have one leg raised to take the weight off of your back, this will help when standing for long periods of time.

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### 3.71 Working in the Cold

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement: regular PPE and winter clothing (layered)
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:


#### General

A cold environment challenges the worker in three ways: by air temperature, air movement (wind speed), and humidity (wetness). In order to work safely, these challenges have to be counterbalanced by proper insulation (layered protective clothing), by physical activity and by controlled exposure to cold (work/rest schedule). The following guidelines will aid workers in selecting the proper clothing etc., required to work safely in extreme cold.

- Clothing should be worn in multiple layers that provide better protection than a single thick garment. The air between layers of clothing provides better insulation than the clothing itself. Having several layers also gives you the option to open or remove a layer before you get too warm and start sweating.
- Almost 50 percent of body heat is lost through the head. Wool knit cap or a liner under a hard hat can reduce excessive heat loss.
- Always wear the right thickness of socks for your boots. If they are too thick, the boots will be "tight," and the socks will lose much of their insulating properties when they are compressed inside the boot.
- Cotton is not recommended. It tends to get damp or wet quickly, and loses its insulating properties. Wool and synthetic fibres, on the other hand, do retain heat when wet.
- Check weather and wind conditions.
- Take regular rest breaks to warm up.
- Work with a "buddy: or Supervisor.
- Working in the cold requires increased food energy. Consider adding additional wholesome foods to the diet such as pasta, potatoes, rice, dairy products, and nuts. Eat regular light snacks during your breaks.
- Drink fluids often especially when doing strenuous work. For warming purposes, hot non-caffeinated beverages or soup are suggested. Caffeinated drinks such as coffee

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should be limited because it increases urine production and contributes to dehydration. Caffeine also increases the blood flow at the skin surface which can increase the loss of body heat.

- In extremely cold conditions, where face protection is used, eye protection must be separated from the nose and mouth to prevent exhaled moisture from fogging and frosting eye shields or glasses. Select protective eye wear that is appropriate for the work you are doing, and for protection against ultraviolet light from the sun, glare from the snow, blowing snow/ice crystals, and high winds at cold temperatures.
- Recognize symptoms of frostbite and signs of impending hypothermia.

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### 3.72 Working in the Heat


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement.
Developed by:	Position:	Date:
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#### General

When the body core temperature is raised, loss of judgment may occur. Mistakes while working may result in accidents and/or injuries. Health effects from heat stress may range from transient heat fatigue or rashes to serious illness or death. The following guidelines are to assist the worker in feeling more comfortable while working in hot conditions.

- Wear appropriate clothing that is loose fitting and lightweight.
- Wear sunglasses or tinted safety glasses to protect eyes from damage caused by the sun.
- Wear sunscreen with a minimum SPF of 40 that will protect against both UVA and UVB rays. A waterproof or sweat proof brand is best.
- Take shelter from the direct sun whenever possible. When it is necessary to be in the direct sun, cover your head and as much skin as possible.
- Drink plenty of fluids to avoid dehydration. As a rough guideline drink one (1) cup of fluid every twenty (20) minutes.
- Take frequent breaks in cool or shaded areas. Increase the number and length of breaks with increasing temperature and greater workload.
- Recognize signs and symptoms of heat cramps, heat exhaustion, heat stroke and dehydration. Monitor your buddy for signs of distress and remove from further exposure to heat at the first sign of being affected.

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### 3.73 Extreme Weather Conditions

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement and task requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General


While more often than not weather conditions can be a nuisance, there are times when it can become extreme (or severe) enough to present a safety concern. **The best way to deal with extreme weather is to avoid it when possible. Hazard assessment and precautionary measures must include:**

- **Monitor the Weather:** use local sources such as radio stations, weather websites and contact numbers to stay current with temperatures, conditions, forecasts, and safety information. Watch for darkening skies, developing thunderstorms, lightning flashes or increasing winds. .
- **Consider Postponing:** - activities to prevent being caught in a dangerous situation. .
- **Have a Safety Plan:** Know what needs to be done to quickly suspend work, and have a plan in place to safely terminate operations in case of sudden deterioration in the weather conditions. .
- **Seek shelter:** pre plan shelter options for the possible hazards, and seek as quickly as possible. . The following information deals with the extreme weather we may encounter during a construction season (resources: U.S. National Weather Service “Severe Weather Safety”: Environment Canada). .

#### Tornado

Some signs of a tornado are dark greenish clouds, a ‘wall’ of cloud at the base of a thunderstorm, funnel clouds, large hail, flying debris, or a ‘roaring’ noise. Use local media sources for forecasts

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and information. A ‘**tornado watch**’ means the conditions are right for a tornado to develop, and a ‘**tornado warning**’ indicates that tornado has been sighted or detected. Supervisor are advised to take precautionary measures, as above, well before these extremes. However, if caught outdoors, seek shelter in a basement, or sturdy building. If unable to reach such a structure, take shelter in a vehicle, or a low lying area. Keep your head protected from flying debris.

### Wind/Hail

Keep in mind that extreme wind and/or hail could be part of a bigger storm, like a tornado or lightning storm, and take the applicable precautions. With extreme wind, be aware of potential flying debris. If caught without shelter in large hail, place the wind at your back and protect your head.

### Lightning

All thunderstorms produce lightning, and can be dangerous. Lightning often strikes outside the area of heavy rain, even as far as ten miles from any rainfall. Regardless of the immediate conditions, if you can hear thunder, lightning is close enough to pose an immediate threat.

The closer the flash and thunder are together, the closer the lightning strike, and the more imminent the danger. As a rule, every five seconds between the lightning and thunder is equal to one mile in distance.

Foremen must monitor the weather, as above, and take precautions in a timely manner to minimize the risk to all personnel.


When lightning is detected, it is advised to seek shelter indoors. Stay away from windows and doors, and avoid contact with anything that conducts electricity. Avoid using the telephone unless it is a cordless or cellular.

If unable to get indoors, inside a vehicle is a good option. Try to limit contact with metal, including radio controls. Remember, it is the metal roof and sides that protect you, NOT the rubber tires (an old myth). Electricity tends to follow the metal shell around you to the ground. **A car or truck is more recommended than a piece of construction equipment with a cab, because of the better separation from the metal provided by the seats, mats, padding etc.**

If a safe enclosed shelter is unavailable, there are still precautions that will limit the risk. Get down from roofs, ladders, or other elevated locations, including equipment. DO NOT lean against vehicles, equipment, or metal objects. Remove tool belts and any items that may conduct electricity, and do not hold any objects in your hands.

Stay away from tall trees and water, as they attract lightning, but stay away from totally open

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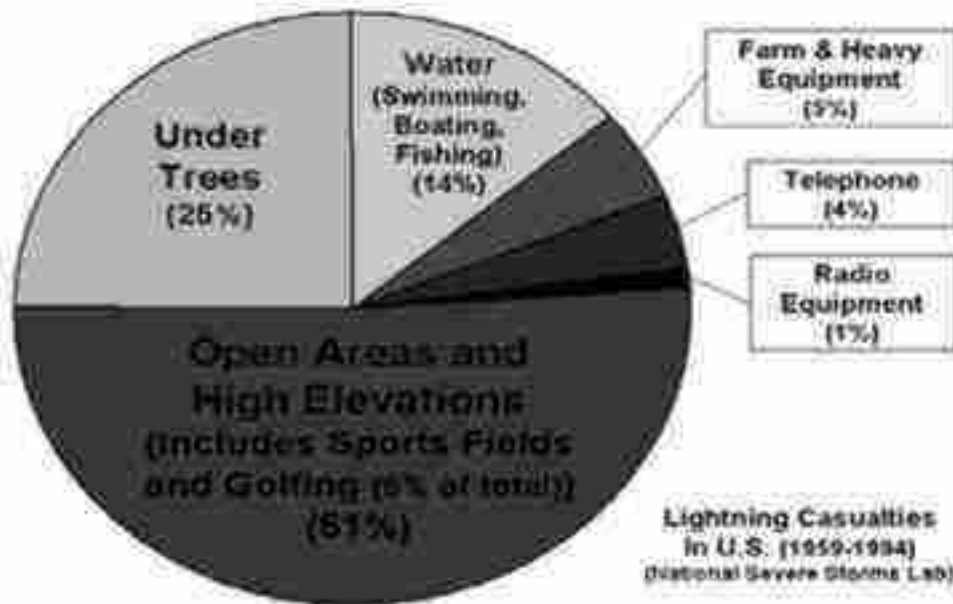
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spaces. Crouch down with feet close together. Do not lie on the ground, as current could flow through you causing a heart attack or internal injuries and burns.

It is generally considered safe to return to outside activities when lightning has not been seen for thirty minutes, unless there are signs of another approaching storm.

**Treatment of Injuries** – in the unfortunate event that a person is struck by lightning, medical attention is needed immediately. Cardiac arrest and irregularities, burns, and nerve damage are common in people struck by lightning. Not all injuries may be visible. In addition to call 911 or seeking other professional help, it is totally safe to perform First Aid or CPR as needed, as the injured person does not carry an electrical charge.

**Statistics of Lightning Casualties** (U.S. 1959-1994).




Heat

**Exposure**

The nature of our industry requires us to perform physical tasks and work extended hours in the outdoor heat. This can be demanding at the best of times, but the higher the temperature and humidity the higher the risk of heat related illnesses, or heat stress. (Heat and humidity combined (Humidex) increase the overall risk, much like wind and temperature in winter have the 'wind chill' effect).

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Besides the precautionary steps at the beginning of this Practice, there are many things to consider when evaluating whether heat conditions are becoming too extreme to carry on with the work being performed.

The following information is meant to assist Foremen and workers in understanding the risks, preventing the occurrence, recognizing the symptoms, and reacting to the varying levels of heat stress.

### **The Heat Equation:**

#### ***HIGH TEMPERATURE + HIGH HUMIDITY = HEAT STRESS***


When the body gains heat faster than it can get rid of it, serious and potentially fatal heat stress illnesses may occur. Some steps you can take to prevent or lower the risk of heat stress are:

- Consider the temperature and forecast during the hazard assessment .
- Learn to recognize the symptoms of heat stress and how to treat them .
- Understand you are at higher risk if you are overweight, out of shape, over 40 . years of age, have pre-existing medical conditions, use medications that block sweating, abuse drug or alcohol, have had heat stress before, and are not acclimatized to the conditions..
- Try to do the most physical demanding jobs during the coolest part of the day .
- On hot days, drink two glasses of water before starting work and one glass every 20 minutes while working. DON'T wait until you are thirsty, as you will already be dehydrated. Other early signs of dehydration are dark colored urine, or infrequent urination in small amounts. .
- Foremen must ensure a constant supply of fresh drinking water for workers, nearby and accessible at all times. .
- Avoid alcohol, caffeinated drinks, or heavy meals .
- Wear loose clothes made of cotton, silk, or other fabrics that let air pass . through.
- Wear lighter colors that reflect rather than absorb heat.
- Take frequent breaks in a cool spot

### **Factors Leading to Heat Stress**

- High temperatures and humidity .
- Direct sun or heat (including added heat ie: hot asphalt, equipment engine, etc.)
- Limited air movement .
- Physical exertion .
- Worker in poor physical condition .
- Some medicines (i.e.: tetracycline) .
- Worker has inadequate tolerance for hot workplaces .

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**Some of the degrees of heat stress and their symptoms and suggested treatment are:**

**Heat Cramps** – Painful muscle spasms caused by loss of salt from excessive sweating

**Symptoms:** muscular pain and excessive sweating What to do:

- Get victim to rest in cool place .
- Give victim cool drinks sprinkled with salt and/ or salty foods, but NOT salt tablets.
- Remove socks/boots, wet or tight clothing that may restrict blood flow to affected area.
- Rest alone may not be enough. If cramps continue, seek medical help

**Heat Exhaustion** – a more advanced and serious stage of heat stress

**Symptoms:** General fatigue, weakness, poor muscle control, dizziness. fainting, headache, nausea (pale, cool, or clammy skin, heavy sweating, cramps, rapid pulse & shallow breathing)

What to do:

- Heat exhaustion can be life threatening. Get medical help at once .
- Check victim's airway and breathing .
- Move victim to cool area. Remove socks/boots, loosen or remove outer . clothing.
- Cool victim with sponge or spray, cover with cold wet cloths, place ice packs (wrapped) under armpits and groin and fanning.
- If victim is conscious, give cool drinks with salt sprinkled in, salty foods, but NOT salt tablets

**Heat Stroke** – a severe degree of heat stress, in which the body's temperature rises above 41C and which, if not treated immediately, may result in serious injury or death.


**Symptoms:** Hot, dry, flushed skin, usually with no sweating, agitation and confusion, irregular pulse, headache, nausea and vomiting, rapid shallow breathing, possible seizure and loss of consciousness, possible shock and cardiac arrest.

What to do:

- Heat stroke is a medical emergency. Get help at one .
- Check victims airway and breathing: give CPR if needed .
- Move victim to cool area. Remove socks/boots, loosen or remove outer clothing.
- Cool victim with sponge or spray, cover with cold wet cloths, place ice packs (wrapped) under armpits and groin, and fanning. • If victim is conscious, give cool drinks with salt sprinkled in, salty food, but NOT salt tablets

**Training** – Foremen must ensure that all workers have been trained in the basic awareness of the risks of heat stress, prevention, symptoms, and treatment. Remember that all workers may have a varying tolerance to excessive heat. Mutual observation, awareness, and communication

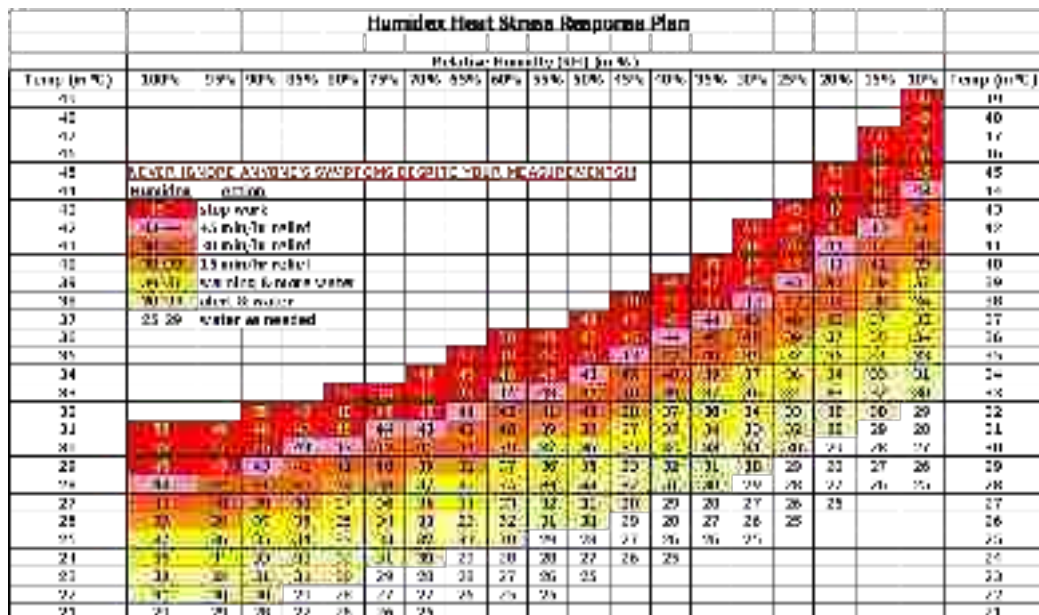
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between workers, and with Foremen, is important to catch any heat related concerns before they become serious.

### Humidex

Humidex is an index to indicate how hot or humid the weather feels to the average person. It is derived by combining temperature and humidity values into one number to reflect the perceived temperature (like wind chill effect in winter). To use the chart below, simply follow the Temperature across and the Humidity down/up until they meet, and that number is what the average person feels the temperature to be. This will give you some good base information, but keep in mind there are still other factors to consider. The 5 step chart at the bottom gives additional information.




### Working in the Cold

#### What factors modify our response to cold?

A cold environment challenges the worker in three ways: by air temperature, air movement (wind speed), and humidity (wetness). In order to work safely, these challenges have to be counterbalanced by proper insulation (layered protective clothing), by physical activity and by controlled exposure to cold (work/rest schedule).

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**Air Temperature:** Air temperature is measured by an ordinary thermometer in degrees Celsius (°C) or degrees Fahrenheit (°F).

**Wind Speed:** Different types of commercially available anemometers are used to measure wind speed or air movement. These are calibrated in meters per second (m/s), kilometers per hour (km/h) or miles per hour (mph). Air movement is usually measured in m/s while wind speed is usually measured in km/h or mph. The following is a suggested guide for estimating wind speed if accurate information is not available:

- 8 km/h (5 mph): light flag moves,
- 16 km/h (10 mph): light flag fully extended,
- 24 km/h (15 mph): raises newspaper sheet,
- 32 km/h (20 mph): causes blowing and drifting snow.

**Humidity (wetness):** Water conducts heat away from the body 25 x faster than dry air.

**Physical Activity:** The production of body heat by physical activity (metabolic rate) is difficult to measure. However, tables are available in literature showing metabolic rates for a variety of activities. Metabolic heat production is measured in kilo calories (kcal) per hour. One kilocalorie is the amount of heat needed to raise the temperature of one kilogram of water by 1°C.

**Work/rest schedule:** Check Table 2 in this document, the "work warm-up schedule," as developed by the Saskatchewan Department of Labour. This work schedule has been adopted by the American Conference of Governmental Industrial Hygienists (ACGIH) as Threshold Limit Values (TLVs) for cold stress.

**Protective clothing:** Check section on "What should I know about personal protective equipment (PPE) for working in the cold?"


For information on the general effects of working in the cold as well as how the body adapts to cold, please see [Cold Environments - General](#).

For information on the health effects and first aid for cold exposures, please see [Cold Environments - Health Effects and First Aid](#).

### What is the wind-chill temperature?

At any temperature, you feel colder as the wind speed increases. The combined effect of cold air and wind speed is expressed as "equivalent chill temperature" (ECT) or simply "wind chill" temperature in degrees Celsius or Fahrenheit. It is essentially the air temperature that would feel the same on exposed human flesh as the given combination of air temperature and wind speed. It can be used as a general guideline for deciding clothing requirements and the possible health

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effects of cold.

In some parts of Canada the term "wind chill factor" is used. This is a measurement of a heat loss rate caused by exposure to wind and it is expressed as the rate of energy loss per unit area of exposed skin per second (e.g., joules/[second-metre<sup>2</sup>] or watts/metre<sup>2</sup>, W/m<sup>2</sup>).

		<b>WIND CHILL CHART</b>									
		Ambient Temperature (°C)									
		4	-1	-7	-12	-18	-23	-29	-34	-40	
Wind km/h	Velocity mph	Equivalent Chill Temperature (°C)									
Calm											
0	0	4	-1	-7	-12	-18	-23	-29	-34	-40	
8	5	3	-3	-9	-14	-21	-26	-32	-36	-44	
16	10	-2	-8	-16	-23	-30	-35	-43	-50	-57	
24	15	-6	-13	-20	-26	-35	-43	-50	-58	-65	
32	20	-8	-16	-23	-32	-39	-47	-55	-63	-71	
40	25	-9	-18	-26	-34	-42	-51	-59	-67	-76	
48	30	-16	-19	-22	-36	-44	-53	-62	-70	-78	
56	35	-11	-20	-29	-37	-46	-55	-63	-72	-81	
64	40	-12	-21	-29	-38	-47	-56	-65	-73	-82	

Adapted from: Threshold Limit Values (TLV™) and Biological Exposure Indices (BEI™) booklet, published by ACGIH, Cincinnati, Ohio

**Little danger** - In less than one hour exposure of dry skin

**DANGER** - Exposed flesh frozen within one minute

**GREAT DANGER** - Flesh may freeze within 30 seconds


**Maximum danger** of false sense of security

Are there

### regulated exposure limits for working in cold environments?

In Canada, there are no maximum exposure limits for cold working environments. The "work warm-up schedule" developed by the Saskatchewan Department of Labour has been adopted by the American Conference of Governmental Industrial Hygienists (ACGIH) as Threshold Limit Values (TLVs) for cold stress.

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<b>THRESHOLD LIMIT VALUES WORK/WARM-UP SCHEDULE FOR FOUR-HOUR SHIFT*</b>											
Air Temperature Sunny Sky		No Noticeable Wind		5 mph Wind		10 mph Wind		15 mph Wind		20 mph Wind	
°C (approx)	°F (approx)	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks	Max. Work Period	No. of Breaks
-25° to -28°	-15° to -19°	(Norm breaks) 1		(Norm breaks) 1		75 min.	2	55 min.	3	40 min.	4
-29° to -31°	-20° to -24°	(Norm breaks) 1		75 min.	2	55 min.	3	40 min.	4	30 min.	5
-32° to -34°	-25° to -29°	75 min.	2	55 min.	3	40 min.	4	30 min.	5	↓ Non-emergency work should cease ↓	
-35° to -37°	-30° to -34°	55 min.	3	40 min.	4	30 min.	5	↓ Non-emergency work should cease ↓			
-38° to -39°	-35° to -39°	40 min.	4	30 min.	5	↓ Non-emergency work should cease ↓					
-40° to -42°	-40° to -44°	30 min.	5	↓ Non-emergency work should cease ↓							
-43° to below	-45° & below	↓ Non-emergency work should cease ↓									

\*Source: Adapted from Threshold Limit Values (TLV) and Biological Exposure Indices (BEI) booklet: published by ACGIH, Cincinnati, Ohio, 2008.

### What can be done to help prevent the adverse effects of cold?

For continuous work in temperatures below the freezing point, heated warming shelters such as tents, cabins or rest rooms should be available. The work should be paced to avoid excessive sweating. If such work is necessary, proper rest periods in a warm area should be allowed and employees should change into dry clothes. New employees should be given enough time to get acclimatized to cold and protective clothing before assuming a full work load.

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The risk of cold injury can be minimized by proper equipment design, safe work practices and appropriate clothing. The following is a summary of actions including some from recommendations from the ACGIH (American Conference of Governmental Industrial Hygienists).

### Equipment Design

For work below the freezing point, metal handles and bars should be covered by thermal insulating material. Also, machines and tools should be designed so that they can be operated without having to remove mittens or gloves.

### Surveillance and Monitoring

Every workplace where the temperature may fall below 16°C should be equipped with a suitable thermometer to monitor any further temperature changes. For colder workplaces with temperatures below the freezing point, the temperature should be monitored at least every 4 hours. For indoor workplaces, whenever the rate of air movement exceeds 2 meters per second (5 miles per hour) it should be recorded every 4 hours. In outdoor workplaces with air temperature below the freezing point, both air temperature and wind speed should be recorded.

### Emergency Procedures

Procedures for providing first aid and obtaining medical care should be clearly outlined. For each shift, at least one trained person should be assigned the responsibility of attending to emergencies.

### Education


Workers and Foremen involved with work in cold environments should be informed about symptoms of adverse effect exposure to cold, proper clothing habits, safe work practices, physical fitness requirements for work in cold, and emergency procedures in case of cold injury. While working in cold, a buddy system should be used. Look out for one another and be alert for the symptoms of hypothermia.

### What should I know about personal protective equipment (PPE) for working in the cold?

#### Clothing


Protective clothing is needed for work at or below 4°C. Clothing should be selected to suit the temperature, weather conditions (e.g., wind speed, rain), the level and duration of activity, and job design. These factors are important to consider so that you can regulate the amount of heat and perspiration you generate while working. If the work pace is too fast or if the type and amount of clothing are not properly selected, excessive sweating may occur. The clothing next to body will become wet and the insulation value of the clothing will decrease dramatically. This increases the risk for cold injuries.

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- Clothing should be worn in multiple layers which provide better protection than a single thick garment. The air between layers of clothing provides better insulation than the clothing itself. Having several layers also gives you the option to open or remove a layer before you get too warm and start sweating or to add a layer when you take a break. It also allows you to accommodate changing temperatures and weather conditions. Successive outer layers should be larger than the inner layer, otherwise the outermost layer will compress the inner layers and will decrease the insulation properties of the clothing.
- The inner layer should provide insulation and be able to "wick" moisture away from the skin to help keep it dry. Thermal underwear made from polyesters or polypropylene is suitable for this purpose. "Fishnet" underwear made from polypropylene wicks perspiration away from the skin and is significantly thicker than regular underwear. It also keeps the second layer away from the skin. The open mesh pattern enables the moisture to evaporate and be captured on the next layer away from the skin. The second layer covers the "holes" in the fishnet underwear which contributes to the insulation properties of the clothing.
- The additional layers of clothing should provide adequate insulation for the weather conditions under which the work being done. They should also be easy to open or remove before you get too warm to prevent excessive sweating during strenuous activity. Outer jackets should have the means for closing off and opening the waist, neck and wrists to help control how much heat is retained or given off. Some jackets have netted pockets and vents around the trunk and under the arm pits (with zippers or Velcro fasteners) for added ventilation possibilities.
- For work in wet conditions, the outer layer of clothing should be waterproof. If the work area cannot be shielded against wind, an easily removable windbreak garment should be used. Under extremely cold conditions, heated protective clothing should be made available if the work cannot be done on a warmer day.
- Almost 50 percent of body heat is lost through the head. A wool knit cap or a liner under a hard hat can reduce excessive heat loss.
- Clothing should be kept clean since dirt fills air cells in fibres of clothing and destroys its insulating ability.
- Clothing must be dry. Moisture should be kept off clothes by removing snow prior to entering heated shelters. While the worker is resting in a heated area, perspiration should be allowed to escape by opening the neck, waist, sleeves and ankle fasteners or by removing outerwear. If the rest area is warm enough it is preferable to take off the outer layer(s) so that the perspiration can evaporate from the clothing.

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- If fine manual dexterity is not required, gloves should be used below 4°C for light work and below -7°C for moderate work. For work below -17°C, mittens should be used.
- Cotton is not recommended. It tends to get damp or wet quickly, and loses its insulating properties. Wool and synthetic fibres, on the other hand, do retain heat when wet.

### Footwear

Felt-lined, rubber bottomed, leather-topped boots with removable felt insoles are best suited for heavy work in cold since leather is porous, allowing the boots to "breathe" and let perspiration evaporate. Leather boots can be "waterproofed" with some products that do not block the pores in the leather. However, if work involves standing in water or slush (e.g., fire-fighting, farming), the waterproof boots must be worn. While these protect the feet from getting wet from cold water in the work environment, they also prevent the perspiration to escape. The insulating materials and socks will become wet more quickly than when wearing leather boots and increase the risk for frostbite.

Foot Comfort and Safety at Work has some general information how to select footwear. (Also, when trying on boots before purchase, wear the same type of sock that you would wear at work to ensure a proper fit.)

### Socks


You may prefer to wear one pair of thick, bulky socks or two pairs - one inner sock of silk, nylon, or thin wool and a slightly larger, thick outer sock. Liner socks made from polypropylene will help keep feet dry and warmer by wicking sweat away from the skin. However, as the outer sock becomes damper, its insulation properties decrease. If work conditions permit, have extra socks available so you can dry your feet and change socks during the day. If two pairs of socks are worn, the outer sock should be a larger size so that the inner sock is not compressed.

Always wear the right thickness of socks for your boots. If they are too thick, the boots will be "tight," and the socks will lose much of their insulating properties when they are compressed inside the boot. The foot would also be "squeezed" which would slow the blood flow to the feet and increase the risk for cold injuries. If the socks are too thin, the boots will fit loosely and may lead to blisters.

### Face and Eye Protection

In extremely cold conditions, where face protection is used, eye protection must be separated from the nose and mouth to prevent exhaled moisture from fogging and frosting eye shields or glasses. Select protective eye wear that is appropriate for the work you are doing, and for protection against ultraviolet light from the sun, glare from the snow, blowing snow/ice crystals, and high winds at cold temperatures.

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### What are some additional prevention tips?

To prevent excessive sweating while working, remove clothing in the following order:

- mittens or gloves (unless you need protection from snow or ice),
- headgear and scarf,
- then open the jacket at the waist and wrists, and
- remove layers of clothing.

As you cool down, follow the reverse order of the above steps.

Prevent contact of bare skin with cold surfaces (especially metallic) below  $-7^{\circ}\text{C}$  as well as avoiding skin contact when handling evaporative liquids (gasoline, alcohol, cleaning fluids) below  $4^{\circ}\text{C}$ . Sitting or standing still for prolonged periods should also be avoided.


Balanced meals and adequate liquid intake are essential to maintain body heat and prevent dehydration. Eat properly and frequently. Working in the cold requires more energy than in warm weather because the body is working to keep the body warm. It requires more effort to work when wearing bulky clothing and winter boots especially when walking through snow.

Drink fluids often especially when doing strenuous work. For warming purposes, hot non-alcoholic beverages or soup are suggested. Caffeinated drinks such as coffee should be limited because it increases urine production and contributes to dehydration. Caffeine also increases the blood flow at the skin surface which can increase the loss of body heat.

Alcohol should not be consumed as it causes expansion of blood vessels in the skin (cutaneous vasodilation) and impairs the body's ability to regulate temperature (it affects shivering that can increase your body temperature). These effects cause the body to lose heat and thus increase the risk of hypothermia.

In refrigerated rooms, the air speed should not exceed 1 meter per second. If workers are simultaneously exposed to vibration and/or toxic substances, reduced limits for cold exposure may be necessary.

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### 3.74 Office Safety – General


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General

- Ensure you are conversant with emergency evacuation.
- Ensure that all electrical cords are in good condition and are not overloaded.
- Ensure that computer monitors are adjusted to correct height and kept clean.
- Ensure fans/space heaters are used to manufacturer specifications.
- Ensure floors and aisles are kept clear and not cluttered.
- Ensure that only one drawer of filing is open at one time and that drawers are closed when not in use.
- Ensure proper type of fire extinguisher is available.
- When transporting materials of a heavy nature ensure that handcarts and trolleys are used properly.
- Operate microwave according to manufactures specifications
- Ensure coffee makers are used according to manufacturer specifications
- Ensure photocopier is maintained according to manufacturer's specifications.
- Ensure chairs are in good repair.
- Ensure rugs are kept clean and in good repair – free of tripping hazard.
- Ensure paper cutter blade is placed in closed lock position.
- Ensure all loose clothing is tied back when using paper shredder.

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### 3.75 Using a Paper Shredder

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Paper Shredder	Paper to be shredded	As per site requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General

- Never put fingers or objects other than paper (like paper clips) into the shredder feed opening.
- Keep jewelry, long hair, ties, lanyards, etc. away from the paper shredder feed opening.
- Do not operate a paper shredder while wearing loose fitting clothing that may enter the shredder feed opening.
- Feed paper smoothly into the shredder, not forcing the paper in.
- If there is a paper jam, and forward and reverse buttons don't move the paper, disconnect the power source before attempting to remove the jammed paper.
- If the shredder motor overheats, turn off the shredder for at least fifteen (15) minutes, allowing the motor to cool before using again.
- Locate the paper shredder and its power cord outside of foot traffic areas.
- Always focus on the shredding task when using a paper shredder.
- Shred paper in small quantities.
- Always disconnect the power source before removing and emptying the waste box.
- Keep the machines power in the OFF position, not on automatic shred.

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### 3.76 Computer Ergonomics– Prolonged Sitting and Keyboard Use


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General

Improper prolonged keyboard use may result in injury. For comfort and efficiency, observe the following ergonomic guidelines when you set up and use your computer system.

- Position your system so that the monitor and keyboard are directly in front of you as you work.
- Set the monitor at a comfortable viewing distance (usually 20 to 24 inches) from your eyes.
- Make sure that the monitor is at eye level or slightly lower when you sit in front of the monitor.
- Adjust the tilt of the monitor, its contrast and brightness settings, and the lighting around you to minimize reflections and glare on the monitor screen.
- Use a chair that provides good lower back support.
- Keep your forearms horizontal with your wrists in a neutral, comfortable position while you use the keyboard or mouse.
- Always leave space to rest your hands while you use the keyboard or mouse.
- Let your upper arms hang naturally at your sides.
- Sit erect, with your feet resting on the floor and your thighs level.
- When sitting, make sure the weight of your legs is on your feet and not on the front of your chair seat. Adjust your chair's height to maintain proper posture.
- Vary your work activities. Try to organize your work so that you do not have to type for extended periods of time. When you stop typing, try to do things that use both hands.

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### 3.77 Ascending and Descending Stairs

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General

- Always keep stairs and stair wells clean and unobstructed. .
- Ensure good lighting. .
- Never run up or down stairs. .
- Use three points of contact. .
- Use handrails for balance only. .
- Always make sure that you can see where you are going. .
- Do not carry heavy loads up or down stairs without assistance. .
- Be careful when passing another worker on the stairs. .
- Watch your footing. .
- If the stairs are steep...face into the stairs.
- Report or remove any hazards on the stairs, stairwells, handrails and lighting. .

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### 3.78 Use of Knives


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Knife	Materials/objects to be cut.	As per site requirement and task requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General

The purpose of this Safe Work Practice is to protect the health and safety of the worker when required to use hand knives. . Statistics indicate that knives cause more disabling injuries than any other hand tool.

- Keep knives sharp and in good condition. .
- Never use a knife that is dull, broken or otherwise defective. .
- Use proper knives for the job and material/object to be cut.
- Always know and follow site specific knife use rules.
- Wear personal protective equipment when using a knife. Primarily eye protection and resistant gloves. .
- Always cut away from the body or away from the hand holding the object being cut. If necessary, put the object to be cut in a vice or clamp it to a bench. .
- Carry knives with exposed blades in a sheath or holder. .
- A knife sheath should be worn over the hip toward the back to prevent injury in the event of a fall. .
- Never leave a knife lying on the floor or work bench. .
- Handle knives with respect. If you are using the right knife for the job, and it is properly sharpened, it should cut without great difficulty. When you have to resort to sheer force to make a cut, you are asking for trouble! .

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### 3.79 Backhoe Safety

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Backhoe		As per site requirement and task requirement. Safety boots, hi-vis vest, safety glasses, hard hat
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 17, 2017
Revised by:	Position:	Date:

#### General

- Only “Competent Operators” as defined in Alberta and Northwest Territories OH&S Regulations are authorized to operate Mobile Equipment.
- The operator shall make a complete visual inspection of the swing radius of the equipment and the surrounding area to ensure that no one is endangered by the start-up of the equipment. .
- Always wear seat belt when operating mobile equipment
- Be aware of everything within the working area and avoid any dangerous situations. .
- Always confirm that there are no underground lines or pipes with the Supervisor before commencing any digging. .
- Always put the transmission in PARK and lower the bucket before rotating the seat to operate the hoe. .
- Always lower the stabilizers and level the machine ensuring that the stabilizers and the bucket support its weight before moving the boom. .
- Be careful not to over balance the machine when digging with the boom fully extended horizontally. .

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### 3.80 Grader Safety

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Grader	Materials/objects to be cut.	As per site requirement and task requirement: safety glasses, safety boots, hard hat, hi-vis vest
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 25, 2017
Revised by:	Position:	Date:

#### General

- Only “Competent Operators” as defined in Alberta and Northwest Territories OH&S Regulations are authorized to operate Mobile Equipment.
- The operator shall make a complete visual inspection of the equipment and the surrounding area to ensure that no one is endangered by the start up of the equipment. .
- At no time will the operator use the blade to lower or raise him or other personnel. Remember the “three-point contact” rule. Never jump from the machine! .
- Clean windows and adjust mirrors for best visibility. To clean the windows roll the blade forward to stand on and maintain three points of contact. .
- When the grader is in motion, the operator shall be seated with seat belt fastened. .
- Flashing Amber Lights shall be on while the grader is maintaining roads to be visible for oncoming traffic.
- Back Up Lights and Reverse Facing Lamps will only be used when the grader is in reverse motion or in adverse weather conditions when visibility is marginal. .
- Grade in the direction of the flow of traffic unless conditions warrant otherwise. .
- Always look back to make sure the way is clear before reversing and continue to look back until completely stopped.
- Do not change direction suddenly without looking in all directions .
- Use extreme caution when working in congested areas. .

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### 3.81 General Shop Safety

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
Shop, Machines, Equipment, vehicles, Tools	Materials/objects to be cut.	As per site requirement and task requirement: safety glasses, safety goggles, safety boots, face-shields, etc.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 25, 2017
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- Safety glasses or goggles must be worn when flying debris or dust is present, when working above head or under vehicles, equipment, trailers, etc.
- Face shields must be worn when performing grinding.
- Safety boots must be worn at all times in the shop area.
- Do not operate any item of equipment unless you are familiar with its operation and have been authorized to operate it. If you have any questions regarding the use of equipment, ask your Supervisor.
- Avoid excessive use of compressed air to blow dirt or chips from machinery to avoid scattering chips. Never use compressed air guns to clean clothing, hair, or aim at another person.
- Machines must be shut off and locked/tagged-out when cleaning, repairing, or oiling.
- Do not wear hoodies, loose clothing, jewelry, gloves, etc. around moving or rotating machinery. Long hair must be tied back or covered to keep it away from moving machinery/parts. Hand protection in the form of suitable gloves should be used for handling hot objects, or sharp-edged items.
- Wear appropriate clothing for the job. Wear a coverall when working on trucks, trailers or equipment.
- Do not work in the shop if tired, or in a hurry.
- All tools and equipment must be operated with all required guards and shields in place.
- Use a brush or special tool for the removal of chips, shavings, etc. from the work area. Never use hands.
- Keep fingers clear of the point of operation of machines by using special tools or


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- devices, such as, push sticks, hooks, pliers, etc. Never use a rag near moving machinery.
- Use a soft-faced hammer.
- Practice good housekeeping in the shop areas.
- Keep the floor around machines clean, dry, and free from trip hazards. Do not allow chips to accumulate.
- Think through the entire job before starting.
- Before starting a machine, always check it for correct setup and always check to see if machine is clear by operating it manually, if possible.
- Do not drink alcoholic beverages before or during work in the machine shop area. Do not bring food/snacks into the shop area.
- Don't rush or take chances. Obey all safety rules.
- If you have not worked with a particular material before, check the hazardous
- Safety Data Sheets (SDS) book for any specific precautions to be taken while working with the material.
- Follow all appropriate precautions when working with solvents, paints, adhesives, or other chemicals. Use appropriate protective equipment.
- Check the power cords and plugs on portable tools for damage or fray before using them.
- Always store oily rags in an approved metal container.

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#### 4.01 SAFE JOB PROCEDURES POLICY

The personal health and safety of each worker and subcontractor of Allen Services & Contracting Ltd. is of primary importance. The prevention of occupationally induced illness and injuries is of utmost importance to management. All workers and subcontractors have the right to work in a healthy and safe work environment. To minimize the impact and dangers of work performed by workers and subcontractors, Allen Services & Contracting Ltd. has developed a set of Safe Job Procedures (SJPs). Safe Job Procedures are a step-by-step description on how to perform tasks in a safe manner.


Safe Job Procedures will be reviewed at least annually utilizing the SAFE JOB PROCEDURES CHANGE REQUEST form, but may be reviewed more often as need arises. Such needs may include changes to operations, upgraded tools, equipment or machines, new jobs/tasks, or as a result of an incident. Allen Services & Contracting Ltd. will make every effort to involve all employees in the development and review of SJP to ensure appropriate personnel, field and office staff, is involved in the process.

The review may be done in the field with workers and Supervisors, in the office with management and administrative staff, or during safety meetings.

Employees at all levels are expected to follow the written SJP, to suggest changes/updates to existing SJP and to make recommendations for new SJPs. Subcontractors are expected to follow Allen Services & Contracting Ltd.'s SJPs should they not have their own set of written SJPs.

Brian McCarthy, General Manager	Date

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## 4.02 Safe Job Procedure Change Request Form

Name of Requester: \_\_\_\_\_ Date: \_\_\_\_\_

Safe Job Procedure Number(s):

\_\_\_\_\_

Reasons for requesting changes:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Please submit this form for review to the HSE Coordinator**

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### Office Use Only:

Request Approved

Request Not Approved

If not approved, reason:

\_\_\_\_\_

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If request not approved, please provide a copy of this form, including reasons, to the requester.

Copy provided to requester: Yes


No

\_\_\_\_\_  
Reviewer Name:

\_\_\_\_\_  
Reviewer Signature:

\_\_\_\_\_  
Date:

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### 4.03 Safe Job Procedure Review Form


#### Purpose

The purpose of the Safe Job Procedure is to provide documented and safe means as well as a guideline for performing critical tasks and a means of interpreting the requirements of legislation into actual operating practices that will provide compliance with the regulatory requirements and the requirements of Allen Services & Contracting Ltd.

This SJP Review form must be used each time SJPs are reviewed by Allen Services & Contracting Ltd. employees.

SWP #s	Reviewed by (First Name, Last Name):	Date: mm/dd/yyyy

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#### 4.1 Refusal of Unsafe Work/Imminent/Unusual Danger

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017
Revised by:	Position:	Date:


All employees and subcontractors of Allen Services & Contracting Ltd. have the right and the responsibility to refuse work or assignments that they believe are unsafe. In such cases the refusal must be immediately reported to their Supervisor. The Supervisor must investigate the situation as prescribed by Allen Services & Contracting Ltd. procedures.

The Alberta Occupational Health & Safety Act, section 35 and NWT Occupational Health & Safety Act, section 13, Imminent Danger, state that no worker shall;

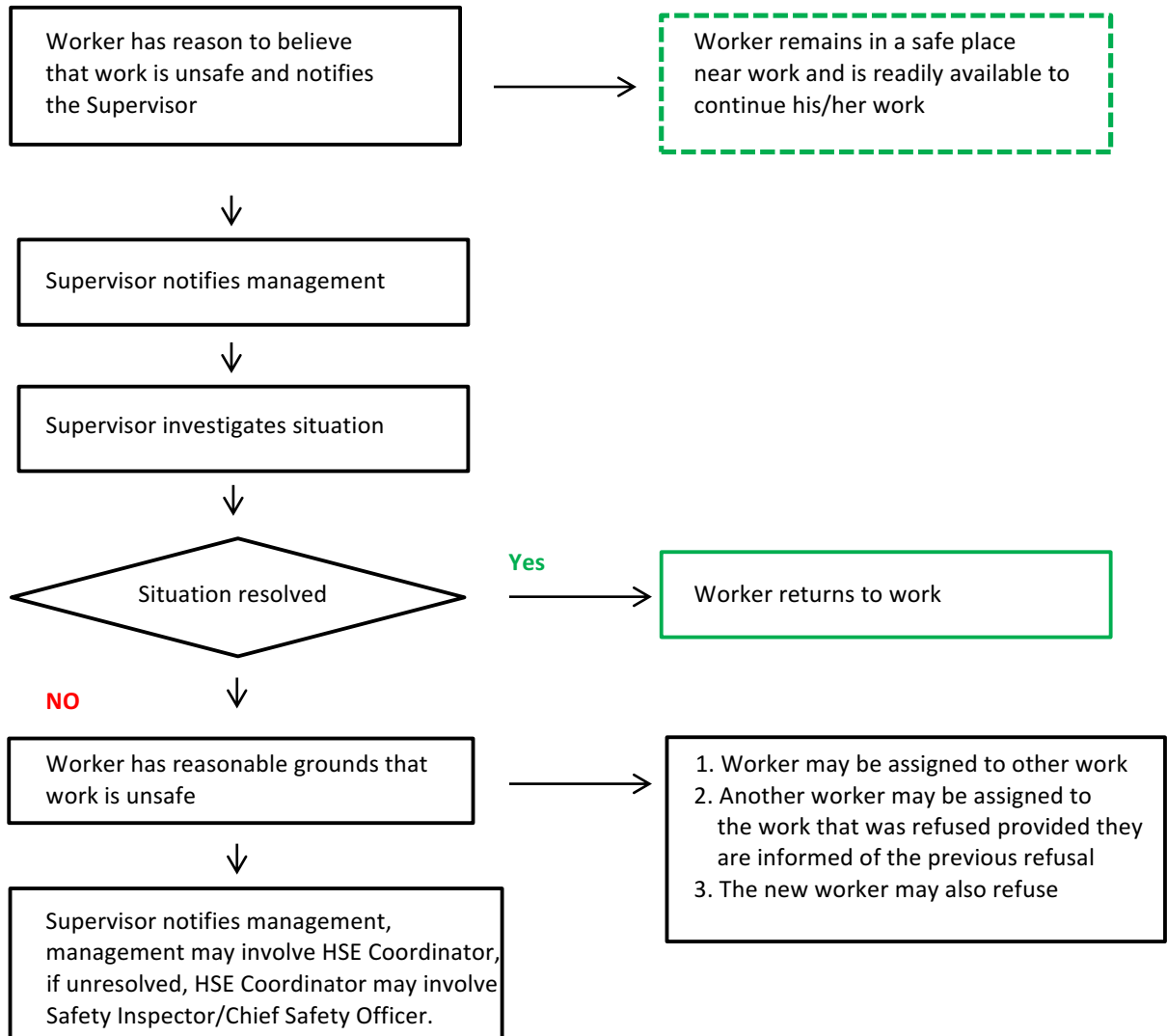
- a) carry out any work if, on reasonable and probable grounds, the worker believes that there exists an imminent danger to the health or safety of that worker,
- b) carry out any work if, on reasonable and probable grounds, the worker believes that it will cause to exist an imminent danger to the health or safety of that worker or another worker present at the work site, or
- c) operate any tool, appliance or equipment if, on reasonable and probable grounds, the worker believes that it will cause to exist an imminent danger to the health or safety of that worker or another worker present at the work site.

Refer to the Work Refusal Process flow chart and to section 2.3 of this safety manual for more information and for more details on how to report a refusal of work.


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#### 4.1.1 Work Refusal Process – Flow Chart



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## 4.2 Pouring Concrete

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

1. When your concrete truck arrives on site, make contact with the driver and make him aware of any obstacles on site and where you intend to start unloading.
2. From this point on, the driver will obey your hand signals
3. Keep yourself in view of the driver side mirror so that the concrete driver can see you hand signals.
4. Your reinforcing steel cage will already be in the pile hole. Using your cage holder, place the cage at the elevation given to you by the contractor.
5. Keeping yourself and the pile hold in the driver side or passenger side mirror, guide the concrete truck back so the concrete chute is near the center of the pile hole
6. When you get within a close proximity of the pile have the driver unlock the chute. This will allow for unrestricted lateral movement of the chute in order to avoid collision with objects
7. Please the end of the concrete chute near the center of the pile so you can direct the flow of concrete down the center of the hole
8. By hand or voice signal, direct the driver to rotate the drum, filling the pile hole with concrete. By sound or vision, you will be able to tell if they concrete is close to your required elevation
9. When you are close to your required elevation, direct the driver to stop the drum rotation
10. Vibrate the concrete in the pile hole with the concrete vibrator
11. Once vibration is completed, unhook the cage holder
12. Top concrete up to required level and vibrate lightly
13. Move to the next pile hole and repeat procedure

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### 4.3 Equipment Mounting & Dismounting

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

1. Park in an area that provides maximum protection for operator and passengers and which produces a solid landing during mounting and dismounting
2. Do not leave equipment unattended with the engine running, unless absolutely necessary. Shut off engine and set park brake when equipment, use all the steps and handholds provided.
3. When mounting of dismounting equipment, use all the steps and handholds provided
4. **DO NOT JUMP OFF EQUIPMENT**
5. Use the 3-point method of mounting and dismounting equipment.

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#### 4.4 Prepping the Pouring Site

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

1. Clear the area of any object or materials that would interfere in the pouring process. This includes grass, rocks, trees, shrubs, and even old concrete.
2. Prepare the sub-base where the concrete rests. Usually, granular fill or road based is used as a sub-base. The gravel underneath your sub-base is called your subgrade, and your concrete is only going to be as strong as your subgrade. **Make sure your subgrade is properly compacted and stabilized before adding the sub-base.**
3. Lay a 4-8-inch-thick sub-base with you are chosen material and then compact it with a packer or a hand tamper.
4. Preparing a form, usually a wooden perimeter, secured by special nails or screws, that's built around the pouring site, a well-built form will help you achieve a better finish on your concrete. Keep in mind that for square or rectangular forms, make sure that your corners from 90-degree angles. Take a tape measure and measure both diagonals of the square of rectangular; they should correspond to one another exactly.
5. Make sure that the forms have a slight slope to them. If they are completely level, you can expect water build up in the middle of your concrete. To eliminate this possibility, create a slight slope of ¼' for every foot. When working with certain stamps it's acceptable to use a 1/8" slope for every foot.
6. Adding wires mesh or rebar to your form, which is used for adding stability, especially on heavy load-bearing structures such as driveways.

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#### 4.5 Pouring Concrete

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

- Mix the concrete by adding together cement, sand and coarse gravel together in a ratio of 1:2:4. Water is added to the dry mixture to bind all the components together.
- In a concrete mixer, add the determined amount of water then the concrete mix. Use as little water as possible. Water makes the concrete more maneuverable but it also weakens the constitution of the final product. A drier mix makes the concrete more crack resistant.
- Turn on the machine; the mix will become smooth and consistent.
- Pour the concrete into the mold by getting the cement truck to pour concrete straight into your form. While doing this, enlist some helpers to spread out the concrete with shovels, rakes and “come alongs” which is a special concrete rake.
- Screed the top of the concrete starting at the uphill point, use a screeding tool to flatten out the wet concrete. Screeding involves jiggling a wide plank of wood back and forth, if possible immediately over the forms, to create a flat surface.
- Float the newly-screeded surface to further compact the concrete, you should move fairly quickly as the concrete will set fast. Your floating process will contain two step (1) use a large floating device, also known as a bull float, to press down aggregate and help the cream rise to the surface. Do this by moving the bull float away from you keeping the tailing edge slightly elevated, and then moving the bull float back towards you. (2) Use a magnesium hand float to go over the surface. After some of the water bleeds to the surface, use long sweeping motions with your hand float.
- Make control joints every 5 to 6 feet with a groove, by lining up a plank as a straight edge to make periodic joints in the concrete. These joints will help the concrete withstand cracking due to temperature changes. Cut the joints about a quarter of the thickness of the concrete.
- Create traction by using a broom to sweep across the surface, creating designs. This will provide traction on the concrete so it is not as slippery when wet. A soft brush can also be


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used for a different texture that is less rough. **If moving the broom over the concrete causes clumps of concrete to aggregate on your broom, it's too early to broom. Move over the concrete again with the magnesium floater to smooth out the pattern left by the broom.**

9. Cure and seal the concrete, Concrete should be left to cure for 28 days, with the initial day being the most critical. As soon as the concrete has been poured, professionals usually recommend sealing the concrete. The sealant will help the concrete cure, as well as prevent cracks and discoloration.

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#### 4.6 Bobcat Operation

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

1. Only designated persons who are trained and familiar with the equipment are allowed to operate it
2. Check the following before starting the machine
  - Fuel and oil
  - Hydraulic Fluid
  - Cooling system
  - Operator cab for secure mounting and is uncluttered
  - Seatbelt and seat bar
  - Lift arm and cylinder pivot points
3. Tires
4. Uses the safety treads and grab handles to get on and off the machine. Check and ensure that controls will not allow operation with the seat bar in the up position.
5. Check and ensure that lights and back-up alarm are working
6. Wear hearing protection and ensure people are clear of the work area
7. Keep feet on the pedals when operating
8. Use only approved attachments and travel loaded or unloaded with attachments as low as possible
9. Go up and down slopes with the heavy end on the up hillside
10. Do not go across a slope
11. Lower the attachments/load and shut the machine off before getting out
12. Where travel or worksite is congested use a signal person

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#### 4.7 Loading Vac Trucks

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

1. Be sure to park on even ground on required location on site
2. Set parking brake
3. Engage power take off (PTO)
4. Set engine idle to 1250 RPM
5. Place wheel chocks on wheels
6. Place drip tray under engine
7. Remove required hoses from tray
8. Attach hose to valve on left side of tank ( when looking at tank from rear ) secure cam locks
9. Attach opposite end of hose to water source (ie; lake, pond, or 400 barrel tank)
10. Rise tank 30 degrees
11. Move valve control to vacuum
12. Turn switch to on position to engage blower unit
13. Take caution while loading hose may jump
14. Once loading is completed remove hose from water source and clear hose
15. Shut off the value on vacuum tank
16. Turn switch off to disengage blower
17. Lower vacuum tank
18. Remove hose from valve and replace to tray, Be sure to Secure hoses with straps
19. Remove dip tray under engine
20. Remove wheel chocks
21. Disengage PTO

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#### 4.8 Unloading Vac Trucks

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 04, 2017

1. Back up on level ground on required location at cement sump
2. Set park brake
3. Engage PTO
4. Set engine idle to 1250 RPM
5. Raise vacuum tank to 45 degrees
6. Remove cam lock cap from center valve of vacuum tank
7. Open center valve
8. Place control lever from vacuum position to neutral to bleed of vacuum, then place control lever to pressure
9. Turn switch to ON position to engage blower unit feather switch from on to off only need 5PSI to blow load of drill mud off
10. Once load is off close center valve
11. Place control lever to neutral to bleed off pressure then place lever to vacuum
12. Turn ON switch to engage blower
13. Remove cam lock caps from right and left valves on vacuum tank, open valves one at a time to clean drill mud from load lines
14. Replace caps
15. Shut off blower
16. Place control lever to neutral to bleed off vacuum then place lever to pressure
17. Turn on blower
18. Open valve to clear drill mud
19. Move control lever to neutral to bleed off pressure
20. lower tank disengage PTO

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#### 4.9 Rip Rap Installation/Removal and Inspection

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Review Safe Job Procedures for applicable equipment and perform pre-operational checks
2. Determine the traffic control needs from the work zone safety handbook
3. Park in areas that” provide safe entrance and exit of the work area; do not create potential conflicts with other vehicles and equipment operating in the work area; and provide maximum protection for workers getting in and out of the vehicles
4. Wear appropriate PPE consistent with the hazard. Hand and eye protection may be required.
5. Be aware of escape routes in case of emergency. It’s a good practice to work facing oncoming traffic while on foot
6. Use proper lifting technique when moving rip rap get help if stones are too heavy
7. Use gloves and handle carefully to avoid mashing fingers
8. Watch for tripping hazards and slippery footing
9. Allow plenty space for each employee to work safely.
10. Employees on foot should stay out of the way of operating equipment until the area is clear for handwork
11. Be aware of poisonous plants, wildlife including bears. Report any carcasses if you come across one. It is good practice to wear long sleeve shirts, gloves and high-top boots.
12. Watch for flying dust and fine particles when handling rip rap. Use eye protection when needed
13. Rubber boots may be needed in wet ditches.

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#### 4.10 Loading Trailers

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
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1. Wear boots that provide adequate ankle support and a slip resistant tread design
2. Use the three-point rule by keeping two hands and one foot or two feet and one hand in contact with something stationary at all times while moving about the trailer.
3. Use the steps on the tractor to get down or lower yourself gently. Do not jump off trailers!
4. Inspect chains, binders, and hooks for defects and assure hooks are properly attached before tensioning chains.
5. Whenever possible, apply tensions to binders from the ground. That way if you do fall, you won't fall off the trailer
6. Make sure chokers are of the length suggested by the binder manufacturer, that they are not cracked or damaged, and will not slip off
7. Pull on the wench bar whenever possible and avoid pushing. This will help maintain balance if something slips. Note: do not climb on pipe!
8. When chaining loads of pipe use the deck of your tractor to stand on while feeding chains through the pipe racks. Note: do not climb on pipe!
9. Never place yourself or any part of your body under a suspended load or pinch point.
10. If cranes are used to load a trailer, use tag lines to position the load.
11. Always communicate with the person doing the loading. Know what the plan is and make sure you agree.
12. Maintain eye contact with the person doing the loading at all times; making sure he/she knows where you are.
13. Slow down and pay attention; never hurry yourself around loading operations.

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#### 4.11 Working Near Power Lines Procedure and First Aid


Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Locate power lines: before beginning work, ask for the location and voltage of underground power lines as well. This is especially important if you are planning to use drilling or trenching equipment. Electrical resistant footwear should be worn, although they are a good safety measure they are not foolproof.
2. Place warning signs along the route of overhead and underground power lines in the area. Inform workers of the hazards of touching or coming too close to lines. If equipment touches power lines, the whole rig becomes electrically alive, including winch lines or anything they are attached to. **Remember to advise new workers.** Power lines less than 750 volts can injure or kill someone who touches or comes too close. It's difficult to distinguish between power lines, telephone lines and cable T.V. lines. Avoid taking unnecessary chances; keep a safe distance away from all wires.
  - **750 to 150,00 volt lines-min distance 3 meters**
  - **150,000 to 250,000 volt lines min distance is 4.5 meters.**
  - **Greater than 250,000 volt lines min distance is 6 meters**

#### Rescue & First Aid

- **Stay on Equipment:** It's generally safe to stay on equipment that has pit a power line as long as you don't touch the equipment and the ground at the same time. In fact, to touch anything that is touching the equipment and the ground could be FATAL! The driver/operator should remain in the unit, unless there is a fire, and if possible move the equipment from the wires. If there is a fire, jump free without touching the equipment and the ground at the same time and shuffle away using small steps.
- **Keep others away:** warn others not to approach or touch the equipment. Even to touch a winch line or load on the equipment could be FATAL!
- **Call Hydro:**
- **Rescue:** a person trained to use special live line tools can only attempt rescuer safely. In cases involving high voltage lines, even using a wooded tool, a dry rope, hose wooden


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pole or board to move the victim from the wire is dangerous. If a life is at stake and rescue must be attempted, a heavy object like those mentioned above can sometimes be thrown in order to separate the victim from the wire. Never touch the victim or the equipment while still in contact with the power lines.

- First Aid:** Once the victim is free from the power lines, begin first aid. If the victim is unconscious either breathing erratically or not breathing at all, begin artificial respiration immediately – every second counts. Have someone call for an ambulance. Don't leave the victim unattended. If in shock reassure and keep the victim warm, but don't apply heat. Loosen clothing around the neck, if burned – avoid handling the affected area. Do not apply lotions, break blisters or remove burned clothing. If possible cover the burns including clothes using a prepared sterile dressing. If skin is blistering bandage loosely, otherwise apply bandages firmly. Do not use gauze, cotton, wool or other material that is likely to stick. Place an unconscious person gently on uninjured side. Don't attempt to give an unconscious person anything to drink

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#### 4.12 Operating Loader

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

##### 1. Mounting and dismounting:

- Mount and dismount the machine only where steps and/or handholds are provided.
- Use both hands and face the machine, when mounting and dismounting.
- Do not try to climb on or off the machine when carrying tools or supplies.
- Never get on or off a moving machine.
- Never jump off a moving machine.

##### 2. Before starting the engine:

- Make sure that the machine is equipped with a lighting system as required by conditions.
- Ensure the lights are working properly
- Make sure no one is working on, underneath or close to the machine before starting the engine or beginning to move the machine.
- Start the engine only from the operator's station. Never short across the starter terminals or across the batteries.


##### 3. Starting the engine:

- Move all implement controls to the HOLD position before starting the engine.
- Engage the parking brake. Shift the transmission control leave to NEUTRAL.
- Start and operate the engine in a well ventilated area, vent the exhaust outside

##### 4. Before operating the Machine:

- Clear all personnel from the machine and area.
- Clear all obstacles from the path of the machine.
- Be sure all windows are clean. Secure the doors and windows in either open or shut position.
- Adjust the rear view mirrors (if equipped) for best vision, especially close to the machine.

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#### 4.13 Tire Repair

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. The employees must not service any rim or wheel unless the employee has been instructed in correct procedures of mounting, demounting and serving activities for tires and rims and the safe operating precautions for the type of wheel being serviced.
2. The employee must wear eye and foot protection.
3. The tire must be completely deflated by removing the valve core before a rim wheel is removed from the axel.
4. An approved rubber lubricant must be applied to the bead and rim mounting surfaces when assembling the wheel and inflating the tire. Never use any flammable material, soap or grease to seat tire.
5. If a tire on a vehicle is under inflated but has more than 80% of the recommended pressure, the tire may be inflated while the rim is on the vehicle.
6. Whenever a rim is in a restraining device, the employee must not rest or lean against the restraining device. Always stand to the side.
7. After inflating, the tire and wheel must be inspected while still in the restraining device to make sure that they are properly seated and locked. If further adjustment is necessary, removing the valve core before the adjustment is made must deflate the tire.
8. Do not attempt to correct the seating of side and lock rings by hammering; sticking or forcing the components while the tire is pressurized.
9. Cracked, bent, broken or otherwise damaged wheel components must both be reworked, welded, brazed or otherwise heated. Heat must not be applied to any wheel.

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#### 4.14 Cleaning Tank

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Apply parking brake and wheel chock blocks
2. Open all necessary valves and vent(s) on unit
3. Open vent valve or open lid on the top of tank
4. Open belly valve
5. Close pump drain valve if opened
6. Depress clutch with transmission in neutral and select the PTO switch to load & unload
7. Release the clutch under control
8. Listen for abnormal sounds
9. Watch the hose to ensure that it is not pressuring up

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#### 4.15 Loading Cement on Vacuum Truck

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Be sure to park on even ground on required location on site
2. Set parking brake
3. Engage power take off (PTO)
4. Set engine idle
5. Place wheel chocks on wheels
6. Place drip tray under engine
7. Remove required hoses from tray
8. Attach hose to valve on left side of tank (when looking at tank from rear ) secure cam locks
9. Rise tank 30 degrees
10. Move valve control to vacuum
11. Turn switch to on position to engage blower unit
12. Place hose near cement tub, move valve to ON position- make sure hose end clear of personal and debris
13. Place hose in tub and begin to load. Take caution while loading hose may jump due to air or cement in hose.
14. Once loading is completed remove hose from tub and suck straight air to clear hose
15. Open load valve after hose is off to ensure it is clear
16. Shut off the value on vacuum tank
17. Turn switch off to disengage blower
18. Lower vacuum tank
19. Remove hose from valve and replace to tray, Be sure to Secure hoses with straps
20. Remove dip tray under engine
21. Remove wheel chocks


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- 22. Disengage PTO
- 23. Proceed to cement sump

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#### 4.16 Off-Loading Cement on Vacuum Truck

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017


1. Back up on level ground on required location at cement sump
2. set park brake
3. engage PTO
4. set engine idle
5. Raise vacuum tank to 45 degrees
6. remove cam lock cap from center valve of vacuum tank
7. open center valve
8. place control lever from vacuum position to neutral to bleed of vacuum, then place control lever to pressure
9. turn switch to ON position to engage blower unit feather switch from on to off only need 5PSI to blow load of cement off
10. once load is off close center valve
11. place control lever to neutral to bleed off pressure then place lever to vacuum
12. turn ON switch to engage blower
13. remove cam lock caps from right and left valves on vacuum tank open valves one at a time to clean cement from load lines
14. Blow both load and off-load valves out – make sure tank is down before doing so
15. replace caps
16. shut off blower
17. place control lever to neutral to bleed off vacuum then place lever to pressure
18. turn on blower
19. open valve to clear cement
20. move control lever to neutral to bleed off pressure
21. if washing out tank with water truck open mud door and clean tank with 2" hose sue caution with water house

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- 22. close mud door
- 23. lower tank disengage PTO

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#### 4.17 Loading Water on Vacuum Truck

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Be sure to park on even ground on required location on site
2. Set parking brake
3. Engage power take off (PTO)
4. Set engine idle
5. Place wheel chocks on wheels
6. Place drip tray under engine
7. Remove required hoses from tray
8. Attach hose to valve on left side of tank ( when looking at tank from rear ) secure cam locks
9. Attach opposite end of hose to water source (ie; lake, pond, or 400 barrel tank)
10. Rise tank 30 degrees
11. Move valve control to vacuum
12. Turn switch to on position to engage blower unit
13. Take caution while loading hose may jump
14. Once loading is completed remove hose from water source and clear hose
15. Open load valve after hose is off to ensure it is clear
16. Shut off the value on vacuum tank
17. Turn switch off to disengage blower
18. Lower vacuum tank
19. Remove hose from valve and replace to tray, Be sure to Secure hoses with straps
20. Remove dip tray under engine
21. Remove wheel chocks
22. Disengage PTO

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#### 4.18 Off-Loading Water on Vacuum Truck

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Back up on level ground on required location
2. set park brake
3. engage PTO
4. set engine idle
5. Raise vacuum tank to 45 degrees
6. remove cam lock cap from center valve of vacuum tank
7. Attach required hose, one end to center valve vacuum tank other end to water tank
8. open center valve on vacuum tank, Then open valve on water tank
9. place control lever from vacuum position to neutral to bleed of vacuum, then place control lever to pressure
10. turn switch to ON position to engage blower unit - feather switch from on to off only requiring 5PSI to blow load off
11. once load is off close center valve, also closing valve on water tank
12. replace hoses back to tray and securing hoses with straps
13. Blow both load and off-load valves out – make sure tank is down before doing so
14. Replace caps on cam locks valves

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#### 4.19 Loading Drill Mud on Vacuum Truck

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017


1. Be sure to park on even ground on required location on site
2. Set parking brake
3. Engage power take off (PTO)
4. Set engine idle
5. Place wheel chocks on wheels
6. Place drip tray under engine
7. Remove required hoses from tray
8. Attach hose to valve on left side of tank (when looking at tank from rear) Secure cam locks
9. Rise tank 30 degrees
10. Move valve control vacuum
11. Turn switch to ON position to engage blower unit
12. Place hose near tank, move valve to ON position – make sure hose end clear of personal and debris
13. Place hose in tank and begin to load. Take caution while loading hose may jump due to air or drill mud in hose
14. Once loading is completed remove hose from tank and suck straight air to clear hose
15. Open load valve after hose is off to ensure it is clear
16. Shut off valve on vacuum tank
17. Turn switch off to disengage blower
18. Lower vacuum tank
19. Remove hose from valve and replace to tray, be sure to secure hoses with straps
20. Remove dip tray under engine
21. Remove wheel chocks

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- 22. Disengage PTO
- 23. Proceed to drill mud sump

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#### 4.20 Off-Loading Drill Mud on Vacuum Truck

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Back up on level ground on required location at cement sump
2. Set park brake
3. Engage PTO
4. Set engine idle
5. Raise vacuum tank to 45 degrees
6. Remove cam lock cap from center valve of vacuum tank
7. Open center valve
8. Place control lever from vacuum position to neutral to bleed of vacuum, then place control lever to pressure
9. Turn switch to ON position to engage blower unit feather switch from on to off only need 5PSI to blow load of drill mud off
10. Once load is off close center valve
11. Place control lever to neutral to bleed off pressure then place lever to vacuum
12. Turn ON switch to engage blower
13. Remove cam lock caps from right and left valves on vacuum tank, open valves one at a time to clean drill mud from load lines
14. Blow both load and off-load valves out – make sure tank is down before doing so
15. Replace caps
16. Shut off blower
17. Place control lever to neutral to bleed off vacuum then place lever to pressure
18. Turn on blower
19. Open valve to clear drill mud
20. Move control lever to neutral to bleed off pressure
21. lower tank disengage PTO

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#### 4.21 Installing Tire Chains

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. The vehicle should be situated on flat, firm ground. Then set parking break
2. Turn vehicle off and remove the keys from ignition
3. Place chock blocks in place up against the tire to prevent rolling forward, and place the other chock to prevent rolling back
4. Place the emergency warning triangle behind and on the left side of the vehicle to warn all oncoming traffic of this hazard on the road
5. Lay out the chains on either side of vehicle. Complete a visual inspection to ensure that there are no twists or broken links
6. Drape the chains on either side of vehicle. Complete a visual inspection to ensure that there are no twists or broken links
7. Make sure that the smooth side of the cross members are against the tire. The slack of the rest of the chains should be at the rear of the tire; the chains should be just touching the ground in front of the tire
8. Get in the vehicle and roll it forward a couple of feet to get the chain under the tire on the ground
9. Reach behind each tire and fasten the speed hooks by inserting the J hook through the third link from the other end of the chain
10. Insert the lever fasteners through the third links from the opposite ends of the outside and pivot the leavers back on themselves then fasten them under the keeper links. The extra links that remain will be wired to the chain so so that it does not swing free and damage the wheel
11. Drive the vehicle forward about 200 to 500 meters
12. Apply the parking brake
13. Complete a physical check on the chain tightness; tighten all chains

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#### 4.22 Use of Fire Extinguisher

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
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HSE Coordinator	Safety	January 10, 2017


#### In Case of Fire:

1. Evaluate and call for assistance as required.
2. Calmly remove extinguisher from its location.
3. Hold extinguisher securely.
4. Use extinguisher with rapid sweeping motions pointed at base of flames.

