



**“OUR ULTIMATE GOAL IS A CULTURE  
IN WHICH SAFETY BECOMES SECOND  
NATURE, AND COMMON SENSE BECOMES  
A LITTLE MORE COMMON...”**

# **COMPANY SAFETY MANUAL**

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**SECTION 1.0 – INTRODUCTION AND SAFETY POLICIES****WELCOME TO STARKS PLUMBING AND HEATING LTD.**

**THIS SAFETY MANUAL IS INTENDED AS AN OVERVIEW OF OUR SAFETY PROGRAM, AND RELATED COMPANY POLICIES AND SAFE WORK PROCEDURES.**

**BEFORE YOU FAMILIARIZE YOURSELF WITH IT, THERE ARE A FEW THINGS THAT YOU NEED TO KNOW:**

- 1. OCCUPATIONAL HEALTH AND SAFETY LEGISLATION (OH&S) IS LAW IN ALBERTA. IT IS NOT SOMETHING THAT IS A “NICE IDEA” OR AN OPTION. COMPLIANCE WITH ITS ACTS, REGULATIONS AND CODES ARE A REQUIREMENT FROM ALL EMPLOYERS AND EMPLOYEES.**
- 2. IN THIS COMPANY, SAFETY IS NOT A CONCEPT, IT IS A FACT. WE EXPECT YOU TO CONDUCT YOURSELF IN A MANNER THAT IS CONSISTENTLY SAFE FOR YOURSELF AND OTHERS. YOU SHOULD EXPECT US TO CREATE A SAFE WORKING ENVIRONMENT FOR YOU.**
- 3. STARKS IS A MEMBER OF THE “COMMON SENSE SAFETY” SCHOOL OF THOUGHT. WE ALL BELIEVE THAT BY PROMOTING A SAFETY CULTURE, IT WILL BECOME A SECOND NATURE TO WORK SAFELY. WE WANT YOU TO GO HOME EVERY DAY IN THE SAME CONDITION THAT YOU CAME TO WORK IN.**

2(1) every employer shall ensure, as far as it is reasonably practicable for the employer to do so,

- a) The health and safety of:
  - I. Workers engaged in the work of that employer, and
  - II. Those workers not engaged in the work of that employer but present at the work site at which that work is being carried out, and
- b) That the workers engaged in the work of that employer are aware of their responsibilities and duties un this Act, the regulations and the adopted code.

(2) Every worker shall, while engaged in an occupation,

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

**COMPANY SAFETY POLICY****Commitment**

**Starks Plumbing and Heating Ltd.** is committed to preserving the integrity, success and quality of our company, by consistently promoting a strong safety culture. We believe that any project, irrespective of size or complexity can be completed efficiently **and** safely. We will strive to promote a program that protects our staff, our property, anyone engaged in an occupation on one of our sites, and the general public, from accidental loss, injury or illness.

**Empowerment and Goals**

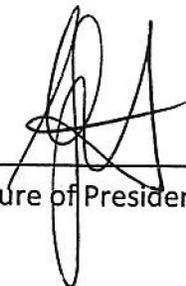
All employees and management staff of **Starks Plumbing and Heating Ltd.** are empowered to take responsibility for their own safety, and for the safety of others. We believe that it is everyone's right and **responsibility** to include safety as an integral part of our everyday activities.

Our goal is an injury free workplace at all operations with which we are associated. To help achieve this goal all employees and contractors are required to work in compliance with applicable OH&S legislation and company health and safety standards.

**Owners Personal Commitment**

I believe that every person in the employment of **Starks Plumbing and Heating Ltd.** is a vital part of our company's continued growth and success. As such, I make a personal commitment to you:

***"...to constantly promote both a shared effort in achieving excellence in all aspects of our operation, and a culture that ensures your safety as a priority."***



\_\_\_\_\_  
Signature of President



\_\_\_\_\_  
Date Signed

**Accountability and Responsibilities**

Employees at every level, including management, are responsible and accountable for the company's overall safety initiatives. Complete and active participation by everyone, every day, in every job, is necessary for the safety excellence that this company expects.