Remember **P.A.S.S.**- **P**ull, **A**im, **S**queeze and **S**weep

5. Keep a safe distance to make sure you do not get caught in the spread of fire or that your clothes do not catch on fire.
6. When extinguisher empties, move away.
7. Call for assistance as required.
8. Report use of extinguisher.
9. Always recharge extinguishers and put back into service promptly.

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#### 4.23 Completing Pre-Trip/Post-Trip Inspection

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 22, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Ensure required PPE is worn
2. Place wheel chocks
3. Remove Key (this is to prevent anyone from starting the equipment up)
4. Complete a visual inspection of equipment- look for leaks, missing parts, broken or damaged parts.
5. Check fluid levels
6. Inspect tires – use tire pressure gauge or thump tires, inspect tread condition
7. Inspect air brake system- only qualified persons are able to inspect or operate any equipment with air brakes.
8. Turn on lights- ensure high beam, low beam, warning lights, marker lights, signal lights reverse lights and brake lights all work.
9. Maintain 3-point contact while climbing onto/ into the equipment
10. Start equipment – ensure it is safe to do so by making sure that park brake is set and that no other person is on or around the equipment
11. Check gauges- ensure oil pressure, air pressure go up as required.
12. Test air brake alarms
13. Check windshield wipers and washer
14. Test horn and back up alarm
15. Do brake test
16. Once everything is good to go remove wheel chocks
17. When completing these inspections remember safety is a priority, if any defects are found report them immediately to your supervisor. While completing the inspection ensure that the area you are doing the inspection is safe. Watch for other equipment moving or working make eye contact with other operators. Weather and ground conditions change constantly keep this in mind as you need to maintain balance while performing inspections.

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#### 4.24 Cleaning Up Spills

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 25, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. **IMMEDIATELY NOTIFY YOUR SUPERVISOR**
2. In the event of a spill notify anyone close by.
3. Place a fire extinguisher at the spill area immediately.
4. Have all cutting, grinding, welding or other sources of ignition shut down immediately, if necessary.
5. Flag off the spill area and replace the guard with own forces.
6. Obtain rubber gloves, empty pails, respirators and rags as required and dictated by SDS.
7. Remove as much excess as possible using broad knives or other scraping means.
8. Use a damp rag to completely wipe down all area(s) affected.
9. Seal all pails and remove from area.
10. Remove guard or flagging when area(s) are dry and safe.
11. Return fire extinguisher to proper location.
12. Notify others that all is clear, if necessary.
13. Return to normal duties

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#### 4.25 Flagging

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 25, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Always set-up flagging stations so that they are highly visible to traffic with good approach sight distance
2. Set up warning signs well in advance of work area
3. Use traffic cones to help keep traffic in the proper lane of travel through work zone
4. Never stand in a lane that is open to traffic
5. Signs and paddles should be clean and readable. Always remove or cover signs when flagging operation is not a progress
6. Wear appropriate PPE (high visibility vest, hard hat, eye protection etc.)
7. Be aware of escape routes in case of an emergency and always face oncoming traffic.
8. Give clear and concise messages to drivers and coordinate with the other flaggers (make sure your hand-held radio is charged every night)
9. Flaggers must be trained in flagging techniques prior to beginning flagging operations.
10. Be aware of moving equipment in your work zone. Always establish eye contact with the operator before approaching equipment.
11. Remember to drink plenty of fluids.
12. Supervisors & co-workers must look for signs of head exhaustion. Cold stress that may occur with co-workers
13. Remember remain focused on the task at hand

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#### 4.26 Boosting Batteries

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 26, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Pull the running vehicle up close to the dead vehicle. This can either be side-by-side or hood to hood. Just make sure they are close enough for the cables to reach both batteries.
2. Take out the cables and make sure to never touch the ends to each other at any time.
3. First work with the running vehicle. Take one end of the cables and attach them to the battery which is usually up front near the corner of the car when the hood is popped up.
4. There are always two posts on a battery, one is positive and the other is negative. The positive post is usually bigger than the negative, has more wires going to it, is frequently colored red and has a + sign beside the post.
5. Working with the same end of the booster cable (one red clamp and one black clamp):
6. Clamp the red end of the cable to the positive post on the battery.
7. Next clamp the black end of the booster cable to the negative post.
8. Now you should have both clamps from one end of the booster cables attached to the battery of the 'working' vehicle.


**Very Important: Make sure to NEVER let the clamps of the booster cables on the loose end touch each other.**

- Working with the 'dead' vehicle and the other end of the cables, follow the exact same procedure as above. First attach the red positive clamp to the positive post, and the **black negative clamp attach to a grounded piece of sheet metal of the vehicle** (read comments below).

**Important: Make sure to attach the red positive clamp first, then the black negative clamp.**

- Now both ends of the cables should be attached, one end to each vehicle. Red clamps attached to each positive post, and black clamps attached to the negative post on the running vehicle and the other negative clamp attached to a grounded metal part of the other vehicle.

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- First turn on the 'working' vehicle giving you the boost. Then try starting the 'dead battery' vehicle. If it doesn't start right away, you may need to let the running vehicle run for a minute or two to charge the dead battery, then try starting the dead vehicle again.
- If the dead vehicle still doesn't start, make sure the clamps are on the battery posts properly and have not fallen off.
- Once the vehicle with the dead battery is running, do not shut the vehicle off. Keep it running so it recharges the battery
- Remove the cables from one vehicle at a time.

**Important: First remove the black negative clamp, then the red positive clamp.**

- Hold the detached clamps in one hand away from the other end while removing the second booster cable end from the second vehicle—or sparks galore again.
- Once the cable has been removed from both vehicles, it's safe to wind them up and put them away.

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#### 4.27 Refueling

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 26, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Park vehicle parallel to the fuel pump. Position the vehicle to have its fuel tank opposite the pump.
2. Apply park brakes.
3. If operating a gas engine, shut engine off before starting the fuel pump.
4. When using the card lock system, follow the instruction on the screen.
5. Make sure the pump meter is returned to zero before pumping.
6. Place the nozzle of the hose in the fuel tank of the vehicle, start the pump, fill the tank by depressing the lever on the nozzle. Do not overfill the tank, or use any device to hold the nozzle open while fueling.
7. When the fuel tank is filled, shut off the pump and place the nozzle back on the mount.
8. Record the fuel used on your time card, or get the print out from the card lock system. Turn this information in at the end of the day.
9. Any spills are to be contained immediately. Use oil dry on any small spills. Absorbent pads are to be used on larger spills. All spills are to be reported to the office.
10. Fuel spilled on hands or exposed skin shall be washed off A.S.A.P.

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#### 4.28 Equipment Maintenance

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 26, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. All maintenance personnel must have a driver's license in good standing to operate any vehicle. After a repair has been made the maintenance person should test drive the repaired equipment prior to reinstating the equipment back into service. If the maintenance person is not qualified to operate the equipment he/she should ride as a passenger while a qualified operator tests the machine to ensure the deficiency has been corrected.
2. All maintenance personnel should be trained in proper ergonomics.
3. Repair site housekeeping must be maintained to reduce the risk of accident and injury.
4. Proper and appropriate personal protective equipment (PPE) must be worn when maintaining heavy equipment. Prepare for extreme temperatures. Have warm work wear for extreme cold. Have water available and adjust frequency of breaks for extreme heat.
5. Maintenance personnel must maintain certification as a condition of employment
6. Proper body positioning when maintaining equipment can improve productivity, reduce fatigue and reduce the possibility of injury.
7. All Tools must be inspected prior to use. Any defective tools must be removed from service.
8. Periodic tool inspections will be performed by supervisor
9. Treat the public in a courteous manner at all times
10. Improvement in tool design by manufacturers can reduce effort and increase productivity.
11. A qualified person should audit tool inventory and replace older versions of tools with newer technology.
12. Organize tool chests/boxes to increase productivity.

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#### 4.29 Changing A Tire

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Park on level ground away from flow of traffic, turn on your 4 way flashers to warn others of your stopped vehicle.
2. Place warning triangles in front of and behind the vehicle/trailer. These should be placed starting at approx. 45 meters behind your vehicle.
3. Set park brake
4. Place wheel chocks to prevent the vehicle/trailer from rolling forwards or backwards
5. Place jack on solid level ground and under a lifting point on the vehicle/trailer.
6. Jack vehicle up to the point where the jack is supporting the weight of the vehicle/trailer but not to the point where the flat tire is off the ground.
7. Loosen lug nuts
8. Jack the vehicle/trailer up until the flat tire is off the ground
9. Remove the lug nuts fully place them in the hub cap or on something to keep them clean and together
10. Remove flat tire from vehicle/trailer
11. Place new tire on the vehicle/trailer
12. Place lug nuts back on make sure they are free of debris
13. Tighten lug nuts to specified torque for that vehicle/trailer
14. Lower the jack slowly
15. Once the jack is lowered double check the torque on the lug nuts
16. Replace hub cap, wheel cover, lug nut covers
17. Remove jack and put tools away where they belong
18. Place flat tire in a secure location on the vehicle/trailer for transport (strap it down if needed)
19. Pick up warning triangles place them in the proper storage location
20. Proceed with your travel using caution when re-entering traffic.
21. Re-torque lug nuts after 100 km of travel.
22. Have flat tire taken in for repair

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### 4.30 Starting Equipment

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. The mechanic/operator will check all appropriate fluid levels in equipment.
2. The mechanic/operator will do a visual inspection of equipment pertaining to leaks, belts, etc.
3. The mechanic/operator will do a walk around the equipment to make certain the equipment is safe to start.
4. The mechanic/operator will climb on equipment using the three-point contact method and check for any danger, such as "Do Not Operate" tags.
5. If there are no such tags on the equipment, then the mechanic/operator check to make sure the equipment gears are in neutral and checks that the park and emergency brakes are activated.
6. The mechanic/operator proceeds to start the machine.
7. Once engine is running at an idle, the mechanic/operator will check again all park and emergency brakes and drop all hydraulic accessories such as blades, hoes, buckets, etc.
8. The mechanic/operator will dismount using 3 point contact

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#### 4.31 Adjusting Air Brakes

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 23, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. PPE should be worn at all times.
2. If unit has auto slack adjuster, do not try to adjust. See supervisor if travel is more than 2"
3. Park on level ground, out of the way of any traffic
4. Lock out the ignition
5. Make sure psi will maintain 115 psi for duration of adjustment
6. Block /chock the wheels
7. Release the brakes
8. Check the brake lining thickness (min 3/8")
9. Check for air leaks and repair
10. Check for damaged brake pot or slack adjuster, worn lining or leaking wheel seals
11. Ensure lock sleeve is operational
12. Ensure push rod travel is between 3/4" - 1 1/2" and within 1/4" of each other
13. Ensure push rod angle is between 85 and 90 degrees (90 degrees being the best angle)
14. Report any of the above problems to your supervisor
15. Ensure brakes do not drag.
16. With psi at a minimum of 115 make one full brake application
17. PSI should not drop more than 12 psi; if so recheck adjustment

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#### 4.32 Backing Up

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 23, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Avoid backing up whenever possible
2. Always park so your first move is forward
3. Check clearances (Front, Back, Side and Overhead)
4. Sound horn frequently (even if equipped with back up alarm)
5. Back slowly (slow walking speed)
6. Use a spotter whenever possible
7. If you lose sight or eye contact with the spotter, STOP immediately and locate that person before proceeding
8. If parked or stopped always use proper parking procedures
9. Set brake
10. Transmission in appropriate gear

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### 4.33 Equipment Lock-Out

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Inspect the piece of mobile equipment needing repair to ascertain what repair is needed
2. Turn the machine ignition off and remove key, or if machine has push start button remove the battery ground cable
3. Close and lock console if it has a cover and place the key in your pocket
4. Place a lock out tag on the door handle, ignition or Battery disconnect
5. If more than one person is working on the equipment, both people must place a lock out on the machine
6. If it a mobile piece of equipment, use the chocks to ensure non-movement by others
7. Repair the machine
8. After repair unlock the cover and replace the key
9. If you require the machine running to test the repair, stand clear of any hazard locations. Do not approach any moving part while machine is running

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#### 4.34 Use of Fall Arrest System

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. The Supervisor is responsible for ensuring that all workers are trained & understand this procedure
2. The supervisor shall ensure that all employees under their direction use a complete fall arrest system when a hazard of falling 1.3 meters or more exists
3. All employees who require a fall arrest system shall be instructed in the inspection, donning and use of all components before the worker uses the system
4. The employee is responsible for ensuring that a complete fall arrest system is used where there is a hazard of falling 1.3 meters or more & that this procedure is followed as directed by the supervisor
5. Fall arrest equipment must be used by trained personnel only, & all equipment should be inspected by the user before each use
6. The fall arrest system consists of an approved full body harness and an approved lanyard
7. All fall arrest system components shall be CSA approved and readily identified
8. The length of the lanyard or the location of the anchor shall be so arranged that the worker can fall no farther than 1.2 meters. A retractable harness- mounted lanyard is the most acceptable method
9. All fall arrest components shall be stored properly and kept in good condition Safety belts, harnesses, lanyards and lifelines shall not be knotted and shall not be allowed to become knotted or damaged
10. Never wrap lanyards around sharp or rough anchor points
11. Fall arrest equipment must not be altered in anyway
12. Any equipment subjected to a fall must not be used again
13. All synthetic materials must be protected from slag, hot sparks, open flames or other heat sources
14. Maximum working load is 310 pounds, unless otherwise labeled
15. The anchor or tie off point must be capable of supporting 5,000 pounds per worker

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#### 4.35 Greasing Equipment

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
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1. Shut off machine, remove keys, lock out and set parking brake. Use wheel chocks for added safety
2. Lay on creeper with grease gun and towel, and roll under vehicle
3. Clean each grease fitting and apply grease.
4. Check for fittings that need to be replaced and for any worn joints
5. Clean grease gun thoroughly when finished and put all tools used away
6. Remove wheel chocks

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#### 4.36 Computer Use

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
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HSE Coordinator	Safety	January 10, 2017

#### Chair:

1. Adjust chair, comfort is important
2. Adjust seat height so that your forearms are parallel to the floor or sloping slightly downward
3. Shoulders should be relaxed and not hunched and elbows and upper arms should be close to your body
4. Adjust the backrest angle of your chair to feel comfortable
5. Use a footrest if required so that the thighs are parallel to the floor or sloping slightly down

#### Monitor:

1. Should be directly in front of you
2. Screen should be approximately an arm's length away
3. The top of the screen should be at eye height and free of glare and reflections

#### Mouse:


1. Use a mouse pad close to the keyboard to prevent over reaching
2. Use a straight wrist

#### Laptops:

1. Whenever possible, connect to an external keyboard and mouse and position screen above desk height

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**Breaks:**

1. Have a break to relieve the fixed posture and fixed visual focus.
2. Varying the task throughout the day is best
3. For extended computer work, short frequent breaks for 2-3 minutes every 20-30 minutes is recommended

**Maintenance:**

1. A Keep your equipment in good working order
2. Screen flicker, sticking keys on keyboards and rough running mice should be adjusted/repared or replaced

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#### 4.37 Draining and Winterizing Vacuum System

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

- During winter months (season October 01 – April 30)
  - After every load and off load
1. Shut blower down
  2. Neutralize vac system
  3. Crack the 2 silencer valves
  4. Open Cyclone drain
  5. Put pressure on until system clear of all vapour and debris
  6. After system clear shut blower down
  7. Neutralize again and put on vac
  8. Suck cold air into the Cyclone for approx. 1.5-2 minutes (this way there is no requirement for petroleum products to be run through the blower)

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#### 4.38 Winching

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Use Personal Protective Equipment
2. Check winch drive components i.e.: PTO shafts, drive chains or hydraulic motor pumps, hydraulic levels (leaks)

#### 3. WINCHING EQUIPMENT

#### 4. Check the following:


- Winch parts (dogs & Brakes)
- Winch hold down bolts
- Winch line (kinks & broken strands)
- Tail chain
- Snatch block
- Bell or knot
- Load slings
- Load pins and pin pockets (minimum 8 pins)
- Proper tie down chains & boomers for weight of load
- Live roll free and clear

5. Spool line on drum proper (check line security to drum)

#### Winching Procedures

- Complete equipment inspection
- Load inspection (inside & out), check for security and height (no poles etc. sticking up)
- Hazard Evaluation
  - a) Uneven ground
  - b) Ice – slippery
  - c) Ensure tractor-trailer is straight with load


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- d) Take time to check skids are free not froze down
- e) Make sure pick point is in good shape (no bends or broken welds and ears are in place)
- f) Power lines or any overhead hazards
- g) Personnel clear and out of danger zone or pinch point areas.
- Winch must have a least 5 wraps on drum
- Physically check dogs are fully engaged before lifting
- If snatch block is used make sure load sling is long enough so that block is on deck before load comes up off ground
- Put in load pins.

**NOTE: when load is being brought over roll that is the point where the most stress is on the line, lower winch speed at the point to maintain control of load.**

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#### 4.39 Use of Snow Plow

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Operators shall perform a pre-operational check on their equipment. Be familiar with operator's manual. Report all needed repairs promptly. Do not use any equipment that is unsafe.
2. Supervisors shall verify that operators are capable and qualified on each type of equipment before allowing the equipment to be operated unsupervised.
3. Inspect plows and components prior to use as follows and repairs or replace any items found to be deficient:
  - Check plow, plow frame and shear flange for cracks, broken welds or loose bolts.
  - Checks shear flange and pins for proper bolt grade, size, tightness and condition.
  - Check safety chains and blade for wear and conditions
  - Check for leaky or damaged hydraulic lines, fittings or cylinders
  - Check lube points and lube as needed
  - Check all controls to ensure smooth and correct operation.
4. Be aware of pinch points when installing or removing plows. Keep your hands away. Do not lift with your back. Get help and use lifting equipment as needed.
5. Always use safety chains or protective blocking when changing blades or performing other work on plows; never trust the hydraulic system.
6. Adjust your plowing, speed to the conditions, i.e.; traffic volumes, pedestrians, highway conditions, material to be plowed, terrain and visibility.
7. While plowing, watch for bridge joints, water meters, manholes, railroad tracks, etc.
8. Check the condition of the plow periodically during use using the guidelines provided in number 3a to 3d above.
9. The use of flags on ends of plow is recommended for visual contact by driver
10. When possible, plow operators should inspect plowing route and note or mark hazards.
11. For long distance travel (outside normal work area), snow plow should be chained in the up position to relieve stress on the cylinder and lifting mechanism.

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#### 4.40 Welding

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
Robert Pierce		November 27, 2013
Revised by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017

1. Welders and helpers shall wear proper protective equipment while engaged in welding i.e.: flame retardant clothing, tinted safety glasses or face shields. Proper fitting gloves or gauntlets shall be worn.
2. Welders will take all precautions necessary to protect other workers in the area from flash burn, i.e.: ensure that safety glasses are being worn by other in the area, or shield screens in place to prevent exposure to flash.
3. Welding ground return must be placed on the material being welded and closely adjacent to the area being welded unless an alternative method is approved.
4. Welding machines must be turned off at the end of shift or when left unattended.
5. In areas where sparks could cause ignition of nearby materials, non-combustible tarps or blankets must be used to isolate the work protect the surrounding areas.
6. Fire extinguishers shall be maintained in the area in a location that is easily visible and accessible.
7. No worker, while welding, cutting or grinding, shall carry strike anywhere matches or butane lighters.
8. Welders and helpers shall make daily inspections of all electrical cords and plugs. Any found to be faulty are to be replaced or repaired immediately.
9. Care shall be taken to avoid electrical connections in damp or water filled areas, cords plugs shall be kept high and dry at all times.
10. Valve on acetylene and oxygen cylinders must be properly shut off at the end of each shift.
11. All acetylene and oxygen pressure regulators shall be protected with flash back arrestors at the regulator.
12. A proper cylinder cradle must be used when raising and lowering cylinders with a crane or hoist. Do not use chain cable or rope cradles or slings.

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#### 4.41 Working Alone

Required Equipment/Tools	Required Materials	Potential PPE (always check site-specific requirements)
n/a	n/a	As per site and task requirement.
Developed by:	Position:	Date:
HSE Coordinator	Safety	January 10, 2017
Revised by:	Position:	Date:

#### General

Working alone can be dangerous as an employee may not be able to summon for help in the event of an emergency. Working alone should be avoided, however, there are situations where an employee is required to work alone, such as driving. In this case, the working alone procedure must be followed.


Working alone is not permitted while performing any of the following tasks:

- Working at heights
- Working in confined spaces
- Hot work

If you know you will be required to work alone, you must:

1. Contact your Supervisor and discuss the job
2. Complete a hazard assessment, identify potential hazards
3. Identify potential problems that could occur when in need of medical assistance
4. If you are a driver who will be travelling alone, review the route, weather conditions, etc.
5. Complete the Working Alone form
6. Indicate the frequency at which you will be contacting your Supervisor and the methods used for communication, i.e. cell phone, radio, GeoTracs
7. Ensure you have emergency phone numbers for hospitals, police, etc.
8. Before leaving, ensure you have the communication equipment, that it is functional, charged and that you have back-up batteries
9. Ensure you have non-perishable snacks, water, warm clothing, etc.

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## 5.1 COMPANY SAFETY RULES

### PURPOSE

The purpose of company safety rules is to provide a general framework for ensuring positive and safe attitude for all employees, subcontractors and visitors.

Allen Services & Contracting Ltd. employees, subcontractors and visitors shall be aware of the following safety rules, understand that contravention of these rules and any of the policies contained in Allen Services & Contracting Ltd. safety manual will be subject to disciplinary action for employees and subcontractors.


These rules apply to all Allen Services & Contracting Ltd. employees, subcontractors and visitors while on company premises or while engaging in company business activities, or social events.

**\*\*\*PLEASE NOTE: ALL SITE-SPECIFIC RULES AND REGULATIONS THAT FOLLOW MORE STRINGENT GUIDELINES THAN SET OUT IN THE FOLLOWING COMPANY SAFETY RULES WILL TAKE PRECEDENCE\*\*\***

1. All work shall be carried out in a safe, responsible manner in accordance with applicable provincial legislation, codes, standards, industry best management practices, client rules, regulations and Allen Services & Contracting Ltd. corporate policies, safe work practices and safe job procedures as outlined in this safety manual.
2. Consumption, possession or use of alcohol or illegal drugs on any Allen Services & Contracting Ltd. or client jobsite AND in any Allen Services & Contracting Ltd. vehicle is prohibited. Any employee operating a vehicle/equipment or on a jobsite while intoxicated or under the influence of alcohol or drugs must be immediately removed from site.
3. CSA approved safety boots with 6" ankle support (at a minimum) must be worn at all times on all job sites and Allen Services & Contracting Ltd. facilities.
4. Safety glasses, safety goggles, face shields and welding helmets must be worn as per task requirement.
5. CSA approved hard hats must be worn when there is a danger of falling objects on an individual's head. On client sites, hard hats must be worn at all times.
  - A driver/operator may remove his/her hard hat while sitting in the cab of a vehicle/equipment, however the hard hat must be kept within arm's reach.


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6. Hi-vis vests or reflective coveralls must be worn at all times when flagging traffic or construction vehicles and on all job sites where mobile equipment such as man lift, scissor lifts, bobcats, dozers, etc. is present, even if not in operation.
7. Gloves must be worn whenever handling objects with sharp edges or objects which have a potential to cut fingers or hands. Examples are metal studs and rebar.
8. Seat belts must be worn at all times when driving vehicles or operating mobile equipment on all job sites and all Allen Services & Contracting Ltd. facilities.
9. All employees are equally responsible to identify hazards and to eliminate or mitigate them.
10. Fall protection or guardrails must be used whenever working at heights of 10 feet (3 meters) or higher. This includes scaffolds, roofs, ladders, man- and scissor lifts. Fall protection must be used when working below 10 feet (3 meters) if a worker could fall on objects such as rebar, etc.
11. Good housekeeping must be maintained at all times on all job sites and all Allen Services & Contracting Ltd. facilities, vehicles and equipment.
12. Excavations must be covered by plywood or steel plates. Plywood or steel plates must be marked with an "X" and note the words "open hole". If plywood or steel plates cannot be used, the excavations must be marked with pylons and caution tape.
13. Entries and exits, emergency routs, muster points and emergency equipment must be kept clear and accessible at all times.
14. Generators providing power to trailers or buildings must not be blocked by materials, equipment or tools.
15. Lock-out/Tag-out (LOTO) must be used to lock out hazardous energy, tag-out must be used to tag-out defectives tools or equipment.
16. Theft, vandalism, abuse or willful damage of company property, client property, or that of a co-worker is prohibited.
17. Horseplay, practical jokes, shoving, or otherwise interfering with another workers is prohibited. Fighting is strictly prohibited.

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18. Possession or carrying of firearms or ammunition in Allen Services & Contracting Ltd. vehicles, on premises, or job sites is prohibited.
19. Smoking on site is permitted only in designated areas. Smoking in Allen Services & Contracting Ltd. owned or leased facilities shall be limited to outside in the designated area. Smoking in company vehicles is not permitted. Smoking in mobile equipment is not permitted.
20. Company vehicles and equipment shall be operated in accordance with provincial motor transportation rules and regulations and, if applicable, client policies.
21. All accidents, injuries, hazards, unsafe acts or conditions, including near misses, shall be reported IMMEDIATELY to Allen Services & Contracting Ltd.'s Supervisor, management and HSE Coordinator. Proper documentation must be completed for every accident or incident reported and submitted promptly following the incident.
22. Cell phones and radios must not be used while driving a vehicle or operating equipment.
23. Safeguards and equipment safe-guarding must not be removed or disabled at any time.

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## 5.2.0 PROGRESSIVE DISCIPLINARY POLICY

### Purpose


Allen Services & Contracting Ltd. attempts to provide employees who violate policies or exhibit unsatisfactory job performance an opportunity to comply with requirements by means of progressive disciplinary actions. The use of a series of disciplinary actions, when appropriate, is a means of assistance and encouragement for employees to correct their conduct and achieve satisfactory work performance.

All employees are expected to abide by the established rules and policies of Allen Services & Contracting Ltd. To enable them to do this, investigations into the circumstances of apparent policy or rule violations or unsatisfactory performance must take place before taking disciplinary action, and ensure that prompt, consistent disciplinary action is administered.

*Progressive discipline* is a series of disciplinary actions, corrective in nature, taken to provide regular employees the opportunity to improve job performance and comply with policies. Such actions range from coaching, verbal and written warnings, probation or termination of employment as deemed appropriate by the responsible Supervisor or Manager.

Brian McCarthy, General Manager	Date

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### 5.2.1 Procedures

**Coaching** is the preferred method employed for assisting employees in improving work performance or complying with rules and policies. Coaching should be a cooperative attempt at determining and correcting the problem. With the exception of serious failures to conform to rules and/or policies, as determined by the responsible Supervisor or Manager, disciplinary actions will occur after counseling/coaching efforts have been unsuccessful or if coaching is not appropriate due to the nature of violation. Supervisors and Managers are encouraged to keep notes of all coaching efforts using the Disciplinary Action Report form.


**Warnings** may be either verbal or written. A written warning is used for more serious infractions as specified in the Disciplinary Action Chart, or when a verbal warning has not produced satisfactory results. At this point, a verbal warning may turn into a 1<sup>st</sup> written warning. Either type of warning shall specify problem(s) and what action is required to correct it. The Supervisor or Manager who issues a verbal or written warning shall maintain notes of the date and contents of the discussion and shall advise the employee that a record is being maintained. A warning shall explicitly state that it is a "written or verbal warning" and shall specify that further disciplinary action will ensue if the employee fails to achieve a satisfactory level of performance.

**Disciplinary Probation** shall be for a specified period of time, not less than one (1) day and not more than six (6) months, during which time the employee's performance or behavior shall be closely monitored in an effort to effect improvement or change. Disciplinary probation is a sanction imposed by the employer that allows a problem employee to remain employed subject to certain terms and conditions. The imposition of disciplinary probation requires that Supervisors and Managers make an effort to meet regularly with the employee during the probationary period to assist him or her in improving performance or behavior. If, however, new problems arise during a disciplinary probation period, immediate termination may occur.

Disciplinary probation shall be initiated by Disciplinary Action Report to the employee which explicitly contains the following:

1. Inclusive dates of probation period.
2. Specific nature of problem(s) resulting in probation, including specific examples of incidents for each problem.
3. Corrective action required, including specific and reasonable standards related to the

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deficiencies outlined in #2, above.

4. The consequences of failure to correct the problem(s) within the disciplinary probation period.
5. Notice that immediate discharge may occur if new performance deficiencies arise within the disciplinary probation period.

A copy of this report shall be kept on file.

**Suspension** is the involuntary suspension of an employee for a specific amount of time by a member of the Management team. A pre-suspension meeting shall be scheduled with the employee and the suspension reasons and duration shall be discussed. A suspension is generally used when an employee repeatedly violated rules or procedures. A suspension is without pay. The Management team shall decide a suspension duration based on their discretion but it shall not be less than (1) one day and shall not be longer than (30) thirty days.

**Termination** is the involuntary termination (other than a layoff/reduction in force) of an employee by a member of the Management Team. A pre-discharge meeting shall be scheduled and shall precede the decision to discharge a non-probationary employee. Following the above, the affected employee shall be notified in writing of:

1. The reason for discharge.
2. The facts of and conclusions drawn from the pre-discharge meeting conference.
3. The effective date of discharge.

The appropriate payroll documents shall be processed in a sufficiently timely manner to ensure that any discharged employee receives all wages due to them with the next payroll cycle.

For violation types and their resulting disciplinary actions please refer to the Disciplinary Action Chart.


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## 5.2.2 DISCIPLINARY ACTION CHART

#	Class	Action	Disciplinary Action Type						
			Coaching	Verbal	1st Written	2nd Written	3rd Written	Suspension	Termination
1	Class I	Creating or contributing to unsanitary/unsafe conditions due to poor housekeeping	x	x	x	x	x	x	
2	Class I	Failure to wear appropriate basic PPE	x	x	x	x	x	x	
3	Class I	Horseplay	x	x	x	x	x	x	
4	Class I	Speeding >10 km/h	x	x	x	x	x	x	
5	Class I	Failure to report the use of prescription drugs in safety non-sensitive positions	x	x	x	x	x	x	x
6	Class II	Speeding 10-19 km/h		x	x	x		x	x
7	Class II	Failure to Follow traffic and parking rules on project sites, AS&C property or public property		x	x	x	x	x	x
8	Class II	Threatening or intimidating other employees, client employees or authorities		x	x	x	x	x	x
9	Class II	Disregard for any safety rules		x	x	x	x	x	x
10	Class II	Smoking in unauthorized areas		x	x	x	x		x
11	Class II	Failure to comply with hazard assessment policy or procedures		x	x	x	x	x	x
12	Class III	Failure to report the use of prescription drugs in safety sensitive positions			x	x		x	x
13	Class III	Unauthorized use of any vehicles, equipment, tools, or machinery			x	x	x		x
14	Class III	Failure to comply with NSC standards - subject to severity and Mgmt.'s. discretion							
15	Class III	Failure to report any incident, injury or accident			x	x	x	x	x
16	Class IV	Violation of safety procedures that contribute to the potential for loss of life or limb			x				x
17	Class IV	Failure to wear seat belt			x				x
18	Class IV	Failure to wear appropriate specialized PPE			x	x			x
19	Class IV	Speeding 20< km/h			x	x			x
20	Class V	Driving any company vehicles with suspended license							x
21	Class V	Threatening or intimidating employees, client or authorities with weapons							x
22	Class V	Possession, use or sale of drugs, alcohol and related paraphernalia on company property, client property or while on duty							x
23	Class V	Theft or vandalism of company property, client or other employees							x
24	Class V	Violation of confined space entry procedures							x

Note: This Disciplinary Action Chart is a guide for Management and employees for disciplinary actions in the event of violations of rules and policies. Management will use and follow this guide to reprimand employees with the intention to improve employees' performance and to achieve compliance. However, Management reserves the right to evaluate each case on an individual basis and to apply higher type of disciplinary action, if deemed necessary. For more information please refer to section 5. Company Rules and Standards of the safety manual.

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### 5.3 ENVIRONMENTAL PROTECTION POLICY

Allen Services & Contracting Ltd. takes its environmental responsibilities seriously and is committed to following sound environmental management practices and executing our business activities so that the environment is not adversely affected.


It is the policy of Allen Services & Contracting Ltd. to thus ensure that all reasonable measures are taken to identify and control conditions that may cause adverse environment impact and to respond immediately and effectively to any incidents that may occur so that worker and public safety is maintained, and property and environmental damage minimized.

Proactive planning with respect to the potential impact of construction activities on the environment is a critical component of effective environmental protection. Accordingly, all Allen Services & Contracting Ltd. construction sites and facilities are required to develop and have in place an Environmental Plan prior to commencement of activities.

Where environment controls are found to have been compromised, remediation activities will be undertaken immediately.

Brian McCarthy, General Manager	Date

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## 5.4 SEAT BELT POLICY

We value the lives and safety of our employees. Our company has adopted the following policy concerning employee seat belt usage.

It is the policy of our company, and a condition of employment, that all employees and subcontractors who operate, or are passenger in any Allen Services & Contracting Ltd. owned, rented or leased vehicles of any kind, mobile equipment or recreational vehicles, must wear a seat belt at all times.

Employees are required to report any malfunction, or missing of, seat/shoulder belts and to have this equipment repaired or replaced as soon as possible after its discovery. This policy applies during off and on duty times. We urge all employees to wear their seat belts in their private vehicles while off duty.

### VIOLATION OF THE SEAT BELT POLICY

Not wearing a seat belt while driving, or while being a passenger in a commercial vehicle owned, any mobile equipment, rented or leased by Allen Services & Contracting Ltd. will result in disciplinary action as per Allen Services & Contracting Ltd.'s Progressive Disciplinary Policy and Chart violation #17, Class IV. Failure to wear a seat belt as described above will result in disciplinary action as follows:


**First violation: Written Warning**

**Second violation: Termination**

Brian McCarthy, General Manager	Date

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## 5.5 SUBSTANCE ABUSE POLICY

### SUBSTANCE ABUSE POLICY

#### PURPOSE

Allen Services & Contracting Ltd. is committed to providing its workers with a safe workplace and an atmosphere, which allows them to protect workers, inventory and other assets placed in their care. We expect our workers to be in suitable mental and physical condition while at work, allowing them to perform their job effectively and safely. We are committed to a ZERO Tolerance Policy with respect to inappropriate use of drugs and alcohol in the workplace. This policy applies to all Allen Services & Contracting Ltd. employees, subcontractors and visitors.


Whenever use or abuse of any mood-altering substance (such as alcohol or drugs) interferes with a safe workplace, appropriate action must be taken. Allen Services & Contracting Ltd. has no desire to intrude into its employees' personal lives. However, both on-the-job and off-the-job involvement with any mood-altering substances can have an impact on our workplace and on Allen Services & Contracting Ltd.'s ability to achieve its objectives of safety and security. Therefore, employees, subcontractors and visitors are expected to report to the workplace with no mood-altering substances in their body. While employees make their own life style choices, Allen Services & Contracting Ltd. cannot accept the risk in the workplace that substance use or abuse may create.

The possession, distribution or use of mood altering substances at the workplace, or coming to work under the influence of such substances is a violation of our rules and will be subject to disciplinary action, including a possible dismissal. Workers undergoing prescribed medical treatment with a controlled substance that may affect the safe performance of their duties are required to report this treatment to their supervisor or to management.

Allen Services & Contracting Ltd. recognizes that alcoholism/drug abuse is a form of illness that is treatable in nature. Allen Services & Contracting Ltd. shall not discriminate against workers based on the nature of their illness. No worker shall have their job security threatened by seeking assistance for a substance abuse problem. The same consideration for referral and treatment that is afforded to other workers having non-drug/alcohol related illnesses shall extend to them.

Brian McCarthy, General Manager	Date

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### 5.5.1 SUBSTANCE ABUSE PROGRAM

Allen Services & Contracting Ltd. is committed to the health and safety of its employees, customers, contractors, suppliers, environment, property, and the public. It is the intent of Allen Services & Contracting Ltd. to maintain a safe and efficient working environment, while ensuring that individuals are treated fairly and with respect.

The use of illicit drugs and the inappropriate use of alcohol and medications can adversely affect job performance, productivity, the work environment, and the well-being of employees. It can also place the integrity and safety of our customers' property and operations at risk, impacting the individual, co-workers, customers, contractors, suppliers, and the public.

This document is intended to outline the minimum expectations regarding alcohol and drug use and possession, which have been set out for all of our staff and subcontractors. Allen Services & Contracting Ltd. has a zero-tolerance policy for alcohol and illicit drugs.

#### Responsibilities

Allen Services & Contracting Ltd. employees and subcontractors are expected to:

- Ensure that their representatives remain free from any adverse performance effects of alcohol or other drugs by enforcing these requirements for our staff, subcontractors, and contract workers, when working on Allen Services & Contracting Ltd. premises or work sites.
- Report fit for duty, and remain fit through their work day or shift,
- Cooperate with an investigation into a policy violation including any testing requirements, and
- Conduct themselves in an appropriate manner.

If unexpected circumstances, such as an unplanned call in to work arises, where a staff member or subcontractor is requested to perform services while they are under the influence of alcohol or medications, which could impact safe operations, it is the responsibility of that individual to inform an Allen Services & Contracting Ltd. representative that he or she cannot accept that assignment.


#### Expectations

##### Illicit Drugs

The following are prohibited while on Allen Services & Contracting Ltd. premises and worksites:

- The use, possession, distribution, offering, or sale of illicit drugs or illicit drug paraphernalia;
- Reporting for or being on duty under the influence of illicit drugs or alcohol; and

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- Presence in the body of illicit drugs as determined through a testing program.

### Alcohol

The use, possession, distribution, offering, or sale of beverage alcohol is prohibited when on Allen Services & Contracting Ltd. premises and worksites. In addition, the following are prohibited while on Allen Services & Contracting Ltd. facilities and worksites:

- The consumption of any product containing alcohol (including beverage alcohol) when on duty including during meals or other breaks.
- Consumption of alcohol within the first eight hours after an incident until testing or advised that a test is not required.
- Must not report for duty under the influence of alcohol from any source.

### Medication


Allen Services & Contracting Ltd. employees and subcontractors are expected to responsibly use prescribed and over-the-counter medications. They should investigate (through their doctor or pharmacist) whether a medication can affect safe operation, and take appropriate steps to minimize associated risks, which would include notifying their company or a Allen Services & Contracting Ltd. representative of any need for modified work under the circumstances. The following are prohibited while on Allen Services & Contracting Ltd. facilities and worksites:

- The possession of prescribed medications without legally obtained prescription, and distribution, offering, or sale of prescription medications (trafficking); and
- The intentional misuse of medications (e.g. using medications not as it has been prescribed, using someone else's prescription, combining medication and alcohol use against direction.)

### Possession of Alcohol or Drugs

Allen Services & Contracting Ltd. reserves the right to conduct investigations, including unannounced searches, when there are reasonable grounds to believe that alcohol and illicit drugs are present on premises owned, contracted, or otherwise controlled by Allen Services & Contracting Ltd. Any employee, who refuses to submit to a search requested by an Allen Services & Contracting Ltd. representative in accordance with this document, may be removed from the Allen Services & Contracting Ltd. premises and work sites, and denied future access, depending on the circumstances.

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### Alcohol and Drug Testing

Allen Services & Contracting Ltd. reserves the right to require a drug test:

- 1) Pre-Work /Pre-Access:
  - Undergo alcohol and drug test if requested by Allen Services & Contracting Ltd.
  - Provide confirmation of the drug test if requested to do so.
  - Failure to pass the tests or refusal to participate means the individual will not be able to work, and/or access the worksite. Further actions may be taken.
  
- 2) Post Incident
  - As part of an investigation into significant work-related incident, review the requirements for a post incident alcohol and drug test in accordance with the guidelines presented.
  
- 3) Unfit for Duty/Reasonable Cause
  - As part of an Unfit for duty investigation and whenever the company has reasonable cause to believe that the actions, appearance, or conduct of an individual while on duty are indicative of the use of drugs and/or alcohol, require a reasonable cause alcohol and drug test.
  
  - Note: Allen Services & Contracting Ltd. will send employees or contractors for an alcohol and drug test if there is any suspicion of substance abuse or a bad judgment call that results in suspicion of substance abuse. The employee or worker in question must be taken to a testing facility, and shall under no circumstances drive him or herself to any location.


A Manager or Supervisor will arrange an appointment for the testing. Testing to our staff is at no cost, the cost for subcontractors testing will be deducted from their purchase orders.

Allen Services & Contracting Ltd. will follow the clients drug and alcohol policy, if noted in the tender documents, as well, Allen Services & Contracting Ltd. will assure that all Allen Services & Contracting Ltd. staff, subcontractors, and contract staff will also follow the client drug and alcohol policy.

### Violations of Expectations

If there is any reason to believe any Allen Services & Contracting Ltd. employee or subcontractor is on duty in an unfit condition, or otherwise in contravention of the basic intent and provisions of these requirements, an investigation will take place.


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In the case of an Allen Services & Contracting Ltd. employee, subcontractor, or contract worker who appears unfit on the job and is involved in a significant incident:

- Allen Services & Contracting Ltd. representative is expected to disengage the worker from the work, and remove them from the worksite or office.
- A person of sound mind and body must pick-up the employee and drive them home or to a testing facility as requested by Allen Services & Contracting Ltd. or the client.
- If Allen Services & Contracting Ltd. confirms that a breach of these requirements has occurred they are required to take the appropriate steps to prevent further risk to people, property, and the environment of Allen Services & Contracting Ltd. business
- In the case of a confirmed violation, the individual will be removed from Allen Services & Contracting Ltd. work and Allen Services & Contracting Ltd. will prevent that individual from carrying out any further work for an allotted time; depending on the severity of the situation.

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## 5.6.0 WASTE MANAGEMENT POLICY

### Purpose

The management of Allen Services & Contracting Ltd. believes that the proper safeguard of our environment is of utmost importance. While doing our work, we shall consider the appropriate protection of humans, animals, plant life, air, water, and soil.


We expect all employees and subcontractors to do their best to prevent harm to the environment or humans through improper waste disposal resulting from Allen Services & Contracting Ltd.'s operations. Our goal on the job can be met without risking harm to the environment or to humans, i.e. while working in a hospital, through proper waste disposal and procedures.

Allen Services & Contracting Ltd. shall use, store, and dispose of all used products in such a manner that will provide appropriate protection to the environment and humans and accordingly to the SDS of the product. All employees and subcontractors will review SDS to ensure the proper disposal of the products used on the jobs.

Management will develop and enforce good environmental standards in accordance with relevant legislation. Workers will be kept informed on how to do their jobs in such a manner as to minimize harm to the environment and waste of materials. Where possible, we shall recycle and promote the use of recycled products.

Brian McCarthy, General Manager	Date

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## 5.7.0 VIOLENCE & HARASSMENT POLICY

### Purpose

The purpose of this policy is to ensure that employees and subcontractors are aware of the assistance available to them and the resources they may take if they are subjected to, or become aware of situations involving violence or harassment in the workplace.

This policy applies to all Allen Services & Contracting Ltd. employees and subcontractors. The guidelines outlined in this policy apply to all activities that occur while on company or client premises or while engaging in company business activities, or social events.


Allen Services & Contracting Ltd. is committed to providing and promotes a work environment free of violence and harassment. Any act of violence or harassment committed by or against any worker or member of the public is unacceptable conduct and will not be tolerated.

Every worker must work in compliance with this policy and the supporting program. All workers are encouraged to raise any concerns about workplace violence and to report any violent incidents or threats.

Management pledges to investigate and deal with all incidents and complaints of workplace violence in a fair and timely manner, respecting the privacy of all concerned as much as possible. Management will instruct employees on how to recognize violence in the workplace as well as familiarize them with the policy, procedure and reporting for incidences of harassment or violence.

Brian McCarthy, General Manager	Date

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### 5.7.1 Violence and Harassment Program

#### Definitions

Violence means the use or threat of physical force to cause injury, and includes any threatening statement or behavior, which gives an employee reasonable cause to believe that they are at risk of injury. It includes actions (e.g. shaking of fists, throwing of objects, sexual assault), any expression of an intent to inflict harm (e.g. written or verbal threats), and physical attacks (e.g. hitting, shoving, pushing, kicking).

Harassment, as defined by the *Canadian Human Rights Commission*, means any behavior that demeans, humiliates or embarrasses a person, and behavior that a reasonable person knows would be unwelcome. It includes actions (e.g. touching, pushing), comments (e.g. jokes, name-calling), or displays (e.g. posters, cartoons). The *Canadian Human Rights Act* prohibits harassment related to race, national or ethnic origin, color, religion, age, sex, marital status, family status, disability, pardoned conviction, or sexual orientation.

#### Responsibilities

Allen Services & Contracting Ltd. management will:


- provide adequate direction and instruction to employees in the safe performance of their duties;
- provide training to minimize the risk of violence and harassment;
- establish procedures and work environment arrangements, in consultation with foremen, which will minimize or effectively control the risk of violence and harassment;
- ensure that corrective actions are taken in response to incidents of violence and harassment.

**All supervisors** will ensure their employees are properly trained to perform their work without undue risk by:

- immediately notifying other departments and/or individuals of an abusive or threatening person who may also present an immediate threat to them;
- advising employees who have been injured in an incident of workplace violence to contact the HSE Coordinator and seek appropriate medical attention;
- ensuring the Workplace Violence & Harassment Incident Report Form is completed and

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sent to appropriate representatives, following an incident of violence;

- ensuring corrective actions are taken in response to incidents of violence and harassment.


**All employees** must comply with the *WCB/WSCC Regulations* by:

- following departmental procedures and actively participating in making the company work environment safe and violence free;
- reporting any incidences of violence or threatening behavior to their supervisor or manager;
- completing a Workplace Violence & Harassment Incident Report Form and forwarding a copy of the form to their supervisor;
- taking precautionary measures for their protection such as:
  - ✓ avoiding contact with any individual who appears threatening;
  - ✓ asking a co-worker to check on you if working alone or after hours.

The **HSE Coordinator** will:

- establish procedures for reporting, investigating and documenting incidents of violence in accordance with the *WCB/WSCC Regulations*;
- conduct annual reviews and risk assessments;
- assist in incident investigations with the supervisor
- co-ordinate investigation with police if applicable;
- assist in conducting follow-up to ensure corrective action is taken.

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## 5.8.0 USING HAND HELD DEVICES WHILE DRIVING


Allen Services & Contracting Ltd. is committed to a strong Health & Safety Management System that protects its staff, property, and the general public from motor vehicle and equipment accidents and incidents that may occur during Allen Services & Contracting Ltd.'s conduct of work.

Allen Services & Contracting Ltd. enforces a zero-tolerance policy in regards to the use of hand held devices while driving a vehicle or operating equipment. The use of any hand held devices while driving or operating equipment is strictly prohibited. Hand held devices distract a driver/operator and can result in an accident that may cause injury or even death to the driver/operator, general public, other workers, other drivers, and damage of property.

If a hand held device must be used, then the operator of the vehicle/equipment must park the vehicle/equipment in a safe location before using the hand held device.

Brian McCarthy, General Manager	Date

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## 6.1 PERSONAL PROTECTIVE EQUIPMENT

### Foot Protection

Safety footwear is designed to protect against a wide variety of injuries. Impact, compression, and puncture are the most common types of foot injury.

Safety footwear has impact resistant toes and heat resistant soles that protect feet against hot work surfaces common in roofing, paving and hot metal industries. The metal or Kevlar insoles in safety footwear protect against puncture wounds.



Safety footwear may also be designed to be electrically conductive to prevent the buildup of static electricity in areas with the potential for explosive atmospheres or nonconductive to protect workers from workplace electrical hazards.

**Note:** Safety footwear must comply with the CSA Standard CSA-Z195-09.


Safety footwear is identified with various coloured labels, to indicate the type of protection they provide. Your choice of protective footwear **should always over-protect, not under-protect.**

### CSA Shoe Standard

**Note:** A **Green triangle patch** indicates the highest level of protection. In construction, it is recommended that only the green triangle grade of footwear with white letters “CSA” on it with a white rectangle label with orange Greek letter omega ( $\Omega$ ) on it be used. CSA  $\Omega$  footwear provide good quality ankle support. See labels in Table below:

	Green triangle indicates sole puncture protection with a Grade 1 protective toe to withstand impacts up to 125 joules. Comparable to a 10 kg weight dropped 1.3 metres. The label will appear on the outer side or on the tongue of the right shoe.
	White rectangle with orange Greek letter omega indicates soles that provide resistance to electrical shock. The label will appear on the outer side or on the tongue of the right shoe.

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**Note:** All safety labels must be sewn on. Stickers are insufficient and not recognized as acceptable labelling.


Safety footwear should be inspected prior to use and replaced if any defects are found. When choosing footwear **DO**:

- Choose footwear according to job hazard and CSA Standards. .
- Choose a high cut boot to provide ankle support (minimum 6"). .
- Lace up footwear and tie laces securely; boots do not protect if they fall off or are a tripping hazard
- Use a protective dressing to help the footwear last longer and provide greater water resistance
- (wet boots conduct current) .

When choosing footwear **DO NOT**:

- Wear defective safety footwear (i.e. exposed steel toe caps)
- Under-protect your feet or modify safety footwear.

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## Head Protection

Protective head-wear is designed to protect the head from impact of falling objects, bumps, splashes from chemicals or harmful substances. Head-wear also protects from the contact of energized objects and equipment.

Head-wear must meet the requirements for Type II head protection through:


- CSA Standard CAN/CSA-Z94.1-05 - Industrial Protective Head-wear; or .
- American National Standards Institute (ANSI) Standard Z89.1-2009- Industrial Head Protection .

Head-wear must be of the appropriate Class for the type of work being performed. CSA Standard.

**CSA Standard** . Protective head-wear for this Standard is divided into three Classes according to its intended use: .

- (a) **Class G** (General Use) — hard hats provide impact and penetration resistance along with limited voltage protection (up to 2200 volts). **RECOMMENDED** . Although this class of protective head-wear is manufactured from non-conducting materials, it must never be considered to be part of a protective system against electric shock. This protective head-wear provides limited protection against electric shock following accidental contact between the head-wear and exposed energized electrical sources. .
- (b) **Class E** (Electrical Trades) — hard hats provide the HIGHEST level of protection against electrical hazards, with high voltage shock and burn protection (up to 20,000 volts). They also provide protection from impact and penetration by flying/falling objects. **RECOMMENDED** . Although this class of protective head-wear is manufactured from high grade non-conducting material, it must never be used as a primary barrier in a protective system designed to prevent contact with live electrical apparatus. This head-wear provides improved protection against electric shock following accidental contact between the head-wear and exposed energized electrical sources. .
- (c) **Class C** (Conducting Head-wear) — this Class is intended to provide the user with protection against impact and penetration only. **NOT RECOMMENDED** . .

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**ANSI Standard Z89.1-2009** . Protective head-wear is divided into two types and three classes according to its intended use.

**ANSI TYPE 1/ CSA Type 1** — meets stringent vertical impact and penetration requirements.

**ANSI Type 11/CSA Type 2** — meets both vertical and lateral impact and penetrations requirements and have a foam liner of expanded polystyrene/

The three classes are as follows:

(a) **Class G** (General) — this Class is intended to reduce the danger of contact exposure to low voltage conductors and must pass the 2200 V dielectric-strength test specified for Class G hard hats.

(b) **Class E** (Electrical) — this Class is intended to reduce the danger of contact exposure to high voltage conductors and must pass the 20,000 V dielectric-strength test specified for Class E hard hats.

(c) **Class C** (Conductive – no electrical protection) — hard hats provide lightweight comfort and impact protection but offer NO protection from electrical hazards. **NOT RECOMMENDED.**

**Recommendation:** CSA class E and ANSI class E Type II hard hats will provide you with the maximum protection, therefore these are recommended for any types of activities.


### Inspection and Maintenance

Protective Head-wear consists of a shell and the suspension. These work together as a system and both need regular inspection and maintenance.

Shells exposed to heat, sunlight and chemicals can become stiff or brittle. A visible pattern of tiny cracks may develop. Over time, weathered hats can become dull in colour or have a chalky appearance.

Proper care is required for Head-wear 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.

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**Note:** Hard hats should be replaced within 3 to 7 years of manufacture. Damaged hats should be destroyed immediately to avoid their accidental use. A sticker only stating the approval of CSA is not enough; the class and type of the hard hat should also be engraved on the inside of the peak.

When choosing head-wear **DO**:

- Inspect head-wear before each use. .
- Inspect and replace a shell that shows signs of wear, scratches or gouges. Replace head-wear when any of the above signs of wear start to appear. .
- Replace head-wear that has been struck, even if no damage is visible. .
- Remove and destroy any head-wear if its protective abilities are in doubt. .
- Replace headgear and components according to manufacturer's instructions. .
- Consult your supplier for information on headgear. .


When choosing head-wear **DO NOT**:

- Dill, remove peaks, alter the shell or suspension in any way.
- Use solvents or paints on the shells.

**Note:** Paint solvents can make plastic head-wear brittle and more susceptible to cracks. Paint can also hide cracks that may develop. Instead, use reflective marking tape to make numbers or symbols for identification purposes. Some head-wear may be painted, but check with the manufacturer for approval.

- Put chin straps over the brims or peak of the head-wear .
- Use any liner that contains metal or electrically conductive material .
- Carry anything in the hard hat while wearing the hard hat. .
- Transport head-wear in rear windows of vehicles. Heat and UV light can damage the material,
- making it brittle and less protective. .
- Wear baseball style hats under the head-wear as it interferes with the suspension. .

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### Eye and Face Protection

Eye and face injuries may be prevented by using the appropriate protective eyewear and face-wear for the job. Appropriate protective wear must protect against the specific hazard presented, provide a comfortable and secure fit.

Note: Eye and face-wear must comply with CAN/CSA Standard Z94.3-07 or ANSI z87

"Industrial Eye and Face Protectors.

This PPE 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: .

- monoframe goggles and
- safety glasses with side shields.

**Face Protection** includes: .


- metal mesh face shields for radiant heat or hot and humid conditions, .
- chemical and impact resistant (plastic) face shields, .
- welders' shields or helmets with specified cover, and .
- filter plates and lenses. .

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

Basic eye protection and face shields alone often are not enough to fully protect the eyes from work hazards and as appropriate should be worn together. When eye and face protection are required, your Safety Manager, Material Safety Data Sheets (MSDS), or your supplier will help in your selection.

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### CSA Standards

The CSA Standards classify eye and face protection into seven classes as follow:

**Class 1** - Spectacles:

**Class 1A** spectacles for impact protection with side protection.

**Class 1B** spectacles for impact and radiation protection with side protection

**Class 2** – Goggles:.

**Class 2A** - goggles for impact protection with direct ventilation

**Class 2B** - goggles for impact, dust and splash protection; non-ventilated and indirectly ventilated

**Class 2C** - goggles are Class 2A or 2B goggles with radiation protection

These three types of goggles have eye cup and cover providing protection from impact, dust and splashes to the eyes and the immediate facial area. Some goggles will fit over corrective lenses.

**Class 3** - Welding Helmets. This Class includes a variety of configurations that provides radiation and impact

protection. **There are two types of welding helmets:**

- stationary plate, and .
- flip-up plate helmet..

Welders, welders' helpers, and anyone else working in the area should wear the . appropriate eye protection where there is a chance they could be exposed to a flash.

**Class 4** - Welding Hand Shields. User is continually lifting and lowering the visor. **NOT RECOMMENDED.**

**Class 5** - Non-rigid helmets (hoods) .


**Class 5A** - non-rigid helmets have an impact-resistant window. .

**Class 5B** - non-rigid helmets are intended for dust, splash and abrasive materials protection

**Class 5C** - non-rigid helmets have radiation protection.

**Class 5D** - non-rigid helmets are intended for high-heat applications

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**Class 6 – Face-shields.**

Face-shields are just what the name implies; a device that includes a transparent window or visor to shield the face and eyes from impact, splash, heat or glare.

**Class 6A** – face-shields offer impact and splash protection

**Class 6B** – face-shields offer radiation protection.

**Class 6C** – face-shields are intended for high-heat applications

**Class 7 - Respirator Face-pieces.**

**Class 7A** - respirator face pieces offer impact and splash protection

**Class 7B** - respirator face pieces are Class 7A respirator face pieces with radiation protection

**Class 7C** - respirator face pieces have loose-fitting hoods or helmets.

**Class 7D** - respirator face pieces are Class 7C respirator face pieces with radiation protection.

When choosing eye and face protection **DO**:


- 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) .

When choosing eye and face protection **DO NOT**:

- modify eye/face protection.
- use eye/face protection which does not have a CSA certification

**Note:** CSA stamp for safety glasses is usually on the frame inside the temple near the hinges of the glasses.

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## Hand Protection

It is essential that employees use gloves specifically designed for the hazards and tasks found in their workplace because gloves designed for one function may not protect against a different function even though they may appear to be an appropriate protective device.

Gloves fall into four groups:

- leather , canvas or metal mesh; .
- fabric and coated fabric; .
- chemical-and liquid resistant; and .
- insulating rubber

The range of gloves available continues to grow however, and work requiring high manual dexterity and touch sensitivity can be appropriately accommodated. .

## Gloves as a Secondary Defence

While proper gloves for the task, in good condition, prevent many injuries, gloves should always be considered a “secondary” line of defence. “Primary” levels of defence are much more effective. Examples Include: .


- properly planning each job activity; .
- checking material/equipment for rough or sharp edges before handling; .
- making sure moving machinery is guarded; .
- maintaining an effective barrier between hands and hazards by using tools or other aids; and/or good housekeeping on workbenches..

One of the best and most effective means of primary hand protection is **good hand position**. Do not position your hands where they can be:

- cut or punctured by sharp objects; .
- burned by hot objects or chemicals; .
- pinched between objects; or .
- struck by objects (stored energy) .

In order that you properly position your hands, first recognize the hazard, then develop a work

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practice to keep hands out of “The Danger Zone” . The **best safety device** for your hands is your mind. By being alert and aware you can avoid poor hand positioning and keep them out of “The Danger Zone” .

Additional PPE for hands include:

- finger guards, .
- thimbles and cots, .
- handpads, .
- mitts, and .
- barrier creams.

Always choose the PPE that will best protect against the job hazard.


When choosing hand protection **DO**: .

- Choose hand protection that will effectively protect hands from the job hazard; .
- Review Data Safety Sheets (SDS) and manufacturers Information to determine which hand protection is recommended; .
- Ensure that the hand protection fits properly; .
- Inspect and test all PPE for defects before using .
- Rinse chemical protective gloves with water before removing; and
- Refer to and follow manufacturers’ instructions on the maintenance and care of hand protection.

When choosing hand protection **DO NOT**:

- Use ill-fitting gloves when working with machinery with moving parts.
- Wear hand PPE with metal parts or components near electrical equipment
- Use gloves or hand protection that is worn out or defective

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### High-Visibility Safety Apparel (HVA)

High-visibility safety apparel is clothing (e.g. vests or coveralls) that workers can wear to improve how well other people "see" them (their visibility). Most often, high-visibility clothing is worn to alert drivers and other vehicle operators of a worker's presence, especially in low light and dark conditions.

Requirements for high-visibility safety clothing are found in the Canadian Standards Association (CSA) Standard Z96-09 "High-Visibility Safety Apparel" and in the related guideline "CSA Z96.1, Guideline on selection, use, and care of high-visibility safety apparel."

### CSA Summary

The CSA Z96-09 standard has three classes of high visibility clothing and three levels of retro reflective trim to improve conspicuity under all light conditions.

**Class #1** - Apparel consists of a basic harness or stripes over the shoulders and encircling the waist. The center portion of the front torso between the two vertical bands is optional.

**Class #2** - Class 2 provides wearer with more visibility than Class 1. Apparel has full coverage of the upper torso (front, back, sides and over the shoulders). Stripes/bands are composed of retro-reflective or combined performance materials.


**Class #3** - Class 3 provides the greatest visibility for the wearer under poor light conditions and at great distances. Apparel meets the same requirements as Class 2 with the addition of bands around both arms and legs. These bands are made up of combined performance stripes/bands or a combination of retro reflective and background material. Background material can cover the whole garment or a portion of the garment.

### High Visibility Garment

Workers on construction projects who may be endangered by vehicular traffic are required to wear a garment that is fluorescent blaze or international orange with stripes on the front and the back that conforms to the design requirements as per your provincial regulations.

The stripes shall be retro-reflective and fluorescent. In addition to the garment requirements, a worker who may be endangered by vehicular traffic during the night time is required to wear retro-reflective silver stripes.

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### Vest Front

- Two yellow stripes that are 5 centimetres wide; .
- The yellow area must total at least 500 square centimetres; .
- The stripes shall be arranged vertically and centered and shall be approximately 225 millimetres apart, measured from the centre of each stripe; .
- The stripes shall be retro-reflective and fluorescent.

### Vest Back .

- Two yellow stripes that are 5 centimetres wide; .
- The yellow area must total at least 570 square centimetres; .
- The stripes shall be arranged in a X pattern; .
- The stripes shall be retro-reflective and fluorescent. .

### Night time Requirements

A worker who may be endangered by vehicular traffic during night time hours shall wear retro-reflective silver stripes encircling each arm and leg, or equivalent side visibility enhancing stripes with a minimum area of 50 square centimetres per side.


When choosing a high visibility garment **DO**:

- Wear full body coverage, 360 degrees around body to provide optimal visibility. .
- Consider factors such as flame resistant, thermal performance, durability, launderability, comfort, flexibility and sizing when selecting a garment for the job .
- Use engineering and administrative controls of traffic and hazards around the workplace to reduce risk to pedestrians. .
- Keep your HVA clean and well-maintained. Contaminated or dirty reflective materials provide lower visibility. .
- Replace garments that show signs of wear and tear, soiling, or contamination as it will no longer provide optimal or acceptable levels of visibility. .

When choosing a high visibility garment **DO NOT**:

- Forget to consider the bulk of clothing that might be worn underneath the garments, and


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how the garment should be worn (i.e., done up properly around the body with no loose or dangling components). The garments should sit correctly on your body and stay in place during your work.

- Use garments that are no longer able to provide minimum acceptable levels of visibility, due to wear and tear, soiling, contamination, or age, present a false sense of safety and should be replaced.

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### Limb and Body Protection

Due to nature of the construction workplace and the number of different hazards, it is not possible to cover specialized limb and body protection in detail. These types of hazards are known as "job exposures". For example job exposures can be: exposure to fire, temperature extremes, body impacts, corrosives, molten metals, cuts from sharp or abrasive materials. PPE in this category would include:

- Leg, arm, chin and belly guards, .
- Specialty hand pads and grips, .
- Leather aprons and leggings, .
- Full body suits, .
- Flame and chemical resistance clothing, and .
- Various types of plastic boot covers, and overshoes. .

### Respiratory Protection


For information on respiratory protection refer to section A4 of this safety manual.

### Fall Protection

For information on fall protection refer to section A2 of this safety manual.

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## 7.1.0 PREVENTATIVE MAINTENANCE POLICY

### Purpose

Allen Services & Contracting Ltd. is committed to a health and safety program that protects our employees, subcontractors, visitors, property, outside workers who enter onto our property, the environment, and the general public.

Allen Services & Contracting Ltd. acts with due diligence in addressing priorities pertaining to tools, equipment and vehicle maintenance. All employees are equally responsible for ensuring required maintenance activities are conducted in a timely manner and accordingly with manufacturer's specifications on any equipment or vehicles they operate. As part of planning for ongoing maintenance activities, problems that arise from the unplanned breakdowns that occur will be addressed immediately.


All equipment, tools, and vehicles shall be properly maintained as to reduce the risk of injuries to employees or others, or damage to property or environment. A list of all tools equipment and vehicles to be maintained is established and will be kept current as new items are added to the inventory. Management shall ensure that all preventative maintenance is carried out by qualified personnel accordingly with established schedules, and ensure that records are maintained. All employees shall regularly check all equipment, tools, and vehicles that they are working with, and shall take out of service any equipment, tools, or vehicles that pose a hazard due to a need for repair.

Powered mobile equipment must be inspected by a competent worker prior to use and the inspection must be in accordance with the manufacturer's specifications. Maintenance shall be completed by qualified and licensed personnel only. Copies of inspections and copies of all maintenance records will be kept at the worksite and be readily available to any worker who operates powered mobile equipment or vehicles.

Our goal is a healthy, injury free and productive work place for all employees. By working together in all parts of this program, we can achieve this goal.

Brian McCarthy, General Manager	Date

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### 7.1.1 Preventative Maintenance Program

Most of Allen Services & Contracting Ltd.'s work requires tools, equipment and vehicles to complete the jobs. Aside from properly functioning tools, equipment and vehicles importance to the efficient completion of our tasks, defective tools, equipment and vehicles can be dangerous to our safety and health.

Alberta and Northwest Territories Occupational Health & Safety Regulations require that "An employer shall ensure that all equipment used on a work site is maintained in a condition that will not compromise the health and safety of workers."

Allen Services & Contracting Ltd. has established a preventative maintenance program that includes scheduled maintenance. The scheduled maintenance will follow the guidelines set out in the following Maintenance Schedule, section 7.2. of this program. All employees are responsible for ensuring that they are properly trained prior to operating any equipment, tools or vehicles, and for reporting maintenance concerns via submission of an Inspection Form detailing the defects. A piece of equipment should be tagged out immediately following the recognition of a problem and a maintenance request form submitted to the Shop Foreman.


Once the required maintenance has been completed, the tag can be removed and the equipment returned to service. **Removing a tag before maintenance completion will be considered a serious violation and a written warning will be issued.**

#### Maintenance Standards

The following is an example of equipment that requires monitoring, periodic checks and maintenance:

- Hand tools
- Ladders
- Personal Protective Equipment
- Power cords
- Ropes
- Forklifts
- Dozers
- Grinders
- H2S monitors
- Pick-up trucks
- Tractors
- Trailers
- Table Saws

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- Welders
- Hand-held power circular saw
- Hand drills

All equipment, vehicles and tools will be maintained accordingly with manufacturer's specification by qualified personnel. Leased or rented equipment will be maintained by the owner of the equipment.

Subcontractors are responsible to maintain their own tools, vehicles and equipment, however Allen Services & Contracting Ltd. reserves the right to request maintenance documents for specific tools, vehicles or equipment used by the subcontractor to ensure they are in good working condition and have been maintained according to manufacturer's specifications.

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### 8.1.0 TRAINING, ORIENTATION & COMMUNICATION POLICY

The purpose of training, orientation and proper communication is to provide employees with the necessary skills, knowledge and attitudes to meet our organization's needs in relation to its objectives. By investing in our employees through their training, we ensure we harness their full potential and focus their energies on the needs of the organization while fulfilling their need for personal development and job satisfaction.

Allen Services & Contracting Ltd. employees will receive training as it pertains to their jobs/tasks and positions. This training is outlined in our Training, Orientation & Communication Program of this safety manual. All employees are expected to fulfil their obligations of training and orientation.

Employee orientation is the process of introducing employees to their new jobs, health and safety rules, policies, procedures and work environments. Orientation provides an opportunity for new employees to become acclimated to our organization, their tasks/jobs, health and safety expectations. All employees of Allen Services & Contracting Ltd. must attend a new hire safety orientation before beginning any work. Subcontractors who work with us on project sites, will receive a site-specific worker orientation.


Tact, courtesy, and consideration should guide each employee in relationships with fellow employees, our clients and the public. It is mandatory that each employee of Allen Services & Contracting Ltd. show maximum respect to every other person in the organization and other contacts in a business context. The purpose of good communication should be to help others and to make our business run as effectively as possible, thereby gaining the respect of our colleagues and customers.

Education, training and good communication are vital components in incident prevention, legislation and Allen Services & Contracting Ltd.'s safety management system. We will do all that is reasonable practicable to ensure all employees are competent for the tasks/jobs they are assigned to.

All training and orientation records will be kept on file for future references in the employees' files.

Brian McCarthy, General Manager	Date

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### 8.1.1 Orientation

#### Introduction .

At Allen Services & Contracting Ltd. appropriate training, orientation and good communication is a critical job requirement.

Research shows that workers new to the industry and experienced workers new to a task or job are significantly more likely to be injured while performing their new tasks/jobs. Further, lack of orientation and training are often found to be critical contributing factors in the chain of events leading to an incident.

#### New Hire Safety Orientation

All employees of Allen Services & Contracting Ltd. are required to attend a new hire safety orientation on or before their first day of work which includes, but is not limited to:


- Power Point Presentation – New Employee Health & Safety Orientation
- Review of safety manual
- PPE requirements
- Training requirements
- Emergency Response
- Incident Reporting and Investigations including Return to Work Program
- Safety meetings, toolbox talks and other communication
- Review of Allen Services & Contracting Ltd. policies and company safety rules
- Review of applicable Safe Work Practices and Safe Job Procedures
- Orientation Quiz

#### Project/Site-Specific Worker Orientation

All employees and subcontractors new to a job/project sites are required to attend a Site-Specific Worker Orientation. In the event that Allen Services & Contracting Ltd. is the Prime Contractor on site, the Site Supervisor will provide the Site-Specific Worker Orientation to all employees and subcontractors on site. The Site-Specific Worker Orientation will include, but will not be limited to:

- Review of project scope
- Review of site safety rules
- Review of PPE requirements

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Review of Emergency Response and Procedures  
Review of Hazard Assessment requirements  
Review of Incident Reporting Procedures

### 8.1.2 Training

All Allen Services & Contracting Ltd. employees are expected to be suitably trained when performing their jobs/tasks.


Allen Services & Contracting Ltd. will provide the following training to employees as it pertains to their jobs/tasks and positions:

- WHMIS
- First Aid
- CSTS
- PST
- H2S
- Hours of Service
- TDG
- Confines Space Entry/Monitor
- LSE/Safe Supervisor Training
- Mobile Equipment Competency Training and Test
- Ground Disturbance
- Environmental & Wildlife Awareness
- Bear Awareness
- Commercial Vehicles
- Fatigue Management
- Personal Protective Equipment Training
- Safe Driving Practices

Further training will be provided as per job/task requirement and identified needs.

Allen Services & Contracting Ltd. will utilize only approved 3<sup>rd</sup> party training providers to ensure high quality of training provided. Some training courses such as Hours of Service, will be provided through an online training provider such as SafetySync.

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## Safety Training Records and Matrix

All safety training records will be kept on file for future references. A training matrix will be kept and updated as training occurs. The matrix will be reviewed by the HSE Coordinator on a monthly basis to ensure all employees' training and training files are up-to-date.

### 8.1.3 Communication

#### Corporate Safety Meetings

Allen Services & Contracting Ltd. will hold quarterly corporate safety meetings to communicate selected safety topics to all employees. All employees, including management, are expected to attend corporate safety meetings and to actively participate in those meetings.

#### Project Safety Meetings

Project safety meetings will be held on site as per client requirement or as need arises.

#### Toolbox Talks – Shop

Toolbox talks in the shop will be held by the Shop Foremen on a weekly basis. The Shop Foremen will discuss with their workers jobs to be done, major hazards in the shop, completed inspections and deficiencies to be corrected. All shop employees are expected to participate in and to attend toolbox talks on a regular basis. Management is expected to attend and to participate in toolbox talks at least on a monthly basis.


#### Toolbox Talks – Project Sites

Toolbox talks on project sites will be held at a minimum on a weekly basis by the Supervisor, as per client requirements, or if need arises for more frequent toolbox talks. All workers on site are expected to attend and to participate in toolbox talks on sites.

#### Driver Communication

Whenever drivers are at an Allen Services facility or client site, they are expected to join toolbox talks and/or safety meetings provided by Allen Services & Contracting Ltd. In addition, drivers must complete with their respective Supervisor Journey Management Plans to discuss the job to be done, hazards, weather and road conditions and emergency preparedness while on the road. As drivers may most of the time be on the road doing their jobs, they are however, expected to attend a minimum of two corporate safety meetings per year. If this is not possible due to workload, drivers must review the corporate safety meeting presentations, meeting minutes, provide their feedback in writing and to sign the meeting attendance form.

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### 9.1.0 INSPECTION POLICY

Allen Services & Contracting Ltd. is committed to a health and safety program that protects our employees, subcontractors, visitors, clients, property, outside workers who enter onto our property, the environment, and the general public.

The purpose of this policy is to control losses of human and material resources by identifying and correcting unsafe conditions and acts.

Allen Services & Contracting Ltd. will maintain an Inspection Program involving both formal and informal inspections and on-going monitoring of corrective actions initiated to address identified deficiencies.

It is the responsibility of the HSE Coordinator, to ensure that formal inspections are conducted as described in our Inspections Program. Informal inspections are to be performed on a continuous basis by all employees in the course of their duties.. In all cases, deficiencies are to be identified, responsibility assigned, and a time line for corrective actions established.


Deficiencies observed during formal and informal inspections are to be reviewed and considered for discussion at the next safety meeting or toolbox talk. . .

Our goal is a healthy, injury free and productive work place for all employees. By working together in all parts of this program, we can achieve this goal.

Brian McCarthy, General Manager	Date

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### 9.1.1. Inspection Program

Formal inspections may be conducted individually; however, the recommended approach is a small inspection team with a maximum of three people. It is also recommended that the inspection team be comprised of at least one worker member (chosen on a rotational basis). The inspection team will tour:

- the entire work site;
- or. on larger projects, a designated portion of the site.


The respective inspection form must be completed during the inspection process. All deficiencies found are to be described and an individual assigned responsibility for corrective action. The corrective action must be carried out by the due date identified and sign off ensured.

Completed inspection forms are to be signed by Supervisors (Shop Foreman, if in shop) and a member of the management team, filed and retained for audit purposes.

### Inspection Frequencies

Item/Location	Formal Inspection	Informal Inspection
Project/Job Sites	Weekly	Every day
Shop	Monthly	Every day
Office	Monthly	Every day
PPE	Monthly	Every day
Mobile Equipment	Daily before use	Before each use
Fuel Tanks (yard)	Monthly	Every time before refueling
Powered Tools	Monthly	Before each use
Equipment (compressors, ladders, etc.)	Monthly	Before each use
Pick-Up Trucks	Weekly	Before each use
Commercial vehicles under NSC		Refer to section 14. of the safety manual

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## Informal Inspections

Informal inspections are to be performed on a continuous basis by all workers, supervisory, management, and safety personnel, during the course of their work.

Informal inspections are a way of demonstrating leadership by example, maintaining constant awareness and vigilance of to ensure safety conditions and behaviors are being maintained at all times and are promptly addressed if they are not.

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## 10.1.0 INCIDENT/ACCIDENT INVESTIGATION POLICY

Incident/accident investigations are an integral part of the Safety Management System. Incident/Accident investigations will aid Allen Services & Contracting Ltd. in the collection of information for incident statistics, identifying preventative measures, training needs and correcting problems with safe work practices, procedures or personal protective equipment. All incidents, accidents and near misses are to be reported immediately to a Supervisor or Manager on duty. Initial investigations should be conducted as soon as possible after the reported incident. If the incident/accident involves an injury to a worker or workers, the preservation of life, health and safety of the injured is of prior importance and the investigation can be conducted once the injured is/are stabilized and removed from the incident scene. All investigative reports must be forwarded to Senior Management for review.


The following types of incidents/accidents shall be fully investigated:

- Personal injury or illness requiring first aid or resulting in lost time or modified work
- Incidents that cause property or environmental damages or interrupt operations
- Incidents that could have resulted in injury or damage (near miss)
- Collisions and incidents involving vehicles, equipment and highway trucks

All employees shall report all incidents/accidents as soon as possible to their immediate Supervisor or Manager and assist in the investigation when required. The HSE Coordinator will ensure all required information is collected and will complete the incident investigations. Management will ensure the development and implementation of the investigation policy and procedures, and ensure appropriate personnel receive training as required. Management will also be responsible for reviewing all investigative reports, determining if the suggested corrective actions are appropriate and ensure that such action is implemented. Supervisors with Leadership for Safety Excellence, OH&S Supervisor Safety Training or Incident Investigation training may conduct non-serious incident investigations, determine causes, recommend corrective action and submit the report to their Manager and HSE Coordinator for review. All incident investigations must be reviewed and discussed by management, the investigator and the HSE Coordinator. The JH&SC may investigate incidents or review and discuss them, if required.

Brian McCarthy, General Manager	Date

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### 10.1.1 Incident Investigation & Reporting Program

#### Purpose

The purpose of the Incident/Accident Investigation & Reporting program is to implement effective procedures for reporting and investigating incidents/accidents in order to prevent re-occurrences and to comply with legislative reporting requirements in the province/territory of Alberta and Northwest Territories.

#### Definitions

Allen Services & Contracting Ltd. will follow OSHA's definitions for accidents and incidents.

#### Accident

An accident is an unplanned/undesired event that results in a personal injury or illness, or in damage to property, process or the environment. Occupational injuries that develop over a period of time will be categorized under accidents.

#### Incident

An incident is an unplanned/undesired event that has the potential to result in an injury, illness, or property damage.

#### Collision

An instance of one moving object striking violently against another object that is moving, stationary or against embankments, hills, etc.

#### Investigation

An incident/accident investigation is a well-planned analysis of an event that identifies the root causes and recommends corrective actions to prevent reoccurrence.

#### WSCC

Workers' Safety and Compensation Commission (NWT)

#### JH&SC

Joint Health & Safety Committee – A committee that can consist of management, workers, supervisors, client representatives and safety personnel.


#### NWT

Northwest Territories

#### AB

Alberta

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## WCB

Workers Compensation Board

## OH&S

Occupational Health & Safety

## CSO

Chief Safety Officer (Northwest Territories)

### Serious Injury (Critical Incident)

- Fracture of a major bone
- Amputation
- Loss of sight
- Internal hemorrhage
- Third degree burns
- Unconsciousness resulting from concussion, electrical contact, asphyxiation
- Poisoning
- Cuts requiring hospitalization for 2 days and longer
- Any injury resulting in paralysis
- Any other injury likely to endanger life or cause permanent disability

### Investigation and Reporting Responsibilities

#### Responsibilities under the [Alberta OH&S Act](#):


##### Serious injuries and accidents

**18(1)** If an injury or accident described in subsection (2) occurs at a work site, the prime contractor or, if there is no prime contractor, the contractor or employer responsible for that work site shall notify a Director of Inspection of the time, place and nature of the injury or accident as soon as possible.

(2) The injuries and accidents to be reported under subsection (1) are

- (a) an injury or accident that results in death,
- (b) an injury or accident that results in a worker's being admitted to a hospital for more than 2 days,
- (c) an unplanned or uncontrolled explosion, fire or flood that causes a serious injury or that has the potential of causing a serious injury,
- (d) the collapse or upset of a crane, derrick or hoist, or
- (e) the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure.

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(3) If an injury or accident referred to in subsection (2) occurs at a work site or if any other serious injury or any other accident that has the potential of causing serious injury to a person occurs at a work site, the prime contractor or, if there is no prime contractor, the contractor or employer responsible for that work site shall

- (a) carry out an investigation into the circumstances surrounding the serious injury or accident,
- (b) prepare a report outlining the circumstances of the serious injury or accident and the corrective action, if any, undertaken to prevent a recurrence of the serious injury or accident, and
- (c) ensure that a copy of the report is readily available for inspection by an officer.

(4) The prime contractor, contractor or employer who prepared the report referred to in subsection (3) shall retain the report for 2 years after the serious injury or accident.

If a serious injury or accident as described under section 18 occurs in the province of Alberta, management or HSE Coordinator will call OH&S AB Government under: **1-866-415-8690**

### **Responsibilities under the NWT OH&S Legislation and WSCC** Accidents Causing Serious Bodily Injury

In the NWT Occupational Health & Safety Regulations, an "accident causing serious bodily injury" means an accident at a work site that


- (a) causes or could reasonably be expected to cause the death of an individual, or
- (b) requires an individual to be admitted to a hospital as an in-patient for a period of 24 hours or more

**8. (1)** An employer shall, as soon as is reasonably possible, give notice to the Chief Safety Officer of an accident causing serious bodily injury.

(2) A notice given under subsection (1) must include

- a) the name of each injured or deceased individual;
- b) the name of the employer of each injured or deceased worker;
- c) the date, time and location of the accident;
- d) the circumstances of the accident
- e) the apparent injuries; and
- f) the name, telephone number and facsimile number of the employer or an individual designated by the employer to be contacted for additional information.

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(3) An employer shall provide a copy of the notice required by subsection (1), without names of the injured or deceased individuals, to the Committee or representative.

To report an accident under section 8, the Chief Safety Officer must be informed under **1-800-661-0792** as soon as reasonable practicable and the form “Bodily Injury - Notice to CSO” must be completed as soon as reasonable practicable.

### Dangerous Occurrences

9. (1) An employer shall, as soon as reasonably possible, give notice to the Chief Safety Officer of a dangerous occurrence that takes place at a work site, whether or not a worker sustains injury.

(2) The notice given under subsection (1) must include


- a) the name of each employer, principal contractor and owner at the work site;
- b) the date, time and location of the dangerous occurrence;
- c) the circumstances related to the dangerous occurrence; and
- d) the name, telephone number and facsimile number of the employer or a person designated by the employer to be contacted for additional information.

(3) An employer shall provide a copy of the notice required by subsection (1), without the names of the workers involved, to the Committee or representative.

To report a dangerous occurrence under section 9, the Chief Safety Officer must be informed under **1-800-661-0792** as soon as reasonable practicable and the form “Dangerous Occurrence - Notice to CSO” must be completed as soon as reasonable practicable.

If an injury or accident, referring to section 18 of the AB OH&S Act or section 8 of the NWT OH&S Regulation, occurs at any Allen Services & Contracting Ltd. worksite, the Supervisor, or if there is no Supervisor, the worker must inform Management immediately upon knowledge of the incident. Management will inform the HSE Coordinator. These types of incidents are categorized as “Critical Incidents”. The **Critical Incident Procedure** must be followed **immediately by all parties.**

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### Critical Incident Procedure

1. Assess the scene and eliminate hazards to prevent further injuries to others or damages to property or environment
2. Get someone to assist and delegate emergency tasks
3. Call immediately for medical assistance if injury occurred
4. Care for the injured if possible; do not endanger yourself or others
5. Secure equipment, shut-off gas valves and other sources of toxins, flammables and explosives
6. Secure the scene to preserve evidence; do not move or remove anything
7. Ensure all other personnel on site has assembled at the Muster Point and has been accounted for
8. Call Senior Management immediately
9. Wait for emergency services to arrive
10. Wait for Senior Management and/or HSE Coordinator to arrive
11. Ensure with Senior Management and/or HSE Coordinator that OH&S/WSCC has been notified

Equipment or materials involved in a serious incident shall not be moved, unless it is necessary to release an injured person or to avoid creating additional hazards.

### WCB and WSCC Reporting

#### Employer Responsibility


In the event that a worker was injured in Alberta or Northwest Territories, and the worker requires medical attention beyond first aid, the employer must submit an Employer's Report of Injury to WCB/WSCC within 72 hours of the accident. The employer must provide a copy of the Employer's Report to the worker.

#### Worker Responsibility

In the event that a worker was injured in Alberta or Northwest Territories, and the worker requires medical attention beyond first aid, the worker must submit a Worker's Report of Injury to WCB/WSCC as soon as reasonable practicable. The employer may assist the worker with completion and submission of the form.

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## Investigation

Workplace incidents/accidents don't just happen; they result from a series of events that usually stem from an ineffective or non-functioning OH&S system. The purpose of an OH&S program is to prevent accidents and incidents; however, as part of the internal responsibility system, when incidents/accidents occur, there should be a process in place to find the root cause of these events.

## Investigation Procedure

Incident/accident investigation procedures outline a step-by-step process for carrying out each of the six steps in the investigation:

1. Immediate response to the incident/accident
2. Gather information
3. Analyze the information to determine the root cause
4. Make recommendations
5. Write the incident/accident investigation report
6. Follow-up

**Note: Incident Investigations must be completed by trained, qualified and experienced Supervisors, by Senior Management or by the HSE Coordinator, as outlined in the policy. Workers should be involved in the investigation process if possible.**


### Step 1 – Response

- Eliminate immediate hazards to ensure no one else is injured
- Secure the scene; use ropes, barrier tape and/or cones or human guards if required
- Remove nothing from scene without permission and maintain scene until all information is collected
- Notify proper authorities – governmental agencies; OH&S/CSO if incident is classified as “Critical Incident, Serious Injury or Accident”

### Step 2 - Taking Notes

- Keeping notes in a notebook throughout an investigation process keeps information together and organized. Notes should be neat and detailed, yet concise; they should answer who, what, when, where, why and how. Good notes help to recall facts and are useful when analyzing information to determine the root cause.

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### Conducting Interviews

- Interview promptly and separately
- Injured workers
- Witnesses to the event
- Immediate supervisor
- Staff from other departments or areas
- Anyone else who can provide information

### Interviewing Tips:

- Maintain privacy and put the person at ease
- Explain why the interview is being conducted
- Emphasize the investigation is for fact finding, not fault finding
- Ask people to explain what happened in their own words, let people tell what happened – don't lead the witness; try not to interrupt; ask specific questions to clarify and fill in the gaps;
- Repeat what is reported to verify your understanding;
- Thank people for their co-operation; and
- Write-up a complete account as soon as possible after the interview to ensure the details are accurate.


### Collecting Samples

- Use a diagram of the area to note where samples were found
- Keep people away from area
- Ensure evidence is not damaged
- Place samples in a bag or container, seal it, and label with a permanent marker;
- Label the evidence with
  - a) a reference number
  - b) date and time evidence was collected
  - c) the specific location evidence was found
  - d) the collector's name; keep evidence in a secure place; and keep a record if evidence is moved.

### Step 3 - Analyze the information to determine the root cause

There are many factors that contribute to incidents/accidents, however they can usually be broken down into four major categories: people, equipment, materials and the environment. The following are some areas that may be explored when investigating incidents/accidents to determine the root cause(s):

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### 1. People

- Knowledge, experience, skill, understanding, orientation, training
- Job site analysis
- Communication
- Safe Work Practices and Safe Job Procedures
- Documentation of hazards
- Equipment
- Preventative maintenance
- Physical Demands Analysis
- Workplace Inspection

### 2. Equipment

- Design
- Manufacturer's specifications
- Use
- Preventative maintenance
- Job safety analysis
- Safe Work Practices and Safe Job Procedures
- Hazard recognition, evaluation and control
- Documentation
- PPE


### 3. Materials

- Manufacturer's specifications
- Use
- Preventative maintenance
- Ergonomics
- Job safety analysis
- Safe Work Practices and Safe Job Procedures
- Hazards recognized, evaluated and controlled
- Documentation

### 4. Environment

- Lighting
- Noise
- Air quality
- Housekeeping practices
- Weather conditions

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Incidents/accidents occur as a result of a chain of events. There is rarely one cause. Causes of incidents/accidents are usually grouped into two main categories:

- 1. Immediate/direct cause(s)**
- 2. Root/basic cause(s).**

### **Immediate/Direct Cause(s)**

Immediate/Direct Cause(s) are events, conditions or acts that immediately precede the incident/accident. Immediate/direct causes are usually the symptoms of the root/basic cause, not the root cause itself. Immediate/direct causes are usually related to uncontrolled hazards arising from substandard conditions and/or substandard actions.

### **Root/Basic Cause(s)**

Root/Basic Cause(s) are 'real' or 'underlying' cause(s) of incidents/accident. They are not always immediately evident.

Analyzing all information – contributing factors and the immediate/direct causes – increases the likelihood of finding the root cause(s). Finding the root cause(s) and implementing corrective actions will help in preventing re-occurrence.

### **Step 4 -Make Recommendations**

Once the root cause of the incident/accident is identified, a set of well thought-out recommendations should be developed as a means of preventing a similar event in the future.


### **Step 5 – Write the Report**

The purpose of the incident/accident investigation report is to communicate the investigation information and document recommendations for corrective action. Incident/accident investigation reports may be used as evidence during legal proceedings; therefore, it is important that it is fully completed. The incident/accident investigation procedures should identify who is responsible for distributing the written report and who is responsible for communicating its findings to the appropriate workers. Management and the Safety Representative will communicate the outcomes during a company safety meeting to all other not involved employees. Personal information of persons involved in incidents must not be disclosed.

### **Step 6 - Follow Up**

- Incident/accident investigation reports should identify those responsible for:
- Implementing corrective actions within the assigned time frame
- Meeting time-lines for implementing the corrective actions;
- Adding the corrective actions to the workplace inspection checklist as a means of Evaluating them

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- Evaluating corrective actions to ensure they are effective
- Sharing the investigation findings with workers
- Communicating the effectiveness of the corrective actions to senior management and the staff in the affected work area

## Reporting

Reporting incident and accident is a vital part of the Investigation and Reporting program. To ensure that all incident and accidents are investigated to prevent re-occurrence, all employees and subcontractors must report the following:

- All incidents and accidents;
- All injuries and illnesses
- First Aid cases
- Motor vehicle collisions
- Acts of violence or harassment
- Near misses
- Dangerous occurrences
- Unsafe and unhealthy acts and conditions
- Unsafe work/imminent danger

to Supervision or Management immediately, or as reasonably practicable. The Supervisor or Manager must report all above named incidents immediately, or as reasonably practicable, to the HSE Coordinator and to Senior Management.


### Unsafe Work/Imminent Danger

Employees and subcontractors must immediately report all cases where they have refused work because they believe there may be a danger to themselves or others present on the work site. Refer to the Refusal of Unsafe Work and Imminent/Unusual Danger, Section 2 Part 3 of this manual and Safe Job Procedure 1 of this safety manual.

### Corrective and Preventative Actions

Senior Management will support, Managers, Supervisors and the HSE Coordinator in completing a thorough investigation to determine the causes of the accident or incident and any other issues that may have contributed to the event. Managers, Supervisors and the HSE Coordinator will provide corrective and preventative actions to be put into effect and ensure that such actions are implemented in a timely manner to prevent re-occurrence.

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## INCIDENT REPORTING PROCEDURE (NON-CRITICAL INCIDENTS)

If you were non-seriously injured, are involved in an incident/accident, have observed or are involved in a near miss, dangerous occurrence, or have observed an unsafe or unhealthy act or condition you must:

- Find your Supervisor or Manager immediately
- Report to the Supervisor or Manager what you have observed or that you have been injured or otherwise involved in an incident or accident
- Wait for your Supervisor's or Manager's instructions
- Complete your portion of the appropriate incident/accident report under the supervision of your Supervisor or Manager
- Once the HSE Coordinator has been informed, and is on site, if applicable, provide your verbal report to the HSE Coordinator

**NOTE:** Not reporting incident/accidents will result in disciplinary actions by Senior Management as per the Disciplinary Action Chart. For further information, please review section 5. Company Rules and Standards of the safety manual.

### Training

Allen Services & Contracting Ltd. will ensure Supervisors and Managers who conduct investigations are adequately trained to conduct investigations. Depending on the seriousness and the nature of the investigation, the company may also retain the services of a fully trained investigation organization or consultant.

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## INCIDENT REPORTING PROCEDURES

All employees and subcontractors of Allen Services & Contracting Ltd. must be familiar with our Incident Reporting Procedures. All employees and subcontractors must review section 10, Incident/Accident Investigation & Reporting Program of the Health & Safety Management System and familiarize themselves with the program and procedures. The following incident MUST be reported by all employees and subcontractors to their Supervisors or Managers:

- All incidents and accidents;
- All injuries and illnesses
- First Aid cases
- Motor vehicle collisions
- Acts of violence or harassment
- Near misses
- Dangerous occurrences
- Unsafe and unhealthy acts and conditions
- Unsafe work/imminent danger

### CRITICAL INCIDENT PROCEDURE

1. Assess the scene and eliminate hazards to prevent further injuries to others or damages to property or environment
2. Get someone to assist and delegate emergency tasks
3. Call immediately for medical assistance if injury occurred
4. Care for the injured if possible; do not endanger yourself or others
5. Secure equipment, shut-off gas valves and other sources of toxins, flammables and explosives
6. Secure the scene to preserve evidence; do not move or remove anything
7. Ensure all other personnel on site has assembled at the Muster Point and has been accounted for
8. Call Senior Management immediately
9. Wait for emergency services to arrive
10. Wait for Senior Management and/or HSE Coordinator to arrive
11. Ensure with Senior Management and/or HSE Coordinator that OH&S/WSCC has been notified

Equipment or materials involved in a serious incident shall not be moved, unless it is necessary to release an injured person or to avoid creating additional hazards.

### Serious Injury (Critical Incident and Incidents Requiring Medical Aid)


- Fracture of a major bone
- Amputation
- Loss of sight
- Internal hemorrhage
- Third degree burns
- Unconsciousness resulting from concussion, electrical contact, asphyxiation
- Poisoning
- Cuts requiring hospitalization for 2 days and longer
- Any injury resulting in paralysis
- Any other injury likely to endanger life or cause permanent disability

### INCIDENT REPORTING PROCEDURE (NON-CRITICAL INCIDENTS)

If you were non-seriously injured, are involved in an incident/accident, have observed or are involved in a near miss, dangerous occurrence, or have observed an unsafe or unhealthy act or condition you must:

- Find your Supervisor or Manager immediately
- Report to the Supervisor or Manager what you have observed or that you have been injured or otherwise involved in an incident or accident
- Wait for your Supervisor's or Manager's instructions
- Complete your portion of the appropriate incident/accident report under the supervision of your Supervisor or Manager
- Once the HSE Coordinator has been informed, and is on site, if applicable, provide your verbal report to the HSE Coordinator

**NOTE:** Not reporting incident/accidents will result in disciplinary actions by Senior Management as per the Disciplinary Action Chart. For further information, please review section 5. Company Rules and Standards of the safety manual.

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### 11.1.0 EMERGENCY PREPAREDNESS AND RESPONSE POLICY

Planning ahead to minimize the effects of accidents is not less important than minimizing the hazards that cause them. Unfortunately, emergencies can and do happen. Controlling an emergency and being prepared is single most important part of the plan for saving lives and protecting employees, subcontractors, the general public, property and environment.

Allen Services & Contracting Ltd. will prepare and have emergency response procedures to deal with any emergencies that could occur in the office and on job sites. Potential emergencies Allen Services & Contracting Ltd. employees, subcontractors and visitors may come across at Allen Services & Contracting Ltd. owned facilities or client job sites include:

- ✓ Fire
- ✓ Medical Emergencies
- ✓ Gas Leaks / Chemical Spills
- ✓ Bomb Threats /Explosions
- ✓ Building Collapse
- ✓ Severe Weather
- ✓ Violence
- ✓ Vehicle accidents


The Emergency Response Plan will include training of all Wardens and all employees in responding to all emergency situations and will clearly identify their roles and responsibilities. By supplying the proper training to our employees and testing the procedure annually (at a minimum) and as conditions change, Allen Services & Contracting Ltd. will be ready to respond to any emergency, if it was to occur.

Properly preparing for the unexpected is essential to ensure the safety of all workers and visitors and to prevent damage to property and the environment in the event of an emergency. All employees have the responsibility to be prepared, to react and to protect themselves, fellow workers, the environment, the property they work with and the facility they work at.

Brian McCarthy, General Manager	Date

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### 11.1.1 EMERGENCY PREPAREDNESS AND RESPONSE PROGRAM

Management, Supervision and the HSE Coordinator will:

- Ensure all worksites have site specific Emergency Response Procedures written and posted
- Use information from Pre-Job-Hazard Analysis to develop controls
- Have required first aid and emergency equipment on site
- Train and assign specific workers to perform specific tasks in the event of an emergency
- Establish muster points for workers
- Perform a head count
- Notify the authorities
- Protect public and persons from injury
- Secure the site from further damage
- Perform damage control if possible (firefighting, etc.)

#### Purpose

The purpose of the Emergency Preparedness & Response Program is to prepare all employees for any emergency that would result in a medical intervention, the evacuation of any Allen Services and Contracting Ltd. facility or client job site, and the emergency rescue of an employee or visitor.


The purpose of the plan is to provide a standard for all employees in establishing and maintaining a minimum level of training, equipment, response, and record keeping ensuring a prompt and appropriate emergency response in any potential emergency situation.

This Emergency Response Program applies to all Allen Services and Contracting Ltd. employees, visitors and subcontractors. On a client owned facility, if the client is the Prime Contractor, the client's procedures shall have precedence.

#### Job Sites

On job-sites the Supervisor will notify all employees, subcontractors and visitors of the emergency response plan and procedures during a site-specific orientation, which will be a worker or visitor orientation. The Supervisor, in cooperation with SHSE Coordinator, will develop and post the site-specific emergency response plan and procedures at the job site. The plan is to be reviewed on a regular basis and in the event of a significant change to the operation or management of the job site or facility. The Supervisor will act as the 1<sup>st</sup> Chief Warden on the job site, co-ordinate emergency situations, and account for all workers and visitors. The foreman on the job site, if applicable, will act as the 2<sup>nd</sup> Chief Warden. If no foreman is available on site, the Supervisor will

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assign the 2<sup>nd</sup> Chief Worden. The 2<sup>nd</sup> Chief Warden will assist the 1<sup>st</sup> Chief Warden in all emergency actions and duties as outlined in section Roles and Responsibilities of this program.

### Office and Shop Facility

In the office, management will ensure that an office specific Emergency Response Plan and procedure is developed and posted and that the plan and procedure is communicated to all employees. Management will select the 1<sup>st</sup>, 2<sup>nd</sup> Chief Wardens and Assistant Warden (if possible) and assign specific responsibilities. If the 1<sup>st</sup> Chief Warden is absent, the 2<sup>nd</sup> Chief Warden becomes the 1<sup>st</sup> Chief Warden, and the Assistant Warden becomes the 2<sup>nd</sup> Chief Warden. A list of all Wardens will be posted on the safety bulletin board.

All new hires to the office will receive an orientation that will include training in emergency response and procedures for the office/shop facility.

### ROLES & RESPONSIBILITIES


Emergency Preparedness and Response Roles and Allen Services and Contracting Ltd.:

- Employer
- HSE Coordinator
- Employees
- Managers/Supervisors
- 1<sup>st</sup> Chief Warden
- 2<sup>nd</sup> Chief Warden
- Assistant Warden

### Responsibilities – Employer

1. An employer must establish an emergency response plan for responding to an emergency that may require rescue or evacuation. This plan must be in writing and must be made available to workers. The plan must include minimum requirements as outlined in Alberta and Northwest Territories OH&S Legislation.
2. An employer must ensure designated rescue and emergency workers receive appropriate and adequate training.
3. An employers must provide designated rescue and emergency workers with personal protective clothing and equipment appropriate to the work site and the potential emergencies identified in the emergency response plan.

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### Responsibilities – HSE Coordinator

1. The HSE Coordinator must administer the program.
2. Organize and lead Emergency Operational meetings when the plan changes, recommendations have been made to change the plan or drills have shown that the plan is dysfunctional.
3. Liaise with the Chief and Assistant Wardens to ensure the plan is up to date, equipment is inspected and maintained and all Emergency Operation personnel is educated and trained.
4. Schedule, book and track the training of the Chief and Assistant Wardens.

### Responsibilities – Managers/Supervisors


1. Ensure all personnel they are responsible for, have completed the required and appropriate emergency response training as part of their new hire orientation package.
2. Be familiar with the Emergency Site Plan posted on the HSE boards in offices, shops, lunchrooms and in high traffic areas throughout each facility.
3. Be familiar with the contact information of regional Emergency Response Authority as posted on the HSE boards in the event that an offsite intervention or rescue is required.
4. Sound the alarm if they are the first person to encounter an emergency accordingly to the procedures.
5. Shut down their equipment and tools, if applicable and if it is safe to do so.
6. Evacuate the building on a direct way taking the nearest and safest exit to the assigned Muster Point.
7. Assist others if it is safe to do so.
8. Report to their Warden at the Muster Point for a head count.
9. Remain outside the building until cleared to go back by their Warden or Emergency Authority (i.e. Police, Fire Department, etc.) ONLY.
10. Assess and initiate appropriate actions in response to reported emergency according to the ERP and management guidelines.
11. Advise management of any changes that may be applicable to this Emergency Response Plan.

### Responsibilities – 1<sup>st</sup> Chief Warden

#### Duties:

- Provide leadership, assistance and follow-up to ensure the establishment, continuity, training, interaction and effectiveness of the Emergency Organization (E.O.).
- Assist in providing for the safety of ALL building/job site occupants.
- Inform the 2<sup>nd</sup> Chief Warden of their absence to ensure that the E.O. is properly equipped

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and staffed.

- Maintain a working knowledge of life safety systems and fire protection equipment available within the premises and pass this knowledge on to others in the building/on the job site.
- In the event of an emergency establish and maintain liaison with the Surgeon County/Inuvik Fire Department, other emergency services and authorities, and all E.O. members.

### Emergency Actions:


1. In the event of fire, the 1<sup>st</sup> Chief Warden will ensure that the building/job site occupants have been notified and the Edmonton Fire Department has been called (dial 911). For other emergencies, confirm that the appropriate authorities have been notified.
2. Report to the predetermined location during all fire alarm/emergency conditions. Supervise the orderly evacuation of building/job site occupants and ensure that persons requiring assistance are being escorted to safety.
3. Ensure that no person interferes with the prompt, orderly evacuation of the building/job site occupants.
4. Perform a head count for the staff they are responsible for.
5. Report details of the fire incident and other pertinent information (i.e. any trapped, missing or disables persons who have not been successfully evacuated) to the Emergency Authority's Officer in charge.

### Responsibilities – 2<sup>nd</sup> Chief Warden

#### Duties and Emergency Actions:

1. To act as 1<sup>st</sup> Chief Warden in his/her absence and to perform all of the 1<sup>st</sup> Chief Warden's duties and emergency actions.
2. To assist the 1<sup>st</sup> Chief Warden during an evacuation in all duties.
3. Handle the safe and efficient evacuation of everyone who is within their area of responsibility.
4. Inform the 1<sup>st</sup> Chief Warden of the presence of disabled persons who will be present in the building on an ongoing basis.
5. Know all of the provisions of the emergency evacuation plan and ensure that this plan and associated diagrams are posted in prominent locations throughout the building.
6. Check floor/job site areas daily and immediately report any faulty conditions (with respect to life safety systems, fire protection equipment, exits, etc.) to the 1<sup>st</sup> Chief Warden.
7. The 2<sup>nd</sup> Chief Warden is to be the last to leave the floor/job site area and should then proceed directly to report to the 1<sup>st</sup> Chief Warden that the entire floor/ job site area has been successfully evacuated or that parties are missing, injured or trapped.

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8. The 2<sup>nd</sup> Chief Warden will assist the 1<sup>st</sup> Chief Warden to ensure that people who have evacuated will:
  - a. Assemble well clear of the building at the Muster Point.
  - b. Verify all staff and visitors are accounted for.
  - c. Not obstruct emergency access to the building.
  - d. NOT re-enter the building until permission is obtained from the Fire Department Officer in charge or the 1<sup>st</sup> Chief Warden.

### Responsibilities – Assistant Warden

#### Duties and Emergency Actions:

1. To act as the 2<sup>nd</sup> Chief Warden when the 1<sup>st</sup> or 2<sup>nd</sup> Chief Warden is absent.


#### Subcontractors are expected to:

- Complete the required worker safety orientation to ensure that they are familiar with procedures, location of the Muster Point and emergency equipment as outlined in the Emergency Site Plan posted on the HSE boards in offices, shops, lunchrooms and in high traffic areas throughout each facility/job site.
- Sound the alarm if they are the first person to encounter an emergency accordingly to the procedures.
- Shutdown their equipment and tools, if applicable and if it is safe to do so.
- Evacuate the building/job site on a direct way taking the nearest and safest exit to the assigned Muster Point.
- Know and report to their Chief Warden at the Muster Point for a head count.
- Remain outside the building and at the Muster Point until cleared to go back by their Warden or Emergency Authority (i.e. Police, Fire Department, etc.) ONLY.
- Report any accidental release or spill of a hazardous material to the Chief Warden.
- Report immediately any personal or potential bomb threats to the Chief Warden.
- Report immediately any potential for explosion to the Chief Warden. If necessary, evacuate the area as outlined in the emergency evacuation procedure.

#### Visitors are expected to:

- Complete the required visitor safety orientation to ensure that they are familiar with the location of the Muster Point and emergency equipment as outlined in the Emergency Site Plan posted on the HSE boards in offices, shops, lunchrooms and in high traffic areas throughout each facility/job site.
- Sound the alarm if they are the first person to encounter an emergency accordingly to the

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procedures.

- Evacuate the building on a direct way taking the nearest and safest exit to the assigned Muster Point.
- Report at Muster Point for a head count.
- Remain outside the building at the Muster Point until cleared to go back by the Chief Warden or Emergency Authority (i.e. Police, Fire Department, etc.) ONLY.

**All trained personnel is expected to:**

Use their training and skills as they were trained; to provide First Aid to the injured as needed and to attempt to extinguish fires as trained and outlined in the Fire Evacuation Procedure.

**ASSESSMENTS**

Assessments are required in all locations to ensure each facility/job site is compliant with this emergency response plan by conducting annual drills. A review of the emergency response plan and materials should be conducted during each workplace inspection to ensure the accuracy of the posted information.

**EMERGENCY SITE PLAN**

All locations are to have copies of their respective Emergency Site Plans posted in various locations within their facility so they are clearly visible to all employees and accompanied visitors to ensure that everyone is prepared should the need for an emergency response, rescue or evacuation arise.

**MUSTER POINT**


The Muster Point must be located in an area that is outdoors and a considerable distance from the given facility/equipment, machinery, etc. on site and must be easily accessible to all personnel when the facility/job site is evacuated. The Muster Point is clearly indicated on each Emergency Site Plan and marked with a large clearly identified sign outside (signage applies to job sites only).

**COMMUNICATION**

Emergency response contact information is posted on the safety bulletin boards with a current list of emergency response personnel (trained in standard first aid and fire extinguisher use). Any changes to the emergency response plan or portions thereof will be reviewed during company safety meetings or job site safety meetings and minutes of the meetings will be kept on file.

All job sites and the office facility will be equipped with an air horn to communicate the emergency to other individuals.

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## PROGRAM ADMINISTRATION

Allen Services and Contracting Ltd. HSE Coordinator is responsible for the overall administration of this Emergency Preparedness and Response Program. The Chief Wardens are responsible to communicate all recommended changes to the Safety Representative. Management will ensure that all changes are implemented and will support this program

## EMERGENCY PREPAREDNESS & RESPONSE TRAINING

It is the responsibility of Allen Services and Contracting Ltd. to provide a safe and healthy work environment to all employees, subcontractors and visitors, to minimize accidents and incidents on all worksites and facilities, and to eliminate or control the hazards that cause them. By accomplishing this we can achieve our goal of an incident and accident free workplace.

For each worksite and facility, management will ensure that a current site Emergency Response Plan is prepared to deal with any emergency producing situation. All affected employees must be a part of the planning process. Being prepared for emergencies will help minimize accidents, injuries, property damage, damage to the environment and possibly the loss of life.

Comprehensive emergency response training is essential for the proper management of all worksite emergencies to avoid further damages or losses and to control injuries.


All employees designated to respond to an emergency will receive the appropriate training in the use of all emergency response equipment used at Allen Services and Contracting Ltd. facilities.

Emergency personnel shall participate in continuing education and training as necessary to improve their performance and proficiency to ensure that they are completely up to date on technology and new requirements. This may include training in the following:

- ✓ First Aid/CPR Training
- ✓ Fire Extinguisher Training
- ✓ Hazardous Material Handling (WHMIS)
- ✓ Emergency Response Drills
- ✓ Training related to Emergency Response

Allen Services and Contracting Ltd. management will consult and include all employees input when establishing and maintaining the worksite ERP. Part of the ERP must include the locations of all emergency response equipment, emergency warning devices, such as alarms, radios, horns, communication devices, fire extinguishers and first aid supplies, specialized PPE that may be required for rescuing trapped or injured workers, specialized shelters that may be necessary to protect workers until further help arrives, the decontamination/shower area for any chemical

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emergency if applicable, and any and all site specific evacuation and or relocation procedures. Any time a work process or conditions changes the ERP MUST be reviewed.

All ERP's must include procedures for generic emergency specific situations:

1. Fire
2. Medical Emergencies
3. Gas Leaks / Chemical Spills
4. Bomb Threats/Explosions
5. Building Collapse
6. Severe Weather
7. Violence
8. Vehicle accidents and emergencies – due to the diversity of situations encountered while driving, exact procedures for vehicle accidents can't be developed. Each employee driving a vehicle must ensure procedures and phone numbers are in place and known, before leaving on a trip.

The current ERP must include names and contact numbers of all trained First Aid Responders, address and phone number to the closest medical treatment facility, a completely updated contact list of all emergency contacts which must include Allen Services and Contracting Ltd. senior management, medical transportation services, ground (and air, if applicable), OH&S/WSCC for all serious or fatal workplace accidents, and all applicable client contacts. Complete addresses must also be included and posted throughout the worksite and be immediately available to anyone that is responding to the emergency.

Allen Services and Contracting Ltd. will conduct at a minimum annual emergency response drills to measure the effectiveness of this emergency response plan.

Emergency response roles and responsibilities will be reviewed annually with all employees to ensure training is current.


**BEING PREPARED BEFORE AN EMERGENCY OCCURS AND HAVING THE PROPER  
EMERGENCY EQUIPMENT AND TRAINED PERSONNEL ON THE WORKSITE COULD  
SAVE A LIFE, POSSIBLY YOURS!**

## **EMERGENCY EQUIPMENT**

Allen Services and Contracting Ltd. will ensure that all active job sites, office and shop facilities and vehicles are equipped with the required emergency equipment; emergency equipment may include:

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- First Aid kits
- Fire extinguishers
- Eyewash stations
- Air horns
- Spill kits
- Spill containment products


All emergency equipment will be maintained and inspected accordingly. The Chief Warden is accountable for the equipment to be inspected and maintained. Should the Chief Warden be absent for a period of time during the time the inspection or maintenance is due, the 2<sup>nd</sup> Chief Warden is automatically responsible and accountable for the inspection and maintenance.

### Emergency Equipment Inspections and Maintenance

- First Aid kits will be inspected on a monthly basis. All removed items from the First Aid kit MUST be reported to the 1<sup>st</sup> Chief Warden or 2<sup>nd</sup> Chief Warden using the appropriate form for First Aid kit supplies usage. The Chief Warden is responsible to refill the removed items at the latest during the monthly inspection.
- Fire extinguishers will be inspected on a monthly basis. Annual and 6 year maintenance of fire extinguishers for office facility and all job sites shall be scheduled.
- Eyewash stations shall be inspected on a monthly basis.
- Air Horns will be inspected on a monthly basis.
- Spill kits will be inspected on a monthly basis.

Additionally the office facility will rotate with office workplace inspections that will include the inspection of the emergency equipment to ensure that the emergency equipment has been inspected as per this plan.

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## 12.1.0 RECORDS AND STATISTICS POLICY

The purpose of this policy is to outline the requirements in relation to collecting, maintaining and analyzing Allen Services & Contracting Ltd.'s health and safety records and statistics.

Allen Services & Contracting Ltd. will maintain records and statistics relating to health and safety as required;

- to enable management to monitor and evaluate the health and safety performance of the company, specific job sites, supervisory personnel and workers;
- to identify common factors, trends and needs in accidents and incidents; and
- to monitor and evaluate the effectiveness of corrective actions.

The following will be kept on file, analyzed and reviewed:


- Training Records
- Training Matrix
- Incident Reports
- Investigation Reports
- Incident Causes and Evaluations
- WCB Rate Statements
- WCB Performance Reports and Comparisons
- Safety Statistics
- Maintenance Records
- Inspection Records
- Log Sheets
- Driver Records

Statistics can be viewed as a yardstick to measure a company's safety performance. Summarizing information from certain areas of a safety program can assist management in determining trends and setting priorities for further safety program measures.

All records and statistics will be reviewed on a monthly, quarterly, and annual basis.

Brian McCarthy, General Manager	Date

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### 13.1.0 LEGISLATION

Allen Services & Contracting Ltd. Health & Safety Management System was developed in consideration of and is based on the Alberta and Northwest Territories OHS Legislation and National Safety Codes. Alberta and Northwest Territories Occupational Health & Safety Act, Regulations and Code govern Allen Services & Contracting Ltd.'s work sites. The National Safety Code and Traffic Acts govern Allen Services & Contracting Ltd.'s vehicles under the National Safety Code.

The Alberta Occupational Health & Safety Act, Regulation and Code and Northwest Territories OHS Act and Regulations apply to all Allen Services & Contracting Ltd. work sites. The Legislation sets out obligations for Employers, Workers, Suppliers, Manufacturers, Owners, Contractors and Prime Contractors. This Legislation stipulates that these groups must be knowledgeable, and must follow the Legislation on all Allen Services & Contracting Ltd. work sites. 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 direction of a competent worker
- Workers are aware of their responsibilities 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 normally be done
- Co-operate with the employer for the purpose of protecting themselves and other workers

A copy of the OH&S Legislation is supplied to all Allen Services & Contracting Ltd. work sites, shops, vehicles and office. Other Legislation that deals with specific aspects of safety and applies to Allen Services & Contracting Ltd. includes:

- The WCB Act and Regulation
- Employment Standard
- National Safety Code
- Traffic Safety Act Regulation
- Environmental Protection Act and Regulations
- WHMIS Regulations

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Copies of these Legislations are available online and Allen Services & Contracting Ltd. will make hard copies available, where possible and reasonable.

Non-compliance with Legislation can result in charges and fines. Some fines are very substantial and may include prison sentences. In some situations, criminal negligence charges may be laid under the Canadian Criminal Code (i.e. employer consciously choosing to ignore the OH&S Legislation and a worker was killed or injured).

All employees of Allen Services & Contracting Ltd. are expected to know, understand and comply with applicable Legislations.

Brian McCarthy, General Manager	Date

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# ALLEN SERVICES & CONTRACTING LTD.

Section 14. of the Health & Safety Management System



## NATIONAL SAFETY CODE (NSC)

## COMMERCIAL SAFETY & MAINTENANCE PROGRAM

FOR FEDERAL TRUCKS, TRUCK-TRACTORS AND TRAILERS



**NSC COMMERCIAL SAFETY & MAINTENANCE PROGRAM**

For Federal Trucks, Truck-Tractors and Trailers

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## 1. National Safety Code (NSC)

In Canada, regulations governing commercial vehicles, drivers and motor carriers are based on the Canadian National Safety Code (NSC) standards. The NSC is a code of minimum performance standards, applying to all persons responsible for the safe operation of commercial vehicles. There are 16 NSC standards, ranging from commercial driver licence requirements to first aid training.

1. Single Driver License Concept
2. Knowledge and Performance
3. Driver Examiner Training Program
4. Classified Driver Licensing System
5. Self-Certification Standards and Procedures for Drivers
6. Medical Standards for Driving
7. Carrier and Driver Profiles
8. Short-term Suspension
9. Hours of Service Regulations
10. Security of Loads Standards
11. Commercial Vehicle Maintenance Standards
12. Commercial Vehicle Safety Alliance On-road Inspections
13. Daily Trip Inspection Reports
14. Safety Rating
15. Facility Audit Standards
16. First Aid Training

These standards were first introduced to Alberta carriers in 1988. Most of these standards were contained within Alberta regulations and others have been added since. These additional regulations relate to medical and record retention standards. Any driver of a bus or truck as defined below must comply with NSC standards.

A bus is defined as a motor vehicle that is designed for carrying 11 or more persons, including the person driving the vehicle, and used or intended to be used for the transportation of persons.

A truck is defined for Provincial NSC operators as a commercial vehicle or combination of vehicles registered for a combined weight of 11,794 kg or more. Provincial carriers operate only in Alberta.

Alberta carriers that operate into other jurisdictions are designated as Federal and must comply with federal legislation. Under federal legislation, trucks or truck/trailer combinations registered for a combined weight of more than 4,500 kg must comply with NSC standards as implemented in Alberta. This includes farm plated vehicles that travel outside Alberta.


What vehicles are included in the National Safety Code Program?

- Commercial vehicles licensed with a gross vehicle weight of more than 5,000 kg.
- Vehicles operating under the Passenger Transportation Act.
- Commercial Vehicles that have a seating capacity of 10 or more passengers plus the driver.



**NSC COMMERCIAL SAFETY & MAINTENANCE PROGRAM**

For Federal Trucks, Truck-Tractors and Trailers

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## 14.1 TRANSPORTATION SAFETY POLICY

Allen Services & Contracting Ltd. is committed to preventing the accidental loss of any of its resources, including employees and physical assets. In fulfilling our commitment to protect our people and property, management will provide and maintain a safe and healthy work environment in accordance with industry standards and in compliance with all legislative requirements as they pertain to our operations.

At Allen Services & Contracting Ltd., people are our greatest asset. Ensuring the safety of our employees and public is our top priority. Safety in the workplace is fundamental to achieving the objective of compliance with all regulatory requirements and satisfying our client requirements.


We recognize that the responsibilities for health and safety are equally shared. All employees will be responsible for minimizing incidents and collisions while operating any Allen Services & Contracting Ltd. vehicle within our own facilities, highways, public roads or on our client's property. Safe work procedures will be clearly defined in our Health & Safety Management System manual for our employees to review and follow.

All losses can be controlled through good management in combination with active employee involvement. Road safety is the direct responsibility of all our managers, supervisors, employees and subcontractors.

Good management includes the following key elements for ensuring a safe work environment:

- **RECRUITMENT**  
Allen Services & Contracting Ltd. wants to attract the best and most qualified individuals into our organization.
- **EQUIPMENT**  
Allen Services & Contracting Ltd. will provide safe and reliable equipment and facilities. To be successful all employees must have the proper tools and equipment to perform their daily tasks.
- **TRAINING**  
Allen Services and Contracting Ltd. will ensure that all employees have comprehensive training and participate in the orientation process to ensure they are fully aware of all Allen Services & Contracting Ltd.'s policies and procedures, OH&S Act, Regulations and Code responsibilities in Alberta and Northwest Territories, Traffic Safety Act and National Safety Code (NSC) requirements.

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NSC Hours of Service procedures, emergency response plans and procedures, workplace violence, Fatigue Management program, incident and injury reporting process, Return to Work (RTW) program, modified work, Substance Abuse program and disciplinary actions will be fully explained to all employees. Ongoing driver review and training will help our organization to achieve our safety goals.

- **SETTING THE STANDARD**

Allen Services and Contracting Ltd.'s goal is ZERO incidents and injuries and we will only achieve this by letting all our employees and subcontractors know what is expected of them and helping them along the way.

- **MONITOR AND MEASURE**

Allen Services and Contracting Ltd. will only realize how effective our Health & Safety program is by monitoring the program and measuring the results to the standards which have been set.

- **DISCIPLINE**

Allen Services and Contracting Ltd. endorses a strict and structured disciplined approach in relation to our safety performance; the health and safety of our people shall not be compromised in any way.


All management activities will comply with company safety requirements as they relate to job planning and the operation and maintenance of our facilities and equipment. Our goal is for all our employees to perform their jobs and daily tasks safely without incident or injury to themselves, their co-workers, our clients or the public in accordance with the established policies and procedures.

Throughout the entire organization, safety is a culture that consists of shared beliefs, practices and attitudes. Allen Services and Contracting Ltd. will continue to promote the requirement of a safe work environment and highway safety as an integral component of its corporate strategy.

Management trusts that all of Allen Services & Contracting Ltd. employees will join management in a personal commitment to make safety a way of life.

Brian McCarthy, General Manager	Date

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### 14.1.1 AUTHORIZED DRIVERS


Authorized drivers include all employees that are permitted to operate National Safety Code vehicles registered to Allen Services & Contracting Ltd. Authorized drivers include:

- Managers/owners who drive;
- Part-time or occasional drivers;
- Company mechanics who test drive vehicles or drive part-time;
- Safety staff who train drivers;
- Lease operators who have their vehicles registered to the company;
- Subcontractors who have their vehicles registered to the company;
- Anyone else authorized to operate a company vehicle.

All authorized drivers must follow the policies and procedures found in this safety program. By following the policies in this program, all authorized drivers will be more aware of how to operate safely and to prevent collisions.

Brian McCarthy, General Manager	Date

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### 14.1.2 SEAT BELT POLICY FOR COMMERCIAL VEHICLES

All commercial drivers as well as any authorized passengers inside an Allen Services & Contracting Ltd. commercial vehicle are to wear seat belts at all times as per this policy, any federal regulations and the NSC Standards. This policy applies to all Allen Services & Contracting Ltd. employees, subcontractors, passengers and applies to all commercial vehicles owned, rented or leased by the organization in all operations, provinces and territories.

#### VIOLATION OF THE SEAT BELT POLICY


Not wearing a seat belt while driving, or while being a passenger in a commercial vehicle owned, rented or leased by Allen Services & Contracting Ltd. will result in disciplinary action as per Allen Services & Contracting Ltd.'s Progressive Disciplinary Policy and Chart violation #17, Class IV. Failure to wear a seat belt as described above will result in disciplinary action as follows:

**First violation: Written Warning**

**Second violation: Termination**

Brian McCarthy, General Manager	Date

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### 14.1.3 SAFE USE AND OPERATION OF VEHICLES

Allen Services & Contracting Ltd. will ensure all drivers are aware of the safe use and operation of commercial vehicles. Drivers must comply with all transportation safety laws, including those related to:

#### Speed Limits

Drivers must obey all posted speed limits and reduce speed according to road, weather, visibility conditions and vehicle type.

#### Seat Belt Use

All authorized drivers, while operating or travelling as a passenger in company vehicles, must wear seat belt(s) at all times.

#### Drug and Alcohol Use

The possession and/or consumption of alcohol, illegal drugs, or the misuse of prescription drugs are strictly prohibited while drivers operate company vehicles and other equipment.

#### Defensive Driving

Authorized drivers must operate company vehicles in a professional and courteous manner. Drivers must be prepared to avoid collision causing situations by practicing and by promoting the principles of defensive driving.


For example, drivers must be aware of their surroundings and look ahead. Drivers should leave a safe distance between vehicles, keep the vehicle under control at all times and be prepared for changes in road, weather and traffic conditions.

#### Distracted Driving

As part of practicing the principles of defensive driving, authorized drivers must remain focused and follow all distracted driving laws. The following activities conducted while driving are considered distracted driving:

- using hand-held cell phones; .
- texting or emailing (even when stopped at red lights); .
- using electronic devices like laptop computers, video games, cameras, video entertainment
- displays, and programming portable audio players (e.g. MP3 players); .
- entering information on GPS units; .
- reading printed materials in the vehicle; .

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- writing, printing or sketching; and .
- personal grooming (brushing teeth, putting on makeup, clipping nails, shaving, etc.) .

### Basic Vehicle Operation Requirements


All commercial vehicles must be driven in a manner that is compliant with local, provincial and/or federal regulations. No person is permitted to operate a vehicle in a manner that would jeopardize the health, safety and property of a customer, the general public, themselves and/or other employees:

1. The use of a company vehicle for anything, other than direct work-related purposes, is strictly prohibited without prior authorization.
2. All occupants of a vehicle operating on behalf of the company are required to wear a seat belt;
3. Obey all traffic laws and govern speed according to traffic, weather, road and light conditions.
4. Drive with headlights on at all times; it contributes to reducing collisions.
5. Lights, reflectors, windows and mirrors must be kept clean at all times; this requires extra attention under certain weather and road conditions.
6. Ensure mirrors are adjusted before the trip and use them often to monitor other traffic.
7. Know the vehicles blind spots; take them into consideration before making any maneuver.
8. Tailgating or following to close is extremely dangerous, as well as illegal, and is not tolerated.
9. Eliminate backing up as much as possible; always check the conditions of the area, before backing into it, and use a reliable “spotter” whenever possible.

**Remember:** The driver is always at fault/liable if a collision occurs during a backing process.

10. Never pass on a hill, at a curve, in an intersection, when approaching and/or crossing a bridge or when prohibited by pavement markings or signs.
11. Always park the vehicle in a manner that does not obstruct other traffic or create a hazardous situation.
12. No person is permitted to operate or to permit any person to operate any vehicle that is in a dangerous or unsafe condition.
13. No person shall attempt to get on and/or off of a vehicle while the vehicle is in motion.
14. The vehicle must be “**stopped**” in a safe area when using a cellular telephone.
15. Where applicable, each company vehicle over 4500KG must have a current and valid CVIP (Commercial Vehicle Inspection Program) decal displayed before any person can operate the vehicle.

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16. Truck routes must be followed at all times, unless the driver has been instructed otherwise and/or the destination is off the designated truck route; drivers are required to follow specific routes when directed to do so.
17. Drivers are required to be aware of road bans, especially on secondary highways; at times these bans are not posted.
18. Employees are required to report to management, within a 48-hour period, **any** and/or **all** violations resulting from the operation of company and/or personnel vehicles.
19. While operating a company vehicle, employees are responsible for all violations and/or infractions of the Traffic Safety Act, municipal by-laws and any other regulation pertinent to the operation of the vehicle. Copies of all violations must be submitted to management.

### Vehicle Speed

In maintaining a high standard of service and safety to our customers and the general public, the company requires all drivers to adhere to the following vehicle speed guidelines:

As a maximum, company vehicle speed is the lesser of:

1. Posted speed limit.
2. Less than posted speed limit, due to adverse driving conditions.
3. Speed limit, as determined by a specified route(s) and/or worksite location.

Vehicle operation and speed is monitored by:

1. Random observation by management.
2. Review of the drivers "Hours of Service" records (time sheet, log book, etc.).
3. Information received from customer(s) and/or the general public.


Management reviews employee records, on a random basis, to ensure compliance with this rule. Non-compliance may result in disciplinary action as per the Disciplinary Action Policy and Chart. For further information on Disciplinary Action please review section 5 of the Health & Safety Management System.

### Defensive Driving

Be a "professional"; drive defensively. Don't make assumptions regarding the behaviour of other motorists. Be prepared for the unpredictable actions of other drivers. The practice of driving defensively, at all times, protects the driver and the general motoring public from injury, costly property damage and unscheduled delays. The company and industry is often judged by the actions of the driver behind the wheel.

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### Scanning

- Look well down the road you plan to travel on; scan the road and the surroundings ahead as often as possible.
- When driving in urban areas, scan about 12 to 15 seconds ahead; this is about one to one and a half blocks.
- When driving in rural areas, scan about 25 seconds ahead.
- Be alert; use the mirrors and make sure you regularly check your blind spots.
- Don't forget to pay attention to your speedometer and other gauges.

### Being Visible

- If the vehicle is not equipped with daytime running lights, turn on the low beam headlights; this makes it easier for other vehicles to see you.
- Be sure to turn the headlights off when you park your vehicle.
- Keep all your lights as clean as possible.

### Potential Hazards

- Be alert to all potential hazards such as children playing close to a road or other drivers not stopping at a red light; be prepared to take evasive action.
- Expect the unexpected and plan your escape ahead of time.
- Try to ensure your defensive move does not cause a separate, but equally dangerous, situation.

### Space Cushion

- Leave enough space between yourself and the vehicle ahead, behind and to either side.
- If someone is following too close, slow down and encourage them to pass, if safe; if they don't pass, create more space between you and the vehicle ahead.
- When stopping behind another vehicle in traffic, leave sufficient space to move your vehicle into another lane without having to back up.


### Driver Fatigue

When you are behind the wheel, being fatigued is dangerous. Fatigue slows reaction time, decreases awareness and impairs judgment. Fatigue can contribute to an accident.

Management requires all drivers to take a fatigue management course. The following signs are an indication that a driver is becoming fatigued:

1. Eyes close or go out of focus by themselves.
2. Trouble keeping the head up.
3. Can't stop yawning.

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4. Don't remember driving the last few kilometers.
5. Keep drifting out of the proper driving lane.
6. Wandering and/or disconnected thoughts.
7. Missed the required exit.
8. Vehicle speed becomes variable.

If you have even one of these symptoms, you may be in danger of falling asleep. Find a safe place to stop; pull off the road and take a nap.

### Brake Adjustment

Company policy is that the driver is responsible for checking for proper brake adjustment on their complete unit, before leaving on their trip. Premature brakes wear and brake failure may result if the brakes not being properly adjusted.

The most common air brake chamber is the "Type 30". It has 2½ inches of available stroke. A correctly adjusted brake has ½ inch of slack, leaving 2 inches of reserve chamber stroke. When the slack reaches 1 inch the brakes **must** be adjusted. This is the most important inch of your life.

### Warning

Under normal braking conditions even grossly misadjusted brakes seem to respond satisfactorily. It is only under heavy braking that this dangerous condition becomes apparent.  
**Don't be fooled, check the slack.**

### Cargo Securement


The carrier and driver must ensure that all and any cargo transported is contained, immobilized or secured in accordance to National Safety Code Standard 10.

The following are some general guidelines for ensuring cargo is secured in a safe manner. Generally, cargo transported on a commercial vehicle must not:

- leak, spill, blow off, fall from, fall through or otherwise dislodge from the commercial vehicle; or
- shift upon or within the commercial vehicle to such an extent that the commercial vehicle's
- stability or maneuverability is adversely affected. .

Drivers must inspect the cargo and its securing devices **within the first 80 kilometers after**

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**beginning a trip. Drivers must re-inspect cargo when any one of the following occurs:**

- change of duty status (e.g. from “driving” to “on-duty not driving”); .
- after driving for 3 hours; or .
- after driving 240 kilometers. .

An employee or driver will not use any vehicle to transport goods unless;

- the vehicle is constructed to carry the goods, and .
- there is equipment on the vehicle or attached to the vehicle that is capable of securing the goods to . ensure the vehicle can be operated safely when loaded without danger of turning over the vehicle or the load shifting, swaying, blowing off, falling off, leaking or otherwise escaping. .

**Drivers are not permitted to transport any cargo unless it is properly secured. .**

**Remember:** The driver is responsible to check the cargo for proper securement and make periodic checks along the route to ensure safe delivery. Each cargo securement system must be able to withstand a minimum amount of force in each direction:

**Forward Force:** 80% of cargo weight when breaking while driving straight ahead.


**Rearward Force:** 50% of cargo weight when accelerating, shifting gears while climbing a hill or breaking in reverse.

**Sideways Force:** 50% of cargo weight when turning, changing lanes or braking while turning.

**Upward Force:** 20% of cargo weight when travelling over bumps in the road or cresting a hill.



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## Securement System

A securement system uses one and/or a combination of the following elements:

1. Vehicle structure.
2. Securing devices.
3. Blocking and bracing equipment.

The securement system chosen must be appropriate for the size, shape, strength and characteristics of the cargo. In addition, the articles of cargo must have sufficient structural integrity to withstand the forces of loading, securement and transportation.

A securement system consists of securement devices specifically manufactured to attach or secure cargo to a vehicle or trailer. Securement devices include synthetic webbing, chain, wire rope, manila rope, synthetic rope, steel strapping, clamps and latches, blocking, front-end structure, grab hooks, load binders (boomers), shackles, winches, stake pockets, D-rings, pocket, webbing ratchet, bracing, friction mat, etc.

A tie-down is a combination of securement devices that form an assembly for the purpose of attaching cargo to, or restraining cargo on a vehicle and is attached to anchor point(s).

A tie-down must be designed, constructed and maintained so the driver can tighten it. All components of a tie-down must be in proper working order and must not have:

1. Knots or obvious damage.
2. Any indication of distress.
3. Weakened parts.
4. Weakened sections.


Each tie-down must be attached and secured so that it does not become loose or unfastened, open or release during transit. All tie-downs and other components of a cargo securement system must be located within the rub rails (where applicable); this requirement does not apply when the width of the load extends to or beyond the rub rails.

## Fueling .

Before fueling, the driver must: .

- shut off engine; .
- not smoke; .
- check for fuel leaks; .

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- not overfill the tank; .
- not leave nozzle unattended; and .
- replace filler cap when finished fueling. .

### Vehicle Fueling and Fuel Conservation

Company vehicles are only to be fueled at locations designated by management. Do not smoke or allow smoking near a vehicle that is being fueled. The engine must be turned off when the vehicle is being fueled.

1. All trucks are to be fully fueled before being parked; this is especially important in winter months to eliminate frozen fuel lines due to condensation accumulating in the fuel tanks.
2. Do not overfill the tank to get more mileage from a tank of fuel, especially in warm weather and/or when parking inside; fuel expands in warm conditions and may create a spill or environmental contamination.
3. The driver is responsible to ensure they obtain a receipt for each fuel purchase and submit it with the daily paperwork. The receipt must indicate the vehicle number, number of liters of fuel and the time when fueling occurred.