**Senior Management Responsibilities**

- ✓ Facilitate a safety program
- ✓ Provide training
- ✓ Provide equipment
- ✓ Adhere to industry best practices in area's concerning Health and Safety
- ✓ Establish and promote policies and procedures to govern safe work requirements
- ✓ Be proactive in their pursuit of a safe and healthy workforce

**Foremen / Supervisor Responsibilities**

- ✓ Enforce safety rules and regulations
- ✓ Assist in training
- ✓ Ensure all equipment is in compliance with government legislation
- ✓ Supervise the day-to-day safety administration
- ✓ Conduct weekly tool-box meetings
- ✓ Conduct and participate in job-hazard assessments and inspections

**Worker Responsibilities**

- ✓ Work with safety as a priority at all times
- ✓ Work in compliance with company policies and procedures
- ✓ Be familiar with rights and responsibilities of OH & S legislation
- ✓ Refuse Unsafe Work

**Contractor Responsibilities**

- ✓ Work in compliance with company health & safety standards and OH&S legislation
- ✓ Work with safety as a priority at all times

**Visitor Responsibilities**

- ✓ Sign in upon arrival at the work site
- ✓ Become familiar with the posted emergency response information
- ✓ Follow the instructions of the company representative
- ✓ Wear personal protective equipment when / where required
- ✓ Never walk about a worksite unescorted
- ✓ Sign out upon departure

## DRUG AND ALCOHOL POLICY

**Starks Plumbing and Heating Ltd.** adheres to a strict ZERO TOLERANCE drug and alcohol policy. Any person suspected, with cause, to be under the influence of any substance that could reasonably be expected to impair that person's judgment will be sent home immediately.

Any contravention of this policy is grounds for immediate termination of the employment contract. Under some circumstances, left to the discretion of senior management, Stark's may be inclined to provide access to medical / psychological / emotional assistance, and to work with the terminated employee on a "back to work program".

### PURPOSE

**STARKS PLUMBING AND HEATING LTD.** is committed to the safety and productivity in all aspects of its operations on behalf of employees, customers and the communities in which we operate.

**STARKS PLUMBING AND HEATING LTD.** recognizes that the use of illicit drugs and inappropriate use of alcohol and prescription drugs can have serious adverse affects on performance and ultimately the safety and well being of employees, customers, visitors, public, or the environment. We also recognize that there are changing demands in the work environment reflecting more stringent expectations.

As a responsible employer, **STARKS PLUMBING AND HEATING LTD.** has a compelling interest in establishing programs that promote and enhance safety in the workplace. **STARKS PLUMBING AND HEATING LTD.** has implemented a substance abuse program that is directed at protecting the working environment, health and safety of employees, co-workers and the general public.

**STARKS PLUMBING AND HEATING LTD.** will provide training, education and access to assistance as required accommodating the needs of our employees.

### MANAGEMENT'S RESPONSIBILITIES

- ensure compliance with the program
- guide employees who seek assistance for a problem to appropriate sources
- refer employees for alcohol and drug tests
- conduct investigations into drug and alcohol incidents

### EMPLOYEE RESPONSIBILITIES

- read and understand this policy
- report fit for any scheduled work duty and remain fit for duty as required
- seek advice and follow appropriate treatment if they have a problem
- cooperate with modified work related to safety concerns
- follow recommended post treatment monitoring programs
- report for scheduled testing in accordance with this policy
- report any alcohol related driving offences

**HOSTING**

Management of **STARKS PLUMBING AND HEATING LTD.** will take reasonable and practicable steps to prevent over-consumption of alcohol, and to provide alternate means of transportation in order to reduce the risks associated with impaired driving.

**TESTING OPTIONS**

**POST INCIDENT** - at the discretion of management an employee may be required to give a urine sample after an incident. Drug testing will be administered within 32 hours post incident and alcohol testing within 2 hours with attempts for up to 8 hours post incident.

If a sample cannot be obtained, reasons will be documented on the incident/accident report form.