Due to the high cost of fuel, drivers are requested to practice driving techniques that help conserve fuel. Tests have shown that a driver can improve fuel mileage up to 25% by:


1. Accelerating slowly.
2. Immediately reporting vehicle conditions that may cause excessive use of fuel.
3. Avoiding needless idling; five minutes of idling consumes the same amount of fuel required to drive one kilometer.
4. Planning well in advance when required to pass another vehicle; eliminates excessive acceleration and braking.
5. Planning stops well in advance so as to “coast” to a stop without having to use fuel; also reduces brake and tire wear.

### “Out-Of-Service” Condition

Based on the CVSA (Commercial Vehicle Safety Alliance) out-of-service criteria, and according to AR 121/2009 section 17 if the following conditions are observed by Alberta Transportation (Inspection Services), the vehicle and/or driver is not permitted to proceed until the condition is corrected:

1. Part(s) of a vehicle or condition of loading such that the spare tire or any part of the load, cargo or dunnage can fall onto the roadway.

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2. When the aggregate working-load limit of the securement devices being used is less than 1/2 the weight of the cargo being secured.

**Note:** Equivalent means of securement (i.e.: vehicle structures, dunnage, dunnage bags, shoring bars, etc.) may be used to comply; not all cargo must be “tied down” with chains, webbing, wire rope, cordage, etc.

3. No edge protection.

**Note:** Out-of-Service only when the required tie-down has evidence of damage resulting from unprotected contact with an article of cargo.

4. Articles of cargo that are likely to roll are not restrained by chocks, wedges, a cradle or other equivalent means to prevent rolling, for all types of cargo including light-weight vehicles, heavy vehicles, equipment and machinery.
5. Articles or cargo placed beside each other and secured by transverse tie-downs are not in direct contact with each other and are not prevented from shifting towards each other while in transit.


6. Articles or cargo not blocked or positioned to prevent movement in the forward direction by a header board, bulkhead, other cargo that is positioned to prevent movement, or other appropriate blocking devices, is not secured by at least:

- One tie-down for articles 5 feet (1.5m) or less in length, and 1,100 pounds (500kg) or less in weight.
- Two tie-downs if the article is:
  - 5 feet (1.5m) or less in length and more than 1,100 pounds (500kg) in weight; or
  - Longer than 5 feet (1.5m) but less than or equal to 10 feet (3.04m) in length, irrespective of the weight.
- Two tie-downs if the article is longer than 10 feet (3.04m) and one additional tie-down for every 10 feet (3.04m) of article length, or fraction thereof, beyond the first 10 feet.

7. Article(s) or cargo that is blocked, braced or immobilized to prevent movement in the forward direction by a headerboard, bulkhead, other articles which are adequately secured or by an appropriate blocking or immobilization method, is not secured by at least one tie-down for every 10 feet (3.04m) of article length, or fraction thereof.

8. When any of the required type and number of tie-downs is defective or loose.

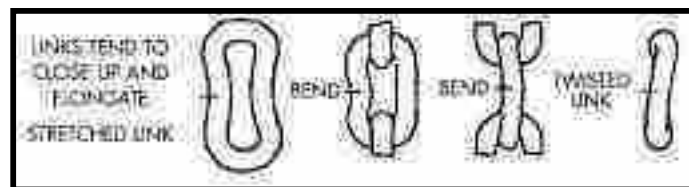
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### Chain Defects

1. Broken, cracked, twisted, bent, or stretched links.
2. Containing nicks, gouges, abrasions, excessive wear, or knots.
3. Any weld(s) on chain except the original chain weld in each link.


**Note:** Repairs; links of the clevis variety, having a strength equal to or greater than the nominal chain are acceptable.

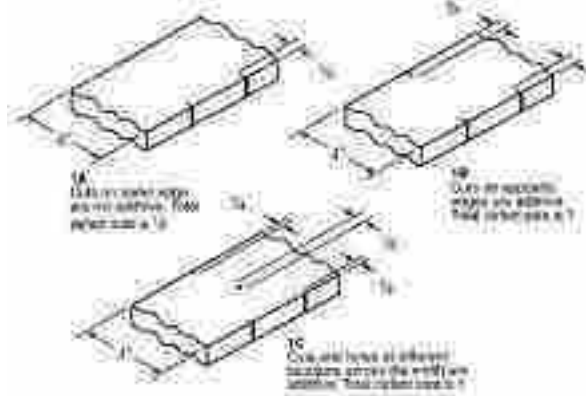


### Synthetic Webbing Defects

1. The tie-down contains cut(s), burn(s), and/or hole(s) through the webbing, which total more than that shown in the Defect Classification Table.
2. The tie-down contains separation of its load carrying stitch pattern(s) in excess of 1/4 of the total stitch area.
3. The tie-down contains any fitting, tensioning device, or hardware, which is broken, obviously sprung, bent, twisted, or contains visible cracks or significant nicks or gouges.
4. The tie-down contains a knot, repair, splice, or any other apparent defect (i.e., crushed areas, damaged loop ends, severe abrasions, etc.)

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### DEFECT CLASSIFICATION TABLE

#### Total Defect Size

<i>Web Size</i>	<i>Out-of-Service Range</i>
<b>Inches (mm)</b>	<b>Inches (mm)</b>
4 (100)	Larger than ¾ (19)
3 (75)	Larger than 5/8 (16)
2 (50)	Larger than 3/8 (10)
1.75 (45)	Larger than 3/8 (10)

All cuts, burns and/or holes through the webbing are additive across the width of the strap face for its entire effective length. Only one defect is additive for any specific width.


**Note:** Webbing used in tie-down assemblies shall not be repaired or spliced

#### Fittings or Attachment Defects:

1. Obvious reduction of a section through wear or corrosion.
2. Obviously distorted or stretched load binders and fittings.
3. Hooks opened in the throat beyond the original parallel throat opening.
4. Obvious twisting out of the plane of the fitting.
5. Welding or discoloration from excessive heat.

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**Note:** Some winches are designed to be welded to the truck bed.


6. Any visible cracks.
7. Any slippage detectable at a wire rope "cable clamp".

**Note:** End fittings may be replaced with clevis type.

#### **Anchor Point Defects:**

1. Broken or cracked side or pocket rails, supports, or welds.
2. Rails bent or distorted where hooks or fittings attach.
3. Floor rings nicked, gouged, worn, twisted, bent, stretched, or with broken welds.

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### 14.1.4 PROPER RECORD COMPLETION

Allen Services & Contracting Ltd. will train staff in hours of service records, bill of lading/manifests, dangerous goods records, weigh slips, and other documents that are required to be completed by law. A record will be maintained in each driver's file showing that the employee has this knowledge or any training received. The company will evaluate each type of record for proper completion.

#### Hours of Service Records

Refer to the following resources for more information on federal hours of service requirements:

[Commercial Vehicle Drivers Hours of Service Regulations \(SOR/2005-313\)](#)  
[Reference Guide for Hours of Service Training Development](#)  
[Module 7 of the Commercial Vehicle Safety Compliance in Alberta manual](#)


#### Daily Log Completion

Unless exempted by law, all authorized drivers must complete daily logs for every calendar day they are employed by the company. The following information provides a brief summary for what must be included in a daily log:

##### **At the beginning of each day:**

- the start time of day if different than midnight, the name of the driver and, if the driver is a member of a team of drivers, the names of the co-drivers;
- in the case of a driver who is not driving under the provisions of an oil well service permit, the cycle that the driver is following; .
- the commercial vehicle licence plates or unit numbers; .
- the odometer reading of each of the commercial vehicles operated by the driver; .
- the names and the addresses of the home terminal and the principal place of business of every motor . carrier by whom the driver was employed or otherwise engaged during that day;.
- in the "Remarks" section of the daily log, if the motor carrier or driver was not required to keep a daily . log immediately before the beginning of the day, the number of hours of off-duty time and on-duty time that were accumulated by the driver each day during the 14 days immediately before the beginning of the day; and
- if applicable, a declaration in the "Remarks" section of the daily log that states that the driver is deferring off-duty time under section 16 and that clearly indicates whether the

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driver is driving under day one or day two of that time. .

**During the course of the day: .**

- the hours in each duty status during the day covered by the daily log, in accordance with Schedule 2, and the location of the driver each time their duty status changes, as that information becomes known.

**At the end of each day:**

- the total hours for each duty status and the total distance driven by the driver that day, excluding the distance driven in respect of the driver’s personal use of the vehicle, as well as the odometer reading at the end of the day and sign the daily log attesting to the accuracy of the information recorded in it.

**Electronic Daily Logs**

Electronic daily logs generated by Electronic Logging Devices (ELDs) may be submitted as long as they contain the same information in the same format that is required by regulation for a handwritten daily log. Failing to produce an electronic daily log will be treated the same as failing to produce a daily log in handwritten format. This includes if the electronic daily log data is:

- illegible; .
- inoperable due to driver error; .
- inoperable due to device malfunction, or .
- unavailable for any other reason. .

For more information refer to the Electronic Log Policy: [www.transportation.alberta.ca/5610.htm](http://www.transportation.alberta.ca/5610.htm)


**Retention and Distribution of Log Books .**

Drivers must forward the original copy of their daily log and supporting documents to their home terminal within 20 days of the completion of the daily log. .

Within 30 days of receiving the daily logs and supporting documents, the company will deposit these records at the principal place of business and retain all daily logs and supporting documents in chronological order for each driver for at least 6 months. .

Hours of service records will be maintained at the following location: .

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55104 Lamoureux Drive  
Sturgeon County, AB T8L 5A8

### Time Records for Drivers Operating within 160 kilometers of the Home Terminal

Authorized drivers are not required to maintain a daily log where **ALL** of the following conditions are met:

- Driver/vehicle does not operate beyond 160 kilometers radius of the home terminal; .
- Driver returns to home terminal each day to begin a minimum of 8 consecutive hours of off-duty time; .
- The company maintains and retains for a period of 6 months accurate and legible records showing, for each day the driver's duty status and elected cycle, the hour at which each duty status begins and ends and the total number of hours spent in each status; .
- The driver is **not** driving under a permit issued under the *Commercial Vehicle Drivers' Hours of Service Regulation*. .

When a driver was not required to keep a daily log before the beginning of the day (radius operation), the driver shall in the "remarks" section of the daily log record the number of hours of off-duty time and on-duty time that was accumulated by the driver for each day during the 14 days immediately before the beginning of the day. .


### Shipping Documents

#### Bills of Lading .

Where applicable, a Bill of Lading shall be identified by a numerical code or other means of identification and shall set out at least the following:

- name and mailing address of the consignor; .
- date of the consignment; .
- point of origin of the shipment; .
- name of the originating carrier; .
- names of connecting carriers, if any; .
- name and mailing address of the consignee; .
- destination of the shipment; .
- particulars of the goods comprising the shipment, including weight and description; .

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- a space for the signature of the consignor or his agent; .
- a provision stipulating whether the goods are received in apparent good order and condition; .
- a space in which to show the declared value of the shipment; .
- where charges are to be prepaid or collected; .
- a space in which to indicate whether the charges are prepaid or collect; .
- a space in which to show whether the C.O.D. fee is prepaid or collect; .
- a space in which to show the amount to be collected by the carrier on a C.O.D. shipment; .
- a space in which to note any special agreement between the consignor and the carrier; .
- a statement in conspicuous form indicating that the carrier's liability is limited by a term or condition of the applicable schedule of rates or by other agreement, if such a limitation exists.

The person who is the originating carrier of the goods being shipped shall, on the bill of lading issued for those goods:

- acknowledge receipt of the goods by signing the bill of lading, and .
- indicate the condition of the goods and give details of any defect. .


### Waybills

Instead of carrying a bill of lading for the goods transported, the company may carry a waybill for the goods issued by the consignor or carrier. A waybill shall be identified by the numerical code or other means of identification set out on the bill of lading and set forth at least the following:

- particulars of the goods carried on the vehicle; .
- name and mailing address of the consignor; .
- point of origin of the shipment; .
- name and mailing address of the consignee; .
- destination of the shipment; .
- names of connecting carriers, if any; .
- whether the charges are prepaid or collect; .
- date of the consignment. .

**Note:** See Section 2 of the [Bill Of Lading and Conditions of Carriage Regulation \(AR 313/2002\)](#) for exemptions (e.g. owner's own goods). .

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### Dangerous Goods Shipping Documents.

If the company transports Dangerous Goods, a Dangerous Goods Shipping Document shall contain, **at minimum**, the following information: .


- Consignor's name and address in Canada; .
- Date of shipment; .
- Description of the goods: (in the following order)
  1. UN number (e.g. UN1230); .
  2. Dangerous goods shipping name (e.g. Methanol); .
  3. Primary class and subsidiary class (e.g. 3(6.1)); .
  4. If applicable, the packing group in roman numerals (e.g. I, II or III) or the compatibility group letter for explosives; .
  5. If applicable, the words "toxic by inhalation" or "toxic – inhalation hazard" for dangerous goods subject to Special Provision 23 (Class 6.1, PGI, toxic due to inhalation); .
- The quantity in metric measurement (e.g. kg or L) for transport originating in Canada;
- The "24-hour number" of a person who can provide technical information on the dangerous goods; and .
- The consignor's certification.

In some cases, more information may need to be included, such as:

- The number of small means of containment (e.g. volume of 450 L or less) that require labels;
- The technical name or the statement "not odorized"; .
- The Emergency Response Assistance Plan (ERAP) number and its activating telephone number; **Note:** *An ERAP is only required for certain dangerous goods in certain quantities. To learn more about ERAP, please consult Part 7 of the TDG Regulations.*
- The flash point, if the product is a Class 3 flammable liquid and is being transported on a ship; (e.g. gasoline, diesel, etc.); .
- Special instructions, such as the control and emergency control temperatures of Classes 4.1 and 5.2; and
- The number of any applicable Transport Canada Equivalency Certificates. .

Shipping documents must be carried within the driver's reach and, when the driver leaves the cab, the shipping documents must be left on the driver's seat, in a pocket on the driver's door or in an obvious place in the cab. If the vehicle is left in a supervised area, a copy of the shipping document must be left with the person in charge. .

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**Note:** There may be exemptions to regulations. Refer to Part 3 of the [Transportation of Dangerous Goods Regulations \(SOR/2001-286\)](#).

For more information refer to the web site: <http://www.transportation.alberta.ca/> and/or contact the Dangerous Goods Coordination and Information Centre at 800-272-9600 for further information on bulletins, permitting and general information.

### **Weigh Slips .**

The company will obtain accurate vehicle weights and weigh slips for vehicles that are required to be weighed under the [Bill Of Lading and Conditions of Carriage Regulation \(AR 313/2002\)](#).

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## 14.1.5 COMPLIANCE WITH THE LAW

### Safety Laws

Drivers operating vehicles owned by Allen Services & Contracting Ltd. will comply with all transportation safety laws as required. The [Commercial Vehicle Certificate and Insurance Regulation \(AR 314/2002\)](#) identifies that:

“safety laws” means, as the context requires,

- i) the Act (*Traffic Safety Act*) and regulations made under the Act;
- ii) the *Dangerous Goods Transportation and Handling Act* and the regulations made under that Act;
- iii) the laws of a jurisdiction outside Alberta, respecting the same, similar or equivalent subjects as those regulated or controlled by the laws referred to in sub clauses (i) and (ii).


### Safe Vehicles

#### Vehicle Condition:

Drivers will not operate and the company will not permit a person to operate a commercial vehicle if the vehicle or any equipment related to the commercial vehicle is in a condition likely to cause danger to persons or property.

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## 14.1.6 USE OF SAFETY EQUIPMENT

### Use of Warning Devices

During the night time a commercial vehicle will not be stationary on a highway outside the limits of an urban area unless;

- the hazard lights are alight if functional; and
- advanced warning triangles are placed without delay on the highway in line with the commercial vehicle at a distance of approximately 30 metres behind and in front of the commercial vehicle.

When there is insufficient light or conditions where objects are not clearly discernable at 150 metres, commercial vehicles will not be stationary outside of the limits of an urban area unless;


- the hazard lights are alight if functional, and
- advanced warning triangles are placed without delay on the highway in line with the commercial vehicle at a distance of approximately 75 metres behind and in front of the commercial vehicle.

During the day time a person will not permit a commercial vehicle to be stationary on a highway outside the limits of an urban area unless;

- the hazard lights are alight if functional, and
- advanced warning triangles are placed without delay on the highway in line with the commercial vehicle at a distance of approximately 75 metres behind and in front of the commercial vehicle.

Warning triangles and hazard lights are used to make other traffic aware of parked commercial vehicles.

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## USE OF FIRE EXTINGUISHERS

If the need to use a fire extinguisher arises:

### Remember the word PASS

1. **Pull** - Pull the safety pin by breaking the seal;
2. **Aim** – Aim the nozzle, horn or hose at the base of the fire;
3. **Squeeze** - Squeeze the handle;
4. **Sweep** – Sweep from side to side moving carefully toward the fire keep the extinguisher aimed at the base of the flame and sweep back and forth until the flames appear to be out.

### Safety instructions:

- remove the fire extinguisher from its bracket;
- approach the fire from upwind if possible;
- hold the extinguisher in an upright position;
- Always aim at the base of fire from ca. 6-8 feet away
- continue to sweep back and forth until the fire is out and/or the fire extinguisher is empty;
- replace the safety pin and return it to your compartment;
- have extinguisher recharged immediately or replaced before your next run;
- report use of fire extinguisher to your supervisor.

### Use of Personal Protective Equipment (PPE)

Allen Services & Contracting Ltd. will ensure all employees are educated on the proper use of all issued PPE (e.g. Allen Services & Contracting Ltd.'s safety glasses, hard hats, breathing apparatus, etc.). Any education or training will be documented and placed in the driver's file.

**Note:** For further information on Allen Services & Contracting Ltd.'s Personal Protective Equipment (PPE) program, training, care, use, maintenance and limitations of PPE, please review section 6 of the Health & Safety Management System.


The Alberta Occupational Health and Safety Act is available online at:

<http://work.alberta.ca/occupational-health-safety/ohs-act-regulation-and-code.html>.

The PPE Code of Practice for Northwest Territories is available at:

<http://www.wscn.nt.ca/node/2576>.

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## 14.1.7 DRIVER CONDUCT & DISCIPLINE

### Driver Conduct

Drivers must practice good conduct by keeping the following policies in mind:

- safely operate company vehicles on the highway with a professional attitude and obey posted speed limits; .
- drive in a defensive manner, be aware of surroundings and look ahead. Leave a safe distance between vehicles and be a professional and courteous driver; .
- keep the vehicle under control at all times and reduce speed due to changes in road, weather and traffic conditions; .
- be prepared to avoid collision producing situations by practicing and promoting safe driving skills; .
- report all significant events on road to the company Journey Manager/Supervisor, including violations, near misses, etc. .

### Disciplinary Procedures (STEPS) .

All disciplinary steps taken by Allen Services & Contracting Ltd. will be progressive in nature. All actions taken by Allen Services & Contracting Ltd. including verbal warnings, will be documented. Disciplinary action may be taken with employees for any:

- regulatory violations (identified on the Carrier Profile, driver's abstract or through internal evaluations/audits). .
- significant company policy violations (identified through internal audits, direct observation, reports from other staff, and reports from the public/customers). .


As appropriate, disciplinary action may include:

- written warnings; .
- suspension; or .
- termination. .

The disciplinary process may also require corrective measures, such as re-training. For severe violations that pose a significant risk to public safety, the company may take disciplinary action at any stage based on the severity of the violation. .

Where any form of disciplinary action is taken against a driver, this action **must** be documented and recorded in the driver's file. .

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## 14.1.8 DRIVER QUALIFICATIONS

### Use of Personal Protective Equipment (PPE) .

When hiring new drivers, Allen Services & Contracting Ltd. will ensure the driver is qualified for the job by reviewing their driver's abstract. By reviewing the commercial driver's abstract, the company will ensure the driver has a valid operator's licence for the class of vehicle they will be operating. The company will also examine the driver's history to determine whether they are qualified to operate a commercial vehicle safely.

When hiring new drivers, the company may also:

- conduct a personal interview to evaluate attitude, driving skills and professionalism; .
- contact references and past employers; .
- conduct a road test to include: use of two and four lane highways, city driving, and yard backing and . parking, shifting, turning, mirror usage, speed and general awareness; .
- evaluate the skills and knowledge of a driver by conducting a written exam; .
- address any special training requirements (e.g. dangerous goods, long combination vehicle, etc.); .
- implement a maximum abstract point threshold (e.g. specify maximum demerit points allowed within a three-year period and do not hire if exceeded); .
- implement a maximum collision threshold (e.g. consider if your threshold will include preventable . collisions only or all collisions. Do not hire the applicant if the threshold is exceeded); .
- implement a policy addressing procedures for suspended licence. .
- implement a policy requiring drivers to immediately report changes of their Driver's Licence status to their employer (for example, suspensions or medical requirements/conditions).

### Hiring Criteria – Drivers


Allen Services & Contracting Ltd. has definitive policies concerning the hiring of drivers. In all cases these policies conform with or exceed the standards as set forth in the National Safety Code.

It is company policy to employ only individuals who are courteous and have the knowledge and ability to operate the type of equipment to which they may be assigned.

An Allen Services & Contracting Ltd. driver must:

- Be at least 18 years of age and possess one (1) current and valid operator license appropriate for the vehicle operated.

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- Complete and provide to the company an “Employment Application” form and/or resume’ that includes references for the previous three (3) years.
- Obtain from the province indicated on their operator license, a current commercial driver abstract that lists any violations for, as a minimum, the previous three (3) year period and submit it to the company prior to employment. The driver must also provide and/or authorize the company to obtain a driver abstract once annually, or as deemed necessary.
- Have two (2) years collision free driving, this includes any collision – preventable and non-preventable.
- Successfully complete a driver evaluation conducted by a qualified company driver trainer and/or outside agency.
- Read and speak English well enough to converse with the public, to understand highway traffic signs and signals, to respond to official inquiries and to make entries on reports and records.
- Be physically able to safely perform all other activities associated with employment requirements.
- By experience, training or both, be able to safely operate the type of vehicle they are assigned.
- Be familiar with methods and procedures for securing loads on the vehicle they operate.

### Driver Evaluations .

The company will perform written driver evaluations according to the intervals in the chart:

Driver Evaluation Type	Evaluation Interval	Comments
<b>New Hire</b>	Evaluation on hire	Complete written driver evaluation form and place in driver file
<b>Probationary Driver</b>	30 days	Complete written driver evaluation form and ensure driver has corrected any issues identified in the evaluation conducted at hire.
<b>Non-compliant Driver</b>	Within 10 days of notification	Complete written driver evaluations until satisfied the driver understands and can comply with requirements.
<b>Normal Driver</b>	Annually	Complete written driver evaluation form and place on driver file.

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Drivers will be evaluated for skills involving:

- driving in traffic,
- backing up,
- connecting a trailer,
- fuelling,
- driving in the mountains,
- driving defensively,
- conducting daily Trip Inspections, and
- identifying and reporting defects to the carrier.

The company maintains an ongoing program for evaluating employees' driving skills using:

- road tests (see Driver Evaluation form at the end of this section); .
- internal audits of records (logbooks, time records, etc.).

Drivers may also be required to take written exams to test driver skills and knowledge of (as applicable): .

- hours of service; .
- weights and dimensions; .
- cargo securement; .
- dangerous goods; .
- daily trip inspections; .


Driver Evaluation results will be retained on each driver's file.

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# DRIVER EVALUATION

<b>Carrier Name:</b>				<b>Current Class of Operator's Licence</b>								
				1	2	3	4	5				
<b>Driver Name:</b>			<b>Date:</b>			<b>Signature of Driver:</b>			<b>Date:</b>			
DRIVER ACTIONS			Performance Assessment			DRIVER ACTIONS			Performance Assessment			
			Good	Fair	Poor				Good	Fair	Poor	
<b>A. CONTROLS</b>						<b>E. TRAFFIC LIGHTS / SIGNS</b>						
1. Knowledge and/or use of equipment						1. Fails to anticipate / observe						
2. One-handed steering – hand position						2. Judgment – green / amber / red						
3. Steering Control – wanders / recovery						3. Judgment – stop / yield / other						
4. Shifts too soon / late / lugs												
5. Improper use of gears / grinds						<b>F. RIGHT-OF-WAY</b>						
6. Improper use of clutch / stalls/ coasts						1. Uncertain / hesitant						
7. Improper use of brake / park brake						2. Fails to assume own right of way						
8. Improper use of accelerator						3. Aggressive / Judgment						
9. Signals too soon / late						<b>G. SPEED</b>						
10. Signals – improper / not cancelled/none						1. Too fast for conditions						
<b>B. PARKING / STARTING / BACKING</b>						2. Too slow for conditions						
1. Fails to set brake / gear						<b>H. BACKUP / TURN AROUND</b>						
2. Observation – backing / starting						1. Poor observation – before / during						
3. Judgment – vehicle / wheels / angle						2. Judgment of distance / position						
5. Rolls back						<b>I. ROAD TEST DISQUALIFICATION</b>						
6. Unsure / too slow						1. Overall poor performance						
<b>C. LANE DRIVING / CHANGING / POSITION</b>						2. Right of way violation – vehicle / pedestrian						
1. Fails to check mirror						3. Traffic light violation						
2. Fails to check blind spot / late						4. Stop sign violation						
3. Uncertain / hesitant						5. Speeding violation						
4. Road position – straddles lane						6. Other violation						
5. Too close / far – stop / pass / follow						7. Climbs over curb						
6. Improper lane change / late / slow						8. Lacks caution at uncontrolled intersection						
7. Fails to observe signs / conditions						9. Obstructs traffic						
<b>D. INTERSECTIONS / TURNS / RR</b>						10. Unable to perform skill maneuver						
1. Block crosswalk / intersection / stop line						11. Hits vehicle / object						
2. Stops too far back						12. Lacks skill and control						
3. Unnecessary stop						13. Unsafe action						
4. Fails to leave parking lot						14. Trip inspection failure						
5. Fails to observe conditions / late						<b>COMMENTS:</b>						
6. Left turn – cuts corner / turns wide												
7. Left turn – wrong lane – before / after												
8. Right turn – cuts corner / turns wide												
9. Right turn – wrong lane – before / after												
10. Incorrect position – vehicle / wheels												
11. Too fast – before / during												
12. Too slow – before / during												
<b>TEST ADMINISTRATION INFORMATION:</b>												
<b>Authorized to drive:</b>			<b>Yes</b>		<b>No</b>							
<b>Safety Officer's Name:</b>			<b>Signature:</b>									

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## 14.1.9 DRIVER FILES

### Driver Files

Allen Services & Contracting Ltd. will keep a driver record for every person authorized to operate company vehicles, **including owner(s)** and management. These records will include the following information:


- the driver's completed application form for employment with the registered owner, where applicable (**note:** the driver's resume is considered to be an acceptable application); .
- the driver's employment history for the three years immediately preceding the time the driver started working for the carrier, where applicable; .
- a copy of the driver's abstract in a form satisfactory to the Registrar when the driver is first hired or employed, dated within 30 days of the date of employment or hire; .
- annual updated copies of the driver's abstract in a form satisfactory to the Registrar; .
- a record of the driver's convictions of safety laws in the current year and in each of the 4 preceding years; .
- a record of any administrative penalty imposed on the driver under safety laws; .
- a record of all collisions involving a motor vehicle operated by the driver that are required to be reported to a peace officer under any enactment of Alberta or a jurisdiction outside Alberta; .
- a record of all training undertaken by a driver related to the operation of a commercial vehicle and compliance with safety laws; .
- a copy of any training certificate issued to the driver, in electronic or paper form, for the period starting . on the date the training certificate is issued and continuing until 2 years after it expires, in accordance with Part 6.6 of the Transportation of Dangerous Goods Regulations under the *Transportation of Dangerous Goods Act, 1992*; and .
- a copy of a current medical certificate for all Class 1, 2 or 4 licences and Class 3 or 5 with a licence endorsement code "C" requiring a periodic medical. If medical certificate is not presented or available, retain a copy of valid driver licence, a Commercial Driver's Abstract or a note from the medical doctor in lieu of the medical certificate. .

### Driver Record Retention .

Allen Services & Contracting Ltd. will keep all driver files at the principal place of business in Alberta. These records will be:


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- retained for at least five years from the date they are created, established or received (unless specified otherwise by specific legislation); and .
- available for inspection by a peace officer during the carrier's regular business hours. .

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### 14.1.10 TRAINING AREAS

Allen Services & Contracting Ltd. will ensure all drivers have met training requirements prior to operating company vehicles. This training must be conducted to increase knowledge, reduce violations and reduce the likelihood of collisions.

All employees will receive training in the following subjects, as applicable:

- company safety program; .
- safe vehicle operation; .
- company maintenance program; .
- Traffic Safety Act and relevant transportation safety laws including;
  1. Hours of service; .
  2. Daily trip inspections; .
  3. Weights and dimensions; .
  4. Cargo securement;
  5. Other regulations, as applicable to company operations; .
- the [\*Dangerous Goods Transportation and Handling Act\*](#) and regulations made under that Act; .
- Transportation of Dangerous Goods (TDG) Training
- Fatigue Management
- Workplace Hazardous Material Information System (WHMIS);
- Defensive Driving; and
- any other laws (e.g. Occupational Health and Safety) or laws of another jurisdiction if operating outside of Alberta and/or Northwest Territories. .

Employees will be trained:


- In House
- By a 3<sup>rd</sup> Party Training Provider
- Online

**All drivers will have records of training in their file (e.g. training certificates or other records showing the time, date and type of training).** A copy of applicable legislation will be made available for all staff online and as hard copies in the office.

#### Orientation .

All new hires will receive training on the company's safety and maintenance policies. Orientation must be completed before drivers drive to ensure they know the laws that apply on that first trip.

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New employees will also receive training in the following subjects upon hire: .

- Hours of Service
- Daily Trip Inspections
- Weights and Dimensions
- Load Securement

### Ongoing Training

Employees will receive ongoing trainings throughout their employment in the following subjects:


- hours of service (logbooks and/or time records) – the company will assess the need for additional training by conducting daily and periodic internal audits of:
  - driver's hours of service records to ensure documents are not falsified;
  - daily log completion to ensure they meet the legislated requirements (form and manner); and
  - other fatigue related issues, such as, operating beyond the legislated hours of service limits, inadequate rest or off duty periods, etc. .
- daily trip inspections – the company will provide ongoing training through spot checks and monitoring of . vehicle defects. .
- weights and dimensions – ongoing training and monitoring will be provided on legal weights and dimensions, permit weights and dimensions, shipping weights, etc. Loads to be scaled and dimensions . and permits must be checked before leaving the yard. .
- Load securement – ongoing training and monitoring of compliance with Cargo National Safety Code Standard 10 through direct spot checks and monitoring the Carrier Profile. .
- other regulations, as applicable to company operations. .

All employees will be evaluated on a regular basis to ensure they understand minimum transportation safety requirements. If a knowledge gap is identified in a driver evaluation, the company will ensure that driver is trained as necessary. Employees may also be subject to additional trainings throughout the year when:

- Regulations or policies concerning any of the subjects above have changed; .
- An employee has demonstrated non-compliance in one of the above areas; or .
- An employee has indicated they do not understand the minimum transportation safety requirements. .

The company will ensure all employees are evaluated on their knowledge of the information received during training. .

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## First Aid Training

In compliance with Standard 16 – First Aid Training, Allen Services & Contracting Ltd. recommends that all drivers have adequate First Aid training which will meet Alberta OH&S Act, Regulations and Code, where applicable.

All drivers are required to take the Standard First Aid CPR/AED Level C Training from an approved 3<sup>rd</sup> Party Training provider such as Alberta Red Cross or St. John Ambulance. Training will be tracked in the Training Matrix and renewed every 3 years.

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The training will comply with Schedule 1 and will include at a minimum, the following topics:

**SCHEDULE 1**

TOPIC	Minimum Duration Topic Presentation (*1)	Minimum Duration Practical Exercises	TOTAL
Respiratory Emergencies and Artificial Respiration	7 minutes	30 minutes	37 minutes
Bleeding from Wounds	7 minutes	22 minutes	29 minutes
Embedded Foreign Objects	4 minutes	--	4 minutes
Stuck	5 minutes	--	5 minutes
Burns and Scalds	7 minutes	--	7 minutes
Fractures - Upper Limb	4 minutes	20 minutes	24 minutes
Fractures - Lower Limb	4 minutes	--	4 minutes
Chest Injuries	7 minutes	--	7 minutes
Head and Spinal Injuries	8 minutes	5 minutes	13 minutes
Choking Management	11 minutes	--	11 minutes
Accident Scene Management	7 minutes	45 minutes	52 minutes
<b>TOTAL Instruction Time</b>	<b>72 minutes</b>	<b>122 minutes</b>	<b>194 minutes</b> or <b>3 hr 23 minutes</b>

(\*1) May include lecture, film, class discussion, demonstration, etc.

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### 14.1.11 MONITORING HOURS OF SERVICE COMPLIANCE

Allen Services & Contracting Ltd. will monitor the compliance of each driver with the [Commercial Vehicle Drivers Hours of Service Regulations \(SOR/2005-313\)](#). The company has a responsibility to monitor the compliance of drivers' hours of service records. The purpose of monitoring these records is to prevent collisions involving fatigued driving. During the monitoring process, the company will address all fatigue-related violations found in these records. Hours of service violations considered to be "fatigue-related" include:


- False records (identified using independent supporting documents); .
- More than one record for each day; .
- Missing records (every day must be accounted for); .
- Records not current to the last change of duty status; .
- Driving over any hour limits specified in regulation; .
- Drivers not meeting off-duty requirements or taking time breaks as required by regulation; .
- Using the 160 kilometer radius exemption when the driver does not meet all specified criteria; .
- Failing to meet any condition of a permit related to hours of service. .

The process used to monitor drivers for compliance must produce measurable results. The goal of the company is to work towards achieving a Fatigue Violation Rate of 0% (i.e. no fatigue-related violations by any drivers). .

The company will adopt the following approach when reviewing driver records for hours of service violations: .

- Document written policies in the safety program that address compliance requirements;
- Assign a person to be responsible for monitoring, taking remedial action when violations are found, etc. .
- This person should also be responsible for ensuring they and other applicable employees have the . necessary skills and knowledge to accurately analyze hours of service records;
- Verify that all authorized drivers have a record for every calendar day (including days off and holidays); .
- Verify all authorized drivers understand and apply the appropriate hours of service regulations; .
- Check all authorized drivers for form and manner violations for every day. This includes checking for name, . address, date, daily hour totals, and odometer readings on the record;

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- Check all authorized drivers for fatigue-related violations (see list of fatigue violations above); .
- Use independent supporting documents (that cannot be created or modified by the driver) to verify the . accuracy of each driver’s records. Supporting documents may include fuel receipts, bills of lading with . shipping times, GPS records, or meal/hotel receipts, toll receipts, etc. .
- Check recently trained drivers and drivers with a history of violations more often. Regularly check these . drivers until the company is satisfied they understand and apply the appropriate hours of service . requirements. .
- When a new driver is hired, obtain hours of service records from their previous employer. If this is not possible, then obtain a signed statement from the driver that specifies their total on-duty and off-duty hours for each of the previous 14 days prior to authorizing them to drive. .
- Where an Electronic Onboard Recording Device (EOBR) is used in place of a hardcopy log, verify that the driver’s on-duty and off-duty hours are accurate. For example, ensure that the EOBR has not recorded loading or unloading time as “off-duty” time. .
- When violations are identified in a driver’s records, take appropriate remedial action. All action(s) taken must be documented in the driver’s file and must include the date the violation was identified and date issue was addressed. .
- Prepare a monthly report of your findings and any corrective action(s) taken. Retain all reports for the current year and the preceding 4 years. The report should include a calculation of each driver’s Fatigue Violation Rate (FVR) and of the company’s overall FVR using the formula below: .


$$\text{FVR} = \frac{\text{Number of days with 1 or more fatigue-related violations} \times 100\%}{\text{Total number of days checked} .}$$

- The report should also include a calculation of every driver’s Form and Manner Violation Rate (FMVR) using the formula below: .

$$\text{FMVR} = \frac{\text{Number of days with 1 or more form and manner violations} \times 100\%}{\text{Total number of days checked} .}$$

- It is recommended that carriers with one to ten drivers check every driver at least once a month for hours of service violations. .
- Carriers with more than ten drivers should check at least ten drivers plus 10 per cent of the remaining drivers on a monthly basis. For example, a carrier with 30 drivers would check 10 drivers plus 10 per cent of the remaining 20 drivers, for a total of 12 drivers each

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month. In a larger company, every driver should be checked for hours of service compliance at least once annually. .

**NOTE:** A “driver” includes any person authorized to operate an NSC vehicle registered to the carrier. This includes full or part time employees, volunteers, mechanics, salespeople, dispatchers, office staff, owners, managers, supervisors, etc. .

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## 14.1.12 JOURNEY MANAGEMENT PLAN

### Purpose

Allen Services & Contracting Ltd. recognizes the importance of Journey Management and the accountability of trip/route evaluation and completion; the location of all equipment in real time; and the impact these tasks have on client expectations and service delivery. This Journey Management plan has been developed to ensure that Allen Services & Contracting Ltd. accounts for the successful completion of all transportation needs.

### Scope


All Allen Services & Contracting Ltd. employees will follow the Journey Management Plan. The plan covers all commercial vehicles covered under the National Safety Code (NSC) Standards. This Journey Management Plan may be utilized for light duty vehicles such as pick-up trucks.

As set forth in this plan, Allen Services & Contracting Ltd. Journey Manager will arrange all travel details between the clients' pick up and/or drop off locations. All travel progress will be tracked using GeoTrac system; location of driver, speed and times will be recorded. Drivers will use the GeoTrac system to communicate with home base in the event cell towers are not available.

Before any journey is performed, it is Allen Services & Contracting Ltd. management's responsibility to ensure that all drivers are fit for duty and prepared for a successful trip completion by demonstrating that the following items have been addressed:

- Drivers are properly licensed and have completed all required training necessary to safely complete their journey(s).
- Drivers are fully trained to operate the equipment assigned them.
- Drivers are trained in and understand the importance of emergency response planning and training.
- Drivers possess the specific driving credentials such as proper class of license for assigned vehicles;
- Understanding of potential hazards as identified through the pre- and post-trip inspection of vehicle and equipment;
- the identification of issues to be addressed by the maintenance department;
- ensuring fitness for duty before and during the journey;
  
- Following specific instruction regarding road and weather conditions; etc.
- Knowing where to report prior to the journey; where to find trip specific details such as route information, maps and timing; pick up and drop off points of freight.
- Knowing the site security requirements, if applicable, carrying personal identification at all times.

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## Roles and Responsibilities

### Management is responsible to:

- Appoint a Safe Journey Manager who has an overview of the drivers' and vehicle's movements during their shift;
- Ensure the Journey Manager and driver conduct a hazard/risk assessment of the complete journey/route prior to starting the trip if the driver is unfamiliar with the route /road or if weather/road conditions could present a hazard(s);
- Ensure the client's service has been accurately scheduled, that adequate equipment is available and drivers have been updated and prepared.
- Communicate any significant variances to the client, where applicable, with detailed explanation.

### A Journey Manager/Supervisor is:


A designated manager or supervisor who, during the driver's shift, is the main contact person for the following:

- The planning, monitoring and closing out of the journey including the evaluation of inbound and outbound trips to ensure that service was safely completed;
- Conduct a route/road risk assessment with the driver to determine and identify specific road hazards for the chosen route, confirm if there are any 2-way radio channels needed to travel specific roads, confirm if there is cell phone coverage in the travel areas, and develop communication plans for the journey;
- Coordinating with the HSE Coordinator the initial investigation into incidents, injuries or near misses;
- Conducting the initial investigation into instances that have resulted in late or incomplete service;
- Being present during the check in process, prior to departure, to determine the status of the driver – fit for duty and able to complete the assigned work;
- Overall monitoring of vehicle movement and drivers' driving actions;
- Initiating an emergency response if there is an accident/incident, or the vehicle is unaccounted for at the end of the trip.

### Drivers will:

- Possess the correct certification for the type of vehicle that they will be operating as outlined in the Alberta Licensing requirements;
- Immediately report to their Manager/Supervisor, any physical or medical conditions that may affect their ability to safely complete their driving duties.
- Report to work in appropriate and professionally suiting clothing, appropriate hygiene, fit for duty and prepared to complete their assigned work – well rested, fed and focused on the tasks;

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- Undertake responsibility for the vehicle - its condition and the safe transport of freight by completing a thorough pre-trip inspection and maintaining their log sheets;
- During the pre-trip meeting with the Journey Manager/Supervisor, review the assigned work, obtain the route map and note any changes or exceptions to the usual route and determine any potential interruptions to the work flow including construction zones and road or weather conditions; ensure they have up to date copies of emergency response procedures and phone numbers for both the client, if applicable, and Allen Services & Contracting Ltd.
- Report to their Journey Manager/Supervisor, instances when they are unable to pick up or drop off on time including the reason for the delay;
- Communicate to their Journey Manager/Supervisor potential hazards or deviations to the authorized route: in town, on the highway, access roads or on site;
- Remain in communication with their Journey Manager/Supervisor during their trips to ensure that they remain safe while operating in a “working alone” environment.
- Complete daily driver’s logs to ensure compliance with NSC requirements and local provincial regulations.
- Ensure they have enough work hours available to complete the trip without violating the hours of service regulations.

**HSE Coordinator will:**

- Where requested, support the Journey Manager/Supervisor in route analysis to ensure that proposed routes are the safest and most suitable for the assigned equipment.
- Attend and support investigations into all incidents, near misses and injuries.


**Journey Management Plan**

The Journey Manager/Supervisor is designated as the “go to” person and handles the initial notification of an incident received from the driver. They will receive the information and request help from the various departments or persons as required.

The Journey Manager/Supervisor will review with all drivers, the journey plan, which will include road and weather conditions, communication devices required for the journey, all emergency response procedures including contact names and numbers for the client and Allen Services & Contracting Ltd.

Drivers will inform the Journey Manager/Supervisor, as the primary contact, of all route related issues including timing, road hazards, etc.

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Drivers are also instructed to immediately notify their Journey Manager/Supervisor in the event of:

- a contact event,
- a significant near miss incident or
- an injury to themselves or co-workers
- if they become unfit for duty during their trip.

Management and Maintenance must ensure that any deficiencies that affect service levels or the safety of the driver are corrected as soon as practical.

### Planning the Route/Trip

Appropriate levels of equipment and drivers are determined by the Journey Manager to ensure full compliance to service level delivery. Vehicles are scheduled to ensure that the safest authorized route of travel is used from Allen Services & Contracting Ltd. facility to the clients' locations and back.

Drivers are responsible to ensure that they are able to complete the run/trip within the allowable driving time and communicate to their Journey Manager as soon as possible if they cannot complete the assigned run.

Drivers must ensure all equipment is in good working condition and freight is properly secured before beginning their trip.


Drivers must review and complete the Journey Management Plan with the Journey Manager for all routes they are unfamiliar with or if weather/road conditions may pose a hazard.

### Hours of Service Compliance Standard

Consistent with provincial regulatory requirements, Allen Services & Contracting Ltd. will not knowingly ask the driver to drive;

- More than 13 hours following 8 consecutive hours off duty; or
- For any period after having been on duty 15 hours following 8 consecutive off duty hours.

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## Vehicle Movement - Potential Hazards

Numerous road hazards have been identified by Allen Services & Contracting Ltd. Some identified hazards are described as:


- Traffic patterns and limited access to many areas
- Pedestrian movement in designated crosswalk areas.
- Construction areas in town, on the highway and on clients' sites.
- Revised or amended routes.
- Interactions with other vehicles.
- Driver fatigue or illness prior to or during the run.
- Extreme weather conditions; snow, ice, freezing rain, rain, wind, whiteout conditions, muddy roads, dusty conditions or blowing snow with limited visibility for extended periods of time.
- Wildlife on or crossing highways and roads.
- Emergency vehicles on the roadways.
- Breakdowns in remote areas.
- Night driving
- Communication interruptions where satellite (GeoTrac) or cell phone service is not available.

These identified hazards are communicated through the drivers' initial training and ongoing drivers' meetings.

## Working Alone Hazards

All drivers are considered to be working alone when they are travelling. To ensure their safety, the drivers monitor their radios, GeoTrac, cell phones and contact the Journey Manager in the event that they feel unsafe. The Working Alone Policy and check-in schedules for drivers must be followed at all times.

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### 14.1.13 COLLISION RESPONSE PROCEDURE FOR COMMERCIAL VEHICLES

The “professional” driver makes every effort to avoid becoming involved in a collision. However, if a collision does occur it is important to be familiar with the required response and reporting procedures.

Complete and accurate reporting of all collisions, no matter how minor, protects the driver, the company and the insurer from unfair and unjust claims. Allen Services & Contracting and the insurance company are interested in determining the cause(s) and actions necessary to avoid future occurrences.


#### Collision and Breakdown Procedure

1. Immediately activate hazard lights.
2. Determine the extent of your injuries, if any. Call 9-1-1 for help if you are trapped in the vehicle and/or are injured.
3. Place warning devices (beacon, four-way flashers, etc.).
4. Determine the extent of damages to vehicles, structures, etc. involved, if there are no injuries to others.
5. If there are injured persons, provide first aid, if applicable, then determine extent of damages to equipment.
6. Call and/or have another motorist call 9-1-1. Call your Journey Manager/Supervisor or management representative.
7. Record the name(s), address(s) and the driver license number(s) of the other driver(s) involved or witnesses, if applicable.
8. Record the registration and insurance information of any other vehicle(s) involved.
9. Record the names and addresses of any witnesses.
10. Record the names and addresses of all people involved in the collision.
11. Record names and badge numbers of attending police officers.
12. Where an insurance adjuster is involved, record their name and telephone number.
13. Record type of traffic control devices, speed limits, signs, as well as weather, road and traffic conditions.

**Note:** In situations where vehicles are able and must be moved to reduce further congestion or to eliminate or control hazards at the scene, take pictures before any vehicles are moved. Take as many pictures as possible from all angles, of the scene, other vehicle(s) and surrounding area. Use a common object such as a coin, measuring tape, a bottle, etc. to demonstrate object sizes in the pictures.


12. Do not discuss details of the collision with anyone other than a police officer, management team, HSE Coordinator or the insurer.

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13. Obtain the Police Report and clearance to leave accident scene from the Police Officer(s) before leaving.
14. Complete the "Operator Collision Report" as soon as possible after the incident; record all information relevant to the incident. Submit the report to your Journey Manager/Supervisor or Management.

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#### 14.1.14 VEHICLE DOCUMENTATION

Allen Services & Contracting Ltd. will ensure that all vehicles are equipped with the following documentation:

- Emergency Phone Numbers
- Emergency Response Plan
- Operator Collision Report
- Log Book/Daily Trip Inspection Combination Form

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## 14.2.1 MAINTENANCE PROGRAM OVERVIEW

### Purpose

All NSC commercial vehicles (commercial vehicle registered solely or in combination for more than 4,500 kilograms including but not limited to trucks, truck tractors, trailers, converter dollies, jeeps and boosters) registered to the company are required to comply with the company's maintenance and inspection program policies and procedures, including:

- lease operators that have their vehicles registered to the company; or
- if lease operators follow their own maintenance program, then they must;
- provide a copy of the lessee's maintenance and inspection program that meets the minimum regulatory requirements;
  - the registered owner must document that the maintenance and inspection program is "acceptable";
  - the registered owner must ensure the lease operator is following the maintenance and inspection program.

The preventive maintenance and inspection program will address the following areas:


- daily trip inspections; repairs;
- routine scheduled maintenance;
- annual CVIP inspections;
- record keeping of all inspections, repairs, and routine maintenance.

A person shall not operate or permit another person to operate a commercial vehicle if the vehicle or any equipment related to the commercial vehicle is in a condition likely to cause danger to persons or property.

**It is illegal to operate a vehicle on a highway with any defect that is a violation under any legislation.**

Allen Services & Contracting Ltd.'s written maintenance and inspection program will be kept at the company's principal place of business in Alberta, Sturgeon County. Copies of the maintenance and inspection program will be available in the main office and in the shop where maintenance and inspection of commercial vehicles is carried out. A copy of the program will be readily accessible to all employees who carry out the maintenance and inspection program.

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### Designation of Maintenance Officer

At Allen Services & Contracting Ltd. the person responsible for maintaining and implementing this preventative maintenance program is:

Name: Richard Philips	Title: Shop Foreman/Mechanic
Phone:	Email:

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## 14.2.2 SCHEDULED VEHICLE MAINTENANCE

Allen Services & Contracting Ltd. will routinely inspect applicable vehicle components as listed in:


- Alberta's [Vehicle Inspection Regulation \(AR 211/2006\)](#),
- Schedule 2 of Alberta's [Commercial Vehicle Safety Regulation \(AR 121/2009\)](#), and
- Schedule 1 of [NSC Standard 13 Part 2](#) (daily trip inspection).

Any component identified as being in need of repair and/or maintenance will be serviced as required. The records documenting the maintenance will be retained in the appropriate vehicle file. The company will conduct regular and continuous maintenance inspections and repairs in accordance with the following intervals:

Inspection Type	Vehicle Type	Inspection Interval (km, Time or Hours)	Comments
Daily Trip Inspection	Trucks Trailers Tractors	Every 24 Hours	1. Driver completes written "Driver's Daily Vehicle Inspection Report" (Inspection A) form. 2. If defects are found, driver completes "Inspection B - Driver" and submits to shop foreman.
Lubrication Interval (oil changes and greasing)	Trucks	Every 400 Hours	Shop foreman completes Work Order and "Inspection B".
	Trailers	Every 15,000 km	Shop foreman completes Work Order and "Inspection B".
	Tractors	Every 400 Hours	Shop foreman completes Work Order and "Inspection B".
Scheduled Maintenance Inspection	Trucks	Every 400 Hours	Shop foreman completes Work Order and "Inspection B".
	Trailers	Every 15,000 km	Shop foreman completes Work Order and "Inspection B".
	Tractors	Every 400 Hours	Shop foreman completes Work Order and "Inspection B".
"CVIP" Inspection	All Types (Trucks, Trailers, Tractors)	Annually	Required every 12 months before next CVIP – to be completed by a Certified CVIP Station.


Shop foreman to attach "Inspection B – Driver" to Work Order.

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### 14.2.2.1 Commercial Vehicle Regulations - Schedule 2 Maintenance Form

Allen Services & Contracting Ltd. will inspect vehicles at regular interval using the following forms:

 <b>POWER UNIT INSPECTION</b>	
DATE: _____	KILOMETERS: _____
UNIT: _____	HOURS: _____
INSPECTION CODE: <input checked="" type="checkbox"/> = OK <input type="checkbox"/> X = REPAIRS REQUIRED <input type="checkbox"/> R = REPAIRED <input type="checkbox"/> A = ADJUSTED <input type="checkbox"/> N/A = NOT APPLICABLE	
<b>BODY:</b> <input type="checkbox"/> Cab, Fenders, Doors, Seats, Seatbelts <input type="checkbox"/> Door Latches and Releases <input type="checkbox"/> Hood Hinges, Mounts and Latches <input type="checkbox"/> Moldings and Sun Visor <input type="checkbox"/> Bumpers, License Plates, Mudflaps <input type="checkbox"/> Chassis Frame and Underbody (Cracks, Damage) <input type="checkbox"/> Drive Shaft, U – Joints, Yokes, Hanger Brackets and Guards <input type="checkbox"/> Windshield, Windows, Mirrors <input type="checkbox"/> Decals (Company, Unit, Weights, IFTA, etc.) <input type="checkbox"/> CVIP Decal Expiry Date _____	<b>ENGINE CONTROLS and STEERING:</b> <input type="checkbox"/> Idle Control and Emergency Shutdown <input type="checkbox"/> Fan Hub, Pulleys, Belts, Hoses, Air Filter <input type="checkbox"/> Fan Clutch (Wear and Air Leaks) <input type="checkbox"/> Starter Switch and Alternator (Secure, Condition) <input type="checkbox"/> Wheel Alignment <input type="checkbox"/> Steering Column, Steering Box, Linkage <input type="checkbox"/> Power Steering Drive and Fluids <input type="checkbox"/> Cooling System, Radiators (Condition, Leaks) <input type="checkbox"/> Exhaust Manifold, Engine Mounting Bolts (Secure, Condition) <input type="checkbox"/> Water Pump, Fuel System (Condition, Leaks)
<b>BRAKING SYSTEM:</b> <input type="checkbox"/> Compressor, Governor and Air Dryer <input type="checkbox"/> Drum or Disc Condition and Thickness <input type="checkbox"/> Lining Condition and Thickness <input type="checkbox"/> Adjustment <input type="checkbox"/> Slack Adjusters, "S" Cams / Bushings, Dust Covers <input type="checkbox"/> Glad Hands, Air Lines, Air Leaks <input type="checkbox"/> Instrumentation, Warning Light and Alarm <input type="checkbox"/> Service Brake Pedal <input type="checkbox"/> Service Brake System <input type="checkbox"/> Parking Brake System <input type="checkbox"/> Emergency Brake System <input type="checkbox"/> All Hoses, Valves, Fittings, Clamps, Drain Air Tanks	<b>ELECTRICAL COMPONENTS:</b> <input type="checkbox"/> Batteries (Fluid, Cables, Connections) <input type="checkbox"/> Horn (Electric and Air) <input type="checkbox"/> Instrumentation <input type="checkbox"/> Windshield Wipers and Washers <input type="checkbox"/> Heating and Defrosting System <input type="checkbox"/> Wiring (Secure, Condition) <input type="checkbox"/> Low and High Beam Headlights <input type="checkbox"/> Signal and Brake Lights <input type="checkbox"/> Emergency Flashers <input type="checkbox"/> Trailer Light Cord <input type="checkbox"/> Clearance and Marker Lights, Reflectors, Conspicuity Tape <input type="checkbox"/> Back Up Alarm
<b>FUEL and EXHAUST SYSTEM:</b> <input type="checkbox"/> Fuel Tank, Fuel Lines, Filler Cap (Secure, Condition) <input type="checkbox"/> Fuel and Exhaust System Leaks <input type="checkbox"/> Exhaust System, Muffler and Tailpipe	<b>EMERGENCY EQUIPMENT:</b> <input type="checkbox"/> Triangle Reflectors, First Aid Kit <input type="checkbox"/> First Aid Kit <input type="checkbox"/> Fire Extinguisher (Condition, Secure, Inspection)
<b>LUBRICATION and FLUIDS:</b> <input type="checkbox"/> Lube Chassis and Drive Line <input type="checkbox"/> Lube Fan Hub Bearings <input type="checkbox"/> Coolant and Coolant Strength _____ °C <input type="checkbox"/> Hydraulic System and Hoses <input type="checkbox"/> Engine, Transmission, Differentials <input type="checkbox"/> Change Engine Oil <input type="checkbox"/> Change or Check Oil, Air, Fuel and Water Filters	<b>SUSPENSION (Front and Rear):</b> <input type="checkbox"/> Kingpins, Ball Joints, Control Arms, Torque and Radius Rods <input type="checkbox"/> Alignment <input type="checkbox"/> Springs, Air Bags, Shock Absorbers, Torsion Bars <input type="checkbox"/> Equalizers, Stabilizers, Torsion Bars <input type="checkbox"/> U-Bolts, Center Bolts, Shackles <input type="checkbox"/> Axle Bearings and Seals (Oil levels)

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**OTHER:**

Clutch and Clutch Brake Adjustment
   
  PTO Assembly  
 5th Wheel and/or Hitches (Secure, Condition)
   
  Chains and Boomers

**WHEELS and TIRES:**

Tire Pressure, Tread Defects, Alignment
   
  Wheel Rims, Spokes and Components  
 Sidewall Defects, Recapping
   
  Wheel Nuts, Studs, Torque Check  
 Undersizing, Mixed Radial and Bias Ply
   
  Wheel Bearings (Slack check)

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**COMMENTS:** \_\_\_\_\_

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**SIGNATURE:** \_\_\_\_\_


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	<b>TRAILER INSPECTION</b>		
	DATE: _____	KILOMETERS: _____	
UNIT: _____	HOURS: _____		
<b>INSPECTION CODE:</b> ✓ = OK    X = REPAIRS REQUIRED    R = REPAIRED    A = ADJUSTED    N/A = NOT APPLICABLE			
<b>BODY:</b>			
<input type="checkbox"/> Deck, Rub Rails, Load Winches (Secure, Condition)	<input type="checkbox"/> Upper 5 <sup>th</sup> Wheel Plate and King Pin		
<input type="checkbox"/> Bumpers, License Plates, Mudflaps	<input type="checkbox"/> Dolly Legs		
<input type="checkbox"/> Chassis Frame, Underbody (Cracks, Damage)	<input type="checkbox"/> CVIP Decal Expiry Date _____		
<input type="checkbox"/> Pintle Hitches and/or Other Connection Devices	<input type="checkbox"/> Decals (Company Name, Unit Number, etc.)		
<input type="checkbox"/> Hydraulic System	<input type="checkbox"/> Lubricate Chassis and Braking Components		
<b>BRAKING SYSTEM:</b>			
<input type="checkbox"/> Drum or Disc Condition and Thickness	<input type="checkbox"/> Slack Adjusters, "S" Cams / Bushings, Dust Covers		
<input type="checkbox"/> Lining Condition and Thickness	<input type="checkbox"/> Glad Hands, Air Lines, Leaks (Brakes Applied and Released)		
<input type="checkbox"/> Adjustment	<input type="checkbox"/> All Hoses, Valves, Fittings, Clamps, Drain Air Tanks		
<b>ELECTRICAL COMPONENTS:</b>			
<input type="checkbox"/> Signal and Brake Lights	<input type="checkbox"/> Electrical Cord Receptacle		
<input type="checkbox"/> Clearance and Marker Lights	<input type="checkbox"/> Wiring (Secure, Condition)		
<input type="checkbox"/> Emergency Flashers	<input type="checkbox"/> Conspicuity Tape, Reflectors		
<b>SUSPENSION:</b>			
<input type="checkbox"/> Alignment	<input type="checkbox"/> U-Boils, Center Bolts		
<input type="checkbox"/> Springs, Shackles, Air Bags, Shock Absorbers	<input type="checkbox"/> Axle Bearings, Seals, Hubs (Oil Levels)		
<input type="checkbox"/> Equalizers, Stabilizers, Torsion Bars, Torque and Radius Rods	<input type="checkbox"/> Air Gauges and Weight Chart		
<b>WHEELS and TIRES:</b>			
<input type="checkbox"/> Tire Pressure, Tread Defects, Alignment	<input type="checkbox"/> Wheel Rims, Spokes and Components		
<input type="checkbox"/> Sidewall Defects, Regrooving and Recapping	<input type="checkbox"/> Wheel Nuts and Studs		
<input type="checkbox"/> Undersizing, Mixed Radial and Bias Ply	<input type="checkbox"/> Wheel Bearings (Slack check)		
	<input type="checkbox"/>		
	<input type="checkbox"/> TANDEM AXLE	<input type="checkbox"/> TRIDEM AXLE	
F R O N T	MM / PSI	MM / PSI	MM / PSI

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### 14.2.3 DAILY TRIP INSPECTION

#### National Safety Code (NSC) Standard 13

Allen Services & Contracting Ltd. will ensure that:

- a copy of Schedule 1 is located in each commercial vehicle. Drivers shall produce the Schedule when requested by a peace officer.
- a daily trip inspection is valid for a maximum of 24 hours from the time recorded on the trip inspection report. Vehicle components will be inspected as required by Section 10(4)(b) of Alberta's [Commercial Vehicle Safety Regulation \(AR121/2009\)](#). The daily inspection must include all components as specified in the list of items in Schedule 1 of NSC Standard 13 Part 2.
- any of the components that are routinely inspected may be added to the daily trip inspection and any components that are not applicable to the vehicle may be deleted from the daily trip inspection.

#### Completion of Daily Trip Inspection Report

Drivers conducting a daily trip inspection will prepare a trip inspection report including the following information:

- the licence plate, identification number or unit number,
- the odometer or hub meter at the time of inspection,
- the name of the carrier operating the commercial vehicle,
- the name of the municipality or location on the highway where the inspection was conducted and the time and date that the report was made,
- any defect related to the operation of any item required to be inspected or that no defect was detected,
- the name of the person who inspected the vehicle and a statement signed by that person stating that the vehicle has been inspected in accordance with section 10 of the Commercial Vehicle Safety Regulation (AR 121/2009)
- the name and signature of the person making the report.


#### Defects Observed During Operation of Vehicle

If a driver observes any safety defects as specified in Schedules 1 or 2 of NSC Standard 13 while driving the vehicle, the driver will record the defects in the attached trip inspection report or in a written document and report those defects to the company as required.

Drivers will produce this trip inspection report or other document approved by the company when requested by a peace officer.

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### Distribution and Retention of Trip Inspection Reports

- The person who completed the trip inspection report will forward that report to their home terminal within 20 days of completion of the report;
- The company is responsible for ensuring the trip inspection report is submitted as required. That report must be maintained at the principal place of business within 30 days of receiving the report; and
- The original report will be retained in chronological order by the company for the month it was created and an additional 6 months.

### Requirement to Repair, Correct and Report Defects

- Drivers will not drive a commercial vehicle with any uncorrected or unrepaired major defect (see Schedule of NSC Standard 13 part 2 for a description of a major defect);
- Anyone conducting a daily trip inspection is required to document any defects on the written trip inspection report;
- Allen Services & Contracting Ltd. will certify on the report that the defect has been repaired/ corrected or certify on the report the repair/correction is unnecessary;
- If a driver or person authorized by the company believes or suspects there is a safety defect in the commercial vehicle, they shall report the safety defect to the carrier;
  - without delay if the defect is a major defect, or in a timely manner but not later than the next required daily trip inspection in all other cases.

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## NSC STANDARD 13 PART 2 – SCHEDULE 1: TRUCK, TRACTOR & TRAILER

### Application:

This schedule applies to trucks, tractors and trailers or combinations thereof exceeding a registered gross vehicle weight of 4500 kg.


<b>1. Air Brake System</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Audible air leak</li> <li>Slow air pressure build-up rate</li> </ul>	<ul style="list-style-type: none"> <li>Pushrod stroke of any brake exceeds the adjustment limit</li> <li>Air loss rate exceeds prescribed limit</li> <li>Inoperative towing vehicle (tractor) protection system</li> <li>Low air warning system fails or system is activated</li> <li>Inoperative service, parking or emergency brake</li> </ul>
<b>2. Cab</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Occupant compartment door fails to open</li> </ul>	<ul style="list-style-type: none"> <li>Any cab or sleeper door fails to close securely</li> </ul>
<b>3. Cargo Securement</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Insecure or improper load covering (e.g. wrong type or flapping in the wind)</li> </ul>	<ul style="list-style-type: none"> <li>Insecure cargo</li> <li>Absence, failure, malfunction or deterioration of required cargo securement device or load covering</li> </ul>
<b>4. Coupling Devices</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Coupler or mounting has loose or missing fastener</li> </ul>	<ul style="list-style-type: none"> <li>Coupler is insecure or movement exceeds prescribed limit</li> <li>Coupling or locking mechanism is damaged or fails to lock</li> <li>Defective, incorrect or missing safety chain/cable</li> </ul>
<b>5. Dangerous Goods</b>	
	<b>Major Defect(s)</b>
	<ul style="list-style-type: none"> <li>Dangerous goods requirements not met</li> </ul>
<b>6. Driver Controls</b>	
<b>Defect(s)</b>	
<ul style="list-style-type: none"> <li>Accelerator pedal, clutch, gauges, audible and visual indicators or instruments fail to function properly</li> </ul>	
<b>7. Driver Seat</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Seat is damaged or fails to remain in set position</li> </ul>	<ul style="list-style-type: none"> <li>Seatbelt or tether belt is insecure, missing or malfunctioning</li> </ul>
<b>8. Electric Brake System</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Loose or insecure wiring or electrical connection</li> </ul>	<ul style="list-style-type: none"> <li>Inoperative breakaway device</li> <li>Inoperative brake</li> </ul>

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<b>9. Emergency Equipment &amp; Safety Devices</b>	
<b>Defect(s)</b>	
<ul style="list-style-type: none"> <li>Emergency equipment is missing, damaged or defective</li> </ul>	
<b>10. Exhaust System</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Exhaust leak</li> </ul>	<ul style="list-style-type: none"> <li>Leak that causes exhaust gas to enter the occupant compartment</li> </ul>
<b>11. Frame and Cargo Body</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Damaged frame or cargo body</li> </ul>	<ul style="list-style-type: none"> <li>Visibly shifted, cracked, collapsing or sagging frame member(s)</li> </ul>
<b>12. Fuel System</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Missing fuel tank cap</li> </ul>	<ul style="list-style-type: none"> <li>Insecure fuel tank</li> <li>Dripping fuel leak</li> </ul>
<b>13. General</b>	
	<b>Major Defect(s)</b>
	<ul style="list-style-type: none"> <li>Serious damage or deterioration that is noticeable and may affect the vehicle's safe operation</li> </ul>
<b>14. Glass and Mirrors</b>	
<b>Defect(s)</b>	
<ul style="list-style-type: none"> <li>Required mirror or window glass fails to provide the required view to the driver as a result of being cracked, broken, damaged, missing or misaligned</li> <li>Required mirror or glass has broken or damaged attachments onto vehicle body</li> </ul>	
<b>15. Heater/Detester</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Control or system failure</li> </ul>	<ul style="list-style-type: none"> <li>Defroster fails to provide unobstructed view through the windshield</li> </ul>
<b>16. Horn</b>	
<b>Defect(s)</b>	
<ul style="list-style-type: none"> <li>Vehicle has no operative horn</li> </ul>	
<b>17. Hydraulic Brake System</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Brake fluid level is below indicated maximum level</li> </ul>	<ul style="list-style-type: none"> <li>Parking brake is inoperative</li> <li>Brake push or power assist is inoperative</li> <li>Brake fluid leak</li> <li>Brake pedal hard or insufficient brake pedal reserve</li> <li>Activated (other than ABS) warning device</li> <li>Brake fluid reservoir is less than 1/2 full</li> </ul>
<b>18. Lamps and Reflectors</b>	
<b>Defect(s)</b>	<b>Major Defect(s)</b>
<ul style="list-style-type: none"> <li>Required lamp does not function as intended</li> <li>Required reflector is missing or partially missing</li> </ul>	<p><i>When turn-on is required</i></p> <ul style="list-style-type: none"> <li>Failure of both low-beam headlamps</li> <li>Failure of both rear-most tail lamps</li> </ul> <p><i>At all times</i></p> <ul style="list-style-type: none"> <li>Failure of a required turn indicator lamp</li> </ul>

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	<ul style="list-style-type: none"> <li>• Failure of both rear most brake lamps</li> </ul>
<b>19. Steering</b> <b>Defect(s)</b> <ul style="list-style-type: none"> <li>• Steering wheel lash (free-play) is greater than normal</li> </ul>	<b>Major Defect(s)</b> <ul style="list-style-type: none"> <li>• Steering wheel is insecure, or does not respond normally</li> <li>• Steering wheel lash (free-play) exceeds required limit</li> </ul>
<b>20. Suspension System</b> <b>Defect(s)</b> <ul style="list-style-type: none"> <li>• Air leak in air suspension system</li> <li>• Broken spring leaf</li> <li>• Suspension fastener is loose, missing or broken</li> </ul>	<b>Major Defect(s)</b> <ul style="list-style-type: none"> <li>• Damaged or deflated air bag</li> <li>• Cracked or broken main spring leaf or more than one broken spring leaf</li> <li>• Part of spring leaf or suspension is missing, shifted out of place or in contact with another vehicle component</li> <li>• Loose U bolt</li> </ul> <p>patched, cut, bruised, cracked or frayed, mounted insecurely</p>
<b>21. Tires</b> <b>Defect(s)</b> <ul style="list-style-type: none"> <li>• Damaged tread or sidewall of tire</li> <li>• Tire leaking (if leak can be felt or heard, tire is to be treated as flat)</li> </ul>	<b>Major Defect(s)</b> <ul style="list-style-type: none"> <li>• Flat tire</li> <li>• Tire tread depth is less than wear limit</li> <li>• Tire is in contact with another tire or any vehicle component other than mud flap</li> <li>• Tire is marked "Not for highway use"</li> <li>• Tire has exposed cords in the tread or outer sidewall area</li> </ul>
<b>22. Wheels, Hubs and Fasteners</b> <b>Defect(s)</b> <ul style="list-style-type: none"> <li>• Hub oil below minimum level (When filled with right glass)</li> <li>• Leaking wheel seal</li> </ul>	<b>Major Defect(s)</b> <ul style="list-style-type: none"> <li>• Wheel has loose, missing or ineffective fastener</li> <li>• Damaged, cracked or broken wheel rim or retaining part</li> <li>• Evidence of imminent wheel, hub or bearing failure</li> </ul>
<b>23. Windshield Wiper/Washer</b> <b>Defect(s)</b> <ul style="list-style-type: none"> <li>• Control or system malfunction</li> <li>• Wiper blade damaged, missing or fails to adequately clear driver's field of vision</li> </ul>	<b>Major Defect(s)</b> <i>When necessary for prevailing weather conditions</i> <ul style="list-style-type: none"> <li>• Wiper or washer fails to adequately clear driver's field of vision in area swept by driver's side wiper</li> </ul>

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**ALLEN SERVICES & CONTRACTING LTD.**  
 55104 Lamoureux Drive Sturgeon County, AB T8L 5A8  
 Ph: 780.992.9300 - Fax: 780.992.9555  
 70 King Rd. Inuvik, NT X0E 0T0  
 Ph: 867.777.4000 - Fax: 867.777.4077

CYCLE	
1	2

Day Start Time (if other than midnight) Day Month Year

Ending Odometer Reading km.

Driver's Name (Print) \_\_\_\_\_  
 Driver's Signature \_\_\_\_\_  
 Co-Driver's Name \_\_\_\_\_

Truck Unit No. \_\_\_\_\_  
 Trailer Unit No. (S) \_\_\_\_\_

Starting Odometer Reading km.  
 Km. Driven Today \_\_\_\_\_

**DUTY STATUS CARD**

USE LOCAL TIME STANDARD AT HOME TERMINAL

	MID-NIGHT	1	2	3	4	5	6	7	8	9	10	11	NOON	1	2	3	4	5	6	7	8	9	10	11	MID-NIGHT	TOTAL
1) OFF DUTY																										
2) SLEEPER BERTH																										
3) DRIVING																										
4) ON DUTY (NOT DRIVING)																										

**REMARKS**

24  
 IF DEFERRED OFF DUTY:  
 DAY 1  
 DAY 2

MANIFEST/BILL OF LADING # _____	PREVIOUS 14 DAYS	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	PERSONAL USE
SHIPPER & COMMODITY _____	TOTAL HOURS ON DUTY																END ODO _____
	TOTAL HOURS OFF DUTY																START ODO _____

ENTER NAME OF PLACE YOU REPORTED; WHERE RELEASED FROM WORK; WHEN AND WHERE EACH CHANGE OF DUTY OCCURRED



**DRIVER'S DAILY VEHICLE INSPECTION REPORT**

**ALLEN SERVICES & CONTRACTING LTD.**  
 55104 Lamoureux Drive Sturgeon County, AB T8L 5A8  
 Ph: 780.992.9300 - Fax: 780.992.9555  
 70 King Rd., Inuvik, NT X0E 0T0  
 Ph: 867.777.4000 - Fax: 867.777.4077

LOCATION OF INSPECTION \_\_\_\_\_ TRACTOR/TRUCK LIC. PLATE # \_\_\_\_\_ JURISDICTION \_\_\_\_\_  
 INSPECTION DATE \_\_\_\_\_ INSPECTION TIME \_\_\_\_\_ TRAILER #1 LIC. # \_\_\_\_\_ JURISDICTION \_\_\_\_\_  
 VEHICLE MAKE / MODEL \_\_\_\_\_ ODOMETER (MILES / KM) \_\_\_\_\_ TRAILER #2 LIC. # \_\_\_\_\_ JURISDICTION \_\_\_\_\_

I declare that the vehicle(s) shown above has (have) been inspected in accordance with the applicable requirements of Schedule 1 and / or jurisdiction legislation.  
 No Defects Found  \_\_\_\_\_  
 Inspector / Driver's Name Print \_\_\_\_\_ Inspector / Driver's Signature \_\_\_\_\_ Driver's Signature (if different from Inspector) \_\_\_\_\_

CHECK ANY DEFECTIVE ITEM AND GIVE DETAILS UNDER REMARKS

REFER TO ACCOMPANYING SCHEDULE 1 TO IDENTIFY DEFECTS

- |   |                                   |   |   |
|---|-----------------------------------|---|---|
| <p><b>TRACTOR/ TRUCK</b></p> <p><input type="checkbox"/> Air Brake System</p> <p><input type="checkbox"/> Cab</p> <p><input type="checkbox"/> Cargo Securement</p> <p><input type="checkbox"/> Coupling Devices</p> <p><input type="checkbox"/> Dangerous Goods</p> <p><input type="checkbox"/> Driver Controls</p> <p><input type="checkbox"/> Driver Seat</p> | <p><b>TRAILER#</b></p> <p>1 2</p> | <p><b>TRACTOR/ TRUCK</b></p> <p><input type="checkbox"/> Electric Brake System</p> <p><input type="checkbox"/> Emergency Equipment Safety Devices</p> <p><input type="checkbox"/> Exhaust System</p> <p><input type="checkbox"/> Frame &amp; Cargo Body</p> <p><input type="checkbox"/> Fuel System</p> <p><input type="checkbox"/> General</p> <p><input type="checkbox"/> Glass &amp; Mirrors</p> <p><input type="checkbox"/> Windshield Washer / Wiper</p> | <p><b>TRACTOR/ TRUCK</b></p> <p><input type="checkbox"/> Heater / Defroster</p> <p><input type="checkbox"/> Horn</p> <p><input type="checkbox"/> Hydraulic Brake System</p> <p><input type="checkbox"/> Lamp &amp; Reflectors</p> <p><input type="checkbox"/> Steering</p> <p><input type="checkbox"/> Suspension System</p> <p><input type="checkbox"/> Tires (Wheels, Hubcaps &amp; Faslertens)</p> |
|---|-----------------------------------|---|---|

Vehicle/Load:Height/Width (MB Reg. 95/2008)
/
/
/

DEFECTS EN ROUTE \_\_\_\_\_  
 REMARKS \_\_\_\_\_

Above defects corrected  Above defects need not be corrected for safe operation of vehicle

Signature of Authorized Repair Person \_\_\_\_\_ Date \_\_\_\_\_ Driver's Signature \_\_\_\_\_ Date \_\_\_\_\_


# NATIONAL SAFETY CODE STANDARD 13

## SCHEDULE 1

### Truck, Tractor and Trailer

This schedule applies to trucks, tractors and trailers or combinations thereof exceeding a registered gross vehicle weight of 4,500 kg (or according to individual provincial regulations.)

Inspection Item	Minor Defect(s)	Major Defect(s)	Inspection Item	Minor Defect(s)	Major Defect(s)
1. Air Brake System	1.1 Audible air leak 1.2 Slow air pressure build-up rate	1.3M Pushrod stroke of any brake exceeds the adjustment limit 1.4M Air loss rate exceeds prescribed limit 1.5M Inoperative towing vehicle (tractor) protection system 1.6M Low air warning system fails or system is activated 1.7M Inoperative service, parking or emergency brake	15. Heater/Defroster	15.1 Control or system failure	15.2M Defroster fails to provide unobstructed view through the windshield
			16. Horn	16.1 Vehicle has no operative horn	
			17. Hydraulic Brake System	17.1 Brake fluid level is below indicated minimum level	17.2M Parking brake is inoperative 17.3M Brake boost or power assist is not operative 17.4M Brake fluid leak 17.5M Brake pedal fade or insufficient brake pedal reserve 17.6M Activated (other than ABS) warning device 17.7M Brake fluid reservoir is less than 1/4 full
2. Cab	2.1 Occupant compartment door fails to open	2.2M Any cab or sleeper door fails to close securely			
3. Cargo Securement	3.1 Insecure or improper load covering (e.g. wrong type or flapping in the wind)	3.2M Insecure cargo 3.3M Absence, failure, malfunction or deterioration of required cargo securement device or load covering			
4. Coupling Devices	4.1 Coupler or mounting has loose or missing fastener	4.2M Coupler is insecure or movement exceeds prescribed limit 4.3M Coupling or locking mechanism is damaged or fails to lock 4.4M Defective, incorrect or missing safety chain/cable	18. Lamps and Reflectors	18.1 Required lamp does not function as intended 18.2 Required reflector is missing or partially missing	<i>When lamps are required:</i> 18.3M Failure of both low beam headlamps 18.4M Failure of both rearmost tail lamps <i>At all times:</i> 18.5M Failure of a rearmost turn-indicator lamp 18.6M Failure of both rearmost brake lamps
5. Dangerous Goods		5.1M Dangerous goods requirements not met			
6. Driver Controls	6.1 Accelerator pedal, clutch, gauges, audible and visual indicators or instruments fail to function properly		19. Steering	19.1 Steering wheel lash (free play) is greater than normal	19.2M Steering wheel is insecure or does not respond normally 19.3M Steering wheel lash (free play) exceeds prescribed limit
7. Driver Seat	7.1 Seat is damaged or fails to remain in set position	7.2M Seatbelt or tether belt is insecure, missing or malfunctions	20. Suspension System	20.1 Air leak in air suspension system 20.2 Broken spring leaf 20.3 Suspension fastener is loose, missing or broken	20.4M Damaged, patched, cut, bruised, cracked to braid, mounted insecurely or deflated air bag 20.5M Cracked or broken main spring leaf or more than one broken spring leaf 20.6M Part of spring leaf or suspension is missing, shifted out of place or in contact with another vehicle component 20.7M Loose U-bolt
8. Electric Brake System	8.1 Loose or insecure wiring or electrical connection	8.2M Inoperative breakaway device 8.3M Inoperative brake			
9. Emergency Equipment & Safety Devices	9.1 Emergency equipment is missing, damaged or defective				
10. Exhaust System	10.1 Exhaust leak	10.2M Leak that causes exhaust gas to enter the occupant compartment	21. Tires	21.1 Damaged tread or sidewall of tire 21.2 Tire leaking (if leak can be felt or heard, tire is to be treated as flat)	21.3M Flat tire 21.4M Tire tread depth is less than wear limit 21.5M Tire is in contact with another tire or any vehicle component other than mud-flap 21.6M Tire is marked "Not for highway use" 21.7M Tire has exposed cords in the tread or outer side wall area
11. Frame and Cargo Body	11.1 Damaged frame or cargo body	11.2M Visibly shifted, cracked, collapsing or sagging frame member(s)			
12. Fuel System	12.1 Missing fuel tank cap	12.2M Insecure fuel tank 12.3M Dripping fuel tank	22. Wheels, Hubs and Fasteners	22.1 Hub oil below minimum level (when fitted with sight glass) 22.2 Leaking wheel seal	22.3M Wheel has loose, missing or ineffective fastener 22.4M Damaged, cracked or broken wheel, rim or attaching part 22.5M Evidence of imminent wheel, hub or bearing failure
13. General		13.1M Serious damage or deterioration that is noticeable and may affect the vehicle's safe operation			
14. Glass and Mirrors	14.1 Required mirror or window glass fails to provide the required view to the driver as a result of being cracked, broken, damaged, missing or maladjusted		23. Windshield Wiper/Washer	23.1 Control or system malfunction 23.2 Wiper blade damaged, missing or fails to adequately clear driver's field of vision	<i>When necessary for prevailing weather conditions:</i> 23.3M Wiper or washer fails to adequately clear driver's field of vision in area swept by driver's side wiper
	14.2 Required mirror or glass has broken or damaged attachments onto vehicle body				

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## 14.2.4 RECORD KEEPING

### Vehicle Files

Allen Service & Contracting Ltd. will maintain vehicle files to ensure that all vehicles are adequately maintained in a satisfactory mechanical condition. Each commercial vehicle registered to the company will have a vehicle file that includes the following information:

1. Identification of the vehicle, including
  - a unit number, the manufacturer's serial number or a similar identifying mark,
  - the make of the vehicle, and
  - the year of manufacture.
2. A record of the inspection of the vehicle under the Vehicle Inspection Regulation (AR 211/2006), and repairs, lubrication and maintenance for the vehicle, including
  - the nature of the inspection or work performed on the vehicle, and
  - the date on which that inspection or work took place and the odometer or hubometer reading on the vehicle at that time;
3. Notices of defect received from the vehicle manufacturer and the corrective work done on the vehicle in relation to those notices;
4. Trip inspection reports prepared under Section 12 of Alberta's Commercial Vehicle Safety Regulation.
5. Unless otherwise authorized through a permit, we shall maintain the records at our principal place of business.


Allen Service & Contracting Ltd. will ensure that the records required to be maintained under this section are true, accurate and legible.

### Record Retention

Allen Service & Contracting Ltd. will retain all trip inspection reports for the month they are created and an additional 6 months. The other records identified above will be retained for the year they are created and an additional 4 years. All records will be kept for 6 months after the vehicle is retired or disposed of. These records may be maintained in electronic or hardcopy format as long as they can be readily produced to a peace officer upon request.

The person conducting the trip inspection will certify that any major defect has been repaired/ corrected or certifies on the report that repair/correction is unnecessary; a driver shall not drive or be permitted to drive until all major defects have been repaired.

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## DECLARATION OF COMMITMENT TO TRANSPORTATION SAFETY

I/we, the company's authorized representative(s), are committed to ensuring all employees are aware of and dedicated to following transportation safety laws as outlined in this safety and maintenance program. I/we are committed to ensuring the designated safety officer has the necessary resources to ensure the implementation of this program.

I/we acknowledge that an audit may be conducted on our operations at any time to measure our compliance to regulatory requirements. Should deficiencies be identified during the audit, I/we understand that disciplinary actions may be taken including but not limited to, the issuance of administrative penalties and the Safety Fitness Rating downgraded.

I/we certify that the information disclosed is true and accurate. I/we acknowledge that providing false or misleading information may result in the suspension or cancellation of the Safety Fitness Certificate and/or vehicle registration. I/we acknowledge that providing false or misleading information may also result in being charged with offence(s) or administrative penalty(s).


This declaration must include individuals named on the vehicle registration. When vehicle registration shows a corporate, society or organization name, then the declaration must include the owner(s), manager(s), or director(s).

Name:		Position in Company:
Phone:	Email:	Date:
Name:		Position in Company:
Phone:	Email:	Date:

The person responsible for maintaining and implementing this safety and maintenance program is:		
Name:		Position in Company:
Phone:	Email:	Date:
The person responsible for maintaining and implementing this safety and maintenance program is:		
Name:		Position in Company:
Phone:	Email:	Date:

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<b>RETURN TO WORK (RTW)</b>			Initial Issue Date:	Jan. 2017
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## A1.0 RETURN TO WORK POLICY

Allen Services & Contracting Ltd. recognizes that the provision of modified work is important in the recovery of an employee, the prevention of disability and has established a Return To Work (RTW) Program for employees who are unable to perform any or all of their normal duties as a consequence of an occupational injury or illness.

Allen Services & Contracting Ltd. will work in collaboration with the injured/ill employee and expend serious effort to identify alternate or modified work that is meaningful, productive and safe.

Our RTW process begins immediately after an injury/illness occurs and the employee is deemed fit for modified duties by his/her physician.


It is expected all employees will cooperate fully in facilitating the timely return-to-work of injured or ill employees, and that all injured or ill employees will cooperate by accepting alternate or modified work that is within their skills and abilities.

Any personal medical information will be held in the strictest confidence.

**The contributions of all employees and their presence in the workplace are essential to the achievement of Allen Services & Contracting Ltd.'s mission.**

Brian McCarthy, General Manager	Date

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## A1.1 Return To Work Program

### Objectives

This standard establishes procedures, policy and individual requirements for the early return to gainful employment of employees who have been injured and/or ill due to occupational injury or illness.

### Definitions

**Early Return to Work:** Returning to work on modified duties prior full recovery after sustaining an injury or illness.

**Modified Work:** Any work duties that are modified, altered or changed. These modified work duties must not aggravate the employee's injury or illness and must be supported by WCB/WSCC and the employee's physician.


**Occupational:** A medical condition that is the result of a work-related incident or illness.

### Responsibilities

**The HSE Coordinator, or designate, is responsible for the overall administration of this standard, and is specifically responsible to:**

- Establish guidelines.
- Develop standard forms for use by Management.
- Liaise with appropriate government agencies on policy matters.
- Review and audit the effectiveness of this standard with Management on a periodic basis.
- Track any lost time cases, number of lost days, number of modified work days and record within the HSE statistics.
- Support Managers in all aspects of the program as requested.

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**The General Manager is responsible to:**

- Ensure that this standard is implemented and complied with by Management.
- Ensure that Management personnel receive training required to support this standard.


**Manager or Logistics Manager are responsible to:**

- Provide meaningful modified work for employees within the program.
- Actively participate in developing Return to Work contracts/Modified Work Offers with injured employees.
- Ensure work assignments are within the physical restrictions as defined by the physician.
- Maintain regular contact with employees within the program to ensure they are complying with the terms of the Return to Work Program. The Attending Physician is responsible for assessing the injured employee, and identifying the physical and work limitations.

**WCB/WSCC are responsible to:**

- Provide education to employees and employers.
- Actively case manage and monitor activities, progress and co-operation of the workplace parties.
- Maintain communication with the employer, the employee and their treating health professional throughout the RTW process.
- Determine the suitability of employment and fitness to return to work.
- Encourage and actively assist the employee in their successful RTW.
- Determine compliance with re-employment and co-operation obligations.
- Provide RTW resources that the workplace parties may choose to access.
- Provide Labour Market Re-entry services.
- In cases where the workplace parties are having trouble achieving a successful RTW outcome:
  - Assist workplaces to problem solve workplace issues that present an obstacle to successful RTW.
  - Facilitate communication between workplace parties, health professionals, unions and other interested parties.
  - Obtain commitment from the employee and employer on the RTW plan and process.
  - Attempt to resolve disputes that are preventing a successful RTW outcome.

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**The treating Health Professional is responsible to:**

- Provide appropriate, effective health care that facilitates recovery and expedites return to productive work.
- Provide information on the employee's functional abilities when requested by the company, the employee or WSB/WSCC.
- Complete functional assessment forms thoroughly, being alert to job demands that might cause re-injury or aggravation of an existing condition.
- Suggest ways in which tasks could be modified to place less strain on existing injuries or conditions.
- Establish and maintain open communication with the workplace, having regard for patient confidentiality.
- Provide timely information to WCB/WSCC.

**Communication and Training**

- The RTW Program will be reviewed with employees as part of Allen Services & Contracting Ltd.'s New Hire Orientation.
- Managers shall review the RTW Program with his/her team on an as needed basis.

**Standard Practice**


**Eligibility**

All employees who have physical and/or work limitations resulting from occupational injury or illness are eligible to participate in the program. The following conditions shall be considered when determining eligibility:

- The proposed and actual work must be productive and meaningful.
- The work must not negatively impact the employee's conditions and recovery.
- The work must be authorized by the attending and/or consulting physician.
- The employee must be in favour of returning to modified functional duty.

**NOTE:** Employees who experience a non-occupational injury or illness will be dealt with on a case-by-case basis by Allen Services & Contracting Ltd.

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### Occupational Injury or Illness


The following steps shall be taken when an employee experiences an occupational injury or illness:

- Immediate first aid or medical treatment shall be administered.
- After initial treatment, the Manager shall review the doctor's report and discuss possible modified work with the injured employee in order to ensure that he/she is fully supportive of returning to work. The employee may consult with the physician prior to agreeing to return to work.
- Modified duties are then assigned to the employee and the employee returns to active employment.
- There are no restrictions to the hours that may be worked by an injured employee unless specified by the attending physician. Meaningful modified work may, and/or should, be available irrespective of whether it is regular or overtime hours.
- An employee who is required to be away from work for extended periods of time due to an occupational injury or illness will be provided with an opportunity to return to work as early as reasonably and medically possible after the injury or illness. Early return to work can be initiated by the Manager or the employee but will only be considered when such a return is authorized, in writing, by a medical doctor.
- An individual should not be penalized, or lose financial opportunities, because they are on modified duty. The deciding factor is whether or not the job to which the employee is assigned will continue after regular working hours.

All lost time injuries will be reviewed by the Manager within one (1) week of their occurrence, if possible. Should an employee be hospitalized and information is not available, then the Manager will review the case as soon as information has been made available. During this review, a follow-up plan will be established so appropriate contacts are made with the injured employee to determine his/her recovery progress. The Action Plan will include the following, at a minimum:

- The frequency of contact with the injured employee.
- Who will contact the employee.
- Contacting the treating physician.
- Visiting the employee either in the hospital, or at his/her residence, if required.
- Sending a letter with the employee to the treating physician explaining the RTW Program and requesting specific physical limitations of the employee.

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### Standard Practice (cont'd)

- Sending a follow-up letter (if necessary) to the physician explaining the modified work available that fits the limitations prescribed by the doctor.
- Sending a letter to the injured employee explaining the RTW Program, and requesting that the employee return to work as per the physicians indicated limitations. It is advisable that activities associated with returning an employee to work be reviewed with the employees' Compensation Board (WCB/WSCC).


### Return to Normal Duty

- Before returning to normal duties, a Doctor's Notice is required to indicate that the employee is able to perform in his regular job. The Notice should be signed by the employee's personal Physician or the attending Doctor.
- The employee shall report to the Manager and hand deliver the return to work/Doctor's Notice immediately after the visit with the Doctor.
- The Manager shall forward the return to work/Doctor's Notice to the HSE Coordinator to ensure the modified work case is closed, possible lost days and modified work days are accumulated properly.

### Monitoring Program Participants

The Manager shall monitor modified work activities to ensure that the employee works within the assigned limitations. The Manager must set a positive tone for the rest of the employees that will come in contact with the returning employee. The employee must comply with all prescribed treatments, as well as keep the Manager and the HSE Coordinator apprised of ongoing medical conditions or concerns. If an employee's condition worsens, or the condition is not improving as planned, the employee will be required to obtain medical assistance. Work will not be available until the employee's condition shows evidence, as determined by a physician, of improvement. Under no circumstances will an employee be permitted to return to work, or continue to remain at work, if their condition is not improving. Management must ensure that the employee is not laid off or terminated during his/her modified duties.

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## Forms – Return To Work Tools

- Fitness For Work Evaluation form
- Job Demands Analyses form (for employees covered by WSCC)
- Physical Demands Analysis form (for employees covered by WCB)
- Modified Work Offer form
- Return To Work Plan Closure Evaluation form
- WCB/WSCC Employer Report forms
- WCB/WSCC Worker Report forms


Forms can be found in Allen Services & Contracting Ltd.'s electronic safety manual in the following sections:

- Incident Reporting & Investigation, Section 10  
or/and
- Return To Work Program, Section A1

## Modified Work Procedure

1. After an injury has occurred, or an employee has informed Management of occupational injury or illness, Management must ensure that the employee visits a physician immediately or as soon as possible.
2. Management must submit an Employer Report to WCB/WSCC within 72 hours of the injury/illness.
3. Management must advise the employee to complete the Worker's Report and submit to WCB/WSCC as soon as possible. Any delays in submission of the Worker Report to WCB/WSCC may delay the claims management and possible compensation.
4. Management must provide the injured/ill employee with the Fitness For Work Evaluation form for the Physician. The treating Physician shall complete the form and return it to the employee. The employee must return the completed Fitness For Work Evaluation form to the employer personally and immediately after the visit with the Physician. If the Fitness For Work Evaluation was not provided to the employee upon visiting the Physician, the

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Manager will contact the treating Physician and request the Fitness For Work Evaluation to be completed and returned to the office.

5. After reviewing the Fitness For Work Evaluation form with the employee, Management must prepare the Job Demands/Physical Demands Analysis and Modified Work Offer, if the employee was deemed fit for modified work by the Physician. If the employee was not deemed fit for modified work, the employee must continue to visit the Physician on regular basis until cleared for either modified work or regular duties.
6. Employee must review the Modified Work Offer with Management and accept or decline the Offer by indicating his/her decision and signing the Offer.
7. If an employee does not accept the Modified Work Offer, management and the employee must review the Offer and decide if other work can be provided. If the employee and Management can't come to a solution, Management must contact WCB/WSCC and consult with the Claims Manager. The Claims Manager will then contact the employee and try to resolve the matter. The WCB/WSCC Claims Manager will make the final decision in all cases where an employer and employee can't come to an agreement. Management must advise the employee that compensation will be suspended if the employee does not accept modified work duties that are deemed acceptable by the Physician and/or by WCB/WSCC, for his/her condition.

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## A2.1 FALL PROTECTION PROGRAM

### Purpose

The purpose of this program is to provide fall protection procedures to prevent injury to employees while performing work assignments at elevated levels.

Any changes to this Fall Protection Program must be approved by the HSE Coordinator or Supervisor, who is designated the Qualified Person. This is based on training received in fall protection planning and has demonstrated skills and knowledge in the preparation of fall programs, plans and the hazards involved.

This program shall ensure a worker is protected from falling at a temporary or permanent work area if a worker may fall:

- a vertical distance of 3 metres or more,
- a vertical distance of less than 3 metres if there is an unusual possibility of injury, or
- into or onto a hazardous substance or object, or through an opening in a work surface.

A worker shall be adequately protected by a guardrail system. If it is not reasonably possible to install a guardrail system, a worker shall be adequately protected by at least one of the following methods of fall protection:

- A travel restraint system
- A fall restricting system
- A fall arrest system
- A safety net


When work is performed on a non-owned or operated site, the operator's program shall take precedence, however, this document covers Allen Services & Contracting Ltd. employees and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

### Definitions

"Anchorage" means a secure point of attachment for lifelines, lanyards or deceleration devices.

"Anchorage Points" means Allen Services & Contracting Ltd. shall ensure that the lifeline is fastened to a secure anchor point that has a breaking strength of at least 22.2 kilonewtons and is not used to suspend any platform or other load.

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"Body belt (safety belt)" means a strap with means both for securing it about the waist and for attaching it to a lanyard, lifeline, or deceleration device.

"Body harness" means straps which may be secured about the employee in a manner that will distribute the fall arrest forces over at least the thighs, pelvis, waist, chest and shoulders with means for attaching it to other components of a personal fall arrest system.

"Carabineer" - see Snaphook

"Connector" means a device which is used to couple (connect) parts of the personal fall arrest system and positioning device systems together. It may be an independent component of the system, such as a carabineer, or it may be an integral component of part of the system (such as a buckle or D-ring sewn into a body belt or body harness, or a snap-hook spliced or sewn to a lanyard or self-retracting lanyard).

"Deceleration device" means any mechanism, such as a rope grab, rip-stitch lanyard, specially-woven lanyard, tearing or deforming lanyards, automatic self-retracting lifelines/lanyards, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.


"Deceleration distance" means the additional vertical distance a falling employee travels, excluding lifeline elongation and free fall distance, before stopping, from the point at which the deceleration device begins to operate. It is measured as the distance between the location of an employee's body belt or body harness attachment point at the moment of activation (at the onset of fall arrest forces) of the deceleration device during a fall, and the location of that attachment point after the employee comes to a full stop.

"Equivalent" means alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

"Free fall" means the act of falling before a personal fall arrest system begins to apply force to arrest the fall.

"Free fall distance" means the vertical displacement of the fall arrest attachment point on the employee's body belt or body harness between onset of the fall and just before the system begins to apply force to arrest the fall. This distance excludes deceleration distance, and lifeline/lanyard elongation, but includes any deceleration device slide distance or self-retracting lifeline/lanyard extension before they operate and fall arrest forces occur.

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"Guardrail system" means a barrier erected to prevent employees from falling to lower levels.

"Infeasible" means that it is impossible to perform the inspection work using a conventional fall protection system (i.e., guardrail system, safety net system, or personal fall arrest system) or that it is technologically impossible to use any one of these systems to provide fall protection.

"Lanyard" means a flexible line of rope, wire rope, or strap which generally has a connector at each end for connecting the body belt or body harness to a deceleration device, lifeline, or anchorage.

"Leading edge" means the edge of a floor, roof, or formwork for a floor or other walking/working surface (such as the deck) which changes location as additional floor, roof, decking, or formwork sections are placed, formed, or constructed. A leading edge is considered to be an "unprotected side and edge" during periods when it is not actively and continuously under construction.

"Lifeline" means where the use of a lifeline is required Allen Services & Contracting Ltd. or contractor shall ensure that the lifeline is suitable for the conditions in which the lifeline is to be used, having regard to factors including strength, abrasion resistance, extensibility and chemical stability. Allen Services & Contracting Ltd. shall ensure that a lifeline is made of wire rope or synthetic material, is free of imperfections, knots and splices, other than end terminations, is protected by padding where the lifeline passes over sharp edges, is protected from heat, flame or abrasive or corrosive materials during use and is maintained to manufacturer's recommendations.


"Lower levels" means those areas or surfaces to which an employee can fall. Such areas or surfaces include, but are not limited to, ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, structures, or portions thereof.

"Personal fall arrest system" means a system used to arrest an employee in a fall from a working level. It consists of an anchorage, connectors, a body belt or body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these.

"Positioning device system" means a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

"Rope grab" means a deceleration device which travels on a lifeline and automatically, by friction, engages the lifeline and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

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"Safety Nets. Safety nets shall be provided when workplaces are higher than 25 feet above ground or water surfaces or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines or safety belts are impractical.

Nets shall extend 8 feet beyond the edge of the work surface where employees are exposed and shall be installed as close under the work surface as practical but in no case more than 25 feet below the work surface. Nets shall be positioned in a manner to prevent the user from coming into contact with below surfaces or structures. Proper clearance positioning of nets shall be determined by impact load testing. Work procedures shall not begin until nets are in place and have been properly tested.

New nets shall meet accepted performance standards of 17,500 foot pounds minimum impact resistance as determined and certified by the manufacturers and shall bear a label of proof test. Edge ropes shall provide a minimum breaking strength of 5000 pounds.

"Self-retracting lifeline/lanyard" means a deceleration device containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.


"Snaphook" means a connector comprised of a hook-shaped member with a normally closed keeper, or similar arrangement, which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object. Snaphooks are generally one of two types: (1) The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection; or (2) The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. As of January 1, 1998, the use of a non-locking snaphook as part of personal fall arrest systems and positioning device systems is prohibited.

"Unprotected sides and edges" means any side or edge (except at entrances to points of access) of a walking/working surface, e.g., floor, roof, ramp, or runway where there is no wall or guardrail system at least 39 inches (1.0 m) high.

"Walking/working surface" means any surface, whether horizontal or vertical on which an employee walks or works, including, but not limited to, floors, roofs, ramps, bridges, runways, formwork and concrete reinforcing steel but not including ladders, vehicles, or trailers, on which employees must be located in order to perform their job duties.

"Working at height" is defined as a temporary or permanent work area that a worker may fall 3 meters or more, or there is an unusual possibility of injury if a worker falls less than 3 meters.

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## Responsibilities

### HSE Coordinator

It is the responsibility of the HSE Coordinator (or designated competent person) to implement this Fall Protection Program. Continual observational safety checks of work operations and the enforcement of the safety policy and procedures shall be regularly enforced. All jobs shall be pre-planned prior to the start of work.

### Supervisor

The Supervisor shall ensure that all persons assigned to work at elevated levels, exceeding 3 meters in height or more above lower level and where guardrails or nets are not utilized, be protected by personal fall protection equipment.

- Supervisors shall make exposure determinations and shall discuss with their employees the extent to which scaffolds, ladders or vehicle mounted work platforms can be used.
- Ensure that fall protection equipment is available and in safe working condition.
- Provide for emergency rescue in the event of a fall. Pre-plan the job to ensure that employees have been properly trained in the use, limitations, inspections and rescue procedures and that training records are on file.

### Employees

Employees shall ensure they have and use the fall protection equipment as required by this program and:

- Understand the potential hazards of working at elevated levels as well as gaining access to and from the work location.
- Understand the use and limitations of such equipment.
- Pre-plan the job with his/her supervisor to agree that the job can be done safely.
- Before using a lifeline or lanyard, a worker shall ensure that the lifeline or lanyard is free of imperfections, knots and splices other than end terminations, is protected by padding where the lifeline or lanyard passes over sharp edges and is protected from heat, flame or abrasive or corrosive materials during use.
- Before using a safety belt or full body harness a worker shall ensure that the safety belt or full body harness is properly adjusted to fit the worker securely and is attached by means of a connecting linkage to a fixed anchor or lifeline.
- Inspects the connecting linkage, personal fall arrest system, full-body harness or lifeline before each use and that where a defect or unsafe condition that may create a hazard to a worker is identified in a connecting linkage, personal fall arrest system, full-body harness or lifeline.

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Figure A



Figure B

1. Tie-off Point
2. Lifeline
3. Rope Grab
4. Shock Absorbing Lanyard
5. Cross-Arm Strap

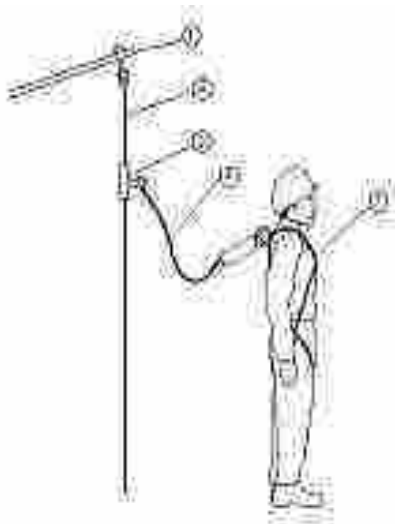


Figure C

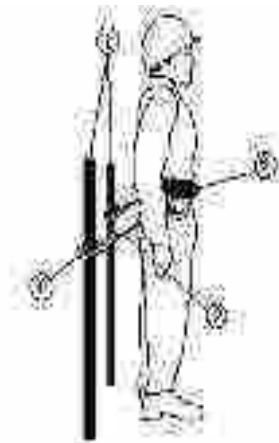



Figure D

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## Code of Practice and Safe Work Practices

Fall protection procedures and fall protection plans are required whenever employees are potentially exposed to falls from heights of 3 meters or greater to lower levels or where a fall from a height of less than 3 meters involves a risk of injury greater than the risk of injury from the impact on a flat surface. The type of work where fall protection may be encountered includes, but is not limited to:

- Near and around excavations
- Manlifts/Boom Trucks
- Unprotected scaffolding
- Pole climbing
- Work over 3 meters
- Roofs, unprotected leading edges on any structure, ventilation equipment
- Pipe access

### Prevention

Engineering controls shall always be used first to remove the hazard of injuries by falls. Examples include:

- Designing engineered access walkways vs. use of elevating platforms, scaffolds or climbing.
- Stairway units on scaffolds versus climbing a scaffolding ladder.

Use of guard rails, safety net, or personal fall arrest systems shall be used when the standard methods of protection are not feasible or a greater hazard would be created.


Where a guardrail is removed in order for work to be done Gap Engineering, Inc. and any contractor shall each ensure that adequate precautions are taken to ensure the safety of the employee doing the work and any other employee, and the area is not left unguarded. An employee who removes a guardrail in order to do work shall replace the guardrail before leaving the area.

An opening into which an employee may fall, other than a hatchway, chute, pit or trap-door opening, shall be guarded on all exposed sides by guardrails or by an adequately strong and supported cover secured over the opening.

### Defects / Unsafe Conditions

Where a defect or unsafe condition that may create a hazard to a worker is identified in a safety belt, connecting linkage, fall arresting device, full body harness or lifeline, steps are taken

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immediately to protect the health and safety of any worker who may be at risk until the defect is repaired or the unsafe condition is corrected and as soon as is reasonably practicable the defect is repaired or the unsafe condition is corrected.

### Equipment

Equipment used for a fall protection system must consist of compatible and suitable components and be sufficient to support the fall restraint or arrest forces.

A fall arrest system shall consist of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device. The fall arrest system shall be attached by a lifeline or by the lanyard to an independent fixed support.

Allen Services & Contracting Ltd. shall ensure that a fall arresting device and connecting linkage required by local provincial regulations is approved and maintained.


All fall protection equipment including full body harnesses, body belts, lanyards, shock absorbers, connectors, carabineers, and snap hooks, fall arrestors, self retracting devices, descent control devices, life safety ropes, adjustable lanyards for work positioning, rope adjustment devices for work positioning and wood pole climbing equipment must meet current CSA Standards and must be in compliance with local regulatory codes subject to local regulatory requirements. All CSA requirements must be met at the time of manufacture.

The following are minimum standards for Allen Services & Contracting Ltd. employee personal fall protection systems:

- Connectors shall be drop forged, pressed or formed steel, or made of equivalent materials.
- Connectors shall have a corrosion-resistant finish, and all surfaces and edges shall be smooth to prevent damage to interfacing parts of the system.
- Where a snap hook is used as an integral component of a personal fall arrest system, connecting linkage, fall arresting device, full body harness or lifeline Allen Services & Contracting Ltd. shall ensure that the snap hook is self locking and is approved and maintained.
- A fall arrest system shall consist of a full body harness with adequate attachment points and a lanyard equipped with a shock absorber or similar device.
- The fall arrest system shall be attached by a lifeline or by the lanyard to an independent fixed support.
- A lanyard must be kept as short as work conditions permit, is constructed of nylon, polyester or polypropylene rope or webbing or wire rope that is equipped with an approved shock absorbing device, is equipped with suitable snap hooks and is approved and maintained.


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- Horizontal lifelines shall be designed, installed, and used, under the supervision of a qualified person, as part of a complete personal fall arrest system, which maintains a safety factor of at least two.
- Where vertical lifelines are used, each employee shall be attached to a separate lifeline.
- Where the use of a lifeline is required Allen Services & Contracting Ltd. shall ensure that the lifeline is suitable for the conditions in which the lifeline is to be used, having regard to factors including strength, abrasion resistance, extensibility and chemical stability. Allen Services & Contracting Ltd. will ensure that a lifeline is made of wire rope or synthetic material, is free of imperfections, knots and splices, other than end terminations, is protected by padding where the lifeline passes over sharp edges, is protected from heat, flame or abrasive or corrosive materials during use and is maintained to manufacturer's recommendations.
- Permanent anchorages used for attachment of a fall protection system shall be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22kN) in any direction per employee attached and is not used to suspend any platform or other load. Types of acceptable anchorages include I beams, designed anchorage systems including horizontal and vertical cables, piping of sufficient strength, etc. Small diameter piping, conduit, boards, etc. shall not be used.
- Systems used by an employee having a combined person and tool weight in excess of 310 pounds shall be modified to provide proper protection for such heavier loads.
- The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head, except when climbing.
- Full body harnesses requirements:
  - Full body harness and connecting linkage must be approved and maintained.
  - Properly fitted to the worker.
  - Worker is trained in the safe use of the full body harness.
  - All metal parts of the full-body harness and connecting linkage are of drop-forged steel 22.2 kilonewtons proof tested.
  - A protective thimble is used to protect ropes or straps from chafing whenever a rope or strap is connected to an eye or a D-ring used in the full body harness or connecting linkage.
  - The connecting linkage is attached to a personal fall arrest system, lifeline or secure anchor point to prevent the worker from falling more than 1.2 metres.
- Provide for prompt rescue of employees in the event of a fall or assure that employees are able to rescue themselves.
- Personal fall arrest systems shall be inspected and maintained by a Allen Services & Contracting Ltd. competent person other than the person using the system before it is used by any worker prior to use on each shift for wear, damage and other deterioration, and defective components shall be removed from service and destroyed where applicable.

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Equipment must be kept free from substances and conditions that could contribute to its deterioration and be maintained in good working order.

- Personal fall arrest systems shall not be attached to guardrail systems, nor shall they be attached to hoists unless prior approval is obtained from a competent person.
- If and when a personal fall arrest system is used at hoist areas, it shall be rigged to allow the movement of the employee only as far as the edge of the walking/working surface.

### Stopping a Fall / Free Fall Requirements

Allen Services & Contracting Ltd. shall ensure that a fall arresting device prevents a worker from falling more than 1.2 metres without a shock absorber. Where a shock absorber is used it prevents a worker from falling more than two metres or the limit specified in the manufacturer's specifications, whichever is less and applies a peak fall-arrest force not greater than eight kilonewtons to a worker. It shall be fastened to a lifeline or to a secure anchor point that has a breaking strength of at least 22.2 kilonewtons.

### Protection From Falling Objects

When employees are required to work in the near vicinity of others working with materials, tools, or equipment at elevated levels, Barricades around the immediate area of the overhead work shall be erected to prohibit employees from entering the barricaded area.

Employees performing work at elevated levels shall keep tools, materials, and equipment away from the edge to keep potential objects from falling over the side. Where practical, tools, etc. shall be secured with rope, wire, etc. to keep them from falling.

### Portable Ladders


Three point climbing is required while ascending/descending ladders. While on ladders, both hands and one foot, or both feet and one hand shall always be in contact with the ladder.

Tools required to perform a task shall be transported by a mechanical carrier such as a tag line, suspended bucket or tool belt.

- Tools shall not be carried by hand while climbing.
- Hands must be free to grip the ladder.
- Tools shall not be carried in clothing pockets.
- Tools shall be pulled up to the job site only after reaching the area of work.

Straight ladders shall be tied off at the top to prevent them from moving. A second person shall steady the ladder at the base while it is being tied off at the top by another employee. Do not tie off fall protection equipment to the ladder.

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### Storage

A dedicated storage area shall be provided for the storage of fall protection equipment and all components. The storage area shall keep the equipment clean, dry, and free from oils, chemicals, paints, and excessive heat.

### Inspections / Damage

The fall arrest system shall be inspected by a competent worker before each use. Where the use of a connecting linkage, personal fall arrest system, full-body harness or lifeline is required Allen Services & Contracting Ltd. shall ensure that a competent person: inspects the connecting linkage, personal fall arrest system, full-body harness or lifeline: as recommended by the manufacturer; and after the connecting linkage, personal fall arrest system, full-body harness or lifeline has sustained a fall-arresting incident; and determines whether the connecting linkage, personal fall arrest system, full-body harness or lifeline is safe for continued use.

Personal fall arrest systems and all components shall be inspected as recommended by the manufacturer and maintained by an Allen Services & Contracting Ltd. competent person before it is used by any worker prior to use on each shift for wear, damage and other deterioration, and defective components shall be immediately removed from service and destroyed where applicable. Equipment must be kept free from substances and conditions that could contribute to its deterioration and be maintained in good working order.


Allen Services & Contracting Ltd. must ensure that equipment used as part of a fall protection system is removed from service and either returned to the manufacturer or destroyed if it is defective, or it has come into contact with excessive heat, a chemical, or any other substance that may corrode or otherwise damage the fall protection system. Allen Services & Contracting Ltd. must ensure that after a personal fall arrest system has stopped a fall, the system is removed from service.

If a component of the fall arrest system is found to be defective on inspection the defective component shall immediately be taken out of service. Allen Services & Contracting Ltd. must ensure that a personal fall arrest system that is removed from service is not returned to service unless a professional engineer or the manufacturer certifies that the system is safe to use.

### Elevated Personnel Platforms

Work performed, regardless of the nature of the work, from personnel platforms raised by forklifts, cranes, scissor lifts, a boom elevating work platform, boom-supported aerial device, or telescopic forklift truck work platform requires a personal fall arrest system and the employee shall be connected to the platform.

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## Rescue

Before any use of a fall arrest system or a safety net by a worker at a project Allen Services & Contracting Ltd. shall develop written procedures for rescuing the worker after his or her fall has been arrested. Prompt rescue of employees shall be provided in the event of a fall. The pre-planning stage prior to the beginning of each elevated work assignment shall be evaluated by the Supervisor or HSE Coordinator to provide rescue of employees involved in a fall.

## Written Fall Protection Plan

If a worker at the work site may fall 3 metres or more and the worker is not protected by guardrails then a written fall protection plan shall be written. The fall protection plan shall specify these provisions:

- the fall hazards at the work site,
- the fall protection system to be used at the work site,
- the anchors to be used during the work,
- that clearance distances below the work area, if applicable, have been confirmed as sufficient to prevent a worker from striking the ground or an object or level below the work area,
- the procedures used to assemble, maintain, inspect, use, and disassemble the fall protection system, where applicable, and
- the rescue procedures to be used if a worker falls and is suspended by a personal fall arrest system or safety net and needs to be rescued.

For off-site locations, a fall protection plan should be developed and implemented prior to commencing work activities.

These locations shall then be classified as controlled access zones.

## Controlled Access Zones


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

When control lines are used, they shall be erected not less than 3 meters nor more than 25 feet (7.5 m) from the unprotected or leading edge.

The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.

The control line shall be connected on each side to a guardrail system or wall.

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- Control lines shall consist of ropes, wires, tapes, or equivalent materials.
- Each line shall be flagged or otherwise clearly marked at not more than 6-foot (1.8 m) intervals with high-visibility material.
- Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches (1 m) from the walking/working surface and its highest point is not more than 45 inches (1.3 m).
- Each line shall have a minimum breaking strength of 200 pounds.

Only employees engaged in the related work shall be permitted in the controlled access zone.

### Safety Monitoring System

When the use of conventional fall protection equipment is deemed infeasible or the use of this equipment creates a greater hazard a Fall Protection Plan which includes a safety monitoring system shall be implemented by the supervisor.

Supervisors shall designate a competent person to monitor the safety of other employees. The competent person shall be required to:

- Recognize fall hazards;
- Warn employees if they are unaware of fall hazard or are acting in an unsafe manner;
- Be on the same working surface and in visual contact of working employees;
- Stay close enough for verbal communication; and
- Not have other assignments that would take his/her attention from the monitoring function.

### Incident Investigations

All incidents and near misses must be investigated according to Allen Services & Contracting Ltd.'s incident investigation procedure. Changes to the fall protection program shall be implemented if deemed appropriate from incident corrective actions.


### Competency Training

Before a worker is allowed into an area where a risk of falling exists, Allen Services & Contracting Ltd. must ensure that the worker is instructed orally and in writing by a competent person in the fall protection equipment use and system for the area and the procedures to be followed.

This includes employees who may be exposed to fall hazards shall be trained to be competent in how to recognize the hazards of falling and understand the fall protection plan and safe use of fall protection system procedures to be followed in order to minimize these hazards.

Allen Services & Contracting Ltd. will ensure that a worker is trained in the safe use of the fall protection system before allowing the worker to work in an area where a fall protection system must be used. The training must include the following:

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- a review of current Alberta legislation pertaining to fall protection;
- an understanding of what a fall protection plan is;
- fall protection methods a worker is required to use at a work site;
- identification of fall hazards;
- assessment and selection of specific anchors that the worker may use;
- instructions for the correct use of connecting hardware;
- information about the effect of a fall on the human body, including
  - maximum arresting force,
  - the purpose of shock and energy absorbers,
  - swing fall,
  - free fall;
- pre-use inspection;
- emergency response procedures to be used at the work site, if necessary; and
- practice in
  - inspecting, fitting, adjusting and connecting fall protection systems and components, and
  - emergency response procedures.

Training must be conducted initially, and refresher training conducted annually or as needed due to deficiencies in training, changes in the workplace, changes in fall protection systems or procedures that render previous training obsolete, or inadequacies in an employee's understanding of previous training.

Training must be documented in writing: Who was trained, when and dates of training. Signature of person providing training and date training was deemed adequate.

Training records shall be retained in the local office.

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### A3.1.0 WORKING ALONE POLICY


Allen Services & Contracting Ltd. will provide a safe work environment for its employees and sub-contractors. In doing so, Allen Services & Contracting Ltd. will take all reasonable and practical measures to eliminate or minimize injury or incident risks associated with the nature of the work performed when employees or sub-contractors work alone.

Allen Services & Contracting Ltd. will develop a program and plan including procedures for working alone. This program and procedures apply to all employees and sub-contractors working alone under the supervision of Allen Services & Contracting Ltd.

The safety measures and working alone procedures contained in this policy will still apply even though the employee may be in contact with individuals from another employer and/or the general public.

Brian McCarthy, General Manager	Date

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### A3.1.1 PURPOSE

This plan is intended to establish site specific procedures for checking the well-being of a worker assigned to work alone or in isolation under conditions which present a risk of injury, if the worker might not be able to secure assistance in the event of injury or other misfortune. The procedure for checking a worker's well-being must include the time interval between checks and the procedure to follow in case the worker cannot be contacted, including provisions for emergency rescue.

In addition to checks at regular intervals, a check at the end of the work shift must be done. The procedure for checking a worker's well-being, including time intervals between the checks, must be developed in consultation with the Supervisor and/or HSE Coordinator and with the worker assigned to, or who do work alone or in isolation.

#### Definition

The definition of working alone is “To work alone means to work at a worksite as the only worker of the employer or subcontractor at that worksite, in circumstances where assistance is not readily available to the worker in the event of injury, ill health or emergency.” Working alone includes all drivers who travel alone.


#### Objectives

To minimize risk to employees and subcontractors who may work alone and assistance is not readily available Allen Services & Contracting Ltd. will:

- Conduct written hazard assessments to identify existing or potential working alone hazards.
- Take measures to eliminate or control the hazards of working alone at Allen Services & Contracting Ltd. worksites.
- Ensure that affected employees are informed of the hazards and methods used to control or eliminate them.
- Provide an effective system for communication between any employee who work alone and persons capable of assisting the employee.
- Ensure all incidents (working related or otherwise) are reported, investigated and documented.
- Review the Working Alone Plan at least annually or more frequently if there is a change in work arrangements which could adversely affect an employee's well-being or a report that the system is not working effectively.

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## Key Responsibilities

### Supervisor

- Conducts/reviews a hazard assessment to identify existing or potential hazards related to the nature of the work or the work environment given the circumstances of the work when working alone.
- Responsible for the review, implementation and maintenance of the local worksite Working Alone Plan.
- Communicate this policy and its procedures to employees who work alone.
- Review the hazard assessment results and provide recommendations to management and the safety representative to minimize or eliminate identified working alone risks.
- Respond to employee concerns related to working alone and communicate these to management and the safety representative.
- Report all incidents of work site incidents immediately as required by local regulatory requirements.
- Participate in work site hazard assessments and the implementing of procedures to eliminate or control hazards of working alone.
- Take every reasonable precaution when working alone.
- Shall follow the requirements of the Working Alone Plan


### Management and HSE Coordinator

- Responsible for the implementation and maintenance of the Working Alone Plan for the company and ensuring all assets are made available for compliance with the procedure.
- Take all reasonable and practical steps to minimize or eliminate identified working alone risks.
- Annually review the effectiveness of the hazard controls and procedures and make improvements as required.
- Communicate this policy and its procedures to employees who work alone.
- Respond to employee concerns related to working alone and communicate these to management employees

### Worker

- Follow the Working Alone Procedure and protocol.
- Immediately report to a Supervisor if working alone must be performed (drivers).
- Ensure communication is available and functional (cell phone, radio).
- Take every reasonable precaution when working alone.

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### Worksite Assessment and Controls

As working alone is classified as a workplace hazard for the purpose of the local regulatory requirements for occupational safety, each work site must conduct a written hazard identification and assessment (see Working Alone Guideline for Allen Services & Contracting Ltd. worksites form) before a worker is assigned to work alone or in isolation in order to identify and eliminate any associated hazards and risks from the conditions and circumstances, and if it is not practicable to eliminate the hazard, to minimize the risk from the hazard.

To assess this hazard Allen Services & Contracting Ltd. must review records, past incidents and identify measures or actions needed to correct any hazards.

It shall involve:

- Participation by the workers at the workplace.
- Participation by employees through methods such as one-on-one interviews, focus groups, employee surveys and work site inspections.
- The assessment will also collect and document information from employees about their experiences working alone, their current concerns, and their suggestions for improvement.
- Consideration for the time interval between checks and the procedure to follow in case the employee cannot be contacted, including provisions for emergency rescue.

### Plan

Allen Services & Contracting Ltd. must develop and implement safe work procedures to eliminate or reduce the identified risks to workers working alone or working in isolation. Those procedures will include the steps taken to eliminate or reduce the risks and must include:


### Communication and Regular Contact Person System

Each worksite's Working Alone Plan must provide effective radio, telephone, cellular phone or other electronic communication between an employee who works alone and persons capable of assisting the worked in an emergency or if the employee is injured or ill. Drivers must have a functional cell phone, radio and GeoTrac GPS while travelling.

Each worksite's Working Alone Plan shall address having an established contact person. For drivers, a designated person must at least check GeoTracs on a regular basis. A person must be designated to establish contact with the employee at predetermined intervals and the results must be recorded by the person.

If electronic communication is not practicable or readily available at the worksite, Allen Services & Contracting Ltd. must ensure that a representative of Allen Services & Contracting Ltd. or another competent employee visits the employee, or the employee contacts Allen Services & Contracting Ltd. or another competent employee (i.e. client's safety representative).

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These visits or contacts shall be at intervals of time appropriate to the nature of the hazards associated with the employee's work. As a minimum, contact shall occur no less than every four hours.

In addition to checks at regular intervals, a check at the end of the work shift must also be completed.

#### Limitations on or Prohibitions of Specified Activities

- No heavy equipment will be operated if a worker is alone.
- No hot work will occur if a worker is alone.
- No working at heights will occur if a worker is alone requiring a personal fall arrest system.
- No working alone will occur if temperatures are low enough to pose an imminent risk to the worker.
- Other limitations will be placed based on the site-specific hazard assessment.

#### Minimum Training or Experience

All employees will be trained (if working alone is a hazard at that location) in:

- Any revision to the written local Working Alone Plan and safe work practices.
- Being informed of working alone hazards at the Allen Services & Contracting Ltd. and client's worksite and the methods used to control or eliminate them.
- The methods for identification, hazard reduction and prevention when working alone and dealing with situations or individuals that presents a potential risk.
- All training shall be documented.

#### Provisions of PPE


- Cold weather clothing shall be worn when appropriate if a worker is working alone
- Additional PPE for workers working alone will be identified in the site-specific hazard assessment process

#### Safe Work Practices

Controls implemented at Allen Services & Contracting Ltd. and client worksites shall, as a minimum:

- Restricted access to buildings - card keys or regular keys after regular working hours.
- Office doors are to be locked when working alone after hours.
- Have employees check road reports and weather forecast before traveling and NOT allow travel if road conditions are dangerous.
- Develop a travel plan that includes rest breaks, a procedure for tracking overdue employees and emergency contact information.
- Ensure all Allen Services & Contracting Ltd. vehicles are to be equipped with cell phones or radios, fire extinguishers and first aid kits.

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- Advise employees to travel with another employee when possible.
- Advise employees to park close to the building in the evening.
- Post signage, emergency contact information, and develop a communication system.
- Report suspicious activity to security or a supervisor.

#### Provision of Emergency Supplies

- All vehicles shall contain the appropriate emergency supplies including flares, marking devices, food, water, warm clothing during winter and other supplies as determined by the hazard assessment.
- Workers working alone shall have spare batteries for communication devices in case of power failure, a radio for local weather conditions and other equipment as determined by the hazard assessment.


#### Review & Updating Working Alone Plan

- The hazard assessment and Working Alone Plan at each Allen Services & Contracting Ltd. worksite must be reviewed on an annual basis or when work processes or arrangements which could affect an employee's well-being are introduced or changed.
- The local Working Alone Plan shall also be revised if there is any indication that the plan is not effective or needs changing.

#### 5.6.2 Safe Job Procedure

To review the Working Alone Procedure please refer to section 4.41 Safe Job Procedures in this safety manual.

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## A4.1.0 RESPIRATORY PROTECTION

### Purpose

It is the intention of Allen Services & Contracting Ltd. to provide a respirator protection program that meets or exceeds all standards. Allen Services & Contracting Ltd. will attempt to engineer potential harmful vapors and oxygen deficient atmosphere exposure hazards out of the work environment. If it is not possible to reduce or eliminate the hazard, or while the hazard is being eliminated, correctly chosen respirators will be utilized to help reduce potential exposures to hazardous atmospheres.

This program applies to all Allen Services & Contracting Ltd. projects and operations.

### Requirements

This program is to determine the degree of danger to employee at a work site and whether the employee needs to wear respiratory protective equipment. Approved respiratory protective devices must be worn by workers if:


- A worker is or may be exposed to an airborne contaminant or a mixture of airborne contaminants in a concentration exceeding their occupational exposure limits,
- The atmosphere has or may have an oxygen concentration of less than 19.5 percent by volume, or
- If a worker is or may be exposed to an airborne biohazardous material.
- Is likely to be exposed to dust, fumes, gas, mist, aerosol or vapour or any airborne contaminant that may be present in any amounts that are harmful or offensive to the worker.

Allen Services & Contracting Ltd. must consider:

- The nature and exposure circumstances of any contaminants or biohazardous material,
- The concentration or likely concentration of any airborne contaminants,
- The duration or likely duration of the worker's exposure,
- The toxicity of the contaminants,
- The concentration of oxygen,
- The warning properties of the contaminants, and
- The need for emergency escape.

Additionally, during routine, temporary or emergency conditions an employee who is required or permitted to work in a place, including a work area where danger from toxic or corrosive gases may exist or evolve, where there is danger to health from harmful concentrations of gases, vapours, fumes, aerosol, mists or dusts, oxygen deficiency or any airborne contaminate that may be present in any amounts that are harmful or offensive to the employee, shall wear respiratory protective equipment appropriate to the circumstances.

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Employee shall use the appropriate respiratory equipment provided by Allen Services & Contracting Ltd.

CSA requirements Z94.4-02, Selection, Use and Care of Respirators must be followed.

Access points to an area containing toxic or corrosive gases shall have signs displayed which warn that respiratory equipment is required and those signs shall name the gas involved and a employee who is not trained shall not be permitted to enter that area.


#### Respiratory Program Administration

Overall responsibility for the respiratory protection program is assigned to Allen Services & Contracting Ltd. HSE Coordinator in order to ensure that specific requirements are followed. This assignment is made, however, with the understanding that individual supervisors will have to implement and enforce major portions of the program. It is understood that the Program Administrator will report performance problems to the appropriate manager for resolution. The person who will have responsibility for administering all the aspects of this program will be the site manager.

The responsibilities of the Program Administrator will include, but are not limited to:

- Conducting an assessment of the nature of airborne contaminants, the concentration or likely concentration of any airborne contaminants, the duration or likely duration of the employees exposure, the toxicity of the contaminants, the concentration of oxygen, the warning properties of the contaminates and the need for emergency escape.
- Conducting an annual written evaluation of the program. The program evaluation should be completed no later than December, 31, of each year.
- Ensuring an adequate supply of respirators, cartridges, and repair/replacement parts are always available at each work site. The Program Administrator may delegate this duty but will retain overall responsibility. The person(s) to whom this duty has been delegated is the site manager.
- Ensuring that only respirators that have been approved ordered and used. Under no circumstances will respirators be used that have not been approved by current CSA standards. The selected designated respirator manufacturer for Allen Services & Contracting Ltd. is North Safety.
- Ensuring that all respirator users have been trained in the use, selection and limitations of the type of respirators they will be using prior to the first time the respirator must be used. While

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the duty of conducting the training may be delegated, the Program Administrator retains final responsibility for seeing that all employees are appropriately trained.


- Ensuring that all respirator users have been medically evaluated and found fit to use the type of respirators that will be required in their job. The medical evaluation must be completed prior to assigning any employee to a task that requires use of a respirator.
- Ensuring that all respirator users are fit-tested at least annually and more often if other local regulatory requirements apply.
- Ensuring that respirators are individually issued, are cleaned and sanitized on a regular basis, and respirators are stored in a clean and accessible location. This duty may also be delegated but the Program Administrator retains final responsibility for seeing that it is done.
- Ensuring that employee exposure is monitored to assure correct respirator type is used. Exposure monitoring may be delegated to others; however, the Program Administrator has final responsibility of monitoring completion and to request assistance when necessary.
- Ensuring surveillance of employees wearing respirators shall leave the area they are wearing respirators in to wash, change cartridges or if they detect break through or resistance with their PPE.
- Ensuring that the elements of the Respiratory Protection Program for the selection, use, cleaning/maintenance, storage and fit-testing of respirators are followed.
- Ensuring that respirator parts are not exchanged between brands of respirators.
- Ensuring medical evaluations, respirators and required training are provided at no cost to the employee.

## Medical Requirements

### General

Allen Services & Contracting Ltd. shall provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. Allen Services & Contracting Ltd. may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.

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### Medical Evaluation Procedures

Allen Services & Contracting Ltd. shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire. The medical evaluation shall obtain the information requested by the Medical Questionnaire in Forms section (or equivalent).

### Recordkeeping

The medical questionnaire and examinations shall be administered confidentially during the employee's normal working hours or at a time and place convenient to the employee. The medical questionnaire shall be administered in a manner that ensures that the employee understands its content. Allen Services & Contracting Ltd. shall provide the employee with an opportunity to discuss the questionnaire and examination results with the PLHCP.

Records of medical evaluations required by this section must be retained and made available in accordance with regulatory requirements. Records will be treated confidentially and maintained on file in the Allen Services & Contracting Ltd. corporate office by the HSE Coordinator.

### Supplemental Information for the PLHCP

The following information must be provided to the PLHCP before the PLHCP makes a recommendation concerning an employee's ability to use a respirator:

- The type and weight of the respirator to be used by the employee;
- The duration and frequency of respirator use (including use for rescue and escape);
- The expected physical work effort;
- Additional protective clothing and equipment to be worn; and
- Temperature and humidity extremes that may be encountered.

Allen Services & Contracting Ltd. shall provide the PLHCP with a copy of Allen Services & Contracting Ltd. Respiratory Protection Program.


Note: When Allen Services & Contracting Ltd. replaces a PLHCP, Allen Services & Contracting Ltd. must ensure that the new PLHCP obtains this information, either by providing the documents directly to the PLHCP or having the documents transferred from the former PLHCP to the new PLHCP.

### Medical Determination

In determining the employee's ability to use a respirator, Allen Services & Contracting Ltd. shall obtain a written recommendation regarding the employee's ability to use the respirator from the PLHCP. The recommendation shall provide only the following information:

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- Any limitations on respirator use related to the medical condition of the employee, or relating to the workplace conditions in which the respirator will be used, including whether or not the employee is medically able to use the respirator;
- The need, if any, for follow-up medical evaluations; and
- A statement that the PLHCP has provided the employee with a copy of the PLHCP's written recommendation.

All recommendations are to be sent to Allen Services & Contracting Ltd. HSE Coordinator.

### Additional Medical Evaluations

At a minimum, Allen Services & Contracting Ltd. shall provide additional medical evaluations that comply with the requirements of this program if:

- An employee reports medical signs or symptoms that are related to ability to use a respirator;
- A PLHCP, supervisor, or the respirator Program Administrator informs Allen Services & Contracting Ltd. that an employee needs to be re-evaluated;
- Information from the respiratory protection program, including observations made during fit testing and program evaluation, indicates a need for employee re-evaluation; or
- A change occurs in workplace conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

### Respirator Fit Testing


Before an employee may be required to use any respirator with a negative or positive pressure tight-fitting face piece, the employee must be fit tested by a competent person with the same make, model, style, and size of respirator that will be used. This section specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.

Allen Services & Contracting Ltd. must ensure that respiratory protective equipment that depends on an effective facial seal for its safe use is correctly fit tested and tested in accordance with CSA Standard Z94.4-02, Selection, Use and Care of Respirators (or current version).

If a worker is or may be required to wear respiratory protective equipment and the effectiveness of the equipment depends on an effective facial seal, the worker is clean shaven where the face piece of the equipment seals to the skin of the face.

CSA requirements Z94.4-02 Selection, Use and Care of Respirators must be followed for fit testing procedures.

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Allen Services & Contracting Ltd. shall ensure that employees using a tight-fitting face piece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) as stated in this program.

Allen Services & Contracting Ltd. shall ensure that an employee using a tight-fitting face piece respirator is fit tested prior to initial use of the respirator, whenever a different respirator face piece (size, style, model or make) is used, and at least annually thereafter.

Allen Services & Contracting Ltd. shall conduct an additional fit test whenever the employee reports, or Allen Services & Contracting Ltd.'s PLHCP, supervisor, or Program Administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

If after passing a QLFT or QNFT, the employee subsequently notifies Allen Services & Contracting Ltd., Program Administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator face piece and to be retested.

The fit test shall be administered using an accepted QLFT or QNFT protocol. The accepted QLFT and QNFT protocols and procedures are contained in this section.


QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less. Half face air filtering respirators may be fit tested with irritant smoke while full face air filtering respirators require Portacount fit testing.

If the fit factor, as determined through an QNFT protocol, is equal to or greater than 100 for tight-fitting half face pieces, or equal to or greater than 500 for tight-fitting full face pieces, the QNFT has been passed with that respirator.

Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.

Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual face piece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator face piece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator face piece.

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Quantitative fit testing of these respirators shall be accomplished by modifying the face piece to allow sampling inside the face piece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate face piece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the face piece.

Any modifications to the respirator face piece for fit testing shall be completely removed, and the face piece restored to CSA approved configuration, before that face piece can be used in the workplace.

### Fit Test Procedures

The requirements in this section apply to all accepted fit test methods, both QLFT and QNFT.

The test subject shall be allowed to pick the most acceptable respirator from a sufficient number of respirator sizes so that the respirator is acceptable to, and correctly fits, the user.

Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine an acceptable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning of the respirator. This instruction may not constitute the subject's formal training on respirator use, because it is only a review.


The test subject shall be informed that he/she is being asked to select the respirator that provides the most acceptable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.

The test subject shall be instructed to hold each chosen face piece up to the face and eliminate those that obviously do not give an acceptable fit.

The more acceptable face pieces are noted in case the one selected proves unacceptable; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the following points:

- If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.
- Position of the mask on the nose
- Room for eye protection
- Room to talk
- Position of mask on face and cheeks

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The following criteria shall be used to help determine the adequacy of the respirator fit:

- Chin properly placed;
- Adequate strap tension, not overly tightened;
- Fit across nose bridge;
- Respirator of proper size to span distance from nose to chin;
- Tendency of respirator to slip;
- Self-observation in mirror to evaluate fit and respirator position.

Use the Fit Test form.