**REASONABLE CAUSE** - an employee may be tested in an instance where a supervisor makes observations which form a reasonable basis for suspecting an employee is in breach of this policy. These observations can include but are not limited to: observed actions, changes in appearance, difficulty speaking, and uncharacteristic behavior. The basis for this decision will be documented and where applicable be corroborated by another employee.

**FOLLOW UP** - unannounced testing for up to one year for employees found previously in breach of this policy.

**TESTING PROCEDURE**

When a supervisor or manager suspects that an employee is in breach of this policy he will:

- corroborate his feelings with senior management if possible
- document observations
- communicate with the safety advisor all concerns

The safety advisor or his representative will make the final decision to test. Test results will be forwarded to a Medical Review Officer (MRO) for release to the employee involved and the safety advisor.

All drug and alcohol violations will be documented on an incident/accident report and investigation forms. Investigations will be conducted on all reported cases.

**COLLECTION OF SAMPLES AND ANALYSIS**

A designated and accredited drug and alcohol testing company will collect and process samples for testing as required. All testing must meet or exceed the Standard Council of Canada Laboratory Accreditation Program for Substance and Abuse Policy. Analysis will be conducted for alcohol, amphetamines, cocaine, cannabis, opiates and phencyclidine.

**ILLICIT DRUGS**

- The use, possession, distribution, offering or sale of illicit drugs or drug paraphernalia while on company business or premises is prohibited.
- The authorized possession of prescribed medications without a legally obtained prescription, unauthorized distribution, offering for sale prescription medications (trafficking) when on company business or company premises is prohibited.
- Presence in the body of illicit drugs as determined through the testing program while on company business or premises is also prohibited.

**ALCOHOL**

- The use, possession, distribution, offering or sale of alcohol is prohibited when on company premises. This includes client premises/worksites.
- A limited exception to the alcohol ban is that possession of sealed bottles locked in the trunk of a car or locked tool box of a company vehicle is permissible, but at no time can alcohol be possessed in a heavy-duty truck.
- Individuals covered by this policy cannot report for duty under the influence of alcohol, use alcohol on duty, have a blood alcohol reading at or above 0.04 BAG (blood alcohol content), or use alcohol within 8 hours after a significant incident, or until tested, or advised that a test will not be required by the safety advisor.
- For all field assigned employees - the use of alcohol when on company business, including lunch, dinner or other breaks is prohibited during business hours. For on-call employees alcohol is prohibited until the commencement of scheduled days off. For all other employees, should alcohol be used in less formal business situations, it must be used responsibly and consistent with the fitness for duty standards.

**MEDICATIONS**

- All employees are expected to use medications, both prescribed and over the counter, responsibly. The intentional misuse of the drugs (e.g. using medication not prescribed, using someone else's medication, or combining alcohol and medications) on company business or premises is prohibited. Medications of concern are those that inhibit an employee's ability to perform their duties safely and productively.
- Employees are responsible for investigating a medication's side effects and whether they can be used in a work situation without jeopardizing the safety of the employee or fellow workers. Workers on field assignments are responsible for advising the supervisor on duty of any need for modified work as a result of medication use. The company deserves the right to consult with, on a confidential basis, the employee's doctor as to appropriate work modification requirements.

**ON CALL/EMERGENCY SITUATIONS**

- All employees are expected to report fit for any and all work when "on call". At other times if unexpected circumstances arise where an individual is asked to perform services while under the influence of alcohol or medications it is the responsibility of the individual to decline the request.

**CONFIRMATION TEST LEVELS****CONTROLLED SUBSTANCES  
CUT OFF CONCENTRATIONS (ug/L):**

<b>Class of Substance</b>	<b>Confirmation Level (ug/L)</b>
Amphetamines	500
Cannabinoids (THC Metabolite)	15
Cocaine Metabolite	150
Opiate Metabolite	2000
Phencyclidine	25

**Cut-Off concentration for Alcohol (breath or saliva) is .04mg/dl (.04%)**

**NON-COMPLIANCE**

- If any employee violates the provisions of this policy or does not meet satisfactory standards of work performance as a result of drug or alcohol use appropriate disciplinary action will be taken. In all situations an investigation will be conducted and documented to verify that a policy violation has occurred before disciplinary action is taken. Disciplinary action will be based on current company policy.
- Appropriate discipline in a particular case depends on the nature of the policy violation, employee history and the circumstances surrounding the situation. Failure to satisfy performance standards as a result of drug or alcohol use, impairment, an impaired driving charge, or conviction while driving on company business in a company vehicle are all grounds for disciplinary action.
- A positive drug or alcohol test result, failure to report for a test, refusal to submit to a test, refusal to agree to submit the test result to management, or an attempt to tamper with test results will also be grounds for disciplinary action.