### User Seal Check

Before conducting the negative and positive pressure checks, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. The test subject shall conduct a user seal check, either the negative or positive pressure seal checks described below:

#### Positive Pressure Check

Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.


#### Negative Pressure Check

Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the face piece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

The test shall not be conducted if there is any hair growth between the skin and the face piece sealing surface, such as stubble beard growth, beard, moustache or sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed, including glasses.

If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician or other licensed health care professional, as appropriate, to determine whether the test subject can wear a respirator while performing her or his duties. If the employee finds the fit of

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the respirator unacceptable, the test subject shall be given the opportunity to select a different respirator and to be retested.

Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

The fit test shall be performed while the test subject is wearing any applicable safety equipment that may be worn during actual respirator use which could interfere with respirator fit.

### Test Exercises

Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds. The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried. If due to medical or health conditions the employee cannot perform the test exercises the fit test shall not be performed and the employee not allowed to use a respirator until all elements of the fit test can be achieved.

The respirator shall not be adjusted once the fit test exercises begin. Any adjustment voids the test, and the fit test must be repeated.


The following test exercises are to be performed for all fit testing methods prescribed in this procedure:

- Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.
- Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as not to hyperventilate.
- Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.
- Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).
- Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject shall read from the Rainbow Passage.

### Rainbow Passage

“When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors.

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These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.” Continue to read for one minute.

- Grimace. The test subject shall grimace by smiling or frowning. (This applies only to QNFT testing; it is not performed for QLFT)
- Jogging in place. The test subject shall jog in place being careful to be aware of their surroundings.
- Normal breathing. Same as exercise (1).

## Qualitative Fit Test (QLFT) Protocols

### General

Allen Services & Contracting Ltd. shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and ensure that test equipment is in proper working order. Allen Services & Contracting Ltd. shall ensure that QLFT equipment is kept clean and well maintained so as to operate within the parameters for which it was designed.

### Irritant Smoke (Stannic Chloride) Protocol


This qualitative fit test uses a person's response to the irritating chemicals released in the “smoke” produced by a stannic chloride ventilation smoke tube to detect leakage into the respirator.

**General Requirements and Precautions.** The respirator to be tested shall be equipped with high efficiency particulate air (HEPA) or P100 series filter(s).

Only stannic chloride smoke tubes shall be used for this protocol. No form of test enclosure or hood for the test subject shall be used.

The smoke can be irritating to the eyes, lungs, and nasal passages. The test conductor shall take precautions to minimize the test subject's exposure to irritant smoke. Sensitivity varies, and certain individuals may respond to a greater degree to irritant smoke. Care shall be taken when performing the sensitivity screening checks that determine whether the test subject can detect irritant smoke to use only the minimum amount of smoke necessary to elicit a response from the test subject.

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The fit test shall be performed in an area with adequate ventilation to prevent exposure of the person conducting the fit test or the build-up of irritant smoke in the general atmosphere.


Sensitivity Screening Check. The person to be tested must demonstrate his or her ability to detect a weak concentration of the irritant smoke.

- The test operator shall break both ends of a ventilation smoke tube containing stannic chloride, and attach one end of the smoke tube to a low flow air pump set to deliver 200 millilitres per minute, or an aspirator squeeze bulb. The test operator shall cover the other end of the smoke tube with a short piece of tubing to prevent potential injury from the jagged end of the smoke tube.
- The test operator shall advise the test subject that the smoke can be irritating to the eyes, lungs, and nasal passages and instruct the subject to keep his/her eyes closed while the test is performed.
- The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its irritating properties and to determine if he/she can detect the irritating properties of the smoke. The test operator shall carefully direct a small amount of the irritant smoke in the test subject's direction to determine that he/she can detect it.

#### Irritant Smoke Fit Test Procedure

- The person being fit tested shall don the respirator without assistance, and perform the required user seal check(s).
- The test subject shall be instructed to keep his/her eyes closed if wearing a half face respirator.
- The test operator shall direct the stream of irritant smoke from the smoke tube toward the face seal area of the test subject, using the low flow pump or the squeeze bulb. The test operator shall begin at least 12 inches from the face piece and move the smoke stream around the whole perimeter of the mask. The operator shall gradually make two more passes around the perimeter of the mask, moving to within six inches of the respirator.
- If the person being tested has not had an involuntary response and/or detected the irritant smoke, proceed with the test exercises.
- The exercises identified in the Test Exercises of this procedure shall be performed by the test subject while the respirator seal is being continually challenged by the smoke, directed around the perimeter of the respirator at a distance of six inches.
- If the person being fit tested reports detecting the irritant smoke at any time, the test is failed. The person being retested must repeat the entire sensitivity check and fit test procedure.
- Each test subject passing the irritant smoke test without evidence of a response (involuntary cough, irritation) shall be given a second sensitivity screening check, with the smoke from the

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same smoke tube used during the fit test, once the respirator has been removed, to determine whether he/she still reacts to the smoke. Failure to evoke a response shall void the fit test.

- If a response is produced during this second sensitivity check, then the fit test is passed. The glass tube shall be disposed of properly.

#### Quantitative Fit Test (QNFT) Protocols

Using controlled negative pressure and appropriate instrumentation to measure the volumetric leak rate of a face piece to quantify the respirator have been demonstrated to be acceptable.

Allen Services & Contracting Ltd. shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and ensure that test equipment is in proper working order.

Allen Services & Contracting Ltd. shall ensure that QNFT equipment is kept clean, and is maintained and calibrated according to the manufacturer's instructions so as to operate at the parameters for which it was designed.


#### Portacount Fit Test Requirements

- Check the respirator to make sure the respirator is fitted with a high-efficiency filter and that the sampling probe and line are properly attached to the face piece.
- Instruct the person to be tested to don the respirator for five minutes before the fit test starts. This purges the ambient particles trapped inside the respirator and permits the wearer to make certain the respirator is comfortable. This individual shall already have been trained on how to wear the respirator properly.
- Check the following conditions for the adequacy of the respirator fit: Chin properly placed; Adequate strap tension, not overly tightened; Fit across nose bridge; Respirator of proper size to span distance from nose to chin; Tendency of the respirator to slip; Self-observation in a mirror to evaluate fit and respirator position.
- Have the person wearing the respirator do a user seal check. If leakage is detected, determine the cause. If leakage is from a poorly fitting face piece, try another size of the same model respirator, or another model of respirator.
- Follow the manufacturer's instructions for operating the Portacount and proceed with the test.
- The test subject shall be instructed to perform the exercises in Test Exercises section of this procedure.
- After the test exercises, the test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become unacceptable, another model of respirator shall be tried.

#### Portacount Test Instrument

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The Portacount will automatically stop and calculate the overall fit factor for the entire set of exercises. The overall fit factor is what counts. The Pass or Fail message will indicate whether or not the test was successful. If the test was a Pass, the fit test is over.

Since the pass or fail criterion of the Portacount is user programmable, the test operator shall ensure that the pass or fail criterion meet the requirements for minimum respirator performance.

A record of the test needs to be sent to the HSE Coordinator and kept on file, assuming the fit test was successful. The record must contain the test subject's name; overall fit factor; make, model, style, and size of respirator used; and date tested.

### Code of Practice

If respiratory protective equipment is used at a work site Allen Services & Contracting Ltd. will prepare a code of practice governing the selection, maintenance, and use of respiratory protective equipment and must follow the requirements found within this entire document.

Respirator Selection Criteria

### Identification of Respiratory Hazards

Due to the many varied work locations of Allen Services & Contracting Ltd. the specific identification of respiratory hazards will be contained in the site specific safety plan. However, common respiratory hazards that will be encountered include:

- Dust, Fumes, Gases,
- Chemical particles
- Oxygen Deficiency

Once the specific respiratory hazard is identified then the proper respirator will be selected. To aid in the selection process the HSE Coordinator will use the following to identify the proper respirator and filters or cartridges, where appropriate:


### Employee Involvement and Awareness in Selection

Respirators will be selected, used and maintained in consultation with the employee and the occupational health and safety committee, if any, or the employee health and safety representative, if any and follow CSA Standard CAN/CSA-Z94.4-02 Selection, Use, and Care of Respirators.

### North Respirator Selection Guide

This comprehensive guide lists many common industrial respiratory hazards. The Permissible Exposure Limits (PEL), the value at which they are Immediately Dangerous to Life and Health (IDLH) and other key values are listed for each contaminant. Once the contaminants and their concentrations at the work site have been identified, this guide can be used by an industrial

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hygienist to aid in the identification of the North Respirators which may be suitable for protection against those contaminants.

#### Characteristics of Hazardous Operation or Process

- Hot operations: welding, chemical reactions, soldering, melting, melding and burning
- Liquid operations: painting, degreasing, dipping, spraying, brushing, coating, etching, cleaning, pickling, plating, mixing, galvanizing and chemical reactions
- Solid operations: pouring, mixing, separations, extraction, crushing, conveying, loading, bagging and demolition.
- Pressurized spraying: cleaning parts, applying pesticides, degreasing, sand blasting and painting
- Shaping operations: cutting, grinding, filing, milling, melding, sawing and drilling

#### Nature of Hazard

##### Gaseous Contaminants

- Inert gases (helium, argon, etc.), which do not metabolize in the body but displace air to produce an oxygen deficiency.
- Acid gases (SO<sub>2</sub>, H<sub>2</sub>S, HCl, etc.) which are acids or produce acids by reaction with water.
- Alkaline gases (NH<sub>3</sub>, etc.), which are alkalies or produce alkalies by reaction with water.
- Organic gases (butane, acetone, etc.), which exist as true gases or vapours from organic liquids.
- Organometallic gases (tetraethyl lead, organo-phosphates, etc.), which have metals attached to organic groups.

##### Particulate contaminants

- Dusts are mechanically generated solid particulates (0.5 to 10µm)
- Fumes are solid condensation particles of small diameter (0.1 to 1.0 µm)
- Mists are liquid particulate matter (5 to 100 µm)
- Smoke is chemically generated particulates (solid and liquid) of organic origins (0.01 to 0.3 µm)


##### Concentration of Contaminant

The concentration of contaminant will determine the model and type of respirator and cartridges or filters to be used. The concentration is based on a sampling of the atmosphere.

##### Respirator Design

Allen Services & Contracting Ltd. must ensure that respiratory protective equipment used at a work site is selected in accordance with CSA Standard Z94.4-02, Selection, Use, and Care of Respirators (or current version).

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Filters are labelled with the type of hazard the respirator is approved to protect against. Respirator replacement parts are labelled with part numbers and only approved replacement parts should be used. Any modifications that do not use approved replacement parts voids the approval of the respirator.

Location of Hazardous Area  
(Confined Space, nearby contaminants, etc.)

Employee Activity  
(Extreme heat, cold, welding hood requirement, etc.)

**Selected Certified Respirator**  
Allen Services & Contracting Ltd. has selected North Safety as its certified respirator. These series of respirators shall be used in compliance with the conditions of the certification of its Respiratory Protection Program.

### ***Types of Respirators***

#### **Air-purifying Respirators**

Air-purifying respirators can be either full-face or half masks with mechanical or chemical cartridges to filter dusts, mists, fumes, vapours or gases. They are available in three types: disposable, reusable, and disposable/reusable.


- Disposable air-purifying respirators are intended to be used once or until the cartridge expires. The cartridges are permanently attached and have no replacement parts.
- Reusable air-purifying respirators use both replaceable cartridges and parts. NOTE: The replaceable cartridges and parts must be from the same manufacturer.
- Disposable/reusable air-purifying respirators have no replaceable parts except cartridges.

Cartridge respirators and canister masks shall be marked to identify the nature of protection provided, shall not be used otherwise than as marked, shall not be used for periods of time in excess of their usefulness and shall not be used in atmosphere deficient in oxygen.

*Gas masks* are designed for slightly higher concentrations of organic vapours, gases, dusts, mists and fumes. The volume of sorbent used as the medium is higher than a chemical cartridge.

*Powered air-purifying respirators* use a blower to pass the contaminated air through a filter. The purified air is then delivered into a mask or hood. They filter dusts, mists, fumes, vapours and gases, just like ordinary air-purifying respirators.

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Air-purifying respirators cannot be used in oxygen-deficient atmospheres, which can result when another gas displaces the oxygen or consumption of oxygen by a chemical reaction occurs. Oxygen levels below 19.5% require either a source of supplied air or supplied-air respirator protection. Levels below 16% are considered to be unsafe and could cause death.

**Cartridge Types.** To determine the proper cartridge for air-purifying respirators, either contact the Allen Services & Contracting Ltd. HSE Coordinator or a qualified on-site safety representative of the client. You may also consult the Safety Data Sheet of the substance that needs to be filtered.

Cartridges and canisters shall be replaced after each use or under other conditions specified by the manufacturer.

All cartridges are assigned a color designating the type of contaminant they will filter:

White:	Acid gas
Black:	Organic vapours
Green:	Ammonia gas
Yellow:	Acid gas and organic vapours
Purple:	Radioactive materials
Orange:	Dust, fumes and mists
Olive:	Other gases and vapours

The medium used as the filter is usually activated carbon. The adsorption capacity of the filter is limited. Once the wearer of the respirator can detect an odour, irritation, or taste of the contaminant, the cartridge should be replaced.

All cartridges and/or filters shall be changed at the beginning of each shift.


The nine classes of filters are broken down into three series: N, R, and P. Each series has three efficiency levels: 95%, 99%, and 99.97%. The efficiency levels are determined by testing the filter with either sodium chloride (NaCl) or Dioctylphthate (DOP) until a maximum load of 200 mg is reached. Sodium chloride is a mildly degrading material, while Dioctylphthate is highly degrading.

The difference between the three series of filters is found in their limitations and the way they are tested.

Cartridge respirators cannot provide protection in all instances. Some of their limitations include:

- They do not provide oxygen and so cannot be used in oxygen deficient atmospheres.
- They cannot be used to enter atmospheres that are Immediately Dangerous to Life or Health (IDLH)

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- They should not be used to enter unknown atmospheres.
- Negative pressure respirators all leak to some degree. Except for specialty eyewear approved by local regulatory requirements use with positive pressure full face piece, nothing is permitted which intrudes between the face piece and the face, or which interferes with the face seal of the face piece. Facial hair (or any hair) in the sealing surface of the respirator will cause greater leaks. **RESPIRATOR USERS MUST NOT WEAR BEARDS, LONG MUSTACHES OR SIDEBURNS THAT WILL INTERFERE WITH RESPIRATOR SEAL.**
- Weight gain or loss of 10 or more pounds, dentures or facial scars will affect the seal of the respirator to your face. If any of these conditions occur, you should recheck the fit of your respirator.
- Standard eyeglasses with attached temple bars will interfere with the seal of full face respirators. If full face protection is needed, eyeglass inserts that are filled with a prescription are available and should be used.

Mixing parts from other respirator manufacturers is prohibited. This includes airline hoses, valves, gaskets, cartridges, etc. For example, do not use North cartridges or calve gaskets with an MSA product.

Where a worker is required to enter an atmosphere that is immediately dangerous to the life or health of the worker (IDLH), Allen Services & Contracting Ltd. shall ensure that the worker is provided with and uses an approved atmosphere supplying respirator. While this is a stated regulation please see our policy statement in the below box.

***Allen Services & Contracting Ltd. does NOT allow employees to work in an Immediately Dangerous to Life and Health (IDLH) environment.***


### **Maintenance and Care of Respirators**

This section requires Allen Services & Contracting Ltd. to provide for the cleaning and disinfecting, storage, inspection, and repair of respirators used by employees.

#### SCBAs

Allen Services & Contracting Ltd. shall ensure that the worker is provided with and uses an approved atmosphere supplying respirator that is an open circuit SCBA that operates in a pressure demand or other positive pressure mode, has a minimum rated capacity of 30 minutes, is sufficiently charged to enable the worker to perform the work safely, and is equipped with a low pressure warning device or an escape respirator. While this is a stated regulation please see our policy statement in the below box.

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**Allen Services & Contracting Ltd. does NOT allow employees to utilize SCBAs.**

Inspection of compressed air cylinders must be done in accordance with CSA Standard CAN/CSA-Z94.4-02 - Selection, Use, and Care of Respirators. Supplied air systems must be serviced and repaired by qualified persons. Compressed air cylinders must be hydrostatically tested in accordance with CSA Standard CAN/CSA-B339-96, Cylinders, Spheres, and Tubes for the Transportation of Dangerous Goods.

**Allen Services & Contracting Ltd. does not use, neither maintain nor inspect supplied air.**

Maintenance records for air supplying respirators, powered air purifying respirators, and for sorbent cartridges and canisters will be maintained.

All respiratory protective devices are to be regularly cleaned and maintained in an approved manner and ensure that the respiratory protective device is kept, when not in use, in a convenient and sanitary location in which the respiratory protective device is not exposed to extremes of temperature or to any contaminant that may inactivate the respiratory protective device.


Breathing apparatus shall be under the supervision of a competent person who shall be responsible for the proper maintenance and storage of the apparatus.

#### Cleaning and Disinfecting Requirements

- Allen Services & Contracting Ltd. shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. Allen Services & Contracting Ltd. shall ensure that respirators are cleaned and disinfected using the procedures in this Respiratory Protection Program, or procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness.
- Respiratory equipment is not shared by employees, unless it is cleaned and sanitized before different employees use it.
- Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;
- Respirators used in fit testing and training shall be cleaned and disinfected after each use.

Each individual who is assigned a cartridge respirator is responsible for seeing that the respirator is cleaned, inspected and properly stored.

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### Cleaning Procedures

- Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
- Wash components in warm water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
- Rinse components thoroughly in clean, warm, preferably running water. Drain.
- When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in commercially available cleansers of equivalent disinfectant quality. Another alternative is to use wipes containing alcohol that are intended for use with respirators.
- Rinse components thoroughly in clean, warm, preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
- Components should be hand-dried with a clean lint-free cloth or air-dried and sanitized. Reassemble face piece, replacing filters, cartridges, and canisters where necessary. Test the respirator to ensure that all components work properly.

### Respirator Inspection


Allen Services & Contracting Ltd. shall ensure that any respiratory protective device for emergency use is thoroughly inspected by a competent person at least once a month and after each use. The date of every inspection made and the name of the person who made the inspection are recorded and conspicuously displayed at the location where the respiratory protective device is stored and any defects identified during the inspection carried out are corrected immediately by a competent person.

Any respiratory protective device for emergency use is thoroughly inspected by a competent person at least once a month and after each use, the date of every inspection made and the name of the person who made the inspection are recorded and conspicuously displayed at the location where the respiratory protective device is stored and any defects identified during the inspection carried out are corrected immediately by a competent person.

Allen Services & Contracting Ltd. shall ensure that respirators are inspected additionally as follows:

- All respirators used in routine situations shall be inspected by the employee before each use and during cleaning. A check by the employee of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters; and

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- A check of elastomeric parts for pliability and signs of deterioration.

#### Repairs

Allen Services & Contracting Ltd. shall ensure that respirators that fail an inspection or are otherwise found to be defective are immediately removed from service, and are discarded or repaired or adjusted in accordance with the following procedures:

- Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's approved parts designed for the respirator;
- Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and

#### Supplied Air


All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use.

#### Breathing Air Quality and Use

- Air used in a self-contained breathing apparatus or an air line respirator must be of a quality that meets the requirements of Table 1 of CSA Standard Z180.1-00 (R2005), Compressed Breathing Air and Systems (or current version), and does not contain a substance in a concentration that exceeds 10 percent of its occupational exposure limit.
- Allen Services & Contracting Ltd. shall ensure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.
- Allen Services & Contracting Ltd. shall ensure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.
- Have a tag containing the most recent change date and the signature of the person authorized by Allen Services & Contracting Ltd. to perform the change. The tag shall be maintained at the compressor.
- For compressors that are not oil-lubricated, Allen Services & Contracting Ltd. shall ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.
- For oil-lubricated compressors, Allen Services & Contracting Ltd. shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.
- Allen Services & Contracting Ltd. shall ensure that breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.

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### Respirator Storage

Respiratory protective equipment kept ready to protect a worker must be:

- Stored in a readily accessible location,
- Stored in a manner that prevents its contamination,
- Maintained in a clean and sanitary condition,
- Inspected before and after each use to ensure it is in satisfactory working condition, and
- Serviced and used in accordance with the manufacturer's specifications.
- Respirators should be stored in a readily accessible location in plastic, re-seal bags or in plastic tubs or bins with the users name clearly identified and are not exposed to extremes of temperature or to any contaminant that may inactivate it.
- Respirators cannot be stored in tool boxes, on nails or in areas where they may become contaminated, distorted or otherwise damaged.
- Respirators shall be maintained in clean and sanitary condition, inspected before and after use and serviced properly.
- Respiratory protective equipment that is not used routinely but is kept for emergency use is inspected at least once every calendar month by a competent employee to ensure it is in satisfactory working condition.

### Respirator Use

- An employee required to wear a respirator which requires an effective seal with the face for proper functioning must be clean shaven where the respirator seals with the face. Except for specialty eyewear approved by local regulatory requirements for use with positive pressure full face piece respirators, nothing is permitted which intrudes between the face piece and the face, or which interferes with the face seal of the face piece.
- Before each use of a respirator which requires an effective seal with the face for proper functioning, the employee must perform a positive or negative pressure user seal check in accordance with CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators.


### Workplace Monitoring

A program of monitoring potential employee exposures has been implemented through the corporate health and safety department. Project personnel may also be assigned with the task of conducting air monitoring. Direct-reading instruments will also be used in the characterization of potential exposures. All the data collected is used to determine the appropriateness of the respiratory equipment.

### Emergency Planning

When employees may be exposed to or confined in a noxious, toxic or oxygen-deficient atmosphere, Allen Services & Contracting Ltd. shall ensure that there shall be available during working hours a qualified supplier of emergency response providers trained in rescue procedures

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who have access to breathing apparatus which will enable them to effectively carry out rescue procedures.

### Record Keeping

Allen Services & Contracting Ltd. will maintain a record of medical evaluations, fit test results, employee training and instruction, maintenance for air supplying respirators, powered air purifying respirators, sorbent cartridges, canisters, and maintenance and repairs for all air cylinders in accordance with the requirements of CSA Standard CAN/CSA-Z94.4-02 - Selection, Use, and Care of Respirators.

### Program Evaluation

Allen Services & Contracting Ltd. shall conduct annual evaluations of the workplace as necessary to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

Allen Services & Contracting Ltd. shall regularly consult employees required to use respirators to assess the employees' views on this program's effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
- Appropriate respirator selection for the hazards to which the employee is exposed;
- Proper respirator use under the workplace conditions the employee encounters; and
- Proper respirator maintenance.


### Training

All employees will receive respirator training during their initial health and safety training class, if required. If a new type of respirator is introduced, employees will be trained in its use prior to any assignment where use of the respirator will be required. Training must include practical experience by the employee in an uncontaminated environment.

Training shall be provided by a competent person in and the employee is able to demonstrate:

- The proper fit, testing, maintenance, use and cleaning of the equipment and in its limitations.
- Is able to test, maintain and clean the equipment.
- Conducting a positive and negative seal check prior to each use.
- Is able to use the equipment safely and inspects and tests the equipment before each use.
- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.

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- What the limitations and capabilities of the respirator are.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators


Allen Services & Contracting Ltd. shall ensure that a second worker, suitably equipped and trained, is present and in communication with the worker at all times and suitably equipped personnel who are trained in rescue procedures and are fully informed of the hazards are readily available to rescue the endangered worker immediately if the workers atmosphere supplying respirator fails or the worker becomes incapacitated for any other reason. Note: Allen Services & Contracting Ltd. does not utilize atmosphere supplying respirators nor permits IDLH entry.

#### Retraining

Retraining shall be administered annually, and when the following situations occur:

- Changes in the workplace or the type of respirator render previous training obsolete;
- Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
- Any other situation arises in which retraining appears necessary to ensure safe respirator use.

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## A5.1.0 CONFINED SPACE

### Purpose

The entry into a confined space is potentially one of the most dangerous activities associated with any hazardous substance operation. Due to the unique conditions that can exist, great care must be taken both before and during this type of work procedure.

This program is written to be in compliance with local regulatory requirements and designed to assist the personnel of Allen Services & Contracting Ltd. for the purpose of performing services while on clients' sites.

Since asphyxiation is the leading cause of death in confined spaces due to situations involving IDLH (immediately dangerous to life and health) atmospheres that are poorly ventilated as compared to more open areas, all efforts will be devised to control oxygen deficient/combustible/toxic environments that may be encountered prior to or during work activities.

Note: Total energy isolation is required before any entry will be allowed. See Lockout/Tagout information for details.

### Scope

Some clients have specific Confined and/or Permit Confined procedures or requirements for contractors working on their job site. Allen Services & Contracting Ltd. employees shall follow client requirements for Confined and/or Permit Confined procedures or requirements as long as they meet or exceed the Allen Services & Contracting Ltd. Confined Spaces Procedure. This applies to all Allen Services & Contracting Ltd. operations.


### Definitions

A “**confined space**” is an enclosed or partially enclosed space that is not designed or intended for continuous human occupancy with a restricted means of entry or exit and may become hazardous to a worker entering it because:

- of its design, construction, location or atmosphere,
- of the work activities, materials or substances in it,
- the provision of first aid evacuation, rescue or other emergency response service is compromised, or
- of other hazards relating to it

**Acceptable entry conditions** refer to conditions that must exist in a confined space to allow personnel to enter and to ensure they can safely complete their work while in that confined space.

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**Attendant** refers to a person stationed outside the confined space who monitors the authorized entrants, and performs the duties assigned to them by this written program.

**Authorized Entrant** refers to personnel who are authorized under this written program to enter a confined space.

**Emergency** refers to an event that could endanger an authorized entrant whether it occurs inside or outside the permit space.

**Entry** refers to the entrance of a person into a confined space. Note: Entry is considered to begin when the feet or head breaks the plane of entry into the space.

**Entry Permit** refers to the written document that controls entry into a confined space, and contains all pertinent information required by local regulatory requirements.

**Entry supervisor** refers to the person designated with the responsibility to determine acceptable entry conditions, and to authorize, supervise, or terminate any entry.

**Hazardous Atmosphere** refers to an atmosphere which may expose a person to the risk of death, incapacitation, injury, acute illness, or impaired ability to escape unaided from an emergency. An atmosphere is considered hazardous if it contains one or more of the following:

- Atmospheric oxygen concentration below 19.5% or above 23.0%.
- Flammable gas, vapours, or mists in excess of 10% of its lower explosive limit (LEL).
- Airborne combustible dust at a concentration that meets or exceeds its LFL, lower flammability limit, or (if the dust obscures vision at a distance of 5 feet).
- Atmospheric concentration of any substance where personnel exposure would exceed any listed toxic dose or permissible exposure limit.
- Any other atmospheric condition that is immediately dangerous to life and health.


**IDLH (immediately dangerous to life and health)** refers to a condition that threatens loss of life, adverse health effects, or impaired ability to escape unaided from an emergency.

**Oxygen Deficient Atmosphere** refers to an atmosphere that contains less than 19.5% oxygen content.

**Oxygen Enriched Atmosphere** refers to an atmosphere that contains more than 23.5% oxygen content.

**Retrieval System** refers to equipment which non-entry personnel can use to retrieve persons from a confined space in the event of emergency.

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**Testing** refers to a process used to identify and evaluate a potentially hazardous atmosphere with monitoring instruments.

### Management/Personnel Responsibilities

Allen Services & Contracting Ltd. management is responsible for the overall implementation of this program or the requirements of any client-facility program, while working on contracted projects at client-facilities.


Note: Due to the extremely severe consequences possible if improper confined space entries are made, all personnel will comply with the provisions of this program that apply to their own actions or conduct.

### Code of Practice

The Code of Practice for Confined Spaces describes the procedures to be followed to allow workers to safely perform work in a confined space. It shall include practical guidance on the requirements of the regulations or the adopted code applicable to the work site, safe working procedures in respect of the work site and other matters as required by local regulatory requirements.

- The confined spaces procedures will be in writing.
- Procedures shall include all locally required regulatory requirements for the province or territory for the specific work site.
- Copies of the specific province or territory legislation regarding confined spaces and associated work will be made available to and employees affected by the code of practice shall become familiar with it before working in confined spaces.
- Workers will be consulted about the content of the code of practice and confined space procedures.
- The code of practice must be maintained and periodically reviewed to ensure that its procedures are up-to-date and continue to reflect the work activities for which they were originally written.
- The code of practice must also identify all existing and potential confined space work locations at a work site so that workers can be made aware of unexpected hazards and reminded that special safety requirements apply.
- A competent worker is to perform a pre-entry atmospheric test of a confined space to: verify the oxygen content is between 19.5% and 23.0% by volume and identify the amount of toxic, flammable or explosive substances that may be present.

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## Procedures and Requirements

Allen Services & Contracting Ltd. shall develop a hazardous confined space entry plan in writing and procedures where a worker will be required or permitted to enter a hazardous confined space to ensure the health and safety of workers who enter or work in the hazardous confined spaces. The plan and procedures must include:

- Written procedures for recognizing and identification of hazards that may be present in the hazardous confined space and may put the health or safety of workers at risk and the risks associated with working in the confined space.
- Written procedures specifying the means to eliminate or minimize all hazards likely to prevail must be developed based on the hazard assessment.
- Written safe work procedures to enter, work in and exit from the hazardous confined space safely.
- Methods for isolating and lockout including blanking, disconnecting, interrupting and locking out pipes, lines and all sources of energy from a confined space.
- Prior to performing work in a confined space all equipment that is required to safely perform confined space work, including personal protective equipment and rescue equipment, is available and inspected to ensure it is in good working order.
- Inspections shall be written and retained.
- An emergency response plan and rescue procedures to be implemented in the event of an accident or other emergency in a confined space, including the number and duties of personnel and the availability, location and proper use of rescue equipment including lifelines, harnesses and lifting equipment.
- Entry permits.
- Ventilating, cleaning, purging or inerting the hazardous confined space.
- Standby persons.
- Coordination of work activities.
- Atmospheric tests, measurements and monitoring necessary to monitor any oxygen deficiency or enrichment or the presence and hazardous concentration of flammable or explosive substances. The results of the tests are recorded on the entry permit.
- Availability, location and proper use of personal protective equipment.
- Means to maintain effective communication with a worker who has entered the hazardous confined space with a standby person or other personnel outside the space.
- Availability, location and proper use of any other equipment that a worker may need to work safely in the hazardous confined spaces.
- That workers are trained in and who will implement a hazardous confined space entry plan including a worker who is required or permitted to enter, a worker who tends to a worker in the space, and a worker who may be required or permitted to implement the rescue procedures.
- An assignment of responsibilities.

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- A list of each confined space or group of similar spaces and a hazard assessment of those spaces.
- How to take all reasonably practicable steps to prevent any unauthorized entry into the confined space.

### Pre-Job Hazard Assessment

Before a worker is required or permitted to enter a confined space Allen Services & Contracting Ltd. shall appoint a competent person to prepare a report in writing to:

- Identify and assess the hazards the worker(s) are likely to be exposed to while in the confined space or restricted space,
- Specify the type and frequency of inspections and tests necessary to determine the likelihood of worker exposure to any of the identified hazards,
- Perform inspections and tests specified,
- Specify the safety and personal protective equipment required to perform the work, and
- Identify the personal protective equipment and emergency equipment to be used by a worker who undertakes rescue operations in the event of an accident or other emergency.

The report shall include the assessment, tests and determinations, recommended special precautions and procedures to reduce the risk to a worker that are to be followed by a worker entering into, exiting from or occupying the confined space and recommended personal protective equipment to be used by a worker entering the confined space.


### The pre-job hazard assessment must be conducted for each:

- Condition which may exist prior to entry due to the confined space's design, location or use, or which may develop during work activity inside the space.
- Potential for oxygen enrichment and deficiency, flammable gas, vapour or mist, combustible dust, other hazardous atmospheres, harmful substances requiring lockout and isolation, engulfment and entrapment, and other hazardous conditions.
- Confined space, confined space types at the worksite or each group of confined spaces which share similar characteristics
- Work activity, or group of work activities which present similar hazards, to be performed inside a confined space.
- Types of hazards that are or may be present at each confined space.

Before requiring a worker to enter or work in a confined space Allen Services & Contracting Ltd. must identify and assess:

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- And take measures to reduce, control or eliminate the risks to safety or health associated with the confined space.
- Alternative means to perform the work in a confined space that will not require the worker to enter the confined space and
- Alterations to the physical characteristics of the confined spaces that may be necessary to ensure safe entrance to and exit from all accessible parts of each confined space.

### Pre-Entry Atmospheric Testing

Testing or monitoring conditions prior to entry will be conducted by the client-facility unit operator, designated safety personnel, or responsible supervisor or competent person, by the use of a calibrated, direct-reading, gas monitor.

If the hazard assessment identifies a potential atmospheric hazard and a worker is required or authorized to enter the confined space Leak Test must ensure that a competent worker performs a pre-entry atmospheric test of the confined space and the tests shall be performed in this order to:

- verify that the oxygen content is between 19.5 percent and 23.0 percent by volume
- Flammable gases/vapors (less than 10% of LEL), and to
- identify the amount of toxic, flammable, or explosive substance that may be present. (less than occupational exposure limits)

If there is a potential for the atmosphere to change unpredictably after a worker enters the confined space, the atmosphere is continuously monitored.

As often as necessary after the first time a worker enters the confined space, a competent worker will perform atmospheric testing and identify and record any additional hazards.

The results shall be recorded on the entry permit, and entry into the confined space will not be allowed unless the defined acceptable entry conditions are met.


### Signage

An identified confined space will be revealed to all personnel by the use of a red/white hazard-warning sign with black letters stating:

- ✓ DANGER
- ✓ PERMIT-REQUIRED CONFINED SPACE
- ✓ DO NOT ENTER

### Pre-Entry Preparation

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- An entry permit must be completed and signed by the responsible supervisor before a worker enters a confined space:
  - ✓ With a high hazard atmosphere
  - ✓ That requires lockout or isolation procedures to be followed, or
  - ✓ In which there is a hazard of entrapment or engulfment.
- Once issued, the information on an entry permit may only be altered by:
  - ✓ The responsible supervisor who signed the permit to update it
  - ✓ The standby worker to update the list of workers inside the confined space, or
  - ✓ The tester to record test results.
- Before a worker enters a confined space, adjacent piping which contains or has contained a harmful substance must be controlled by:
  - ✓ Disconnecting, blanking or blinding, or equivalent engineered system, or
  - ✓ If the adjacent piping contains a harmful substance that is not a gas or a vapour, nor a liquid of sufficient volatility to produce a hazardous concentration of an air contaminant in the discharge of the piping, a double block and bleed system.
- Allen Services & Contracting Ltd. must take all steps reasonably practicable to prevent any person, other than a worker who is required or permitted to do so, from entering a confined space.
- If there is a possibility of unauthorized entry into a confined space, Allen Services & Contracting Ltd. shall ensure that each entrance to the confined space is adequately secured against unauthorized entry or has been provided with adequate barricades, adequate warning signs regarding unauthorized entry, or both.
- Before each shift, a competent person shall verify that the entry permit complies with the relevant plan.
- Whenever a worker is to enter a confined space Allen Services & Contracting Ltd. shall ensure that an attendant is designated, assigned and stationed outside and near the entrance to the confined space.

### Entry Permit

A person must not enter a confined space at a work site without a valid entry permit. The authorized entry supervisor shall prepare the written confined space permit, recording all testing results on the permit. The permit must take into account the confined space code of practice and work being done. An entry permit means the written or printed document that controls entry into a confined space.

Allen Services & Contracting Ltd. must ensure that, before a worker enters a confined space, an entry permit is properly completed, signed by a competent person, takes into account the code of

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practice requirements for entering, being in, and leaving a confined space and a copy is kept readily available.

This system will provide the best assurance that confined space entry takes place only after all actions and conditions necessary for the protection of authorized entrants have been performed.

The entry permit will identify the following information:

- ✓ Permit space (name/location of space to be entered)
- ✓ Purpose (specify job/type/reason for entry of work to be performed by name in that space)
- ✓ Date/Time/duration of valid permit entry (current date and length of time allowed)
- ✓ List Entrant names (roster of authorized personnel for space entry)
- ✓ List Attendant name(s) (at least one, but may rotate with entrants)
- ✓ List Entry Supervisor (authorized for entry, also)
- ✓ List of hazards (observed or present)
- ✓ Hazards control/isolation (methods of elimination)
- ✓ Acceptable entry conditions (oxygen, combustible, toxics)
- ✓ Test results (initial/periodic monitoring & initials of tester)
- ✓ Rescue provisions (services to call, emergency #'s)
- ✓ Communication methods (phone, 2-way radio, voice, signals)
- ✓ Tools/Equipment needed (PPE, harnesses, retrieval lines, alarms)
- ✓ Inspection (ensure all tools, PPE, and rescue equipment have been inspected and are in good working order)
- ✓ Space specific information (special precautions unique to the space)
- ✓ Additional permits (hot work, lockout/tagout)
- ✓ Authorization for permit (proper signatures of authority)


### Non-Hazardous Entry

Where a confined space is not identified as a hazardous confined space, Allen Services & Contracting Ltd. shall notify a worker who is required to enter the confined space verifying that the confined space is not hazardous, arrange for a method of communication with a worker on entry to exit from the confined space and at appropriate intervals while a worker is in the confined space, and prepare a procedure for the removal of a worker who has become injured or incapacitated while in the confined space and ensure that the ventilation in the confined space is adequate to maintain safe atmospheric conditions.

### Isolation of the Space

Sources of energy shall be isolated from the confined space to ensure that workers within a confined space are protected against the release of hazardous substances or energy that could harm them. No worker shall enter a confined space unless adequate precautions are in place to

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protect a worker from drowning, engulfment, or entrapment. Any hazardous energy in a restricted or confined space is locked/ tagged out.

### Entry Procedures

Allen Services & Contracting Ltd. personnel will not be allowed to enter a permit confined space unless the following procedures are adhered to:

- ✓ The confined space must be properly tested for acceptable ranges of oxygen content, flammable atmosphere, and toxic concentrations present, using a calibrated, direct-reading, gas-monitoring instrument, operated by a trained supervisor. (There can be no longer than a 2hr time-gap between tests performed and any space entry.) Monitoring results will be reviewed with all entrants.
- ✓ The permit space shall be identified by appropriate signs, and the external area barricaded to ensure that no unauthorized persons, equipment, or vehicles present a danger to authorized entrants.
- ✓ A safe means of entry and exit shall be available to all workers required to work in a confined space and rescue personnel attending to the workers. Examples of methods to ensure safety include secured steps, temporary platforms and handrails may be suitable in certain circumstances, and ensuring the area is free and workers protected from traffic hazards in the vicinity of the confined space.
- ✓ No smoking or flammable, combustible materials are allowed within this barricaded area. A properly inspected, charged ABC dry chemical fire extinguisher is required to be outside the permit space, ready to use. No welding gas tanks are allowed inside the permit space, and all hoses, regulators, leads, electrode holders or other welding/cutting equipment will be inspected prior to entry into the permit space. Equipment found to be defective will not be allowed for use.
- ✓ Communication methods will be by voice/visual contact, or 2-way radios that are required to be intrinsically-safe in design.
- ✓ Properly inspected, approved entry/exit means will be secured into position, following all established safe, ladder-use guidelines.
- ✓ Ventilation equipment will be activated and provide continuous forced air from clean air sources, so that proper air exchanges for the enclosed space is maintained at all times for permit space occupancy.

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- ✓ Approved, properly-rated (12V, explosion-proof) light sources, or intrinsically-safe flashlights will be provided for safe illumination while working inside a permit space.
- ✓ Appropriately selected personal protective equipment will be donned prior to vessel entry, and worn at all times while inside the permit space. All PPE shall be inspected by a competent individual before use. Defective equipment shall not be used, but instead discarded, and replaced. (Examples are hard hats, splash/impact goggles, face-shields, safety glasses, respirators, protective clothing, steel-toed shoes, ear plugs, & gloves.)
- ✓ After the space has been tested and declared safe for entry, the entry permit shall be completed, conditions explained to all authorized personnel, signed by all authorized personnel, and posted at a conspicuous location on the vessel.
- ✓ The attendant shall be assigned to their appropriate duties; the entrants may then enter inside the confined space, and the entry supervisor accountable for maintaining safe operations.
- ✓ Permits will be cancelled upon completion of work, or for emergency evacuation due to dangers occurring inside or outside the space that could directly affect the life or health of an entrant.
- ✓ If an emergency occurs and evacuation of the space is required, the space will be re-evaluated to determine the cause, extent, and nature of the hazard encountered. The hazard will be eliminated before entry is again permitted, after inspection and testing is satisfactory.

### Duties of Authorized Entrants


Allen Services & Contracting Ltd. shall ensure that all “authorized entrants”:

- Know the hazards that may be faced during entry, including information on the mode, signs, or symptoms, and consequences of exposure.
- Properly use equipment as required. Ensure all equipment to be used has been inspected by a competent person prior to use.
- Communicate with the attendant as necessary to enable the attendant to monitor the entrant(s) status and to alert entrant(s) of the need to evacuate the space as required.

Authorized Entrants must alert the attendant when:

- They recognize any warning sign or symptoms of exposure to a dangerous situation.
- They detect a prohibited condition.

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Authorized Entrants must exit from the permit space as quickly as possible when:

- An order to evacuate is given by the attendant or the entry supervisor
- They recognize any warning sign or symptom of exposure to a dangerous situation.
- They detect a prohibited condition.
- An evacuation alarm is activated.

### Duties of Attendants


A competent worker trained in confined space rescue shall be present outside a confined space, at or near the entrance, if:

- the oxygen content of the atmosphere inside the confined space is less than 19.5 percent by volume,
- the oxygen content of the atmosphere inside the confined space is greater than 23.0 percent by volume,
- the concentration of a substance listed in Schedule 1, Table 2 inside the confined space is greater than 50 percent of its occupational exposure limit (*for Alberta operations*), or
- another hazard is identified by the hazard assessment and the hazard cannot be eliminated or effectively controlled.

Allen Services & Contracting Ltd. shall ensure that all attendants:

- ✓ Know the hazards that may be faced during entry, including information on the mode, signs, symptoms, and consequences of the exposure.
- ✓ Procedures will be developed for each confined space to properly protect personnel during entry. Barriers will be constructed as necessary to protect entrants from external hazards such as pedestrian, vehicle, or other external hazards.
- ✓ In addition, procedures must be developed for each confined space to verify that conditions in the permit space are acceptable for entry during its duration.
- ✓ Attendants are aware of possible behaviour effects of hazard exposure in authorized entrants.
- ✓ Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants accurately identifies who is in the permit space.

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- ✓ Remain outside of the permit space during entry operations and cannot leave the area until all workers have left the confined space or relieved by another attendant. If an attendant is trained and equipped for rescue, they may attempt non-entry rescue provided that they have been relieved by a properly outfitted and trained attendant. Any unauthorized personnel will be prohibited from attempting any type of rescue.
- ✓ Allen Services & Contracting Ltd. management does not allow more than one confined space to be monitored by the attendant at any one time, and if an emergency arises, that person will contact the entry supervisor by voice, radio, or messenger for assistance.
- ✓ Communicate with authorized entrants as necessary to monitor entrant status and alert entrants of the need to evacuate the space as required.

Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:

- If they detect a prohibited condition
- If Oxygen levels fall below 19.5% or rise above 23%
- If rescue and emergency services are unavailable for any reason
- If they detect the behavioural effects of hazard exposure in an authorized entrant
- If they detect a situation outside the space that could endanger the authorized entrants
- If they cannot, for any reason, effectively and safely perform all the duties required.
- Summon rescue and other emergency services as soon as they determine that authorized entrants may need assistance to escape from permit space hazards. By whatever means are available (voice, radio, phone), the attendant shall notify their immediate supervisor, or client facility operator for emergencies.
- Take the following actions when unauthorized persons approach or enter a permit space while entry is underway:
  - ✓ Warn the unauthorized persons that they must stay away from the permit space.
  - ✓ Advise the unauthorized persons that they must exit immediately if they have entered the permit space.
  - ✓ Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.
  - ✓ Perform non-entry rescue as specified by the Allen Services & Contracting Ltd. rescue procedure.
  - ✓ Perform no duties that might interfere with their primary duty to monitor and protect the authorized entrants.

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### Duties of Entry Supervisors

Allen Services & Contracting Ltd. shall assign responsibility for supervision to a person who is competent and adequately trained to supervise the job before any worker enters a confined space. Allen Services & Contracting Ltd. must ensure that all entry supervisors:

- Know the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
- Verify that all pre-entry tests and inspections specified by the permit have been conducted and all written procedures and equipment specified by the permit are in place and review potential hazards and results of monitoring with all entrants before signing the permit and allowing entry to begin.
- The precautions identified in the written procedures and the precautions required by local regulatory requirements or which are otherwise necessary for the health and safety of workers are followed.
- Terminate the entry and cancel the permit as required.
- Verify that rescue services are available and the means to summon them are operable.
- Remove unauthorized individuals who enter or attempt to enter the permit space during entry operation.
- Determine whenever responsibility for permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and acceptable entry conditions are maintained.
- Coordinate entry operations for multi-employer's so that personnel of one employer do not endanger personnel of any other employer.

### Monitoring

Continuous or intermittent monitoring of the permitted space may be implemented depending on the potential atmospheric conditions that may be experienced during operations. Allen Services & Contracting Ltd. personnel or their representative are entitled to request additional monitoring at any time, if they believe changes have occurred.


The instrument probe or line must extend into the confined space at least 4 feet so that the person performing the test is not entered into the space. Since particular gases can stratify in layers in a confined space, testing will be performed at multiple levels of the space to be entered.

If an instrument reading ever indicates an unusual, unexpected, or unacceptable atmospheric condition, it is never to be ignored, or assumed to be due to instrument error.

Note: If a bad reading is recorded, all necessary measures will be taken to correct the situation (re-calibrate instrument, ventilate space, etc.) Allen Services & Contracting Ltd. personnel will not

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be expected to enter confined spaces until it is deemed safe to do so, and the acceptable entry conditions recorded on the entry permit.

### Lighting

Lighting sources to be used in the permit confined space shall be explosive-proof and specifically approved by a recognized agency such as Underwriter Laboratory or the Mine Safety and Health Administration.

Any electrically-operated tool taken inside the permit space shall be double insulated, inspected for defects, and connected to an approved ground fault circuit interrupter that has been inspected and tested prior to use.

All ladders used for entry/exit into the permit confined space must meet all applicable codes and standards as outlined in local regulatory requirements and inspected prior to use. They must not interfere with rescue or retrieval systems, ventilation methods, and work operations.

### Hot Work


Hot work requirements apply where there:

- The area is a hazardous location, or
- The work area is not normally a hazardous location but an explosive atmosphere may exist for a limited time because:
  - ✓ a flammable substance is or may be in the atmosphere of the work area,
  - ✓ a flammable substance is or may be stored, handled, processed or used in the location,
  - ✓ the hot work is on or in an installation or item of equipment that contains a flammable substance or its residue, or
  - ✓ the hot work is on a vessel that contains residue that may release a flammable gas or vapour when exposed to heat.

Allen Services & 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
  - ✓ is suitably isolated from combustible materials,
- Procedures are implemented to ensure continuous safe performance of the hot work, and

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- 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 vapours, or
  - ✓ the minimum ignitable concentration for dust.

The atmospheric tests will be repeated at regular intervals appropriate to the hazard associated with the work being performed.

### Explosive Atmosphere

A confined space shall be inerted if it is not reasonably practicable to eliminate an explosive or flammable atmosphere within the confined space through another means. If a confined space is inerted Allen Services & Contracting Ltd. must ensure that:

- Every worker entering the confined space is equipped with supplied air respiratory protection equipment,
- All ignition sources are controlled, and
- The atmosphere within the confined space stays inerted while workers are inside.

Allen Services & Contracting Ltd. shall not permit an employee to enter or remain in a confined space where the concentration of an airborne chemical agent or mixture of chemical agents or airborne dust in the confined space exceeds 50% of the lower explosive limit of the chemical agent or mixture of chemical agents or dust. Where the concentration of an airborne chemical agent or mixture of chemical agents or airborne dust in a confined space does not exceed 50% of its lower explosive limit Allen Services & Contracting Ltd. shall ensure that explosion proof lighting is used and the only work performed by the employee in the confined space is that of cleaning or inspecting and is of such a nature that it does not create any source of ignition.


### Ventilation

Where a concentration of a toxic, flammable or explosive substance is present or an oxygen enrichment or deficiency exists in a hazardous confined space, Allen Services & Contracting Ltd. shall ensure that the hazardous confined space is purged and ventilated before a worker is allowed to enter the space.

Where a hazardous confined space cannot be purged and ventilated to provide a safe atmosphere or a safe atmosphere cannot be maintained, Allen Services & Contracting Ltd. shall ensure that no work is carried-on in the confined space.

If the atmospheric entry conditions cannot be met as defined in this written program, continuous forced-air ventilation methods will be utilized at all times to eliminate the encountered hazardous atmosphere.

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If ventilation is unsuccessful, as demonstrated by unacceptable re-testing results, or even if acceptable conditions are ever unable to be consistently maintained during actual entry operations, authorized entrants will be required to wear appropriate respiratory protective equipment in compliance with local regulatory guidelines.

This equipment selection will be based on the atmospheric test results which will indicate the proper level of respiratory protection to be worn.

Note: An oxygen source with a concentration greater than 23.0% is not allowed as a ventilation or air dilution method.

### **Personal Protective Equipment (PPE)**

Allen Services & Contracting Ltd. shall identify the safety and personal protective equipment required to be used or worn in the confined space by a worker while he or she performs work.

Allen Services & Contracting Ltd. shall ensure that a worker is provided with and required to use a respiratory protective device if the airborne concentration for any substance meets or exceeds the permissible contamination limit, oxygen deficiency or enrichment is detected or the airborne concentration of any other substance may be harmful to the worker.

Where the concentration of airborne chemical agents or mixture of chemical agents or airborne dust in a confined space is hazardous to the health or safety of an employee or where the percentage of oxygen in the confined space is less than 19.5% by volume Allen Services & Contracting Ltd. shall ensure that an employee who enters the confined space uses appropriate respiratory protective equipment capable of providing at least five minutes reserve of unaided life support beyond the time the employee is expected to be in the confined space.


### **Rescue and Emergency Services**

Allen Services & Contracting Ltd. shall ensure that no worker enters or remains in a confined space unless adequate written site specific on-site rescue procedures that apply to the confined space have been developed and are ready for immediate implementation.

The emergency response plan shall include the emergency procedures to be followed if there is an accident or other emergency, including procedures in place to evacuate the confined space or restricted space immediately:

- If an evacuation should occur or when an alarm is activated,
- If the concentration of oxygen inside the space drops below 19.5% by volume or exceeds 23.0% by volume, or
- If there is a significant change in the amount of hazardous substances inside the space.

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Those procedures shall include:


- That equipment necessary to rescue workers is readily available at the entrance to the hazardous confined space and used in accordance with site specific rescue procedures developed, the holder of a valid qualification in first aid based on local regulatory requirements is available to provide immediate first aid and competent personnel who are trained in first aid, use of appropriate emergency response equipment, the rescue procedures developed and who are fully informed of the hazards in the confined space are readily available to assist in a rescue procedure.
- That the rescue equipment identified in the rescue plan is readily available to affect a rescue in the confined space, appropriate for entry into the confined space, and inspected as often as is necessary to ensure it is in good working order, by a competent person with adequate knowledge, training and experience before workers enter a confined space.
- The personal protective and emergency equipment required to undertake rescue operations in the event of an accident or other emergency within a confined space is readily available at the site of a confined space and that in the event of an accident or other emergency, the emergency response plan and rescue procedures are implemented.
- That a worker in a hazardous confined space is attended by and in communication with another worker who had been adequately trained in the rescue procedures, is stationed and remains at the entrance to the confined space unless replaced by another adequately trained worker, and is equipped with a suitable alarm to summon assistance.

Allen Services & Contracting Ltd. personnel will totally rely upon the rescue efforts of the client-facility's rescue personnel, or outside rescue service response when they are under contract for this responsibility. The authorized entry supervisor will be notified by the attendant that emergency rescue operations are required.

The respective client-facility in-house trained and supplied rescue team, or contracted outside rescue services will be notified to respond to the permit space to assist in retrieving an injured entrant. A documented, simulated rescue attempt will be performed by this crew as part of their established training regiment, and at least annually thereafter if confined spaces are still required to be entered.

A quick survey of the rescued entrant will determine if first aid is required or professional medical assistance will be contacted. The trained rescue team members, authorized attendant(s) and entry supervisor(s) will be trained and certified to perform CPR and emergency first aid treatment before rendering assistance to rescued personnel.

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The entry supervisor will direct Allen Services & Contracting Ltd. management or the client-facility Allen Services & Contracting Ltd. representative to dial emergency medical services if the need so arises.

### **Post Entry, Work Completion, Document Retention**

Upon job completion or evacuation, the word "CANCELLED" shall be written across the permit, noting date and time. Copies of all signed confined space permits and all related documentation will be retained by Allen Services & Contracting Ltd. for a minimum of 3 year if no incidents or unplanned events occurred and for a minimum of 5 years if any incidents or unplanned events occurred.

Allen Services & Contracting Ltd. shall retain every assessment, plan, co-ordination document, record of training, entry permit, record of an inspection and record of a test for two years. This exceeds some local regulatory requirements such as retaining documents for the longer of one year after the document is created or the period that is necessary to ensure that at least the two most recent records of each kind that relate to a particular confined space are retained or less than 1 year if no incident or unplanned event occurred during the entry or 2 years if an incident or unplanned event occurred during the entry. By retaining all confined spaces related documents for two years in all Allen Services & Contracting Ltd. locations we meet or exceed the various local requirements.

Documents will be maintained in files at the local office by the supervisor, and at a minimum, reviewed annually to determine if any changes in the written program or procedures would be required if injuries, near-misses, personnel complaints, or entry problems occur.


### **Competency Training**

Whether personnel are an entrant, attendant, entry supervisor, or part of the support personnel, training is mandatory to become competent in confined space work. Allen Services & Contracting Ltd. will provide training to all personnel whose work is regulated by this section. All training shall be documented.

Each person who is assigned duties or responsibilities related to entry into a confined space must be adequately instructed and trained in the hazards of the space and the precautions identified in written procedures to perform their duties in a competent manner. Competence in the following shall be represented in the workers responding to a confined space or restricted space emergency: first aid, the use of appropriate emergency response equipment and procedures appropriate to the confined space or restricted space.

Training will be provided:

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- Before any personnel is assigned any duties.
- Before any assigned duties are changed.
- Whenever there is a change in operations affecting the space
- Whenever personnel demonstrate deficiencies or deviations from the initial training provided.

Training shall be by a competent person and include recognizing hazards associated with working in confined spaces or restricted spaces, and performing the worker's duties in a safe and healthy manner.

Written certification to include personnel's name, trainer signature/initials, and dates of training will be provided upon completion of required levels of training as provided by outside contract training resources, or Allen Services & Contracting Ltd. management, and maintained in the Safety files. Certification will be made available to personnel and their authorized representative.

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## APPENDIX A

*USE THIS FORM TO DEVELOP WORK SITE SPECIFIC ELEMENTS FOR A CONFINED SPACE ENTRY PLAN. INSTRUCTIONS ARE ITALICIZED.*

### WORK SITE SPECIFIC CONFINED SPACE PROGRAM

This will serve as an appendix to the Allen Services & Contracting Ltd. Guideline for entry into confined spaces, outlining implementation issues specific to *the site*.

**POLICY:** All employees who enter permit-required confined spaces will follow the procedures described in the Allen Services & Contracting Ltd. Confined Spaces Procedure.

#### 1.0 IDENTIFICATION OF PERMIT-REQUIRED CONFINED SPACES:

*List or refer to all identified confined spaces and their potential safety and health hazards here.*

#### 2.0 CONFINED SPACE SAFETY EQUIPMENT:

##### 1. Air Monitoring

*List or refer to all air monitoring equipment by brand, model number, and indicate where the equipment is located.*

Calibration and maintenance of the air monitoring equipment is the responsibility of the person or client responsible for maintaining and calibrating the equipment. All meters will be calibrated at least monthly and checked for good working order.

Equipment in need of repair will be serviced by: name of service vendor.


##### 2. Ventilation Equipment

*List or refer to all ventilation equipment by brand, model number and indicate where equipment is located.*

name of person or client responsible is responsible for assuring that the ventilation equipment is maintained and in good working order.

Other equipment necessary for making the PRCS safe for entry will be made available to employees, as needed.

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### 3.0 RESCUE SERVICES:

List the rescue response personnel or team that will provide rescue services. Include method of communicating with rescue personnel.

### 4.0 ATTENDANT AND ENTRY SUPERVISOR PERSONNEL:


List who will provide Attendant and Entry Supervisor personnel.

### 5.0 RECORDKEEPING:

1. Calibration Records. Records of calibration of air monitoring equipment will be kept by name of responsible person or client. The records will be stored location of records.
2. Permits. All cancelled permits will be returned to supervisor name, and kept on file at location of permits. A copy of the cancelled permits will be sent to Allen Services & Contracting Ltd. Attn: HSE Coordinator.

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## APPENDIX B GENERAL LISTING OF CONFINED SPACES

Note: Due to the many varied work sites that Allen Services & Contracting Ltd. provides service to this list is general in nature. Each specific foreman/supervisor is required to be knowledgeable and aware of the specific areas designated as confined spaces in their supervision control.

Type of Space	Personnel Involved	Hazard	Most Likely Type of Permit
Electrical Manholes	Electrical Workers	High voltage electricity, possible contaminate build-up (gases) due to location	General Permit Required Confined Space
Underground storage tanks	General Workers	Lack of ventilation, residual or stored chemicals and their vapours, explosive or flammable chemicals	Permit Required Confined Space
Above ground storage tanks	General Workers	Lack of ventilation, residual or stored chemicals and their vapours, explosive or flammable chemicals	Permit Required Confined Space
Sump storage tanks or vessels	General Workers	Contaminants from sump system, H2S, biological Contamination, electrical, mechanical, oxygen deficiency	General Permit Required Confined Space


Note:

A Hot Work Permit is required if performing cutting, welding, brazing, torch soldering, high speed metal grinding, or open flame tasks within any type of confined space.

If a space's characteristics or hazards change, the type of permit required may also change. This is determined by re-evaluating the confined space.

Confined spaces may exist that are not identified within this chart. If there are any questions regarding the status of a space, it should be evaluated or re-evaluated, and entered according to procedures required for the hazards that are present.

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## A.6.1 ASBESTOS PROGRAM

### Purpose

To provide basic precautions and protections for employees to avoid exposure to asbestos containing material (ACM) or presumed asbestos containing material (PACM).

This program applies to all Allen Services & Contracting Ltd. employees. When work is performed on a non-owned or operated site, the client's program shall take precedence, however, this document covers Allen Services & Contracting Ltd. employees and its subcontractors and shall be used on owned premises, or when Allen Services & Contracting Ltd. is Prime Contractor on site.

### Key Responsibilities

#### Managers/Supervisors

- Ensure all personnel are notified of PACM.
- Prohibit Allen Services & Contracting Ltd. employees from working until material in question is confirmed as non-asbestos or abated.
- Ensure proper employee training is completed.
- Ensure that all requirements of this program are understood and followed by those working under his/her direction.
- Perform duties of the Competent Person for asbestos work.

#### All Employees


All employees are required to act in strict compliance with the requirements of this program and delay or discontinue work if there is ever an unresolved concern regarding exposure to asbestos.

### Procedure

#### Hazard Assessment

Allen Services & Contracting Ltd. shall cause an assessment to be made in writing of the exposure or likelihood of exposure of a worker to the inhalation or ingestion of asbestos. In causing the assessment to be made, Allen Services & Contracting Ltd. shall consider and take into account such matters as the methods and procedures used or to be used in the processing, use, handling, or storage of asbestos; the extent and potential extent of the exposure of a worker to the inhalation or ingestion of asbestos; and the measures and procedures necessary to control such exposure by means of engineering controls, work practices and hygiene practices, and facilities.

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The potential for worker exposure to asbestos should be identified during the hazard assessment. Allen Services & Contracting Ltd. must take all necessary measures and procedures by means of engineering controls, work practices, and hygiene practices and facilities to ensure that the time-weighted average exposure of a worker to any of the forms of airborne asbestos, individually or collectively, is reduced to ensure that a worker's exposure to asbestos is kept as low as reasonably achievable and in any case employees must not be exposed to airborne concentrations of asbestos in excess of 0.1 fibers per cubic centimetre of air (.1 f/cc) [over an 8 hour time period for Alberta and Northwest Territories operations]. Atmospheric testing results should be assessed before a worker is exposed.

### Health Effects

Allen Services & Contracting Ltd. will ensure that workers who are likely to be employed in an asbestos process or are likely to be exposed to asbestos dust are warned that the inhalation of asbestos may cause pneumoconiosis, lung cancer or mesothelioma and the risk of injury to health cause by the inhalation of asbestos is increased by smoking.

### General


Allen Services & Contracting Ltd. shall in consultation with the committee, develop an asbestos control plan that protects the health and safety of all workers in the event of the dispersal of asbestos dust into the atmosphere at a place of employment or worksite. A plan developed must be in writing and include emergency procedures to be used in case of an uncontrolled release of asbestos including the means to protect exposed workers, the methods to confine and control the release of asbestos and the decontamination procedures to be used, the asbestos processes that workers may undertake, the training of workers in any asbestos process the workers may be required or permitted to undertake, the methods to control the release of asbestos dust, the PPE workers may be required to use, decontamination procedure and the inspection and maintenance schedule for all asbestos-containing materials.

Client owned and/or operated equipment and facilities, where surfacing material or insulation is present, must be confirmed non-asbestos before Allen Services & Contracting Ltd. employees disturb that material.

Where surfacing material or insulation cannot be confirmed non-asbestos, the client or owner must test, and where necessary abate, the material before Allen Services & Contracting Ltd. employees are permitted to work. If Allen Services & Contracting Ltd. is the contractor to remove the ACM, procedures must be followed.

Signs shall be posted and employees will abide warning signs and labels and will not disturb the Asbestos Containing Material.

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## Training

Allen Services & Contracting Ltd. must ensure that a worker who may be exposed to asbestos or asbestos dust resulting from an asbestos process at a work site is provided with training in the safe handling of asbestos that is appropriate to the level of risk of the asbestos process. No worker shall work in an asbestos process unless the worker has completed the training:

- is informed of the health hazards associated with exposure to asbestos,
- is informed of measurements made of airborne concentrations of asbestos at the work site, and
- is trained in procedures developed by the employer to minimize the worker's exposure.

A certificate of training shall be provided & maintained.

## Classification

Working with asbestos is categorized into three categories:

- high risk asbestos process
- medium risk asbestos process and,
- low risk asbestos process.

For high risk processes no worker is permitted to enter the area where the asbestos process was carried out without an approved respiratory protective device until a competent person determines that there are no visible signs of debris in that area and air monitoring verifies that airborne asbestos fiber concentrations are less than 0.01 fibers per cubic centimeter of air. There are no exceptions to this requirement.


## Asbestos Exposure Control Program and Measures

This section includes measures to be used to prevent the uncontrolled release of asbestos and the procedures to be followed if there is an uncontrolled release.

Where workers have access to asbestos-containing materials Allen Services & Contracting Ltd. shall ensure that the asbestos containing materials are clearly and conspicuously labelled with a placard as asbestos. A map or plan that is readily available to the workers must be available showing location of any asbestos-containing material.

Asbestos exposure controls are designed to eliminate or minimize an employee's exposure to airborne asbestos fibers through the use of work practices and engineering controls. If the TWA and/or excursion limit is exceeded, a written Asbestos Exposure Control Plan to reduce employee exposure shall be implemented containing means of engineering & work practice controls & the use of respiratory protection.

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Prior to initiating any asbestos work the Competent Person must perform an asbestos exposure assessment. At Allen Services & Contracting Ltd. this will be done by a certified and trained Asbestos Specialist/Industrial Hygienist. Subsequent to the exposure assessment, the engineering controls and work practices to be employed shall be identified.

Prior to commencement of work, the affected employees shall be briefed on the engineering controls and work practices designed to reduce/maintain the exposure below TWA for the asbestos work. This briefing shall be documented and maintained with the job documentation. Where engineering controls are not feasible work practices such as exhaust systems for hand tools, wet methods, clean-up procedures & PPE shall be used.

Wet methods will be employed for all asbestos work as a means to minimize potential airborne exposure wherever possible. ACM shall be wetted from the initiation of the maintenance or renovation operation and wetting agents shall be used continually throughout the work period to ensure that any dry ACM exposed in the course of the work is wet and remains wet until final disposal.

Wetting agents, usually a surfactant (dish soap), are generally prepared by mixing 1 to 3 ounces of wetting agent to 5 gallons of water.

Where exhaust ventilation equipment used to contain asbestos dust Allen Services & Contracting Ltd. shall ensure that the equipment is equipped with a HEPA filter, inspected regularly for defects, maintained and certified by a competent person at least once each year as being able to function safely and effectively.


### Restricted Areas

Where an asbestos process is undertaken, Allen Services & Contracting Ltd. shall ensure that the area is effectively isolated or otherwise enclosed to prevent the escape of asbestos dust to any other part of the place of employment and that a warning notice is conspicuously displayed indicating that asbestos work is in progress.

Allen Services & Contracting Ltd. must ensure that a worker who enters a restricted area that is designated as a restricted area due to the presence of asbestos, has successfully completed a course of instruction approved by a Director of Occupational Hygiene, and has in the worker's possession the original valid certificate of completion of the course issued to the worker.

All employees who perform work in regulated areas shall be covered by this procedure. Employees who perform housekeeping activities during and after construction activities are also covered by this procedure.

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### Personnel Air Monitoring

Monitoring shall occur to ensure that no employee is exposed to an airborne concentration of asbestos in excess of 1.0 fiber per cubic centimeter of air (1 f/cc) in 30 minutes.

An independent/third party air sampling person shall perform all required air sampling during contractor asbestos work and provide the results to Allen Services & Contracting Ltd.'s Competent Person. Note: Air sampling is not required for glove bag activities that are covered under a Negative Exposure Initial Assessment.

The air quality is to be determined from breathing zone air samples. The samples shall be representative of the 8-hour TWA and 30-minute short-term exposure. Measurements are required for documentation.

Affected employees and/or their designated representatives are to be provided the opportunity to observe asbestos exposure monitoring.

Where the asbestos exposure assessment (in the absence of quantitative personnel monitoring results) does not present objective, convincing data that indicates the ACM to be handled will not (under worst circumstances) release airborne fibers, personnel air monitoring shall be performed to quantify exposure.

If personnel monitoring is considered necessary during the asbestos exposure assessment, in an effort to verify exposures would be maintained below the PEL/excursion limit, respiratory protection shall be utilized until such time that sufficient sampling results verify that respiratory protection is not required.


Allen Services & Contracting Ltd. HSE Coordinator is to be consulted for advice and assistance in performing personnel air sampling activities.

The number of samples necessary to be considered "representative" is dependent upon many factors and must be determined in consultation with the Allen Services & Contracting Ltd. HSE Coordinator, certified Industrial Hygienist consultant, or a third party air sampling professional.

Affected employees shall be notified of monitoring results, which represent the employee's exposure, as soon as possible following receipt of the monitoring results.

Employees shall be notified in writing either individually or by posting at a centrally located place that is accessible to affected employees.

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Once representative sampling indicates that exposure levels for that particular activity are consistently below the OSHA established permissible limit and/or excursion limit, the requirement for respiratory protection may be waived.

It is imperative that accurate personnel air sampling records are maintained in order to justify any relaxation of respiratory protection requirements.

Results of air sampling data must be maintained in the asbestos job documentation.

### Medical Surveillance Program

A health assessment must comply with the requirements outlined in Part 4, Section 40 (2) of the Alberta OHS Code and Part 24, Section 379 (4) of the Northwest Territories OHS Regulations. The person with custody of the health assessment record must ensure that no person, other than the worker or health professional who conducts the health assessment, has access to the exposed worker's health assessment unless the record is in a form that does not identify the worker, or the worker gives written permission for access by another person. Allen Services & Contracting Ltd. must ensure that a worker undergoes a health assessment not more than 30 calendar days after the worker becomes an exposed worker, and every two years after the first health assessment. Exposed workers may refuse to undergo part or all of a health assessment by giving Allen Services & Contracting Ltd. a written statement refusing it. Allen Services & Contracting Ltd. must pay the cost of the health assessment and ensure that, if it is reasonably practicable, a health assessment is performed during normal work hours.

### Respiratory Protection and Personal Protective Equipment


The use of approved respirators shall be at no cost to the employee and will be used in conjunction with work practice controls, work operations, to reduce exposure and in emergencies.

Where an emergency exists or the measures and procedures necessary to control the exposure of a worker to airborne asbestos, do not exist or are unavailable, are not reasonable or practical for the length of time or frequency of exposure or the nature of the process, operation or work, or are not effective because of a temporary breakdown of equipment, Allen Services & Contracting Ltd. shall provide a worker with respiratory equipment which shall be used by the worker.

Allen Services & Contracting Ltd. must provide workers in a restricted area with protective clothing that protects other clothing worn by the worker from asbestos contamination, ensure that workers' street clothing is not contaminated by asbestos, and ensure that a worker does not leave a restricted area until the worker has been decontaminated.

Allen Services & Contracting Ltd. must ensure each worker who may be exposed is provided with and use an approved respiratory protective device that is appropriate to the level of risk of the

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asbestos process and approved protective clothing that when worn, will exclude asbestos dust. All protective clothing is disposed of as asbestos waste after use or is kept, maintained and cleaned in a safe manner each time it is used.

Other PPE will include:

- Protective coveralls
- Gloves
- Head coverings / Foot coverings
- Vented goggles / Face Shields
- And others based on the hazard

### Waste Disposal

Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing shall be collected and disposed of in sealed, labelled impermeable bags of greater than 6 mils thickness or other closed, labelled, impermeable containers.

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

Allen Services & Contracting Ltd. must ensure that asbestos waste is stored, transported, and disposed of in sealed containers that are impervious to asbestos and asbestos and the waste receptacles are handled and transported in a manner that will protect them from physical damage. Any container of an asbestos product and asbestos waste is clearly labelled to identify the contents as an asbestos product and carcinogenic, and to warn handlers that dust from the contents should not be inhaled.


Bags or containers shall be imprinted and clearly labelled with the following OSHA asbestos hazard warning and address:

**DANGER - CONTAINS ASBESTOS FIBERS -  
AVOID CREATING DUST - CANCER AND LUNG DISEASE HAZARD  
Allen Services & Contracting Ltd. – Address, Phone Number**

Asbestos waste or dust produced in a place of employment is cleaned away promptly and at least once each day, by vacuum cleaning equipment equipped with a HEPA filter to prevent the escape of asbestos dust into the air or where vacuum cleaning is not practicable, by wet methods.

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### Change Process

Where a change is made in a process involving asbestos, or in the methods and procedures in the mining, use, handling or storage of asbestos and the change could result in a significant difference in the exposure of a worker to the inhalation or ingestion of asbestos, Allen Services & Contracting Ltd. shall cause a further assessment to be made.

### Record Keeping

All records relating to any asbestos activity shall be maintained by Allen Services & Contracting Ltd. permanently.

The records of the exposures of each worker to airborne asbestos at the workplace to be maintained as provided by the asbestos control program shall identify the worker, including the worker's date of birth, the worker's jobs or occupations at the workplace, the results of monitoring for exposure to airborne asbestos in his or her work area, and the use by the worker of respiratory equipment and its type.

### Exposure Assessment Algorithm

(source: Asbestos Abatement Code of Practice NT)

There are eight (8) major factors which assist in evaluating the condition of a particular asbestos installation. Assessment and determination of health risk should be conducted by competent personnel, trained in the evaluation of potential asbestos exposure risk.

(1) Condition of Material .

The condition of the asbestos-containing materials may indicate how easily fibres can cause contamination by being released into the area. An assessment of the condition considers the quality of the installation, adhesion of the material to the underlying substrate, deterioration, vandalism and/or damage.


(2) Water Damage .

Water can dislodge, delaminate and disturb friable asbestos-containing materials that are otherwise in good condition. Water can carry fibres as a slurry to other areas where evaporation leaves a collection of fibres that can be released into the air. .

(3) Exposed Surface Area .

The exposed surface area of friable material affects potential fibre fallout levels and the possibility for contact and damage. Visible friable material is considered to be exposed.

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. Maintenance personnel frequently access the space above suspended ceilings to . service or maintain electrical or communications equipment, or adjust the ventilation system. In most cases, this space is considered an exposed surface. Areas with louvres, grids or other open ceiling systems should be considered exposed.

(4) Accessibility .

Accessibility is one of the most important indicators of exposure potential. If the asbestos-containing material can be reached, it is accessible and subject to accidental or intentional contact and damage. Friable material is considered accessible if it is close to heating, ventilation, lighting and plumbing systems requiring maintenance or repair. . In schools, the behaviour of the student population should be considered in evaluating accessibility. Damage is the most obvious factor. For example, students involved in sport activities may accidentally damage material on the walls and ceiling of a gymnasium. Material that is easily accessible is also subject to damage by vandalism. .

(5) Activity and Movement

This factor combines the effects of general causes that may result in contact with, or damage to, friable material. These causes include air movement, maintenance activities, vibration (from machinery or other sources) and activity levels of students or building workers. This factor is also an indication of the potential for future exposure. .

(6) Air Distribution System

Asbestos materials may not be located in supply or return air plenums in a form in which or location where asbestos fibres could enter the air supply or return air systems. Action is required by building owners if asbestos-containing materials are found in these areas.


(7) Friability .

The easier the material can be crumbled, the more friable the material and the greater the potential for asbestos fibre release and contamination. Sprayed asbestos material is generally more friable than most trowelled materials or mechanically installed insulation.

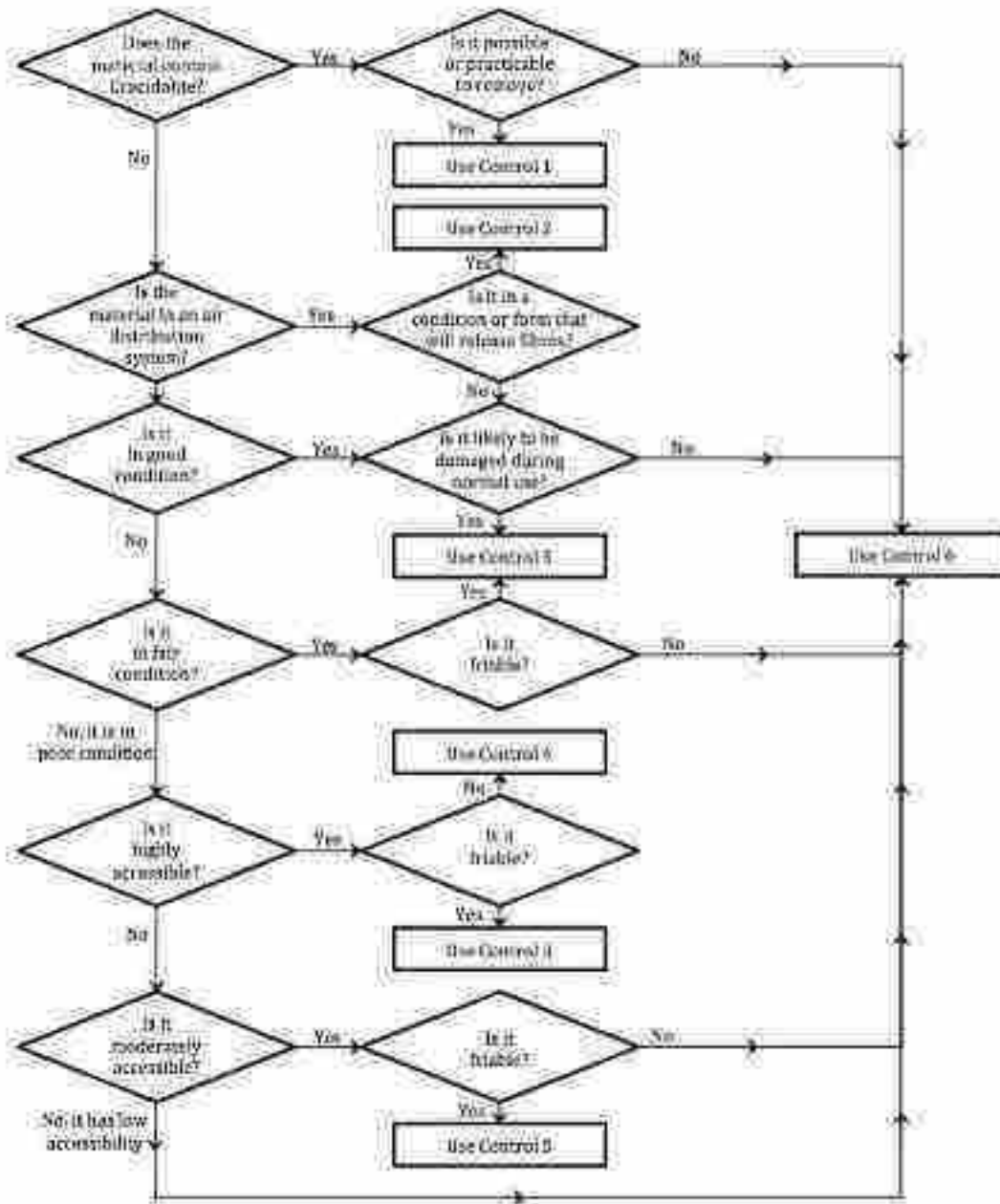
(8) Asbestos Content

To calculate total asbestos content, the percentage content for each type of asbestos present in a given sample should be summed. While all asbestos-containing materials present an exposure potential, those with a high percentage of asbestos content can release more fibres. .


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### Asbestos Risk Decision Tree



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## Asbestos Risk Decision Tree Legend

### Good Condition

- No significant signs of damage, deterioration or delamination.

### Fair Condition

- Mild to moderate damage deterioration or delamination.

### Poor Condition

- Severely damaged, deteriorated or delaminated.

### High Accessibility

- Can be touched or contacted through activities (routine or accidental) by all building users.

### Moderate Accessibility

- Accessible in low activity areas or beyond the reach of most occupants (with the exception of maintenance staff).

### Low Accessibility

- Enclosed or concealed; requires the removal of a building component, including lay in ceilings and access panels into solid ceiling systems. Includes rarely entered crawl spaces, attic spaces, etc.

### Control 1

- Immediate removal of material is required.

### Control 2

- Immediately prevent the asbestos fibres from entering the air distribution system through changes to the system, removal, clean up and/or repair, and if not ultimately removed, implement an Asbestos Management Plan (Control 6).

### Control 3

- Immediately restrict access to the area and prevent air movement. Remove or clean up and/or repair. If not ultimately removed, implement an Asbestos Management Plan (Control 6).


### Control 4

- Immediately restrict access to the area. Remove or clean up and/or repair. If not ultimately removed, implement an Asbestos Management Plan (Control 6).

### Control 5

- Schedule removal or clean up and/or repair in a reasonable time frame and if not ultimately removed, implement an Asbestos Management Plan (Control 6).

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### Control 6

- Implement an Asbestos Management Plan. The Plan should be in writing and include the following:

- inventory of asbestos-containing materials in the building;
- inspection frequency and procedures;
- training requirements for maintenance staff and others who may come into contact with the materials or work in proximity to the materials;
- procedures to follow in the event of damage or other emergency situations;
- procedures to follow should the condition of the materials change or work routines be altered;
- notification procedures for occupants and others in the building;
- labeling of asbestos-containing materials; and.
- a plan for ultimate removal of asbestos.

### Personal Protective Equipment

(source: Asbestos Abatement Code of Practice NT)

Every person working at an asbestos abatement project must wear appropriate personal protective equipment. Workers must use:

- respiratory protective equipment during all construction work and most maintenance . work around friable asbestos where fibre levels are not controlled; .
- protective clothing to reduce the risk of contaminating street clothing, skin and hair; . and .
- other protective equipment such as eye protection, hard hats, hearing protection and . steel toe footwear as site conditions or regulations require. .

The employer must ensure that personal protective equipment provided to workers will not cause medical problems e.g. latex allergies, respirators and breathing difficulties.

For more information:


[www.employment.alberta.ca/documents/WHS/WHS-PUB\\_ppe001.pdf](http://www.employment.alberta.ca/documents/WHS/WHS-PUB_ppe001.pdf)

Respiratory Protective Equipment – An Employer’s Guide – PPE001

[www.employment.alberta.ca/documents/WHS/WHS-PUB\\_ppe004.pdf](http://www.employment.alberta.ca/documents/WHS/WHS-PUB_ppe004.pdf)

Guideline for the Development of a Code of Practice for Respiratory Protective Equipment – PPE004

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## Respiratory Protection

For protection against airborne asbestos, three main types of respiratory protective equipment are available: air purifying, supplied air, and self-contained breathing apparatus (SCBA). The purpose of a respirator is to provide clean air to the person wearing it.

Respiratory protective equipment works properly only when selected, used, maintained and cared for in the proper manner. Only approved respirators may be used. Approved respirators are those that have undergone testing and have been granted NIOSH approval. The —TCI number is a NIOSH classification given to all approved respirators. Respirator cartridges and filters must also bear their own TC approval number.


## Types of Respirators

### Air purifying respirator

Air purifying respirators clean contaminated air by passing the air through a filter before it is inhaled. A mechanical filter for particulates or fumes, a chemical cartridge filter for vapours, mists and gases, or a combination of the two can be used. Air is drawn through the filter when the person wearing it breathes in, or, in the case of a powered air respirator, by a battery-powered blower. Dual cartridge respirators are classified as air purifying respirators.



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An air purifying respirator does not protect the wearer against an atmosphere deficient in oxygen. The air must already have enough oxygen content to meet the minimum standard for breathable air (19 per cent). An air purifying respirator is also not intended for use in an atmosphere that is immediately dangerous to life or health (IDLH).



Powered air purifying  
respirator equipped with  
P100 filters

Filters used for asbestos fibres must be high efficiency. (99.97 per cent) as classified by NIOSH. NIOSH. approves three types of high efficiency particulate. respirators — N, R and P. N class respirator filters may. only be used where the work area is free of oil. R class filters. are oil resistant and can only be used for a total of eight hours.. P class filters are oil proof and can be used for more than one work shift.

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### Supplied Air Respirator

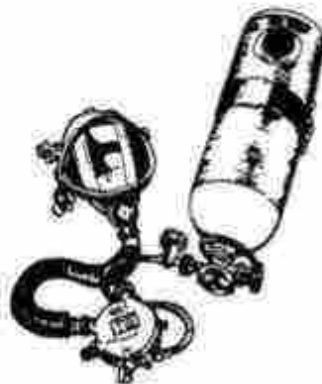
These respirators provide breathable air from an external air source through an air hose connecting the air source to the breathing mask. They can provide protection against higher levels of airborne contaminants than can air purifying respirators. Air supplied to the respirator must meet the requirements of CSA Standard Z180.1-00 Compressed Breathing Air and Systems.



Supplied air respirator

### Self-Contained Breathing Apparatus (SCBA)


The air supplied in this system is contained in a cylinder which the wearer usually carries on the back. The wearer's air is completely independent of the ambient atmosphere. SCBAs are used in areas where very high levels of protection are required. SCBAs may not be practical for the majority of asbestos abatement projects.



Self-contained breathing apparatus (SCBA)

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### Protection Factor


Respirators offer varying degrees of protection against airborne contaminants. The degree of protection is described by the concept of Protection Factor (PF). Protection factor is defined as the concentration of an airborne contaminant in the worker's breathing zone outside the respirator face piece divided by the concentration of contaminant inside the respirator face piece:

$$PF = \frac{\text{concentration of fibres outside respirator face piece}}{\text{concentration of fibres inside respirator face piece}}$$

The higher the protection factor, the greater the degree of protection provided by the respirator. The actual protection factor achieved by a respirator is greatly dependent on the fit of the mask to the wearer's face. This can vary with the worker's activities, facial movements and shaving habits. Assigned protection factors have been developed for different respirators based on extensive research. These protection factors can be used to select a respirator that will maintain the asbestos fibre concentration inside the face piece at an acceptable level. The table below summarizes protection factors assigned to a number of selected respirators.

Type of Respirator	Assigned Protection Factor and Comments <sup>1</sup>
Single use (disposable) respirator	NOT ACCEPTABLE FOR ASBESTOS RELATED WORK
Reusable half-mask air purifying respirator equipped with high efficiency filter	APF = 10, can be used for work where airborne concentrations are less than 10 times the OEL
Full facepiece air purifying respirator equipped with high efficiency filter	APF = 100, can be used for work where airborne concentrations are less than 100 times the OEL
Full facepiece powered air purifying respirator (PAPR) equipped with high efficiency filter	APF = 1000, can be used for work where airborne concentrations are less than 1000 times the OEL
Positive pressure supplied air full-face respirator	APF = 1000, can be used for work where airborne concentrations are less than 1000 times the OEL
Pressure-demand or positive pressure self contained breathing apparatus (SCBA)	APF = 10,000, can be used for work where airborne concentrations are less than 10,000 times the OEL

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### Factors Affecting Respirator Fit

A major limitation of the protection provided by a respirator is the effectiveness of the seal between the face piece and the wearer's skin. Persons who are or may be required to wear a respirator must ensure they have an effective facial seal each time they put on their respirator.

This is done by performing a user seal check following the manufacturer's instructions. Two types of seal checks are commonly used:

- (1) Negative Pressure Check — Wearing the respirator, the wearer places the palm of each hand over the cartridge assemblies or inhalation points and inhales. The face piece should collapse slightly as one breathes in, and no inward rush of air should be felt against the wearer's face.
- (2) Positive Pressure Check — Wearing the respirator, the wearer places the palm of their hand over the exhalation valve and presses lightly while exhaling gently into the face piece. The fit is satisfactory if no air escapes around the edges of the respirator.

Various factors affect the facial seal of a respirator, including:

#### Facial hair

Facial hair, even a single day's growth of stubble, can seriously reduce the effectiveness of the facial seal. Whiskers lying between the sealing edge of the respirator face piece and the skin will break the seal and cause leakage. For this reason, the person wearing a respirator must be clean shaven at least where the respirator contacts the face.

#### Respirator design

Since respirators are designed and constructed differently, they tend to fit differently. A proper fit can be difficult to achieve if the face piece material is too soft or too hard, if the face piece straps are improperly adjusted, or if the wrong size of face piece is selected.

#### Headstrap Tension

Some respirator wearers tighten headstraps as much as possible in the belief that doing so provides a better seal and fit. The exact opposite is often the result, the shape of the face piece becoming distorted in such a way as to break the seal. Headstraps should be snug, yet comfortable, and fit testing will demonstrate just how tight or loose the straps must be.


#### Facial Shapes

The sizes and shapes of human heads vary widely. High cheek bones, narrow faces, double chins and broad noses ensure that one size and one design of respirator cannot possibly fit everyone.

#### Other Factors

Facial scars, eyeglasses, wrinkles and dentures can also affect the seal obtained with certain respirators. Prescription glasses cannot be worn with a full-face piece respirator as the arms of

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the eyeglasses will break the seal. Alternatives such as eyeglass inserts should be considered for those who require prescription glasses.

### Methods of Fit Testing

There are two accepted methods for fit testing respirators — qualitative and quantitative tests. Positive and negative pressure fit checks need to be done each time that the respirator is donned. The type of fit test method will affect the assigned protection factor for the respirator if air-purifying equipment is used.

#### Qualitative Fit Test

Qualitative fit testing consists of relatively quick and simple tests to confirm that the worker has an effective seal. This testing consists of positive and negative pressure checks followed by an odorous chemical or irritant smoke test. Qualitative fit testing should be done when the respirator is first issued and then repeated on a regular basis.

Chemical or irritant smoke tests involve the release of an odorous chemical inside a test chamber (enclosure head) or irritant smoke around the edges of the respirator while it is being worn. The wearer performs actions that simulate movements typically made during work activities such as talking, bending, reaching or nodding. If the wearer detects the chemical or irritant smoke, the respirator must be re-adjusted or exchanged and the test repeated until no odours, tastes or smoke are detected.


Commonly used test agents include banana oil (isoamyl acetate), irritant smoke (stannic chloride or titanium tetrachloride), artificial sweetener (saccharin), and bittering compound (Bitrex™). The respirator must be equipped with organic vapour cartridges when administering the banana oil test agent; high efficiency particulate filters must be used for the irritant smoke agent; particulate filters must be used for the saccharin and Bitrex™ agents.

Depending on the test agent, the wearer will either detect the smell of banana, will sense irritation of the nose and throat due to the irritant smoke, taste the sweetness of the saccharin or the bitterness of the Bitrex™ if there is leakage. The person administering the test relies on the wearer's ability to smell, notice, or taste the test agent. A properly administered qualitative fit test takes a minimum of 15 to 20 minutes to perform, assuming a perfect fit during the first attempt. Additional information describing fit testing can be found in CSA Standard Z94.4-02, Selection, Use and Care of Respirators.

#### Quantitative Fit Test

Quantitative fit tests are more sophisticated and involve measurement of actual respirator leakage by monitoring leakage inside the facepiece. Unlike qualitative fit testing, this testing does not depend on a person's sense of smell or taste to tell whether or not the facepiece leaks. Portable computerized equipment accurately measures leakage of contaminant into the respirator during

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various test exercises.

According to CSA Standard, 294.4-02, when a respirator undergoes quantitative fit testing, the resulting protection factor must be at least 10 times the nominal protection factor assigned to the respirator. If this condition is not met, the fit of the respirator is inadequate and the respirator should be readjusted or a different respirator selected and tested.

Regardless of the protection factor determined by quantitative fit testing, it is the assigned protection factor that determines the conditions under which the respirator is used (see Table 3).

### Record keeping

A permanent record of individuals who are fit tested and issued with respiratory protective equipment should be maintained. These records form part of the overall respiratory protection program and are useful for future reference.

### Inspection, Cleaning, Storage and Maintenance

#### Inspection


Regular cleaning and inspection of respirators is extremely important and must be done according to the manufacturer's instructions. Respirators must be cleaned and inspected daily by routine users, and before and after each use by occasional users. If shared by different people, respirators must be sanitized between uses.

Prior to cleaning a respirator, each part of the respirator should be inspected. Defective parts must be replaced before the respirator is used. The face piece must be checked for cuts, tears, holes, melting, stiffening or deterioration. If the unit is damaged, it must be replaced. Headstraps must be checked for breaks, frays, tears or loss of elasticity. Cartridge sockets can be inspected by removing the cartridges. Special attention should be given to the rubber gaskets located at the bottom of the cartridge sockets. Cracks or flaws may contribute to an ineffective seal.

The cover on the exhalation valve should be removed and the rubber valve carefully examined to ensure it seals properly and has not become brittle. The edge of the valve should be examined for holes, cracks and dirt which may interfere with a proper seal. The exhalation valve is a critical component of the respirator and must be replaced if there is any doubt about its ability to function properly. The valve cover is also important and must not be damaged or fit too loosely.

Finally, the interior of the face piece and inhalation valves should be examined. Dust or dirt accumulating on the inhalation valves can interfere with their operation. Inhalation valves should be soft, pliable and free of tears or cuts to the flaps.

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### **Cleaning**

Following inspection, the respirator should be cleaned according to the manufacturer's instructions. Strong detergents, hot water or household cleaners or solvents must not be used because they may deteriorate the rubber parts. A stiff bristle brush (not wire) can be used to remove dirt if necessary. The respirator should then be rinsed thoroughly in clean, warm water. This is important because detergents or cleaners that dry on the facepiece may later cause skin irritation. The respirator can be hand-dried with a clean, lint-free cloth, or air-dried and then reassembled. The respirator should be tested to ensure all parts work properly prior to being used.

### **Storage**

Respirators should be stored in a clean location, preferably in a plastic bag in a locker or on a shelf. They should be stored away from sunlight, solvents and other chemicals, extreme cold or heat, and excessive moisture. Respirators must not be left out on a bench or hanging on a nail in the shop where they can gather dust and dirt or be damaged or abused.

### **Maintenance**

All respirator manufacturers suggest regular maintenance and parts replacement. Respirators should be maintained and inspected according to the instructions provided with each respirator. Only approved replacement parts should be used. Mixing and matching of parts from one respirator brand or model to another must never be allowed. Makeshift parts for respirators must never be installed.


### **Protective Clothing**

Protective clothing for asbestos abatement work usually consists of disposable, impermeable coveralls, foot coverings, gloves and head coverings. Protective clothing reduces contamination of the worker's body and hair and makes decontamination when leaving the work area much easier.

Protective clothing with an attached hood and foot coverings provides the most complete protection. Alternatively, laceless rubber boots can be worn as long as they are properly decontaminated prior to removal from the work site. Disposable types of protective clothing are made of products such as Tyvek™. Permeable outer clothing is not recommended for asbestos abatement work as fibres can penetrate the clothing, contaminating clothing worn beneath it and contaminating the skin.

Protective clothing does not include street clothes, shoes, T-shirts, socks, blue jeans, sweat bands, etc. If these items are used inside the work area, they should remain there and be disposed of as asbestos waste at the end of the job. Protective clothing that is reused must be collected, handled and washed in a manner that prevents the spread of asbestos fibres and ensures that the clothing is free of asbestos. Workers must never take contaminated clothing or towels home for laundering. Reusable clothing and towels must be collected at the work site and sent to a


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laundry that specializes in cleaning clothing contaminated with asbestos.

Protective clothing may also be required to protect workers from physical hazards. If the asbestos-containing materials being removed contain wire mesh, lath or other sharp objects, heavy gloves should be worn to protect workers' hands. Appropriate footwear must also be worn to provide protection from sharp or heavy objects and wet or slippery conditions. Other safety equipment such as head, eye and hearing protection should be worn if hazardous conditions requiring their use are encountered.

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## A7.1 EXCAVATION PROGRAM

### Purpose

The purpose of this program is to protect employees from safety hazards that may be encountered during work in trenches and excavations.

Allen Services & Contracting Ltd. is required to participate as a contract employer at client locations with trenching and excavation work however Allen Services & Contracting Ltd. does not initiate trenching operations.

When work is performed on a non-owned or operated site, the operator's program shall take precedence; however, this document covers Allen Services & Contracting Ltd. employees for awareness purposes and shall be used when an operator's program doesn't exist, or if Allen Services & Contracting Ltd. is the Prime Contractor on site.

*Note: To be in compliance with multiple jurisdictions Allen Services & Contracting Ltd. will utilize a higher level of compliance of 1.2 meter excavation depth for entry requirements.*

### Responsibilities

Allen Services & Contracting Ltd. must develop and implement safe work procedures for the work to be done at an excavation including the installation, use and removal of shoring.


Before any excavation work begins workers must be made aware of the potential hazards of the job functions they are to perform.

Where a worker is present in an excavation that is more than 1.2 meters deep and is present in a trench or required to be closer to the wall or bank than the distance equal to the depth of the excavation Allen Services & Contracting Ltd. will ensure that the worker is protected from cave ins or sliding material by meeting local provincial or territorial requirements.

Additionally, excavation work must be in accordance with the written instructions of a qualified registered professional if the excavation is more than 6 m (20 ft) deep, an improvement or structure is adjacent to the excavation, the excavation is subject to vibration or hydrostatic pressure likely to result in ground movement hazardous to workers, or the ground slopes away from the edge of the excavation at an angle steeper than a ratio of 3 horizontal to 1 vertical.

Shoring must be installed and removed in a manner that protects workers from cave-ins and structural collapses and from being struck by shoring components and that shoring components are securely connected together to prevent sliding, falling, kickouts or other possible failure and individual

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components of shoring are not subjected to loads that exceed the loads the components were designed to bear.

Only trained personnel can be involved in working in trenches or excavations.

## Procedure

### Competent Person Duties

Allen Services & Contracting Ltd. will designate a competent person to supervise work at an excavation site. The Supervisor must be present at the site whenever a worker is in the excavation or work on the excavation is being performed.

### Protective Systems or Equipment

- Monitoring water removal equipment and operations.
- Inspecting excavations subject to runoff from heavy rains to determine need for diversion ditches, dikes, or other suitable protection.
- Determining cave-in potential to assess need for shoring or other protective system.
- Examining damaged material or equipment used for protective systems to determine its suitability for continued use.
- Classifying soil and rock deposits, by both visual analysis and by testing, to determine appropriate protection; re-classifying, if necessary, based on changing conditions.
- Determining the appropriate slope of an excavation to prevent collapse due to surcharge loads from stored material or equipment, operating equipment, adjacent structures, or traffic, and assuring that such slope is achieved.

### Inspecting Trench and Protective Systems

- Authorizing immediate removal of employees from the hazardous area where evidence of possible cave-in, failure of protective systems, hazardous atmospheres, or other hazardous conditions exists.

### Unsafe Access/Egress


- Designing structural ramps that are used solely by employees as a means of access or egress. Structural ramps used for access or egress of equipment must be designed by a competent person qualified in structural design.

### Utilities and Pre-work Site Inspection

Before any excavation work begins Allen Services & Contracting Ltd. or the initiator must give notice of the proposed excavation to the owners of underground facilities, such as gas, oil, steam, water, sewer, communication and electrical systems, in the area where the work is to be done. Work must be undertaken in conformity with the requirements of the owner of the service and any danger to workers from the services must be controlled.

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Allen Services & Contracting Ltd. must ensure that the initiator has accurately established the location of all underground pipelines, cables and conduits in an area where work is to be done and shall ensure that those locations are conspicuously marked before commencing work using power tools or powered mobile equipment on an excavation, trench, tunnel, excavated shaft or borehole or before breaking ground surface with any equipment to a depth that may contact underground utilities.

Before the ground is disturbed or existing concrete is removed at a work site Allen Services & Contracting Ltd. must contact the owner or the owner's designate of a pipeline that is within 30 metres of the work site and any other buried or concrete-embedded facility that may be affected by the ground disturbance or removal of existing concrete. Allen Services & Contracting Ltd. will advise the owner or the owner's designate of the proposed activities and ask the owner or the owner's designate to identify and mark the location of the buried or concrete-embedded facility and will not begin disturbing the ground or removing the existing concrete until buried or concrete-embedded facilities have been identified and their locations marked.


Allen Services & Contracting Ltd. will ensure that work with mechanical excavation equipment is not permitted within the hand expose zone of a buried facility until the buried facility has been exposed to sight by hand digging, by a non-destructive technique acceptable to the owner of the buried facility or by an equivalent method. Allen Services & Contracting Ltd. may use mechanical excavation if doing so does not present a hazard and if the buried facility is an electrical cable or conduit, Allen Services & Contracting Ltd. must ensure that it is grounded and isolated so that its disconnection is visible, and the owner of the electrical cable or conduit is notified of the operation before it begins, or if the buried facility is not an electrical cable or conduit Allen Services & Contracting Ltd. will ensure that it is no longer in use, and the owner of the buried facility gives Allen Services & Contracting Ltd. written consent to excavate or remove the facility.

Where an operation is to be undertaken involving the disturbance of soil within 600 millimetres of an existing pipeline, cable or conduit Allen Services & Contracting Ltd. shall ensure that the pipeline, cable or conduit is exposed by hand digging or other approved method before mechanical excavating is allowed to begin within that area. Pointed tools must not be used to probe for underground gas and electrical services. Powered equipment used for excavating must be operated so as to avoid damage to underground utility services, or danger to workers.

Where there is contact with or damage to an underground pipeline, cable or conduit Allen Services & Contracting Ltd. shall immediately notify the owner of the pipeline, cable or conduit that contact or damage has occurred and take steps to protect the health and safety of any worker who may be at risk until any unsafe condition resilient from the contact or damage is repaired or corrected.

Trees, utility poles, rocks and similar objects adjacent to an area to be excavated must be removed or secured if they could endanger workers

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Prior to excavation the site shall be thoroughly inspected to determine if special safety measures must be taken.

Excavation shall be done in a manner that does not endanger the underground installations or the employees engaged in the work. Utilities left in place shall be protected by barricades, shoring, suspension or other means as necessary to protect employees.

### Marking of Excavations

If there is a danger of a worker or equipment falling into an excavation Allen Services & Contracting Ltd. will ensure that workers are made aware of the excavation through flagging, marking, safeguards, or other appropriate and effective means.

### Protection of the Public

Barricades, walkways, lighting and posting shall be provided as necessary for the protection of the public prior to the start of excavation operations.

Guardrails, fences, or barricades shall be provided on excavations adjacent to walkways, driveways and other pedestrian or vehicle thoroughfares. Warning lights or other illumination shall be maintained as necessary for the safety of the public and employees from sunset to sunrise.

Wells, holes, pits, shafts and all similar hazardous excavations shall be effectively barricaded, guarded or covered and posted as necessary to prevent unauthorized access. All temporary excavations of this type shall be backfilled as soon as possible.

Walkways or bridges protected by standard guardrails shall be provided where employees and the general public are permitted to cross over excavations. Where workers in the excavation may pass under these walkways or bridges, a standard guardrail and toe board shall be used.


### Protection of Workers in Excavations

#### Safe Access and Means of Egress

If a worker is required or permitted to enter an excavation, tunnel or underground shaft Allen Services & Contracting Ltd. must provide the worker with a safe means of entering and leaving the area prior to work beginning. This will include the requirement to install ladders, stairways or ramps to provide a safe means of entrance to and exit from the trench and to ensure that the ladder, stairway or ramp is located not more than eight meters from a worker working in the trench.

If a worker is required to enter a trench that is more than 1.2 metres deep a safe point of entering and leaving must be located not more than 8 metres (25 feet) from the worker. If a worker is in a trench that is more than 1.2 metres deep the trench must be supported or sloped so that the worker can reach the safe point in order to enter and leave.

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Walkways must be secured to prevent dislodgment. The open side of an access route into an excavation used by mobile equipment must have a curb.

If an excavation is a hazard to workers, it must also be effectively covered or guarded.

#### Structural Ramps

Structural ramps used solely by employees as a means of access or egress from excavations shall be designed by a competent person. Structural ramps used for access or egress of equipment shall be designed by a person qualified in structural design, and shall be constructed in accordance with the design.

Ramps and runways constructed of two or more structural members shall have the structural members connected together to prevent movement or displacement.

Structural members used for ramps and runways shall be of uniform thickness.

Cleats or other appropriate means used to connect runway structural members shall be attached to the bottom of the runway or shall be attached in a manner to prevent tripping.

Structural ramps used in place of steps shall be provided with cleats or other surface treatments on the top surface to prevent slipping.

#### Ladders


When workers are required to enter excavations over 1.2 metres in depth a ladder shall be provided in the immediate area where workers are employed and the ladder shall extend from the bottom of the excavation to at least 0.91 metres above the top of the excavation.

Ladders shall have nonconductive side rails if work will be performed near exposed energized equipment or systems.

Ladders will be inspected prior to use for signs of damage or defects. Damaged ladders will be removed from service and marked with "Do Not Use" until repaired.

- Ladders shall be used only on stable and level surfaces unless secured. Ladders placed in any location where they can be displaced by workplace activities or traffic shall be secured, or barricades shall be used to keep these activities away from the ladder.
- Non-self-supporting ladders shall be positioned so that the foot of the ladder is one-quarter of the working length away from the support.

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- Employees shall not be allowed to carry any object or load while on the ladder that could cause them to lose their balance and fall.

#### Exposure to Vehicular Traffic

Employees exposed to vehicular traffic shall be provided with, and shall wear warning vests or other suitable garments marked with or made of reflectorized or high-visibility material. Warning vests worn by flagmen shall be red or orange, and shall be of reflectorized material if worn during night work.

#### Employee Exposure to Falling Loads

No employee shall be permitted underneath loads handled by lifting or digging equipment. Employees shall be required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators may remain in the cabs of vehicles being loaded or unloaded when the vehicles provide adequate protection for the operator during loading and unloading operations.

#### Employee Exposure to Overhead Power Lines

Where an excavation or trench is to be made in the vicinity of an overhead power line Allen Services & Contracting Ltd. will ensure that the work is carried out in a manner that will not reduce the original support provided for any overhead power line pole unless permission has previously been obtained from the utility provider responsible for the overhead power line.

#### Warning System for Mobile Equipment

A warning system shall be used when mobile equipment is operated adjacent to the edge of an excavation if the operator does not have a clear and direct view of the edge of the excavation. The warning system shall consist of barricades, hand or mechanical signals, or stop logs. If possible, the grade should be away from the excavation.


#### Hazardous Atmospheres

The atmosphere in excavations over 4 feet deep shall be tested if a hazardous atmosphere exists or could reasonably be expected to exist. A hazardous atmosphere could be expected, for example, in excavations in landfill areas, in excavations in areas where hazardous substances are stored nearby, or in excavations near or containing gas pipelines.

Adequate precautions shall be taken to prevent employee exposure to atmospheres containing less than 19.5 percent oxygen and other hazardous atmospheres. These precautions include providing proper respiratory protection or forced ventilation of the workspace.

Forced ventilation or other effective means shall be used to prevent employee exposure to an atmosphere containing a flammable gas in excess of 10 percent of the lower flammability limit of the gas.

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When controls are used that are intended to reduce the level of atmospheric contaminants to acceptable levels, continuous air monitoring will be performed. The device used for atmospheric monitoring shall be equipped with an audible and visual alarm.

Atmospheric testing will be performed using a properly calibrated direct reading gas monitor. Direct reading gas detector tubes or other acceptable means may also be used to test potentially toxic atmospheres.

#### Personal Protective Equipment

All employees working in trenches or excavations shall wear approved hard-hats and steel toed shoes or boots.

Employees exposed to flying fragments, dust, or other materials produced by drilling, sawing, sanding, grinding and similar operations shall wear approved safety glasses with side shields.

Employees exposed to hazards produced by, or performing, welding, cutting, or brazing operations shall wear approved spectacles or a welding face shield or helmet.

Employees entering bell-bottom pier holes or other similar deep and confined footing excavations shall wear a harness with a lifeline securely attached to it. The lifeline shall be separate from any line used to handle materials and shall be individually attended at all times while the employee wearing the lifeline is in the excavation.

Employees shall wear approved gloves or other suitable hand protection.

Employees using, or working in the immediate vicinity of, hammer drills, masonry saws, jackhammers or similar high noise producing equipment shall wear suitable hearing protection.


Each employee at the edge of an excavation 6 feet or more deep shall be protected from falling. Fall protection shall be provided by guardrail systems, fences or barricades.

Emergency rescue equipment, such as breathing apparatus, a safety harness and line, and a basket stretcher shall be readily available where hazardous atmospheric conditions exist or may develop during work in an excavation. This equipment shall be attended when in use. Only personnel that have received approved training and have appropriate equipment shall attempt retrieval that would require entry into a hazardous atmosphere.

#### Protection from Hazards Associated with Water Accumulation

Water must not be allowed to accumulate in an excavation if it might affect the stability of the excavation or might endanger workers. Erosion of slopes by surface water must be prevented if workers may be endangered.

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Effective means shall be provided to prevent the accumulation of water in excavations.

If water is controlled or prevented from accumulating by the use of water removal equipment, the water removal equipment and operation shall be monitored by a competent person trained in the use of the equipment.

If excavation work interrupts the natural drainage of surface water (such as streams), diversion ditches, dikes, or other suitable means shall be used to prevent surface water from entering the excavation. Precautions shall also be taken to provide adequate drainage of the area adjacent to the excavation.

The competent person shall inform workers of the precautions or procedures that are to be followed if water accumulates or is accumulating in an excavation.

### Stability of Adjacent Structures

The competent person will determine if the excavation work could affect the stability of adjoining buildings, walls, sidewalks or other structures.

Before excavating or trenching begins, where the stability of a structure may be affected by an excavation trench, the structure will be supported by a temporary protective structure designed by a professional engineer and constructed, installed, used, maintained and dismantled in accordance with that design.

Excavation below the level of the base or footing of any foundation or retaining wall that could be reasonably expected to pose a hazard to employees shall not be permitted.


### Stability of Soil

Allen Services & Contracting Ltd. must stabilize the soil in an excavation by shoring or cutting back, or in a tunnel, underground shaft or open pit mine by shoring. Allen Services & Contracting Ltd. may also stabilize the soil in an excavation, tunnel, underground shaft, or open pit mine using an artificial soil stabilization technique, including freezing soil by artificial means or grouting if the process used is designed by a professional engineer to control soil conditions, and is performed in accordance with the professional engineer's specifications. Staff must not use natural freezing of the soil as an alternative or partial alternative to a temporary protective structure or to stabilize the soil in an excavation, tunnel, or underground shaft.

### Protection of Employees from Falling Objects and Loose Rocks or Soil

Where work is being carried on in excavations, the slopes shall be scaled and trimmed, or otherwise stabilized to prevent slides of material or falls of rock, overhanging banks and dangerous trees or stumps which could endanger workers shall be removed and means shall be provided to prevent the dangerous erosion of slopes by surface water.

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*Note: Allen Services & Contracting Ltd. will utilize a higher level of compliance of 1.2 meter excavation depth for the following requirements:*


- A worker shall not be permitted or required to enter an excavation over 1.2 metres in depth unless the sides of the excavation are sloped to safe angle, the sides have been secured by the use of sheet piling, shoring and bracing, or the workers are protected by other effective means.
- Before a worker begins working in an excavation that is more than 1.2 metres deep and closer to the wall or bank than the depth of the excavation Allen Services & Contracting Ltd. will ensure that the worker is protected from cave-ins or sliding or rolling materials by cutting back the walls of the excavation to reduce the height of the remaining vertical walls, if any, to no more than 1.5 metres for “hard and compact soil” and “likely to crack or crumble soil” installing temporary protective structures, or using a combination of the methods.

If the walls of an excavation are cut back Allen Services & Contracting Ltd. will ensure that if the soil is classified as “hard and compact soil”, the walls are sloped to within 1.5 metres of the bottom of the excavation at an angle of not less than 30 degrees measured from the vertical or if the soil is classified as “likely to crack or crumble soil” the walls are sloped to within 1.5 metres of the bottom of the excavation at an angle of not less than 45 degrees measured from the vertical, and if the soil is classified as “soft, sandy or loose soil” the walls are sloped from the bottom of the excavation at an angle of not less than 45 degrees measured from the vertical.

Shoring materials must be installed from the top down and removed in reverse order. Workers must not enter an excavation to remove shoring materials if ground conditions have deteriorated so as to make entry for shoring removal unsafe. Shoring or manufactured or prefabricated support systems must be installed in firm contact with the faces of the excavation, and in a manner which ensures no loss of soil from behind or below the bottom of the shield or shoring while the excavation is open. Unless otherwise indicated by the manufacturer or a professional engineer, in writing, voids between the shoring and the excavation face must be backfilled or blocked.

Where a wall of an excavation or trench is cut back Allen Services & Contracting Ltd. shall ensure that in the case of type 1 or 2 soil, the walls are sloped to within 1.2 meters of the bottom of the excavation or trench, with a slope at an angle not steeper than one horizontal to one vertical, or 45 degree measured from the horizontal. In the case of type 3 soil, the walls are sloped from the bottom of the excavation, or trench, with a slope at an angle not steeper than one horizontal to one vertical, or 45 degrees measured from the horizontal. In the case of type 4 soil, the walls are sloped from the bottom of the excavation or trench, with a slope at an angle not steeper than three horizontal to one vertical or 19 degrees measured from the horizontal.

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			Initial Issue Date:	Jan. 2017
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Workers shall not allow excavated material, equipment, rocks and construction materials to remain within 1.22 metres of the edge of a trench-type excavation nor within 1.50 metres from the edge of a pit-type excavation from any other excavation. Under no circumstances may excavated material be piled so that it endangers workers. Excavated material shall be piled so that it cannot fall into the excavation.

Materials piled, grouped or stacked near the edge of an excavation must be stable and self-supporting. Spoil piles will be piled so that the leading edge of the pile is at least 1 metre away from the edge of the excavation, the slope of a spoil pile adjacent to the excavation is at an angle of not more than 45 degrees from the horizontal and loose materials are scaled and trimmed from the spoil pile.

### Daily Inspection

The competent person shall conduct daily inspections of excavations, adjacent areas, and protective systems for evidence of a situation that could result in possible cave-ins, failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence. These inspections are only required when the trench will be or is occupied by employees.

Where the competent person finds evidence of a situation that could result in a possible cave-in, failure of protective systems, hazardous atmosphere, or other hazardous conditions, exposed employees shall be removed from the hazardous area until precautions have been taken to assure their safety.

There shall be a written log of all inspections conducted. This log shall include the date, work site location, results of the inspection, and a summary of any action taken to correct existing hazards.

### Training

All personnel involved in trenching or excavation work shall be trained in safe work practices, the requirements of this program and regulatory requirements.


Workers shall ensure workers are made aware of the potential hazards of the job functions they are to perform.

Training shall be performed before the employee is assigned duties in excavations.

Retraining will be performed whenever work site inspections conducted by the competent person or Health Safety Officer indicate that an employee does not have the necessary knowledge or skills to safely work in or around excavations.


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Training records shall include the date(s) of the training program, the instructor(s) of the training program, a copy of the written material presented, and the names of the employee(s) to whom the training was given.

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## A8.1 FACILITY SAFETY PROGRAM

### Purpose

The procedure provides direction to managers, supervisors, and employees about their responsibilities in the operations and management of Allen Services & Contracting Ltd. facilities.

### Key Responsibilities

#### HSE Coordinator

- The designated HSE Coordinator is responsible for developing and maintaining the Facility Safety Program.

#### (Site) Manager(s)

- Responsible for the implementation and maintenance of the program for their site and ensuring all assets are made available for compliance with the plan and appropriate repairs are conducted promptly.

#### Employees

- All employees shall be familiar with this program and the local workplace violence plan.
- Follow all requirements, report unsafe conditions, follow all posted requirements.

### Containers and Storage of Hazardous Substances

#### Condition of Containers

The container of a hazardous substance must be designed, constructed and maintained in good condition to securely contain the substance and shall be labelled.

#### Material Integrity

Any material used to contain, transfer or convey a hazardous substance must be reasonably resistant to the substance and to any other substance to which it may be exposed.


#### Covers

If an open container of a hazardous substance could pose a hazard, the container must be kept sealed or covered when not in use.

#### Permitted Quantities

- The amount of a hazardous substance in a work area must not exceed the quantity reasonably needed for work in progress, normally in one work shift.
- Bulk or reserve quantities must be stored in a designated area separate from the work area.

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### Incompatible Substances

Substances which are incompatible must not be stored in a manner that would allow them to mix in the event of container leakage, breakage or other such circumstance.

### Storage Practices

Any Allen Services & Contracting Ltd. hazardous substance must be stored in a designated area, in a manner which ensures that it will not readily fall, become dislodged, suffer damage, or be exposed to conditions of extreme temperature.

Material and equipment must be placed, stacked or stored in a stable and secure manner. Stacked material or containers must be stabilized as necessary by interlocking, strapping or other effective means of restraint to protect the safety of workers.


An area in which material may be dropped, dumped or spilled must be guarded to prevent inadvertent entry by workers, or protected by adequate covers and guarding.

### Storage Areas

The designated storage area for a hazardous substance must be:

- Designed and constructed to provide for the safe containment of the contents,
- Clearly identified by signs, placards or similar means,
- Designed and maintained to allow the safe movement of workers, equipment and material,
- Provided with adequate ventilation and lighting, and
- In an Allen Services & Contracting Ltd. location not normally occupied by workers, and not in a location such as a lunchroom, eating area, change room, clothing storage locker or passenger compartment of a vehicle.
- Allen Services & Contracting Ltd. must ensure that a worker does not eat or drink in a part of a workplace that is, or may be, contaminated by a hazardous substance.
- Material or equipment shall be stored and moved in a manner that does not endanger a worker.
- Material and equipment at a project shall be piled or stacked in a manner that prevents it from tipping, collapsing or rolling.
- No material shall be stored, stacked or piled within 1.8 metres of an opening in a floor or roof, the open edge of a floor, roof or balcony, or an excavation.
- A combustible, corrosive or toxic substance shall be stored in a suitable container.

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## Emergency Washing

The following emergency washing equipment and procedures will apply at all Allen Services & Contracting Ltd. work locations:


- Provide emergency washing facilities at each workplace where hazardous, irritating or corrosive substances are used.
- Make an assessment of the risk of exposure to hazardous, irritating or corrosive substances in the workplace in consultation with the committee at the workplace, the representative at the workplace, or when there is no committee or representative, the workers at the workplace.
- Ensure that a worker who may be required to use emergency washing equipment is trained in the use of the equipment in accordance with the requirements of ANSI Standard Z358.1 04, American National Standard for Emergency Eyewash and Shower Equipment, and the equipment manufacturer's specifications.
- When emergency action is required to correct a condition which constitutes an immediate threat to workers, only those qualified and properly instructed workers necessary to correct the unsafe condition shall be exposed to the hazard and every possible effort shall be made to control the hazard while this is being done.

## Entrances, Exits, Ladders

All Allen Services & Contracting Ltd locations are to:

- Provide and maintain a safe means of entrance to and exit from a place of employment and all worksites and work related areas in or on a place of employment and shall be arranged to allow the safe movement of workers, equipment and materials. Workers must not use another way, if the other way is hazardous.
- Ensure that every door in a hazardous work area opens away from the hazard and is not blocked by an obstruction.
- Hazardous areas not intended to be accessible to workers must be secured by locked doors or equivalent means of security, and must not be entered unless safe work procedures are developed and followed.
- Ensure that no single portable ladder and no section of an extension ladder exceeds nine metres in length.
- Ensure that no wooden ladder or stepladder is painted with any substance other than a transparent coating and no ladder is made by fastening cleats across a single rail or post.
- Ensure that a portable ladder is equipped with non-slip feet and is secured against accidental movement during use.

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- Ensure that a metal or wire bound portable ladder is not used where than ladder or worker handling or using the ladder any come into contact with an exposed energized electrical conductor.
- Ensure a portable ladder must extend at least one metre above any platform, roof or other landing to which the ladder is used as a means of access.
- Ensure that a stepladder is not more than six metres high when set for use, has legs that are securely held in position by means of metal braces or an equivalent rigid support and when in use, and has a front section slope at an angle of one horizontal to six vertical.
- Ensure that an extension ladder is equipped with locks that securely hold the sections of the ladder in the extended position, where a section of an extension ladder is extended, the section that is extended overlaps another section for at least one metre, an extension ladder consisting of two sections does not exceed 14.6 metres in length and an extension ladder consisting of more than two sections does not exceed 20 metres in length.
- Ensure all staff understands that a fixed ladder means a ladder that is fixed to a structure in a vertical position or at an angle that is between vertical and 25 degrees to the vertical. Fixed ladders are subject to local regulatory requirements.

## General Workplace Requirements and Duties

### Inspection


Regular inspections of all buildings, excavations, structures, machinery, equipment and places of employment shall be made by Allen Services & Contracting Ltd. or its representative at intervals that will ensure that far as is reasonably practicable that they are capable of withstanding the stresses likely to be imposed upon them and of safely performing the functions for which they are used and that safe working conditions are maintained and unsafe conditions found in these inspections shall be remedied without delay.

When an unsafe condition is discovered by a person, it shall be reported as soon as practicable to a supervisor who shall ensure that appropriate action is taken, without delay, to prevent a worker being injured.

### Facility Conditions

- All buildings, excavations, structures, machinery, equipment, tools and places of employment shall be maintained in a condition that workers will not be endangered.
- Allen Services & Contracting Ltd. must ensure that the workplace is sanitary and kept as clean as is reasonably practicable.
- Floors, platforms, ramps, stairs and walkways available for use by workers must be maintained in a state of good repair and kept free of slipping and tripping hazards. If such areas are taken out of service Allen Services & Contracting Ltd. must take reasonable means for preventing entry or use.

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- If it would be unsafe or hazardous for a worker to use an area Allen Services & Contracting Ltd. must take reasonable steps to prevent the area from being entered or used and post a conspicuous sign at or near the area clearly indicating that it is not to be used.

### Temperature

When a workplace or work process exposes a worker to conditions that may create a risk to the worker's safety or health because of heat or cold, Allen Services & Contracting Ltd. must implement safe work procedures and control measures to ensure that the threshold limit values for thermal stress established by the ACGIH in its publication, Threshold Limit Value for Chemical Substances and Physical Agents and Biological Indices, are followed and the worker is provided with information, instruction and training in the symptoms of thermal stress and the precautions to be taken to avoid injury from thermal stress. Allen Services & Contracting Ltd. shall also maintain workplace conditions concerning thermal environment which are reasonable and consistent with the nature and degree of the work performed, as established by the ACGIH.

### Lighting

Allen Services & Contracting Ltd. must ensure that a workplace is equipped with sufficient lighting to allow a worker to perform his or her job safely.

### Water

Allen Services & Contracting Ltd. shall provide and maintain, at suitable points, conveniently accessible to all workers an adequate supply of wholesome drinking water from a public main or from some other source approved by the appropriate health authority.

A Allen Services & Contracting Ltd. supervisor or worker shall not enter or remain on the premises of a workplace or at a job site while his or her ability to perform work responsibilities is impaired by intoxicating beverages or another cause so as to endanger his or her own health and safety or that of other workers. See section 5.5, Substance Abuse Program of this safety manual.


### Conduct

A person shall not engage in "horseplay", scuffling unnecessary running or jumping, practical jokes or another similar activity or behaviour that might create or constitute a hazard.

### Grinders

- Guards are required on all types of grinding machines including portable, bench, pedestal and swing-type grinders.
- Abrasive wheels shall be guarded with protective hoods against the likelihood of a ruptured wheel.
- Grinding wheels shall not be operated at speeds in excess of the manufacturer's recommendations. Wheels which are excessively worn or show defects shall not be used.

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Grinding shall not be done on the sides of abrasive wheels unless they are designed for that use.

## Guards and Safeguards

- Allen Services & Contracting Ltd. must provide safeguards if a worker may accidentally, or through the work process, come into contact with moving parts of machinery or equipment, points of machinery or equipment at which material is cut, shaped, or bored, surfaces with temperatures that may cause skin to freeze, burn, or blister, energized electrical cables, debris, material, or objects thrown from machinery or equipment, material being fed into or removed from process machinery or equipment, machinery or equipment that may be hazardous due to its operation, or any other hazard.
- Temperatures of equipment with a temperature that exceeds or may exceed 80 degrees Celsius or a cooled surface that is or may be less than minus 80 degrees Celsius shall be guarded.
- Machines or equipment having exposed moving parts that constitute a hazard to workers shall be equipped with guards which shall provide protection against contact with moving parts, or prevent access to the danger zone during operations.
- The application, design, construction, maintenance and use of safeguards, including an opening in a guard and the reach distance to a hazardous part, must meet the requirements of CSA Standard Z432-94, Safeguarding of Machinery.
- Guards shall be of a fixed or hinged design, constructed, installed and maintained so that they are capable of effectively performing the functions for which they are intended.
- Guards shall be provided where cranks, connecting rods, tail rods and extension piston rods, and other reciprocating parts are exposed to contact by workers.
- Guardrails installed to prevent contact with moving machinery shall be located to provide a clearance of not less than 38.10 centimetres and not more than 50.80 centimetres between the rail and the machinery. The design and construction of guardrails shall be to prevent contact by workers with moving machinery.
- A person must not intentionally remove, impair, or render ineffective any safeguard provided for the protection of workers, except as permitted by local regulatory requirements.
- A hazard assessment must be completed by Allen Services & Contracting Ltd. where there is a potential to encounter moving parts of machinery, points of machinery at which material is cut/shaped/bored, surfaces with temperatures that may cause skin to freeze/burn/blister, energized cables, debris, material or objects thrown from equipment, material being fed into or removed from process equipment or machinery or equipment that may be hazardous.
- Under no circumstances may workers remove a safeguard from a machine that is operating if the safeguard is not designed to be removed when the machine is operating.

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- A fixed guard must not be modified to be readily removable without the use of tools.
- A safeguard that is removed from a machine or made ineffective to permit maintenance, testing, repair or adjustment of a machine is replaced or made effective before a worker is required or permitted to use the machine.
- All safeguards required must remain in place at all times.
- Allen Services & Contracting Ltd. shall place adequate, appropriate and clearly visible warning signs at each point of access to a machine that starts automatically.
- Rotating parts, such as friction drives, shafts, couplings and collars, set screws and bolts, keys and keyways, and projecting shaft ends, exposed to contact by workers must be guarded.
- For Alberta and Northwest Territories Operations:
  - A person must not remove a safeguard from a machine that is operating if the safeguard is not designed to be removed when the machine is operating.
  - A person must not remove a safeguard or make it ineffective unless removing it or making it ineffective is necessary to perform maintenance, tests, repairs, adjustments, or other tasks on equipment.
  - If a worker removes a safeguard or makes it ineffective, the worker must ensure that: alternative protective measures are in place until the safeguard is replaced, the safeguard is replaced immediately after the task is completed, and the safeguard functions properly once replaced.
  - If a safeguard for machinery is removed or made ineffective and the machinery cannot be directly controlled by a worker, the worker who removes the safeguard or makes it ineffective must lock out or lock out and tag the machinery or render it inoperative.

### Hazard Warning – Signage


Signs shall be posted in prominent locations and in sufficient numbers to warn workers of a hazard on a project.

An approved sign shall be securely attached and contain the word “DANGER” written in legible letters that are at least 150 millimeters in height and shall state that entry by any unauthorized person to the area where the hazard exists is forbidden.

An approved sign shall be posted in a secure manner, (a) adjacent to a hoisting area; (b) under a boatswain’s chair, a suspended scaffold or a suspended platform; (c) at the outlet from a chute; (d) at a means of access to a place where there may be a noxious gas, vapour dust or fume, noxious substance or a lack of oxygen; and (e) where there is a potential hazard from an energized overhead electrical conductor at more than 750 volts.

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## Machine Safety

Compressed air shall not be used to clean clothes, machinery, work benches or floors and if the nature of the work demands that compressed air be used, extreme caution shall be exercised and where practical personal protective equipment shall be used.

Compressed air or steam must not be used for blowing dust, chips, or other substances from equipment, materials and structures if any person could be exposed to the jet, or to the material it expels or propels.

Before starting machinery, an operator must ensure that starting the machinery will not endanger the operator or another worker. While operating machinery, an operator must ensure that its operation will not endanger the operator or another worker.

Allen Services & Contracting Ltd. will ensure that any machine or tool in the workplace is capable of safely performing the functions for which it is selected, used, inspected, maintained and operated in accordance with the manufacturer's specifications, Allen Services & Contracting Ltd. safe work procedures for the workplace and local regulatory requirements.

A machine or piece of equipment may only be operated by authorized and competent persons who are informed of any risk associated with and are trained in the safe use of the machine(s).

Operating controls on the equipment shall be immediately accessible to the operator.

A person must not be authorized to operate a machine or piece of equipment until the person has been adequately instructed and trained, and has demonstrated an ability to safely operate it.


Any tool, machine or piece of equipment determined to be unsafe for use must be identified in a manner which will ensure it is not inadvertently returned to service until it is made safe for use.

Modifications are not allowed to machinery.

Before starting a machine, an operator shall ensure that neither the operator nor any other worker will be endangered by starting the machine.

If there is a potential for a worker or a worker's clothing to be contact or snagged or caught between electrically energized equipment, moving parts of a machine or part of the work process Allen Services & Contracting Ltd. shall identify those areas and ensure that the worker wears close-fitting clothing, confines long hair with a hairnet, close fitting cap, close fitting headwear or some other effective means or cuts short any head and facial hair and is not allowed to wear dangling neckwear, wristwatches, rings, jewellery, bracelets or other similar items that may create

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a potential hazard of being snagged or caught. Equipment includes, but is not limited to, lathes, ventilation equipment, power take-offs, engines with belts and chippers.

Where reasonably practicable Allen Services & Contracting Ltd. shall ensure that stopping devices on machines are located in the direct view and within easy reach of the operator and readily identifiable.

No Allen Services & Contracting Ltd. employee shall leave unattended or in a suspended position any machine or any part of a machine unless the machine or part has been immobilized and secured against accidental movement or enclosed by a safeguard to prevent access by any other worker to the machine or part.

If machinery, equipment or a structure is dismantled in whole or in part and subsequently re-assembled, it must be checked by a qualified person and determined to be safe before operation or use. Dismantling is not allowed.

An effective written or other permanent recording system or log of an inspection and maintenance record must be implemented and immediately available to the equipment operator and to any other person involved with inspection and maintenance of the equipment.

Before any equipment, machinery or work process is put into operation the persons responsible for doing so must ensure that safeguards and air contaminant controls required by Allen Services & Contracting Ltd. and local regulatory requirements are in place and functioning. No person will be exposed to undue risk by putting the equipment, machinery or work process into operation.


Machines shall not be located in proximity to thoroughfares, structures or other machines so that they constitute a hazard to workers, unless effective measures are taken to guard against the hazard created.

Restraining devices shall be used on connections of hoses or pipes under pressure when the inadvertent disconnection could cause a reaction dangerous to workers, on equipment under stress where the failure, fall or collapse of the equipment could injure workers, and to secure objects from falling where the falling would endanger workers.

An unsafe tool, machine or piece of equipment must be removed from service and identified in a manner which will ensure it is not inadvertently returned to service until it has been made safe for use.

Allen Services & Contracting Ltd. must ensure that a hand tool or a portable power tool is inspected before use to make certain it is in safe working condition and a defective hand or power tool is removed from service.

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## Openings

When workers are employed around open tanks containing liquids or harmful substances, the sides of the tanks shall be constructed to extend at least 91.44 centimetres above a working platform, or standard guardrails shall be provided to prevent workers from falling into the tank.

Holes or pits in floors, roofs, walkways or work areas accessible to workers shall be securely covered and identified.

Wall openings less than 91.44 centimetres from the floor having a height greater than 76.20 centimetres and a width of 45.72 centimetres or more from which there is a drop of more than 1.22 metres shall be barricaded or covered.

## Rollover Protection Devices

- No person shall use or operate a machine unless it is equipped with a roll-over protective structure and a restraining device.
- No person shall use or operate a machine that is equipped with a restraining device unless the person is wearing the restraining device.
- Every roll over protective structure shall bear a legible label, shall be securely fastened to the frame of the machine, and shall be capable of withstanding all forces to which it is likely to be subjected. The legible label must indicate the name and address of the manufacturer of the roll-over protective structure or, if it is custom built, the name and address of the professional engineer referred, and the make, model, and maximum mass of the machine that the roll-over protective structure is designed to fit.
- Every repair to a roll-over protective structure other than a custom built structure shall be approved by the manufacturer of the structure.

## Substances Under Pressure – Compressed Gases


A tank, cylinder, bottle or other vessel containing a substance under pressure, together with any associated pressure or flow regulator and piping or conveyance system, must be:

- Protected from sparks, flames, excessive heat, physical damage, electrical contact or corrosion, and
- Equipped with suitable pressure relief mechanisms installed so that no worker will be endangered in the event of discharge.

A compressed gas container which requires pressure testing must bear a valid and current indication that it has been pressure tested.

A compressed gas cylinder must not be hoisted by a sling or magnet, dropped, subjected to impact, handled by the regulator or used as a roller or work support. A compressed gas cylinder

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must be secured to prevent falling or rolling during storage, transportation and use, and where practicable, must be kept in the upright position.

A compressed gas cylinder must be marked to indicate its rated pressure and the type of gas it contains.

The valve on a compressed gas cylinder must be kept closed when the cylinder is empty or not in use.

A worker must not stand directly in front of a regulator attached to a compressed gas cylinder when the cylinder valve is being opened.

Any valve, regulator or fitting connected to a compressed gas cylinder must be a standard fitting, designed and manufactured for the type of cylinder and compressed gas for which it will be used, and must include provisions for flashback arresters where necessary.

Unless a compressed gas cylinder is equipped with an integral valve guard, the valve cover must be in position when the cylinder is not connected for use.


Only standard fittings designed for the specific compressed gas service may be used with a compressed gas system.

An empty compressed gas cylinder must be identified as being empty and must be stored separately from other compressed gas cylinders.

Oxygen gas must not be used in any circumstance where it can contact a substance that oxidizes readily, such as a petroleum product, natural fibre or metal powder. Oxygen gas must not be used to:

- Operate a pneumatic tool,
- Start an internal combustion engine,
- Clean equipment or clothing,
- Create pressure in a container, or
- Ventilate a workplace.

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## A9.1.0 WHMIS POLICY

### Purpose


It is the policy of Allen Services & Contracting Ltd. that special precautions are taken when manufacturing, using, handling, storing and disposing of controlled products. General and specific training is required for those employees who work with or in close proximity to controlled products.

Allen Services & Contracting Ltd. will ensure that a worker who works with or in proximity to a controlled product received from a supplier has access to all hazard information received from the supplier concerning that controlled product as well as any further hazard information of which Allen Services & Contracting Ltd. is aware or ought to be aware concerning the use, storage and handling of that product.

Fulfilling the requirement for controlled products as defined in the Workplace Hazardous Materials Information System (WHMIS) regulations will ensure that all potential hazards associated with the use, handling, storage, manufacturing and disposal of controlled products are identified, eliminated or minimized.

Brian McCarthy, General Manager	Date

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### A9.1.1 WHMIS Program


This program applies to all Allen Services & Contracting Ltd. employees who may be exposed to controlled products. When work is performed on a non-owned or operated site, the client's program shall take precedence, however, this document covers Allen Services & Contracting Ltd. employees and subcontractors and shall be used on owned premises, or when a client's program doesn't exist or is less stringent.

Allen Services & Contracting Ltd. must ensure that a controlled product is used, stored and handled at a work site in accordance with local provincial or territorial regulations such as Alberta's Part 29 of the OHS Code and Northwest Territories Regulations, Part 324 (1).