**CONDITIONS OF FUTURE EMPLOYMENT**

Should management decide that employment may continue, the individual will be given an opportunity to enter into an agreement governing their continued employment which will be determined on a case by case basis. Conditions that may be required but are not limited to:

- Re-assignment where available or appropriate
- Assessment by a Substance Abuse Professional (SAP) to determine if counseling or treatment is required
- Commitment to follow a recommended treatment program
- Clearance by the SAP that the recommended program be followed
- Pass a return to duty test
- Unannounced testing as recommended by SAP for up a period of one year
- Unannounced testing as required by **STARKS PLUMBING AND HEATING LTD.**
- Adherence to any rehabilitation conditions or requirements
- No further policy violations during the monitoring period.

**RECORD KEEPING**

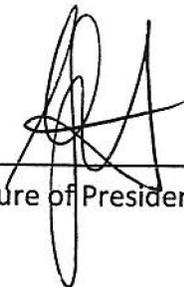
Confidentiality of Drug and Alcohol test results is important to the success of the Drug and Alcohol Policy.

Negative test results will be kept in a secure file for two (2) years.

Positive test results will be kept on file for five (5) years.

**POLICY EVALUATION**

To ensure that this policy continues to meet established objectives and remains responsive to current circumstances as well as evolving needs, its implementation will be monitored on an ongoing basis. Policy modifications will be made as deemed necessary.



Signature of President



Date Signed

**ENVIRONMENTAL MANAGEMENT POLICY**

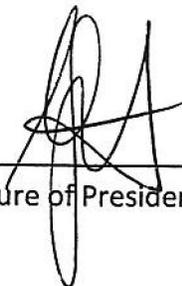
**Starks Plumbing and Heating Ltd.** takes a proactive approach to environmental management and achievement of cost-effective compliance with current regulations. Our goal is to meet the requirements defined by Municipal, Provincial and Federal Environmental and Health Acts and Regulations. It is our policy and practice to:

- ✓ Assess the hazards of the workplace
- ✓ Minimize the dangers of these hazards
- ✓ Ensure all workers understand the nature of the workplace hazards and use safe work practices and procedures, and;
- ✓ Ensure workers receive training in the proper handling, storage, use and disposal of all hazardous materials.

Environmental management however, is more than waste and hazard management. It is the sum total of all efforts to protect life, property and the environment. This includes utilizing effective materials management systems to minimize the consumption of materials.

**Starks Plumbing and Heating Ltd.** will, wherever possible, support reducing, reusing, recycling and recovering of waste products rather than disposing of them.

Environmental protection is a responsibility shared by everyone on the work site.



Signature of President



Date Signed

### INJURY MANAGEMENT POLICY

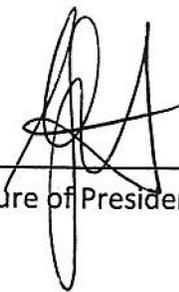
**Starks Plumbing and Heating Ltd.** understands that even with the utmost attention paid to controlling and eliminating hazards, incidents and accidents will still occur. When these injuries do occur, management is committed to making every reasonable effort to assist an injured employee in returning to the workplace.

We believe that an effective claims program begins with an immediate response to any reported incident. Our employees are empowered to report **ALL** incidents and accidents, even those where medical aid is not required. All foremen, supervisors and senior management are aware that without our skilled workforce, the future of our business would be less than unsure, and as such, we will make every effort to ensure that all injuries and incidents are managed immediately.