#### Definitions

- |                     |   |
|---------------------|---|
| Hazardous Materials | <ul style="list-style-type: none"> <li>• Can harm people, plants, animals and the environment.</li> <li>• Long term exposure, even small quantities, may be harmful or cause permanent damage.</li> <li>• Immediate exposure may cause acute symptoms.</li> </ul>   |
| Controlled Products | <ul style="list-style-type: none"> <li>• Any product, material or substance that is included in any of the six WHMIS classes: <ul style="list-style-type: none"> <li>○ Compressed gas; Flammable and Combustible Material; Oxidizing Material</li> <li>○ Poisonous and Infectious Material; Corrosive Material; Dangerously Reactive Chemicals.</li> </ul> </li> </ul>  |
| Routes of Entry     | <ul style="list-style-type: none"> <li>• Toxic effects of the controlled product depend on how you come into contact with the hazardous material, which may enter the body through: <ul style="list-style-type: none"> <li>○ inhalation – breathing in dust particles, fumes, mists or vapours can irritate or burn air passages, e.g. formaldehyde</li> <li>○ ingestion – eating, drinking, or smoking while handling controlled products</li> <li>○ eye or skin absorption – splashes or spills can cause dermatitis, inflammation, or irritation of the skin.</li> </ul> </li> </ul> |

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- Degree of Hazard
  - The amount or degree of hazard is determined by:
    1. Toxicity of a substance
    2. Dosage
    3. Duration of exposure.
  
- Acute Poisoning
  - Hazardous products can cause immediate harm e.g. H<sub>2</sub>S.
  
- Chronic Poisoning
  - May take hours, days, years, or even decades before you are aware of the damage that has been done, as some hazardous products slowly cause irreversible damage e.g. asbestos.
  
- Consumer Products
  - Products purchased in a store for personal care or household use, not for use in the workplace. Even though it may be the same product, the intent is only to regulate controlled products in the workplace, not the home.

### Responsibilities


Allen Services & Contracting Ltd., in consultation with the joint committee or employee health and safety representative, as applicable, will establish and maintain an effective WHMIS program at each work site, as part of the overall workplace health and safety program, which addresses applicable WHMIS requirements including education and training, and is reviewed at least annually, or more frequently if required by a change in work conditions or available hazard information.

### Managers

It is the responsibility of each manager to ensure WHMIS requirements are met in all locations under his or her authority, which includes:

- Labelling of all containers.
- Educating employees on WHMIS
- Providing personal protective equipment (PPE) and monitoring use.
- Ensuring Safety Data Sheets (SDS) for all controlled products are current and available to employees.
- Maintaining an updated Controlled Product Inventory.
- Providing the designated Supervisor/Shop Foreman with a copy of the current Controlled Product Inventory List.

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## Employees

- To reduce the risk of a controlled product exposure employees are expected to comply with WHMIS legislation and this program and therefore be familiar with labelling and safety data sheets (SDS) of controlled products used in the workplace.
- Employees shall follow all label and SDS requirements.
- Employees will immediately report any concerns regarding the WHMIS program to their supervisor.

## Procedure


- No WHMIS controlled products or materials will be allowed to be used unless there is a valid Safety Data Sheet available on-site and there is a supplier or workplace label on the container for any controlled product that is produced, manufactured or used at an Allen Services & Contracting Ltd. work site.
- Allen Services & Contracting Ltd. will ensure the SDS is obtained from the supplier when receiving a controlled product on each job site.
- Allen Services & Contracting Ltd. will ensure that SDS are filed at the work site where they will be readily accessible to employees.
- When a supplier SDS obtained for a controlled product is 3 years old, Allen Services & Contracting Ltd. must, if possible, obtain from the supplier an up-to-date supplier SDS for the controlled product if any of the product remains in the workplace.
- Allen Services & Contracting Ltd. will ensure that SDS are available and posted near the work site where controlled products are used.
- Managers will ensure that employees are notified if a controlled product is to be used in an open area or where fumes may migrate.
- A Controlled Product Inventory List and Safety Data Sheets shall be kept at a main location and will be made available to employees for review.
- If any controlled product is a hazardous waste generated at the work site, that is intended for disposal or is sold for recycling or recovery Allen Services & Contracting Ltd. will ensure the safe storage and handling of the hazardous waste generated at a worksite through a combination of identification of the hazardous waste and employee involvement and training on the safe handling of the hazardous waste.

## Controlled Product Inventory List

- Allen Services & Contracting Ltd. maintains a listing of all controlled products used at, or by each facility.
- This controlled product inventory list is updated as necessary and at least annually by the site WHMIS Coordinator or their designee.
- The facility controlled product inventory list must be available for review upon request.

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### Storage of Harmful Substances

All containers, used or handled at a workplace, which by reason of toxicity, flammability or reactivity create risk to the health or safety of employees shall be contained, so far as is reasonably practicable in a suitable container which is clearly labelled to identify the substance, the hazards associated with its use or handling, the workplace uses for which it is intended, and protective measures to be taken by employees before, during and after its use.

Allen Services & Contracting Ltd. will ensure that residue or waste from the substance or materials used for cleaning or wiping it is placed into suitably labelled containers for safe disposal.

Harmful substances are to be stored in a self contained enclosure, room or building that is isolated from work-related areas and worksites and is adequately ventilated and protected from conditions, including excessive temperature, shock or vibration that could reduce the stability or increase the potential hazard of the substance.

### Prohibition

Allen Services & Contracting Ltd. shall ensure that a controlled product is not used, stored or handled in a workplace unless all of the applicable local regulatory requirements in respect of labels, identifiers, safety data sheets and employee education are complied with. Allen Services & Contracting Ltd. may store a controlled product in a workplace while actively seeking information required by these regulations

### Safety Data Sheets


When Allen Services & Contracting Ltd. acquires a controlled product for use at a work site it must obtain a supplier safety data sheet for that controlled product. Allen Services & Contracting Ltd. must ensure that the safety data sheet is readily available during all shifts at a work site to workers who may be exposed to a controlled product.

Safety Data Sheets are filed alphabetically, by material classification, in the SDS Book. A Controlled Product Inventory List is provided in the front of the SDS Book, listing all SDS's contained therein. This inventory serves as the index of the SDS Book. The SDS Book is displayed in a prominent location in the shop where it is accessible to all employees.

A copy of a SDS request form is located in the first section of the SDS Book. An employee may use a copy of this form to request an SDS or he may ask the manager for one. In either case the requested SDS must be given to the employee within 24 hours.

SDSs must be obtained for each required controlled product from the controlled product manufacturer, supplier or vendor. The purchasing of any potentially controlled product products from any supplier that does not provide an appropriate Safety Data Sheet in a timely fashion is prohibited.

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

Electronic access (telephone, fax, internet, etc.) may be used to acquire and maintain SDS libraries and archives.

The Controlled Product Inventory List is maintained in a computer file folder in each location. The manager is responsible for seeing that the inventory is maintained, is current and is complete. He or she will review the inventory and the SDS Book at least annually. He will sign and date the Review and Update section at the front of the SDS Book when he completes his review. When a hazardous material has been permanently removed from the work place, its SDS is to be removed from the SDS Book and the Controlled Product Inventory List. A file copy is to be maintained in a "dead file".

SDS's for hazardous materials to which Allen Services & Contracting Ltd. employees have been exposed must be maintained after the employee leaves the employment of Allen Services & Contracting Ltd. Before any non-routine task is performed, employees will be advised of special precautions. In the unlikely event that such tasks are required, the manager will provide SDS for involved controlled product.

The joint health and safety committee, the employee health and safety representative, and the workplace health and safety designate have the right to request SDS on any controlled product and it must be provided without any issues as well as any further hazard information of which Allen Services & Contracting Ltd. is aware or ought to be aware concerning the use, storage and handling of that product.


### **Labels, Labelling and Warnings**

Allen Services & Contracting Ltd. will ensure that all controlled products or its container at a work site are properly labelled with either a supplier or work site label on it in accordance with legislative requirements.

Damaged labels on incoming containers of controlled products shall not be removed. Damaged labels or labels with incomplete information shall be reported immediately. Allen Services & Contracting Ltd. must not remove, deface, modify or alter the supplier label as long as any amount of a controlled product remains in the container in which it was received from the supplier.

If a label applied to a controlled product or a container of a controlled product becomes illegible or is removed, Allen Services & Contracting Ltd. shall replace the label with either a supplier label or a workplace label.

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If Allen Services & Contracting Ltd. produces a controlled product in a workplace it shall ensure that the controlled product or the container of the controlled product has a workplace label.

Employees who are unsure of the contents of any container, vessel or piping must contact their supervisor for information regarding the substance including:

- The name of the substance
- The hazards related to the substance
- The safety precautions required for working with the substance.

Labels, tags or markings on containers shall list as a minimum:


- Words, pictures, symbols or combinations thereof may be used.
- The trade name of the product as listed on the Safety Data Sheet.
- Appropriate hazard warnings to help employees protect themselves from the hazards of the substance.
- Labels provided by controlled product manufacturers, distributors, and importers must also list the name and address of the manufacturer, importer, or vendor responsible for the controlled product, and from whom more information about the controlled product can be obtained.

All containers must be labelled. When an employee transfers or decants the contents of one container to another, other than the container in which it was received from a supplier, Allen Services & Contracting Ltd. must ensure a work site label is placed onto the new container with all required information. This information can be obtained from the labelling of the original container or from the material's SDS. Any container of a potentially hazardous material that will not be emptied during one shift must be labelled, without exception.

Required labels and decanted products required labels do not apply to a controlled product at a work site if the controlled 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.

Personnel in the Shipping and Receiving Departments are responsible for proper labelling of all containers shipped by Allen Services & Contracting Ltd. and for the inspection of all incoming materials to ensure correct labelling. Controlled products received from vendors that are not properly labelled must be rejected.

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## Training


All Allen Services & Contracting Ltd. employees must take WHMIS training. Each will become competent with Allen Services & Contracting Ltd. and local regulatory requirements before working with or near or who performs work involving the manufacture of controlled products.

Allen Services & Contracting Ltd. shall review at least annually or more frequently if required by a change in work conditions or available hazard information, and in consultation with the joint health and safety committee, the employee health and safety representative or the workplace health and safety designate, the instruction and training provided to employees concerning controlled products. The documented training shall, as a minimum, include:

- Requirements and rights of the employee as contained in the WHMIS Regulation.
- Operations and work areas where controlled products are present.
- Location of the written WHMIS Program, and the Controlled Product Inventory List.
- How to access SDS's or SDS information.
- How to read labels and Safety Data Sheets for pertinent hazard information.
- Content required on supplier labels, work site label and the purpose and significance of the information on the label.
- Content required to be on a SDS and the purpose and significance of the information on the SDS.
- Procedures for safely storing, using and handling the controlled product.
- How to determine the presence or release of a hazardous substance or fugitive emissions when working with a controlled product.
- Physical and health effects of over exposure to hazardous substances in the workplace and how to work safely with the controlled product.
- How personnel can protect themselves or prevent exposure to hazardous substances, through the use of protective equipment, proper work practices and engineering or environmental controls.
- The proactive steps Allen Services & Contracting Ltd. has taken to prevent exposure to hazardous substances and non-routine tasks.
- Emergency procedures involving a controlled product and emergency first aid procedures to follow for exposure or harm caused by hazardous substances.

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

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

When an outside contractor, such as a pest control employee or a carpenter enters an Allen Services & Contracting Ltd. site to perform a service for the company, he must first present SDS's for any and all controlled products he will use. These SDS's will be treated as above with the same training requirements. The manager will be responsible for contacting each contractor before work is started to gather and disseminate any information concerning controlled product hazards the contractor is bringing into the work place.


### Multi-Employer Job Sites/Multi-Work Site

Where employees must travel between work places during a work shift, the written WHMIS Program shall be kept at a primary job site. If there is no primary job site, then the program shall be sent with employees.

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

- During this pre-job briefing, contractors shall notify Allen Services & Contracting Ltd. and present current copies of Safety Data Sheets for every hazardous substance brought on-site.
- Allen Services & Contracting Ltd. shall notify and provide SDS's for all hazardous materials the contractor may encounter on the job.
- The facilities labelling system and any precautionary measures to be taken by contractor during normal conditions and emergencies shall be addressed.
- In this regard, other employers working on Allen Services & Contracting Ltd. property or for Allen Services & Contracting Ltd. on client's property remain fully responsible for developing and implementing their own compliant WHMIS program.

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## WHMIS 2015 Pictograms

**WHMIS Pictograms**  
Workplace Hazardous Materials Information System  
**2015**

**Flame**  
Flammable  
Self-Reaction  
Pyrophoric  
Self-Heating  
In-Contact with Water,  
Emits Flammable Gases  
Organic Peroxide

**Flame over Circle**  
Oxidizer

**Exploding Bomb**  
Explosive\*  
Self-Reactive (Liquid)  
Organic Peroxide (Solid)

**Gas Cylinder**  
Gas Under Pressure

**Corrosion**  
Serious Eye Damage  
Skin Corrosion  
Corrosive to Metals

**Exclamation Mark**  
Irritation (non-specific)  
Skin Sensitization  
Acute Toxicity (Hazard)  
Specific Target Organ  
Toxicity  
(Hazardous to Aquatic Life)  
Hazardous to the  
Ozone Layer\*

**Environment**  
Aquatic Toxicity\*

**Skull and Crossbones**  
Acute Toxicity  
(Fatal or Toxic)


**Biohazard**  
Biohazardous Infectious  
Materials

**Health Hazard**  
Carcinogenicity  
Respiratory Sensitization  
Reproductive Toxicity  
Target Organ Toxicity  
Germ Cell Mutagenicity  
Aspiration Hazard

**A GHS pictogram appropriate for the hazard:**  
Physical Hazards Not Otherwise Classified  
Health Hazards Not Otherwise Classified

\*WHMIS 2015 pictogram is assigned to some hazard classes in GHS, Occupational Toxicity Hazard, Acute Toxicity, and some low level hazard categories.  
\*Not assigned to WHMIS 2015 pictogram

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<b>JOINT HEALTH &amp; SAFETY COMMITTEE</b>			Initial Issue Date:	Jan. 2017
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## A10.1 JOINT HEALTH & SAFETY COMMITTEE (JH&SC)

### Purpose

- To create a standardized approach in the establishment of Joint Health & Safety Committees (JH&SC).
- To ensure the effectiveness of the JH&SC.
- To reduce the frequency and severity of incidents through the successful operation of JH&SC.
- To comply with applicable legislation across Canada.
- To create standardized reporting and communication for JH&SC.

This procedure applies to all operations under the auspices of Allen Services & Contracting Ltd.

### Key Responsibilities


#### Site Supervisors

- The Site Supervisor shall ensure that the names and work locations of the JH&SC Members are posted in a prominent location within any satellite work location.
- The Site Supervisor shall ensure that the minutes are circulated to all committee members and submitted to senior management within one calendar week of the Committee Meeting.
- Ensure time and facilities are available for the JH&SC to function successfully

#### Functions of the Committee

- To identify situations that may be unhealthy or unsafe for workers and advise on effective systems for responding to those situations;
- To consider and expeditiously address complaints relating to the health and safety of workers;
- To consult with workers and Allen Services & Contracting Ltd. on issues related to occupational health and safety and work environment;
- To make recommendations to Allen Services & Contracting Ltd. and the workers for the improvement of the occupational health and safety and work environment of workers;
- To make recommendations to Allen Services & Contracting Ltd. on educational programs promoting the health and safety of workers.
- To advise Allen Services & Contracting Ltd. on programs and policies required under the regulations for the workplace and to monitor their effectiveness;
- To advise Allen Services & Contracting Ltd. on proposed changes to the workplace or the work processes that may affect the health and safety of workers;

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- To ensure that accident investigations and regular inspections are carried out as required by the regulations;
- To participate in inspections, investigations and inquiries as prescribed by the legislation;
- To carry out any other duties and functions prescribed by regulations.
- To advise in the development and revision to site emergency response plan.

### Structure of the Committee

As Allen Services & Contracting Ltd. does or may perform work in different jurisdictions the JH&SC (referred to hereafter as “the Committee”) shall consist of members in accordance with the table on the next page which indicates when they are necessary the size and representation. The structure will be revised when legislation requirements are changed.

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Legislation Requirements for Health and Safety Committees			
	When do I need one?	Size of Committee	Representation
British Columbia	Mandatory - When there are 20 or more employees or when required by order	Not less than 4	At least one half must be worker representatives
Alberta	As directed by the Minister	At least 2 and not more than 12	At least two employees and one employer or at least half employees
Saskatchewan	Mandatory - when 10 or more employees	At least 2 and not more than 12	At least half to represent employees
Manitoba	Mandatory - 20 or more employees as directed by the Minister	At least 2 and not more than 12	At least half to represent employees
Ontario	Mandatory - 20 or more employees or when required by Minister, or where a dangerous substance is in use (no maximum number of employees)	At least 2 (not less than 2 employees); At least 4 (100 or more employees)	At least half to represent employees
Quebec	20 or more employees with others required by CSST	At least 4	At least half to represent employees
New Brunswick	Mandatory - 20 or more employees	As agreed upon by employees and employer	Equal Representation
New Scotia	Mandatory - 20 or more employees	As agreed upon by employees and employer	At least half to represent employees
Prince Edward Island	Mandatory - 20 or more employees	As agreed upon by employees and employer	At least half to represent employees
Newfoundland	Discretionary - 10 or more employees	At least 2 and not more than 12	At least half to represent employees
Yukon	Mandatory - 20 or more employees	At least 4 and not more than 12	At least half to represent employees
Northwest Territories	As directed by Chief Safety Officer	Not Specified	Equal Representation

Source: Canadian Centre for Occupational Health & Safety

Allen Services & Contracting Ltd. will ensure that an occupational health and safety committee is established, a worker health and safety representative is appointed, or a workplace health and safety designate is designated under local provincial, territorial or federal law.

Allen Services & Contracting Ltd. shall in designating the members select persons to represent Allen Services & Contracting Ltd. on the committee and ensure that there are a sufficient number of members representing workers on the committee to equitably represent groups of workers who have substantially different occupational health and safety concerns.

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### **Workplace Inspections**

The Committee members who represent workers shall designate one of the members representing the workers to inspect the physical condition of the workplace(s) at least monthly.

The Committee members who represent management will designate the members representing management to inspect the physical condition of the workplace at least monthly.

The two designated members will jointly co-ordinate a physical inspection of the workplace.

All occupational health and safety concerns raised during the monthly physical inspection will be recorded, dated and signed by the Committee Members performing the inspection.

A representative of Allen Services & Contracting Ltd. and the workers of the JH&SC, the worker health and safety representative, or the workplace health and safety designate, except where the workplace health and safety designate is the employer, have the right to accompany an officer of the local regulatory agency when the health and safety inspections are being conducted.

The completed workplace inspection will become a part of the Committee minutes for the month.

### **Injuries and Incidents**

A worker member of the Committee will investigate cases where a job related incident resulted in injury to a worker which required medical attention. This involves both lost time and no lost time claims.

The worker member of the Committee will use the Health & Safety Prevention Questions document to record their findings.

All serious incidents will be investigated by a worker member of the Committee using the Critical Injury Submission Report and other as-needed documents.


All serious and/or potential serious incidents are to be reported immediately to the Allen Services & Contracting Ltd. Safety Department.

For serious and/or potential serious incidents, the investigation will commence immediately.

Investigations will be completed and reported as required within a 24 hour period of the serious and/or potential serious incident occurring.

Worker Members of the Committee who are required to complete an accident investigation outside of their normal work hours will be compensated accordingly.

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Following an investigation and without undue delay, the work site's management team must, in consultation with the Committee, undertake any corrective action required to prevent recurrence of similar incidents.

### **JH&SC Meeting Format**

The Committee shall hold its first meeting within two weeks after being established then no less than every month as agreed upon by the Committee. This is a Allen Services & Contracting Ltd. standard. At the first meeting members of the committee representing workers shall elect a worker Co-Chairperson from among their number and Allen Services & Contracting Ltd. shall appoint a Co-Chairperson from the members of the committee representing Allen Services & Contracting Ltd.

The committee must in its rules:

- Provide for regular meetings of the committee, and the day, time and place of the meetings;
- The procedure to be followed and the type and amount of notice to be given to change the day, time or place of a regular meeting of the committee; and
- Rules respecting the conduct of committee meetings.

A quorum consists of one half of the members of a committee where representatives of both employers and workers are present and at least one half of the members present represent workers.

Any business of a committee that is transacted where a quorum is not present is not a valid meeting of the committee.


Members of a committee hold office until a successor is designated and may be re-designated for a second or subsequent term.

A representative may call a special meeting with Allen Services & Contracting Ltd. to deal with urgent concerns, imminent dangers to health or safety or investigations of accidents or dangerous occurrences.

Committee Meetings will not be cancelled or postponed without joint consent of the Co-Chairpersons.

- The Co-chairpersons will jointly prepare all information necessary for all Committee members.
- One Co-Chairperson must be present to chair the meeting.
- The Co-Chairpersons shall alternate the Chair at each meeting.

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### Committee Meeting Documentation

The Committee shall record minutes of each regular and special meeting in a format acceptable, provided or required by local regulatory requirements and keep the minutes on file with the committee. It shall also send a copy of the minutes to the any required regulatory agency within the prescribed time frame after the date of the meeting and post a copy of the minutes at a location that is readily accessible to workers at the place of employment until all concerns recorded in the minutes are resolved.

The minutes shall be signed by the Co-Chairpersons.

The Committee shall make the proceedings and records available for examination and review by locally required agencies or inspectors.

Allen Services & Contracting Ltd. shall provide a bulletin board in a prominent place in the workplace that is readily accessible to workers for the exclusive use of committee members, the safety representative, or both, in connection with safety and health matters. All records shall be made and kept at the workplace for a period of at least 10 years from the date of the meeting and a copy of the minutes prepared is given to Allen Services & Contracting Ltd. If Allen Services & Contracting Ltd. receives written recommendations from a committee it shall respond in writing within twenty-one days.

Copies of all health and safety inspection reports made by a governmental agency, which in the opinion of the agency warrant circulation, shall be circulated to Allen Services & Contracting Ltd. and the JH&SC, the worker health and safety representative, or the workplace health and safety designate.


Reports not previously circulated but subsequently requested by Allen Services & Contracting Ltd., the JH&SC, the worker health and safety representative or the workplace health and safety designate shall be provided.

### Decisions and Resolutions

Any and all items that are not resolved at the time of the meeting will be documented in the Meeting Minutes.

Unresolved items will be placed on the Committee minute agenda for the next meeting. If a Committee is unable to reach agreement on a matter relating to the health and safety of workers, one and/or both of the Co-Chairpersons of the Committee may report the unresolved issue to Allen Services & Contracting Ltd.'s Safety Department. Allen Services & Contracting Ltd.'s Safety Department may investigate the matter further as a means of providing resolution to the matter.

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Any item outstanding for a period exceeding three calendar months must be referred to Allen Services & Contracting Ltd.'s Safety Department. Medical or trade secret information will be kept confidential by all of the Committee Members. A committee member and a representative must not disclose a worker's personal health information unless the disclosure is required or permitted by law.

### Training

Allen Services & Contracting Ltd. is required to carry out the training programs necessary to enable a Committee member to become a certified member, which must be selected in accordance with the policies and guidelines of the local regulatory requirements.

Where a representative is designated Allen Services & Contracting Ltd. shall ensure that the representative receives training respecting the duties and functions of a representative and the co-chairpersons of the committee receive training respecting the duties and functions of a committee.


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Jurisdiction	Health and Safety Committee Training Requirements	Reference
British Columbia	"Each member of a joint committee is entitled to an annual educational leave totaling 8 hours, or a longer period if prescribed by regulation, for the purposes of attending occupational health and safety training courses conducted by or with the approval of the Board."	Workers Compensation Act (R.S.O. c. 1295, s. 492) Section 133 (1)
Alberta	"Establish and maintain educational programs regarding the health and safety of workers at or on the workplace and carry out those duties and functions provided for by the adopted code."	Occupational Health and Safety Act (R.S.A. 2000, c. 2-2) Section 31.40 (c), (d)
Saskatchewan	"... an employer shall ensure that the representative receives training necessary to the duties and functions of a representative." "... an employer or contractor shall ensure that the co-chairpersons of the committee receive training respecting the duties and functions of a committee"	Occupational Health and Safety Regulations, 1996 (R.S.S. c. 2-1, s. 21) Section 46 (1, 2)
Manitoba	"Every employer... shall allow each member of the committee, the safety and health representative or their respective designates, to take educational leave each year for the number of hours the worker normally works during own normal working time."	Workplace Safety and Health Act (S.S.M. 1987, c. W210) Section 46 (1)
Ontario	"Unless otherwise prescribed, a contractor or employer shall ensure that at least one member of the committee representing the contractor or employer and at least one member representing workers are certified members."	Occupational Health and Safety Act (R.S.O. 1990, c. O.1) Section 9 (2.2)
Quebec	"to participate in training programmes of such content and duration as are approved by the Commission. Registration, travel and accommodation expenses are borne by the Commission, in accordance with the regulations"	Act respecting occupational health and safety (R.S.Q., c. S-2.1) Section 9L
New Brunswick	"The employer at a place of employment, in consultation with members of the committee at the place of employment, shall grant to the committee members the necessary leave to be trained in the duties and responsibilities of a committee member."	Occupational Health and Safety Act (N.B. 1993, c. O-2) Section 14 (11)
New Scotia	"An employee who is a member of a committee is entitled to such time off from work as is necessary to attend meetings of the committee, to take any training prescribed by the regulations and to carry out the employee's functions as a member of the committee, and such time off is deemed to be working time for which the employee shall be paid by the employer at the applicable rate."	Occupational Health and Safety Act (S.N.S. 1996, c. T) Section 30 (6)
Prince Edward Island	"A worker who is a member of a committee is entitled to use the necessary time off from work to attend meetings of the committee, to take training prescribed by the regulations and to carry out the worker's functions as a member of the committee"	Occupational Health and Safety Act (S.P.I. 1004, c.42) Section 25 (10)
Newfoundland and Labrador	"Where 50 or more workers are employed at a workplace, the employer shall provide and pay for training for the members of the occupational health and safety committee at the workplace."	Occupational Health and Safety Act (R.S.N.L. 1990, c. O-3) Section 38.1 (1, 2)
Yukon	"Where 10 to 49 workers are employed at a workplace, the employer shall provide and pay for training for the chairpersons of the occupational health and safety committee at the workplace."	Occupational Health and Safety Act (R.S.Y. 2002, c. 109) Section 14
Northwest Territories	"The employee shall attend joint health and safety committee on-chain and health and safety representative on-chain functions and make within 30 days of their selection and shall permit them to participate in a training course offered or designed by the Director as soon as such a course is available to them after their selection. Time spent by the employees in the orientation and the course shall be deemed to be regular working hours."	Safety Act (R.S.N.W.T. 1998, c. S-1) Section 21 (2)
Nunavut	"The Board (Workers' Compensation Board) may: (a) develop and promote safety education programs..." "The Board (Workers' Compensation Board) may: (a) develop and promote safety education programs..."	Safety Act (R.S.N.W.T. 1998, c. S-1) Section 21 (a, b)

Source: Canadian Council for Occupational Health & Safety

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## A11.1 NOISE EXPOSURE/HEARING CONSERVATION PROGRAM

### Purpose

The purpose of this program is to provide a process to minimize employee-hearing loss caused by excessive occupational exposure to noise.

Allen Services & contracting Ltd. operates in the province of Alberta and the Northwest Territories. Noise exposure limits in the Northwest Territories are slightly lower than in Alberta, therefore this program is based on the Northwest Territories higher requirements and applies to all Allen Services & Contracting Ltd. work sites.

Where an employee's occupational noise exposure equals or exceeds 80dBA Allen Services & Contracting Ltd. shall inform employees of the hazards of occupational noise exposure and take all reasonably practicable steps to reduce noise levels in all areas where the employee may be present, required or permitted to work and will minimize the employees' occupational noise exposure to the extent that is reasonably practicable and document the steps taken.

This program is applicable to all employees who may be present or exposed in areas to noise in excess of 80 decibels. When work is performed on a non-owned or operated site, the client's program shall take precedence and shall be abided by. However, this document covers Allen Services & Contracting Ltd. employees and subcontractors and shall be used on owned premises, or when a client's program doesn't exist or is less stringent. If Allen Services & Contracting Ltd. has no control over the noise source at a client's location, we will abide by the client's signage and instructions.

### Key Responsibilities

#### Managers and Supervisors


- Ensure requirements of this program are established and maintained.
- Ensure employees are trained and comply with the requirements of this program.

#### Employees

- Wear hearing protection when required, attend the training, and cooperate with testing and sampling.

If a noise exposure assessment confirm that employees are exposed to excessive noise at a work site Allen Services & Contracting Ltd. shall have a written procedure to develop and implement a written noise management program that includes policies and procedures.

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### Noise Management and Hearing Conservation

If workers are exposed to excess noise Allen Services & Contracting Ltd. shall develop and implement a noise management program that includes policies and procedures. Allen Services & Contracting Ltd. must ensure that the noise management program includes the following:

- a plan to educate workers in the hazards of exposure to excess noise and to train workers in the correct use of control measures and hearing protection;
- the methods and procedures to be used when measuring or monitoring worker exposure to noise;
- the posting of suitable warning signs in any work area where the noise level exceeds 80 dBA;
- the methods of noise control to be used;
- the selection, use and maintenance of hearing protection devices to be worn by workers;
- the requirements for audiometric testing and the maintenance of test records;
- an annual review of the policies and procedures to address the effectiveness of the education and training plan, the need for further noise measurement, and the adequacy of noise control measures.

Allen Services & Contracting Ltd. shall offer hearing protection to all employees exposed to potential high noise levels in working areas and to those employees requesting hearing protection.

### Requirements

Allen Services & Contracting Ltd. shall implement a hearing conservation plan developed and appoint a Supervisor to oversee the plan.


All employees, who work in areas where the exposure to noise levels are 80 decibels Lex or greater, must wear hearing protection.

Allen Services & Contracting Ltd. will ensure that an employee is not exposed to noise levels above either 80 dBA Lex daily noise exposure level or 140 dBC peak sound level. If it is not practicable to reduce noise levels to or below noise exposure limits Allen Services & Contracting Ltd. shall reduce noise exposure to the lowest level practicable and post warning signs in the noise hazard areas. Criteria for permissible noise shall be as established by the ACGIH.

Where a workers occupational noise exposure equals or exceeds 80dBA, Allen Services & Contracting Ltd. shall inform the worker of the hazards of occupational noise exposure, take all reasonably practicable steps to reduce noise levels in all areas where the worker may be required or permitted to work, minimize the workers' occupational noise exposure to the extent that is reasonably practicable and document the steps taken.

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In Alberta the exposure to noise shall not exceed the noise exposure limits in Schedule 3, Table 1 of the Alberta OHS Code and 85 dBA Lex.

### Conditions and Engineering Controls

When employees are required to work in areas in which noise levels exceed the criteria for permissible noise exposure Allen Services & Contracting Ltd. shall first take appropriate measures to reduce the noise intensity to approved levels.

Where practicable Allen Services & Contracting Ltd. shall ensure that a hearing protector provided reduces the noise level received into the worker ears to not more than 80dBA. Where it is not practicable to comply and the employer or contractor shall ensure that a hearing protector provided reduces the noise level received into the workers ears to the lowest level that is practicable.


Allen Services & Contracting Ltd. shall ensure that all reasonably practicable means are used to reduce noise levels in all areas were workers may be required or permitted to work.

Allen Services & Contracting Ltd. shall ensure that all new places of employment are designed and constructed so as to achieve the lowest reasonably practicable noise level, any alteration, renovation or repair to an existing place of employment is made so as to achieve the lowest reasonably practicable noise level, and all new equipment to be used at a place of employment is designed and constructed so as to achieve the lowest reasonably practicable noise level.

The following is a sample list of conditions encountered that require protection for sound levels. Each work site has other conditions based on equipment and work scope:

- Band Saw 104 dBA 26 6 minutes
- Blower 99 dBA 21 19 minutes
- Concrete Saw 112 dBA 34 1 minute
- Chain Saw 110 dBA 32 1 ½ minutes
- Compressed Air 92 dBA 14 1 hr. 35 minutes
- Fire Alarms 95 dBA 17 48 minutes
- Front End Loader 95 dBA 17 48 minutes
- Mitre Saw 109 dBA 31 2 minutes
- Pneumatic Staking 103 dBA 25 7 ½ minutes
- Pressure Washer 100 dBA 22 15 minutes
- Radial Arm Saw 103 dBA 25 7 ½ minutes
- Sprayer, 1,000 gal. 101 dBA 23 12 minutes
- Tables Saw 93 dBA 15 1 hr. 16 minutes
- Wet/Dry Vac 94 dBA 16 1 hour

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### Noise Assessment

If an employee is or may be exposed to potentially harmful levels of noise, or if information indicates that an employee may be exposed to a level exceeding 82 dBA Lex, Allen Services & Contracting Ltd. must measure the noise exposure. **Note:** Allen Services & Contracting Ltd. will utilize a higher standard and surveys will be conducted in accordance with CAN/CSA Standard Z107.56 06 - Measurement of Occupational Exposure to Noise and prepare and post in a conspicuous place in the workplace a written report of the assessment for every area where employees are required or permitted to work and the noise level may be in excess of 80 dBA.

In every area where workers are required or permitted to work and the noise level may frequently exceed 80dBA, Allen Services & Contracting Ltd. shall ensure that the noise level is measured in accordance with an approved method. A competent person must evaluate the sources of the noise and recommend corrective actions. The measurements, evaluation and recommendations are to be documented.

Allen Services & Contracting Ltd. shall notify each employee of their monitoring results and the significance of the measurement to risk of hearing loss and if their job is exposed to noise 85 decibels Lex or greater.


Where 10 or more worker's occupational noise exposure exceeds or is believed to exceed 85dBA Allen Services & Contracting Ltd. shall develop a hearing conservation plan and review where necessary revise the hearing conservation plan every three years, unless required earlier.

To evaluate noise exposure in terms of possible hearing damage, it is necessary to know the overall sound level, the exposure time of the individual in hours per day and the length of time the individual has worked in the area being surveyed. This data shall be supplemented by the following:

- Name of area and location
- Date and time of survey
- Name of person conducting survey
- Description of instrument used, model and serial number
- Environmental conditions
- Description of people exposed

A plot of noise levels must be made for owned facilities. The plot must be filed or posted at the facility. Allen Services & Contracting Ltd. shall evaluate hearing protector attenuation for the specific noise environments. The adequacy of hearing PPE shall be re-evaluated whenever noise exposures increase to the point that the PPE provided may no longer provide adequate protection. Allen Services & Contracting Ltd. shall then provide more effective PPE where necessary.

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All sound measuring equipment must be calibrated before and after each survey.

Records of sound measuring equipment calibration and noise level surveys conducted at the place of employment shall be kept at the place of employment as long as Allen Services & Contracting Ltd. operates in any province or territory of Canada. Noise surveys must be repeated whenever changes in the workplace may expose additional personnel to high noise or hearing protection being used by employees may not be adequate to reduce the noise exposure to a level below 80 decibels.

#### Sound Level Surveys

- All owned facilities that are suspected of having noise levels exceeding 80 decibels must be screened.

#### Exposure Surveys:

- A representative sampling of employees shall be conducted to determine the exposure to noise over a period of time.
- Noise dosimeters must be capable of integrating all continuous, intermittent and impulsive sound levels from 80 dB to 130 dB and must be calibrated so a dose of 50% corresponds to a time weighted average of 80 dB.


#### Posting Hazards Areas

Clearly worded signs shall be posted at entrances to, or on the periphery of, areas where employees may be exposed to noise levels in excess of 80 decibels. These signs shall describe the hazards involved and the required protective actions.

#### Hearing Tests

- Allen Services & Contracting Ltd. will, at its expense, provide the employee an initial audiometric baseline test as soon as is reasonably practicable but not later than 70 days after the employee is initially exposed to noise levels 80 decibels or greater and a further test at least once every year after the initial baseline test.
- A qualified third party shall perform all audiometric testing, evaluation, reporting and retesting. Test results shall be supplied to the employee and to others as required by local regulatory requirements.
- Audiometric testing shall be preceded by a period of at least 14 hours during which there is no exposure to workplace sound levels in excess of 80 decibels.
- This requirement may be met by the use of hearing protectors that reduce the employee noise exposure level below 80 decibels.

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	Allen Services & Contracting Ltd. Health and Safety Management System	Section:	A11
		Part:	1
<b>NOISE EXPOSURE/HEARING CONSERVATION</b>		Initial Issue Date:	Jan. 2017
		Revision Date:	n/a
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- An otoscopic exam is required before an audiogram is initiated. A qualified person shall examine the ear canal for any ear infections or canal irregularities that might affect the audiogram or rule out the use of earplugs.

Annual audiograms shall be evaluated as follows:

- Each audiogram shall be compared to the employees' baseline audiogram to ensure the test was valid and to determine if a standard threshold shift has occurred.
- If a standard threshold shift is determined, the employee will be retested within 30 days.
- The retest results will be considered as the annual audiogram.
- Employees shall be informed of their audiometric test results within 30 days of determination.
- If the employee has sustained a standard threshold shift, after retesting, that employee shall be notified and retrained and refitted for appropriate hearing protection and the employee shall be referred for additional medical evaluation if indicated.

Employee audiograms are considered medical/exposure records and shall be treated as confidential and will not be released to anyone without the written permission of the employee or as otherwise required by law. Records of employee audiograms shall be kept at the place of employment as long as Allen Services & Contracting Ltd. operates in any province or territory of Canada.


### Hearing Protection

Where practicable Allen Services & Contracting Ltd. shall ensure that hearing protection devices provided reduces the noise level received into the employee ears to not more than 85dBA. Where it is not practicable to comply and Allen Services & Contracting Ltd. shall ensure that hearing protection provided reduces the noise level received into the employee's ears to the lowest level that is practicable.

Earmuffs and earplugs shall be made available to the employee in sizes and configurations that will be comfortable to the employee. These hearing protection devices shall be made available to all employees exposed to an 8 hour time-weighted average of 80 db at no cost to employees. However, where occupational noise exposure is or is believed to be between 75-80 dBA Allen Services & Contracting Ltd. shall inform the employee of the hazards of occupational noise exposure and, on the request of the employee, make available hearing protectors that meet the legislative requirements.

Where a workers occupational noise exposure is or is believed to be between 75-80 dBA, Allen Services & Contracting Ltd. shall train the worker in the selection, use and maintenance of the hearing protectors.

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All hearing protection equipment provided to employees shall meet meets the requirements of CSA Standard Z94.2-02, Hearing Protection Devices: Performance, Selection, Care, and Use (or current version), and is of the appropriate class and grade as described in Schedule 3, Table 2 for Alberta operations.

### Annual Program Review

Allen Services & Contracting Ltd. shall conduct an annual evaluation of the program to ensure that the provisions of the current written program are being effectively implemented and that it continues to be effective.

Allen Services & Contracting Ltd. shall regularly consult employees required to use hearing protection to assess the employees' views on this program's effectiveness and to identify any problems. Any problems that are identified during this review shall be corrected. Factors to be assessed include, but are not limited to:

- Hearing protection devices (fit, effectiveness, comfort)
- Monitoring of employee hearing test for threshold shifts in order to re-evaluate specific work areas to see if there is any correlation with conditions and test results.
- Effectiveness of and content of training.
- The employee safety committee shall be involved in the annual review.

### Education and Training

A training program shall be established to inform employee, on an annual basis, of the effect of noise on hearing; the purpose of hearing protectors, including the advantages, disadvantages and alternatives of various types, including instructions on selection, fitting, maintenance, use and care in accordance with the manufacturer's specifications and the purpose of audiometric testing and an explanation of test procedures.


If occupational noise is between 75-80 dBA Allen Services & Contracting Ltd. shall train the employee in the selection, use and maintenance of hearing protection and the requirement to wear it.

Training shall be updated to be consistent with changes in the work process and PPE requirements.

All staff shall have a copy of this program and it shall be posted at the worksite and a copy made available to all employees, their representatives and regulatory agencies.

The training and education records will be documented and will be retained for 10 years. Training records shall be kept at the place of employment as long as Allen Services & Contracting Ltd. operates in any province or territory of Canada.

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	Allen Services & Contracting Ltd. Health and Safety Management System	Section:	A12
		Part:	1
<b>SUBCONTRACTOR SAFETY MANAGEMENT</b>		Initial Issue Date:	Jan. 2017
		Revision Date:	n/a
		Revision No:	n/a
Preparation: Safety Depart.	Authority: President	<b>Safety Manual Version:</b>	<b>1.0</b>
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## A12.1.0 SUBCONTRACTOR SAFETY MANAGEMENT POLICY

### Purpose

Allen Services & Contracting Ltd. supplements its employee workforce with subcontractors to meet a variety of business needs. Subcontractors can be companies Allen Services & Contracting Ltd. has selected to perform a service such as freight delivery, general labouring, demolition, engineering, etc. All subcontractors are engaged by Allen Services & Contracting Ltd. in a consistent and fair manner.

Business relationships with subcontractors are managed to ensure Allen Services & Contracting Ltd.'s business interests are effectively served while maintaining compliance with legislation and Canada Revenue Agency guidelines.

Allen Services & Contracting Ltd. does not define a numerical target for the size of the subcontractor workforce relative to the size of the employee workforce.

### Agreements with Incorporated Entities


All subcontractors are engaged through incorporated business entities, under written agreements for services that clearly define:

- Allen Services & Contracting Ltd.'s requirements for liability insurance and WCB/WSCC coverage
- length of agreement term
- type of services/product to be provided
- responsibilities of the subcontractor
- invoicing requirements and payment terms
- appropriate references to Allen Services & Contracting Ltd. governance policies and practices

Each subcontractor provides the business infrastructure to effectively manage its business operations and workforce (e.g. recruitment, hiring, training, provision and maintenance of specialized equipment, payroll administration). Subcontractors are responsible for providing employee benefits to their own employees and are not eligible to receive employee benefits through Allen Services & Contracting Ltd.

Services provided to Allen Services & Contracting Ltd. should not represent the sole source of annual income for the subcontractor's business entity.

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**Circumstances for Engaging Subcontractors**

Subcontractors are engaged to supplement the employee workforce under circumstances such as the following:


- The service is not consistent with Allen Services & Contracting Ltd. core business.
- There is specific extra project work that cannot be completed by employees during a defined period of time.
- The task is specialized or requires a unique skill set not available among employees.
- There are peak work-load demands requiring extra resources.
- Employee vacations or leaves of absence create a need for coverage.
- Summer-student or co-op positions are being filled.
- Interim staffing is needed during recruitment of employees.

**Periodic Reviews**

The services and deliverables provided by subcontractors are reviewed periodically through the course of the terms of their agreements (i.e. no less than annually), and prior to engaging additional services, to verify continued compliance with this practice.

Brian McCarthy, General Manager	Date

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### A12.1.1 Subcontractor Safety Management Program

#### Purpose

The purpose of this program is to ensure that Allen Services & Contracting Ltd. continues to improve subcontractor health, safety and environmental performance of its subcontractors and to establish formal performance measurement procedures to monitor and evaluate subcontractor health & safety performance through pre-qualification, evaluation/selection and development of our subcontractors. Allen Services & Contracting Ltd. has established procedures to review and require that subcontractor safety programs, training, procedures and initiatives coordinate with Allen Services & Contracting Ltd.'s own standards of safety.

This program has been developed to ensure that all work undertaken by subcontractors is conducted in a manner that protects the health and safety of Allen Services & Contracting Ltd. employees, other subcontractors, clients, suppliers, visitors and establishes the specific elements of a subcontractor safety program.

#### Scope

This program applies to all Allen Services & Contracting Ltd. subcontractors and all work sites. The process is intended to help ensure that subcontractors who are utilized by Allen Services & Contracting Ltd. as part of a work project, each subcontractor's safety programs, Alberta OH&S Legislation, Northwest Territories Act and Regulations compliance, training, documentation and statistical results of previous safety performance, are in accordance with requirements of Allen Services & Contracting Ltd.

#### General Requirements


All Allen Services & Contracting Ltd. subcontractors are to be managed in accordance with this program.

The use of subcontractors must be pre-approved by Allen Services & Contracting Ltd.'s safety department or management. Approval requirements include:

- Completed Pre-Qualification forms
- All applicable attachments to the Pre-Qualification forms including training certificates of employees
- Scope of work and lists of all equipment and tools to be used during Allen Services & Contracting Ltd. projects
- Job Hazard Analyses/Assessments for scope of work
- WCB/WSCC Clearance letter addressed to Allen Services & Contracting Ltd.
- WCB/WSCC Premium Rating for the past three years and current year
- Certificates of Insurance including specific requirements such as statement of additional insured Allen Services & Contracting Ltd., etc.

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- Health and Safety Manuals
- COR certificates
- Safety statistics for the past three years including current year's full quarters
- Statement of pre-approved subcontractor's subcontractors, if applicable

Only incorporated subcontractors may perform work for Allen Services & Contracting Ltd. Any subcontractor that has a "Non-Approved" status will not be used on any Allen Services & Contracting Ltd. projects.

### Procedure

- All subcontractors will receive the Pre-Qualification package.
- Subcontractor completes Pre-qualification package and submits to Allen Services & Contracting Ltd.'s safety department or management for review.
- The safety department or management will review the documentation and evaluate the subcontractor on their past safety performance and submitted documentation. If the Pre-Qualification is not complete the subcontractor will not be approved.
- The safety department or management will assign a status to the subcontractor: "Approved" or "Not Approved".
- Note: Not all subcontractors require a safety manual and/or a COR. Those subcontractors who are not rated by Allen Services & Contracting Ltd.'s safety department as "High" or "Medium" Company Risk Degree, are not COR certified and do not have a safety manual, must submit a list of critical tasks, Safe Work Practices and Safe Job Procedures additionally to the requested "General Requirements". Subcontractors rated with "High" and "Medium" Company Risk Degree must be COR Certified.

### Evaluation Method


Type of Company Risk Degree

- High - transportation, drilling, electrical, crane operations, roofing, etc.
- Medium - masonry, concrete work, excavation, etc.
- Low - general labourers, etc.
- Insignificant - engineering and drawing services, LEED services, environmental and safety consulting services, industrial hygiene services, surveyors, etc.

### Subcontractor Involvement

Subcontractors are required to follow or implement the work practices and systems described below while performing work for Allen Services & Contracting Ltd.:

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- All subcontractor employees must attend a site-specific safety orientation
- Supervisors/Foremen must attend pre-job meeting or kick-off meeting provided by Allen Services & Contracting Ltd. and Allen Services & Contracting Ltd.'s client, if applicable
- Monitor employees for substance abuse and report nonconformities to Allen Services & Contracting Ltd.
- Ensure personnel have the required training and competency for their work.
- Submit all required certification for new and not-approved employees that will be working at an Allen Services & Contracting Ltd. work sites prior to mobilization to Allen Services & Contracting Ltd.'s safety department or management.
- Participate in Allen Services & Contracting Ltd.'s toolbox talks and safety meetings.
- Complete Field Level Hazard Assessments as specified.
- Perform safety inspections that include equipment.
- Report all injuries, spills, property damages, vehicle accidents, incidents and near misses.
- Comply with all site rules.
- Follow Safe Work Practices and Safe Job Procedures as applicable.
- Ensure compliance with regulations at all times.

Allen Services & Contracting Ltd.'s safety department and management reserve the right to change a subcontractor's status to "Non-Approved" if the subcontractor shows insufficient health and safety performance.

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**Attachment D**

**Contractors Project Safety Plan**

# PROJECT SAFETY PLAN

## GUNGHI CREEK CULVERT REPLACEMENT

**ALLEN SERVICES &  
CONTRACTING LTD.**

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Prepared for  
GOVERNMENT OF THE NORTHWEST TERRITORIES

Prepared by  
ALLEN SERVICES & CONTRACTING LTD.

Prepared on  
October 31, 2019


Project Name:.....Gunghi Creek Culvert Replacement  
AS&C Project #:.....n/a  
Event ID:.....CT2346  
Estimated Construction Start:.....TBA  
Estimated Construction End:.....TBA  
Project Location:.....Inuvik - Tuktoyaktuk Highway, Marker 131.2,  
14 km south of Tuktoyaktuk



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## 1.0 Introduction

Allen Services & Contracting (AS&C) Ltd.'s policy and mission are to perform its work in the safest manner as reasonably practicable, consistent with good construction practices and industry standards, and with regard to the health, safety and environmental welfare of people, assets, operation and the environment. The management of Allen Services & Contracting Ltd. strongly believes that work performed safely yields the highest quality at the lowest cost possible.

To meet this policy and mission, Allen Services & Contracting Ltd. has implemented a comprehensive Health and Safety Management System, develops Project Safety Plans (PSPs), Pre-Job Hazard Analyses (PJHAs), Emergency Response Plans (ERPs) and ensures these plans and Occupational Health & Safety Regulations, Act and Code are followed on all our work sites. Allen Services & Contracting Ltd. strives to continually improve health and safety in the workplace and to prevent all injuries, illnesses and any incidents which could cause harm to property or the environment. Allen Services & Contracting Ltd.'s copy of the Health and Safety Management System is available online under the following link:


<https://www.dropbox.com/s/dk7frdgg8vofgp6/H%26S%20Management%20System%20V1.0.pdf?dl=0>

## 1.1 Introduction

The purpose of this Project Safety Plan (PSP) is to provide the Client, Allen Services & Contracting Ltd. employees and subcontractors a reference of health & safety rules, procedures and the work being completed at the Gunghi Creek Culvert Replacement project.

The Project Safety Plan is designed to assist personnel working at the Gunghi Creek Culvert Replacement project and to provide an overview of Allen Services & Contracting Ltd.'s health and safety practices, procedures, rules, reporting requirements, guidelines for identifying, assessing and controlling hazards and environmental aspects associated with the work. The Pre-Job-Hazard-Analysis (PJHA) is a vital part of pre-project preparation and is enclosed with this Project Safety Plan.


This Project Safety Plan will commensurate with work until demobilization date and will be in conformance with the specific requirements of the Client's HSE requirements and in conformance with the Northwest Territories Occupational

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Health & Safety Act and Regulations as well as with Allen Services & Contracting Ltd.'s policies, rules and procedures.

## 1.2 Scope of Work

Allen Services & Contracting Ltd. and its subcontractors will replace the existing culvert located on Inuvik – Tuktoyaktuk Highway, at approximately km marker 131.2, 14 km south of Tuktoyaktuk, NT with a new engineered open bottom concrete arch bridge. Work will include but will not be limited to off-site manufacturing of the arches, transportation to site, building of ice road to detour traffic, excavating for the new structure, augering for piles and setting piles, installation of concrete beam on piles, welding of beam onto pile, lifting and hoisting of arches into place and backfilling of excavation.

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## 2.0 Project Contacts


### 2.1 Allen Services & Contracting Ltd. Project Key Contacts

Role/Position	Name	Cell/Phone	Email
Site Supervisor - Owner/President	Brian McCarthy Sr.	(780) 271-5666	<a href="mailto:bmccarthy@arcticallens.ca">bmccarthy@arcticallens.ca</a>
Site Supervisor	Lee McMann	(780) 999-0177	<a href="mailto:lmcmann@arcticallens.ca">lmcmann@arcticallens.ca</a>
Site Safety Representative	Barry Setzer	(867) 678-5078	
General Manager (Project Management)	Dean Smith	(780) 914-9300	<a href="mailto:dsmith@arcticallens.ca">dsmith@arcticallens.ca</a>
Logistics Manager	Lee McMann	(780) 999-0177	<a href="mailto:lmcmann@arcticallens.ca">lmcmann@arcticallens.ca</a>
Safety Consultant	Lena Stotko	(780) 266-7676	<a href="mailto:lens@verussafety.ca">lena@verussafety.ca</a>

### 2.2 Client Key Contacts

Role/Position	Name	Cell/Phone	Email
Manager Structures – Bridges, GNWT	Ann Kulmatycki	(867) 767-9086 ext. 31127	<a href="mailto:ann_kulmatycki@gov.nt.ca">ann_kulmatycki@gov.nt.ca</a>
Project Manager, Structures Section/Bridges	David MacDonald	(867) 446-2227	<a href="mailto:david_bmacdonald@gov.nt.ca">david_bmacdonald@gov.nt.ca</a>
Structural Engineer, Dillon Consulting	David Amorim	(204) 229-8441	<a href="mailto:damorim@dillon.ca">damorim@dillon.ca</a>



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### **3.0 RESPONSIBILITIES**

#### **3.1 Principal (Prime) Contractor**

Allen Services & Contracting Ltd. assumes the role of the Principal (Prime) Contractor for this project and is responsible for the overall health and safety of all personnel involved in work including AS&C Ltd. employees and subcontractors, the protection of any persons including other contractors, visitors and the general public who may be affected by conduct of this work and the environment that may be affected by conduct of this work. AS&C Ltd. will fulfill its role as the Principal (Prime) Contractor as outlined in the NT Health and Safety Act and Regulations.

#### **3.2 Site Supervisors**

AS&C Ltd.'s Site Supervisors will comply with and enforce the compliance by all personnel on site with applicable federal and territorial health and safety regulations, this Project Safety Plan and AS&C Ltd.'s policies, rules and procedures. Site Supervisors will ensure all personnel are aware of all hazards on site and control measures to be implemented. Site Supervisors will be responsible for all aspects of work under the contract and for ensuring workers' health and safety on the work site.

#### **3.3 Site Safety Representatives**


Site Safety Representatives are responsible for the overall health & safety of personnel on site, the preparation and holding of toolbox/safety meetings, ensuring FLHAs are completed as required, ensuring hazards are identified and either eliminated or reduced to an acceptable level, preparation and holding of Joint OHS Committee meetings, incident investigations and reporting to appropriate authorities and AS&C Ltd. management, providing orientations on site, monitoring of compliance with Health and Safety legislation by all workers and health & safety documentation organization and retention.

#### **3.4 Safety Consultant**

The Safety Consultant is responsible for the development of this PSP, PJHA, Emergency Response Plans and the preparation of project related documentation before project start.

#### **3.5 Employees and Subcontractors (Workers)**

Employees and subcontractors will follow and comply with all rules, regulations, policies, practices and procedures set out by the NWT Safety Act, Regulations, AS&C Ltd.'s Health and Safety Management System and this PSP.

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### 3.6 Project Management

Project Managers are responsible for the management of this project, ensuring all contract requirements, deadlines and specifications are followed, to communicate with the Client on all project and health & safety matters and to support the Site Supervisors and Site Safety Representatives in all their initiatives to fulfil project and health & safety requirements.

### 3.7 Visitors

Visitors are considered all persons not involved in work activities who request access to the site to review the progress of the project or persons such as inspectors, estimators, engineers, etc. All visitors to site will receive a visitor orientation that will cover hazards on site, controls to be used, emergency procedures and PPE requirements. All visitors must follow the Site Supervisor's instructions, hazard controls, site procedures and PPE requirements.

All visitors must report to the Site Supervisor upon arrival on site and must be escorted around the worksite at all times to ensure their own and others' health & safety at the work site.

## 4.0 SITE-SPECIFIC HEALTH AND SAFETY ORIENTATION


All personnel on site will receive a site-specific health and safety orientation. The orientation will include all site-specific rules, PPE requirements, reporting procedures for incidents and hazards, toolbox/safety meetings, use of equipment, and tools, site-specific hazards and emergency response procedures including muster points and emergency phone numbers.

## 5.0 COMMUNICATION

### 5.1 Emergency Communication

AS&C Ltd. will ensure all required project contact phone numbers and emergency phone numbers are available and/or posted on site. At a minimum, Site Supervisors will carry a two-way radio with them to contact emergency services and a functioning cell phone with booster, if applicable.

In case of an emergency on site, AS&C Ltd. will provide an air horn to communicate the emergency to personnel on site. In the event of an emergency, work on site will stop and the Site Supervisor and Site Safety Representative will assess the scene and take appropriate measures to reduce farther effects of the emergency, to tend to injured personnel and to reduce environmental damages.

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To ensure all persons are accounted for in the event of an emergency, all employees and subcontractors must sign in when arriving on site and sign out when leaving the site on AS&C Ltd.'s sign-in/sign-out protocol. For further information on Emergency response, please refer to the Environmental management Plan, section

## 5.2 Project Meetings

Project meetings will be held on an as-and-when needed basis, will be directed by the Manager, Structures and attended by AS&C Ltd. key personnel.

## 5.3 Daily Toolbox Talks

The Site Safety Representative in collaboration with the Site Supervisor will prepare and hold daily toolbox talks with all personnel on site to communicate changes and updates to health and safety and operations on site. The minutes of the toolbox talks will be kept on site for reference and will be provided to the Client upon request.


## 5.4 Weekly Safety Meetings

The Site Safety Representative in collaboration with the Site Supervisor will hold weekly safety meetings with all personnel on site. The attendance of the safety meetings is mandatory for all personnel working on this project.

The weekly safety meetings shall not be longer than 30 minutes in duration, record the topics discussed, corrective actions, accountabilities and names of attendees. The meeting minutes will be kept on site for reference and will be provided to the Client on a weekly basis, if applicable.

## 5.5 WSCC Communication & Documentation

AS&C Ltd.'s Site safety Representative will communicate all incidents to AS&C Ltd.'s management. Management will report all dangerous occurrences and reportable incidents to the Chief OHS Officer as per Safety Act and Regulations and will provide copies of all documentation and communication between the Principal (Prime) Contractor and WSCC to the Client.

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## 6.0 HAZARD ASSESSMENT AND CONTROL

### 6.1 Pre-Job Hazard Analysis

AS&C Ltd. will develop a Pre-Job-Hazard-Analysis based on the work environment (location) and jobs/tasks performed, identify the hazards associated with the environment, jobs/tasks and will develop recommendations for control measures for those hazards. All hazards will be assessed for risk based on frequency and severity. All personnel on site must use the recommended control measures when controlling hazards. Control measures put in place must eliminate or reduce risk levels to an acceptable level. The PJHA is a vital part of this PSP and will be provided to the Client for review before project start.

### 6.2 Field Level Hazard Assessment (FLHAs)

All workers are required to complete/review and sign Field Level Hazard Assessments every day before beginning work. FLHAs will cover all major tasks completed during the day including but not limited to the use of tools, materials and equipment, the work environment and activities throughout the day. All identified hazards must be assessed and controls must be assigned within the ongoing work site hazard assessment (FLHA) for that specific hazard.

### 6.3 Hazard Reporting


Hazard Reporting is a useful tool to ensure hazards, which have not yet been identified, are addressed as the project progresses. During the progression of the project all employees are required to:

- Identify potentially hazardous conditions and acts and notify the Site Supervisor of the hazards.
- Correct hazardous conditions and acts when there is no danger to the worker or others.
- Report all situations in which imminent danger is present and refuse work.
- Participate in the investigation of imminent danger situations or hazardous conditions.

## 7.0 WORKER TRAINING AND COMPETENCY

### 7.1 Worker Training

AS&C Ltd. will ensure all personnel on site will have the required safety training and certification to perform their work in a safe manner.

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Training will include but will not be limited to:

- Site-Specific Health & Safety Orientation
- WHMIS 2015/GHS
- Fall Protection
- Environmental Awareness
- Emergency Preparedness
- Aerial Work Platform
- Hours of Service
- Mobile Equipment
- Ground Disturbance
- First Aid
- Environmental and Wildlife Awareness
- Personal Protective Equipment
- Hazard Awareness
- OH&S Supervisor Safety Training

## 7.2 Worker Competency

All workers will be trained in safe work practices and safe job procedures for the equipment they are required to operate. Equipment includes “things” used to equip workers at a worksite and includes tools, supplies, machinery, etc.

A worker who is not competent to perform work that may endanger the worker or others will not perform the work unless under direct supervision of a worker who is competent to perform the work.


A worker must immediately report to the Site Supervisor any equipment that is in a condition that will compromise the safety of the worker using it, will not perform the function for which it is needed, is not strong enough for its purpose or has an obvious defect. AS&C Ltd.’s Site Supervisor will ensure all workers who enter any AS&C Ltd. worksite are competent to perform their work.

## 8.0 PERSONAL PROTECTIVE EQUIPMENT

### 8.1 Basic PPE

Basic PPE must be worn at all times and will include:

- CSA approved Type II Class E hard hat
- CSA approved steel or composite toe safety boots with 6” ankle support

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- CSA z94 or ANSI z87 approved safety glasses with side shields

## 8.2 Specialized PPE

Specialized PPE such as respirators, face shields, hearing protection and fall protection will be worn by all workers as per specific task requirement and/or site condition. All specialized PPE will be inspected visually before each use by all workers and as per manufacturer's specifications. At start-up of project, all specialized PPE will be inspected using a written form.

Specialized PPE and RPE on this project will include:

- Gloves - Jobs with potential of injury to hands will require workers to wear task specific gloves (i.e. Kevlar gloves, impact resistant gloves, etc.)
- Hi-vis vest or coveralls with hi-vis stripes
- Hearing protection (ear muffs during cutting of concrete)
- Face shields
- Welding helmets
- Half-face respirators with P100 cartridges during welding operations

## 9.0 WHMIS AND SDS


AS&C Ltd.'s Site Supervisor is responsible to ensure all required Safety Data Sheets (SDS) for hazardous products being used on-site are readily available to workers throughout the duration of the project.

The Site Supervisor will ensure that all products have labels as per WHMIS 2015/GHS requirement and that all workers have current WHMIS training.

## 10.0 INSPECTIONS

### 10.1 Worksite Inspections

The Site Safety Representative in collaboration with the Supervisor will conduct daily informal (walk around) inspections and weekly formal (recorded and planned) inspections using a pre-written inspection form to identify and prevent unhealthy and unsafe conditions. Findings will be communicated to all employees during the daily toolbox talk, weekly safety meeting, or more often and as required.

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## 10.2 Tool Inspections

All workers will inspect their tools visually every day before use. Tools without required guards/modified tools or defective tools must be tagged out and taken out of service immediately. Tools which are tagged out will not be used until defects are corrected.

Tool inspections will be completed on a monthly basis using the pre-written inspection form.

## 10.3 Mobile/Heavy Equipment Inspections

All workers using mobile/heavy equipment will inspect their equipment daily prior use on a written form. Equipment pre-use inspections will be completed by the operators. The daily equipment pre-use inspection will be available on site for review. All equipment will be maintained within manufacturer specifications and will be in good condition.

## 10.4 PPE Inspections


All workers will inspect their PPE visually every day prior use. All PPE will be clean, in good condition and appropriate for the task. PPE inspection items will be checked off on the daily FLHA form.

## 11.0 INCIDENT INVESTIGATION AND REPORTING

All incidents and accidents (including near misses) must be immediately reported to the Site Supervisor and Site Safety Representative. The Site Supervisor will notify management immediately of any incidents on site. Management will report incident to the Client and follow Northwest Territories' legislated incident reporting procedures (see section 10. "Incident/Accident Investigation & Reporting" of AS&C Ltd.'s Health & Safety Management System).

If an injured person requires immediate medical assistance, the Site Supervisor or Site Safety Representative will contact Medical Assistance and inform of the injury, will discuss first aid measures and transportation options. All incidents/accidents and near misses will be investigated using the procedure as set out in the Allen Services & Contracting Ltd. Health & safety Management System.

The purpose of incident investigations will focus on root cause determination and the prevention of recurrence. Incident Investigations should take place as soon as possible. Written incident reports must be completed no later than 48 hours after the incident and incident investigation reports no later than 72 hours after

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the incident. All incidents, accidents and near misses will be reported and reports will be made available to the Client by project management.

## 12.0 VIOLENCE AND HARASSMENT

AS&C Ltd. has developed a Violence and Harassment policy and program and expects all employees, subcontractors and visitors to follow this policy. AS&C Ltd. is committed to providing and promotes a work environment free of violence and harassment. Any act of violence or harassment committed by or against any worker, visitor or member of the public is unacceptable conduct and will not be tolerated. Violations of this policy will be handled in an objective but firm manner.

## 13.0 SUBSTANCE ABUSE

AS&C Ltd. is committed to a ZERO Tolerance Policy with respect to inappropriate use and possession of drugs and alcohol in the workplace. The possession, distribution or use of mood-altering substances at the workplace, or coming to work under the influence of such substances is a violation of our rules and will be subject to disciplinary action, including a possible dismissal.

The President and project management have the authority to immediately dismiss personnel from the worksite who are under the influence or are in possession of substances and to request a D&A test under reasonable grounds or post incident.

A person found under the influence or in possession will be reprimanded by senior management and disciplinary actions will be taken as per AS&C Ltd.'s disciplinary action chart.


## 14.0 ENVIRONMENT

Allen Services & Contracting Ltd. takes its environmental responsibilities seriously and is committed to following sound environmental management practices and executing our business activities so that the environment is not adversely affected. Where environmental controls are found to have been compromised, remediation activities will be undertaken immediately.

AS&C Ltd.'s Site Supervisor is responsible for overseeing and controlling activities on site, the prevention of harm to the environment, appropriate waste disposal and any measure taken to prevent environmental damages.

**Environmental Management Plans** have been developed and are included in



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this project safety package. For further information on environmental protection measures, such as spill contingency, waste management, sediment and erosion control, wildlife protection, aquatic life protection, etc., please refer to the Environmental Management Plan.

## **15.0 SITE-SPECIFIC EMERGENCY RESPONSE PLAN**

A site-specific emergency response plan (ERP) has been developed for this project and will be implemented on site upon project start. The ERP will be discussed with all personnel during site-specific orientation and relayed to any visitors that may require access to the worksite. The ERP will include procedures for possible emergency situations, emergency phone numbers, a map of the work site including Muster Point, a map to the closest health facility and emergency response procedures. The site-specific emergency response plan will be made available to all employees at the work site.

## **16.0 TRAFFIC ACCOMMODATION PLAN**


Due to the nature of the project and location of work, traffic will need to be diverted. AS&C Ltd. will build an ice road to divert the traffic during the period of construction work. A Traffic Accommodation Plan will be developed and provided to the Client for review. The Traffic Accommodation Plan will outline activities, procedures, locations and signage for the diversion of traffic during construction activities.

## **17.0 WORKING ALONE**

AS&C Ltd. will not allow any worker to work alone throughout the duration of this project. All employees and subcontractors must work with at least one other worker at all times and have the possibility to either be seen at all times or be able to verbally communicate at all times. A 2-way radio must be available on site at all times to summon emergency services, if required.

## **18.0 FIRE PROTECTION**

AS&C Ltd. is responsible to provide all fire extinguishers on this project. Fire extinguishers on mobile equipment will have a minimum of 2 A 10 B.C. and all other areas will be equipped with fire extinguishers with a minimum rating of 2 A 40 B. C. All fire extinguishers will be maintained as required and monthly inspections will be completed.

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## 19.0 HOT WORK

A Hot Work Permit is required for all operations involving open flame or producing heat and/or sparks. This includes brazing, grinding, cutting, soldering, thawing pipe, torch-applied roofing, and welding. All personnel performing this type of work will request a hot work permit from the Site Supervisor. The Site Supervisor will coordinate hot work activities with all personnel. Hot work will have fire/spark watch, welding blankets and the area will be continuously monitored, a fire watch including a final fire inspection will be completed.

Hot work will be required during the welding of beams onto the piles. A shelter will be built around the welding activities to reduce environmental effects and to assure quality of welds and safety of workers.

## 20.0 FIRST AID

AS&C Ltd. will provide first aid services, first aid attendants, supplies and equipment in accordance with the applicable requirements of part 5, section 53 through 66 of the Occupational Health and Safety Regulations.