Employees need to be aware that they are the first line in this initiative; if you do not make a report, we are unable to assist you. All management within Stark's organization will strictly adhere to the same "no-fault" concept that is demonstrated through the Workers Compensation Board; management will strive to ensure that information is gathered thoroughly and on a timely basis, and that all incidents, injuries and near-misses will be investigated, regardless of severity.

Beyond the reporting policy, **Starks Plumbing and Heating Ltd.** commits to a strong communication base, ensuring that injured employees, their families, health care providers and the WCB will always be connected and included.

The progress of any employee returning to regular or modified work duties will be monitored to ensure quality care, and disability management and communications training will be provided for any staff member who feels it is required.



\_\_\_\_\_  
Signature of President



\_\_\_\_\_  
Date Signed

## INSPECTION POLICY

Inspections play a vital role in mitigation and elimination of on-site hazards. While a Job Hazard Assessment is the key to pre-planning in safety, there needs to be consistent follow-up to control the constantly changing environments of the construction industry. As such, it is the policy of **Starks Plumbing and Heating Ltd.** that a monthly inspection is done at each active job site, or whenever there is a significant change to that work site. Significant changes include, but are not limited to:

- ❖ Changes in weather
- ❖ Addition of new trades to the site
- ❖ Shift in scope of work
- ❖ Change in stage of work
- ❖ Changes to procedures
- ❖ Incidents or significant near-misses

Please try to remember that you, the employee are our only constant link to the job site. It is up to you to inform us of identified hazards or potential hazards, so that we can make immediate changes to protect you from your job. These monthly inspections are a way for you to inform us of what is required on your job site.

**STARKS PLUMBING AND HEATING LTD.** will maintain a comprehensive program of safety inspections at all facilities and job sites.

### Responsibilities

The Manager is responsible for the overall operation of the program.

Supervisors are responsible for directing / conducting formal inspections on job sites that they control and for involving workers in such inspections.

Workers are responsible for participating in and contributing to the inspection program.

\*The safety information in this policy does not take precedence over OH&S Regulations.  
All employees should be familiar with the OH&S Act and Regulations.

  
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Signature of President

  
\_\_\_\_\_  
Date Signed

## DISCIPLINARY ACTION POLICY

This policy will provide guidelines for equitable and just administration of disciplinary action. The purpose of disciplinary action policy is to prevent an infraction from recurring. All Supervisors have a fundamental responsibility for developing and maintaining good discipline within their organization. High morale, orderly conduct and a spirit of co-operation are more likely to be found where mutual understanding and respect for individual rights and responsibilities exist.

A disciplinary action is appropriate when an infraction of company or government regulations occurs, or when lapses in performance or personal behavior impact on safe and efficient company operations. Disciplinary action is also appropriate if company property, funds or sensitive information is stolen or misused; or if good relationships between the company, its workers, the public and appropriate government agencies are not maintained.

The following disciplinary actions are listed in order of severity and for most cases, in the order that they would be administered. A warning to the worker that a subsequent, similar act of misconduct will result in more severe action should be considered as part of the disciplinary action. When such a warning is given and the misconduct continues, the Supervisor should follow through with the stated actions.

To ensure that disciplinary action is efficiently handled, **STARKS PLUMBING AND HEATING LTD.** utilizes a disciplinary form that will document the inappropriate actions, expected performance, disciplinary results, and signatures of workers and management.

### VERBAL REPRIMAND (LEVEL #1)

Discuss the violation with the worker. Warn that more severe action will follow if the offence is repeated. Agree on a time frame for retraining or other action to prevent a recurrence.

### WRITTEN REPRIMAND (LEVEL #2)

Discuss the violation and give a written copy of the reprimand to the worker. Place a copy in the worker's file. Advise the worker of more severe consequences should the offence be repeated.

### SUSPENSION WITHOUT PAY (LEVEL #3)

Suspension shall be considered when misconduct is serious (e.g. severity, repetition, attitude). The time period of suspension shall be determined by the severity of the misconduct. Advise the worker that discharge or termination of contract will result if the offence is repeated.

### DISCHARGE OR TERMINATION OF CONTRACT (LEVEL #4)

Depending on the severity of an infraction or intent of worker, the worker may be terminated at the discretion of management (i.e. operating company vehicle/equipment while under the influence of alcohol).

## PERSONAL PROTECTIVE EQUIPMENT POLICY

**Starks Plumbing and Heating Ltd.** is committed to the elimination and mitigation of all identified work site hazards. In the event that a hazard cannot be completely controlled before a worker is present on that site, we are committed to ensuring a last line of defense by enforcing the use of Personal Protective Equipment (PPE) on all work sites.

We are committed to ensuring that our workers wear the PPE that is correct for the hazard, and that they are trained in the correct use, care, limitations and assigned maintenance of the PPE.

Workers will be instructed in their responsibility, as identified in the Code, to use and wear properly the appropriate PPE identified by the job hazard assessments.

### GENERAL REQUIREMENTS

- ❖ Steel-toed boots are required on all sites (**OH&S CODE PART 18 S. 233**).
- ❖ Hard hats will be required on all sites where there is any work done over 6 ft anywhere on site (**OH&S CODE PART 18 S. 234**).
- ❖ Safety Glasses or goggles will be required when any employee is working with or near power tools or chemicals (**OH&S CODE PART 18 S. 229**).
- ❖ Hearing protection is required on all sites (**OH&S CODE PART 16 S. 222**).
- ❖ Fall Protection consisting of a full body harness and lanyard with a shock absorber will be required at all heights over 3 metres (10 feet) (**OH&S CODE PART 9**).
- ❖ High Visibility clothing is required when vehicle traffic / heavy equipment at a work site is dangerous to workers on foot (**OH&S CODE PART 12 S. 194**).



\_\_\_\_\_  
Signature of President



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Date Signed

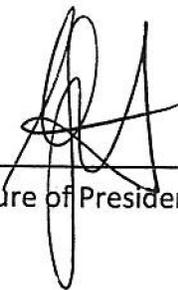
**VIOLENCE / HARASSMENT IN THE WORKPLACE POLICY**

**Starks Plumbing and Heating Ltd.** recognizes that we work in an environment where tempers can run high and patience can run thin. However, every worker under our care is entitled to a work environment free of harassment of any form. This includes any objectionable conduct, comment or display directed at a worker made on the basis of: race, creed, religion, color, sex, sexual orientation, marital status, family status, disability, physical size or weight, age, nationality, ancestry or place of origin. Workers on any Stark's site are reminded of their obligation not to cause or participate in the harassment of another person.

A worker who believes that he or she has been subjected to harassment in any form is encouraged to clearly and firmly make know to the alleged harasser the objectionable nature of the behavior and request that it be stopped. If the situation cannot be resolved satisfactorily, the worker should report the problem in confidence to his/her supervisor or directly to the Safety Manager.

All complaints of alleged harassment will be investigated and, if substantiated appropriate disciplinary action will occur. The identity of the worker or the circumstances of the complaint will not be disclosed except where disclosure is necessary as part of the investigation or disciplinary process, or where required by law.

**Nothing in our Harassment Policy prevents or discourages a worker from referring harassment complaint to an appropriate government agency or initiating a complaint under the applicable provincial law.**

  
\_\_\_\_\_  
Signature of President

  
\_\_\_\_\_  
Date Signed

## SECTION 2.0 – HAZARD ASSESSMENT AND CONTROL

STARKS PLUMBING AND HEATING LTD. will ensure that a program is in place to identify, rank and control hazards within our operations.

Hazard Assessment does not only examine those things that are immediately visible, but also considers the potential hazards that may be encountered.

### DEFINITIONS

**Hazard** - An agent or process that has the potential to cause harm to people, property, materials or the environment.

#### **Hazard Assess**

**ment** - A formal process used to identify hazards (and the risk of) that may create losses to people, equipment, materials, property, or the environment.

**Field Level Hazard Assessment** – The evaluation of the hazards associated with individual work processes.

**Risk** - Probability that during a period of activity a hazard will result in an incident with a definable consequence.

**Risk Management** - Reduction of the consequence and probability of risk or risks to an acceptable level in order to achieve a zero injury workforce.

### TYPES OF HAZARDS

When we think about hazards in the workplace there could be literally hundreds of situations, objects, places, and tasks that could present a potential risk. The hazards can be either Health Hazards or Safety Hazards. There are five general categories of Health Hazards and Safety Hazards.

**Biological hazards** – include any biological substance or organism such as bacteria and viruses, spores, fungi, parasites and plants. These can present health risks by entry into the body through inhalation, skin contact, and contact with the eye, nose or mouth, cuts or puncture wounds, or direct ingestion.

**Chemical hazards** – any chemical substance capable of causing disease, illness, bodily harm or death or is capable of causing a change in a person's behavior or decrease in mental alertness. Examples: liquids, sprays, solvents, fumes, gases, vapors.

**Ergonomic hazards** – any workplace situation or activity that is capable of causing undue stress and fatigue to any part of the body. Examples: strains, fatigue, physical stress, eye strain, personal stress.

**Mechanical hazards** – trapped between moving parts, pinch points, struck by, struck against and contact with moving parts.

**Physical hazards** – any physical object, item or process that is capable of causing an immediate or cumulative physical injury. Examples: electrical shocks, radiation, noise, heat, cold, fall off, fall down, and fall into/onto the same level.

**Psycho-social hazards** – a specific situation that may cause mental or physical health problems. These problems, in turn, can give rise to behavioral problems (such as absenteeism) or physical manifestations (such as ulcers or fatigue). Psycho-social hazards are also called workplace stressors (such as excessive workload and bullying).

Every workplace consists of four major components:

1. People (workers, visitors, clients, suppliers, sub-contractors, etc.)
2. Equipment / tools they use
3. Materials they work with.
4. Environment they work in.

When conducting a hazard assessment, all four of these components must be examined and evaluated to see what risks are present.

## **RESPONSIBILITIES**

### **All Employees**

- Identify, correct and document hazards in the workplace using the Hazard Assessment.

### **Senior Management**

- Support the risk management initiatives in their area of responsibility.
- Ensure that employees under their supervision complete hazard assessments as required in the **STARKS PLUMBING AND HEATING LTD.** Health and Safety Program.
- Provide Hazard Assessment Training to the organization.
- Review the hazard assessments periodically for accuracy and relevance to the work being performed.
- Assist with hazard assessments where required.
- Ensure that corrective or hazard reduction actions identified in the hazard assessment process are implemented in their areas of responsibility.

### **Supervisors**

- Ensure hazard assessments are completed at the start of a new project, when changes occur in the work scope, or there are changes to the equipment or processes. These hazard assessments must be documented and filed.
- Identify current and future methods of control for each hazard identified.
- Review completed hazard assessments with employees.

## **HAZARD ASSESSMENT REQUIREMENTS**

Hazard assessments must be completed to the minimum standards listed below. Hazard assessment requirements may increase due to customer requirements, legislation, and workplace conditions.

Complete all hazard assessments using the Hazard Assessment form and the Risk Matrix.

## Formal Task Hazard Assessments

A Task Hazard Assessment is a portion of the overall job scope that focuses on a specific task.

### Task Hazard Assessment Steps:

- Identify all of the jobs / tasks performed by employees in the workplace.
- Review the scope of work (task) being performed.
- Break the task into individual steps.
- Identify the existing and potential health and safety hazards for each step.
- Assess the level of risk for each hazard using the Risk Matrix.
- Prioritize jobs / tasks according to the level of risk.
- Identify and implement appropriate controls (precautions) for each hazard.
- Communicate the results of the hazard assessment to employees and contractors involved in those work processes.
- Keep copies of the assessments on the job site for revision and review as required.
- Monitor and follow-up to ensure the control strategies are implemented and effective.

## Field Level Hazard Assessments

Complete a Task Hazard Assessment at the start of a new project before work begins. Assessments must be communicated to employees and contractors on site at the Toolbox Meeting for their feedback and agreement.

A reassessment must also be completed if a significant change of scope occurs, if new tools, equipment or work processes are introduced, or if conflicting work is being done. This involves both the site supervision and employees involved in the work.

All hazards identified must be prioritized according to the Risk Matrix and documented on the Hazard Assessment form. Keep copies of the Hazard Assessments on the job site for review.

A Task Hazard Assessment must be reviewed with all employees during the Toolbox Meeting before any work starts.

### **RISK MATRIX**

The Risk Matrix is a tool designed to rank the hazards in the work place and includes an evaluation of the consequences to people, property damage (loss), and environmental impact. It combines the probability and severity of a given hazard and defines the outcome numerically.

The first ranking is the **probability** - chance or likelihood - that the identified consequence will result in an incident.

PROBABILITY	
1. Extremely Remote	Unlikely to occur
2. Remote	Could occur at some point
3. Reasonably Probable	Likely to occur eventually
4. Probable	Likely to occur immediately or soon

The second ranking estimates the **severity** (potential consequence) of an incident occurring. Consequences are evaluated in relation to people, property damage (loss), and environmental impact.

SEVERITY			
	DAMAGE TO ASSETS	PERSONNEL	ENVIRONMENT
<b>1. Negligible / OK</b>	Damage less than \$2,000	First aid injury or less	Small or no impact
<b>2. Minor</b>	Damage between \$2,000 and \$10,000	Non-serious injury/illness that requires Medical aid	Minor impact
<b>3. Serious</b>	Damage between \$10,000 and \$50,000	Severe injury/serious illness	Reportable incident
<b>4. Imminent Danger</b>	Damage more than \$50,000	Fatality/ Life threatening injury/widespread occupational illness	Extensive contamination

Each hazard is assigned the two rankings and the rankings are multiplied together. The result determines priority in terms of corrective action. A hazard ranked 4 obviously is more critical than one ranked 1, 2, or 3.

PROBABILITY (Likelihood)					
		Extremely Remote 1	Remote 2	Reasonably Probable 3	Probable 4
SEVERITY	<b>1. Negligible / OK</b>	1 Low	2 Low	3 Low	4 Medium
	<b>2. Minor</b>	2 Low	4 Medium	6 Medium	8 High
	<b>3. Serious</b>	3 Low	6 Medium	9 High	12 Very High
	<b>4. Imminent Danger</b>	4 Medium	8 High	12 Very High	16 Very High

<b>Very High</b>	<b>Imminent Danger</b>	STOP! Unacceptable, Must Reduce Risk, Immediate Action Required
<b>High</b>	<b>Serious</b>	Undesirable, Take Risk Reduction Measures, Action Required
<b>Medium</b>	<b>Minor</b>	Minor Risk, Ensure Controls are in Place
<b>Low</b>	<b>Acceptable</b>	Acceptable, Reduce As Practical, No Further Action Required

### **HAZARD IDENTIFICATION**

At times hazards may appear that are not part of a specific work task. Such hazards can be assessed by completing a Hazard Identification Report form. It is essential to ensure that all hazards and their associated risks are controlled.

All hazards identified must be prioritized according to the **STARKS PLUMBING AND HEATING LTD.** Risk Matrix. All hazards that are identified must be communicated to employees and contractors on site for their feedback and agreement.

### **HAZARD CONTROL STRATEGIES**

#### **Engineering Controls**

Engineering control of hazards deals with the elimination or isolation of a hazard from an employee and physically limits the employee's exposure to the hazard. Engineering controls are the preferred method of controlling hazards.

#### **Administrative Controls**

Administrative controls deal with the directing of people and include policies, procedures, practices and training. Administrative controls reduce or limit the amount of exposure an employee has to a specific hazard.

#### **Personal Protective Equipment**

Personal Protective Equipment is the final line of defense against workplace hazards. It is implemented only after other reasonably practical means of eliminating hazards have been introduced.

### **CONTROLLED PRODUCTS**

- All controlled products require that a current Material Safety Data Sheet (MSDS) be given to the employee using the product.
- Employees who purchase or receive materials must ensure that the MSDS is received for those products.
- Selecting products for use on **STARKS PLUMBING AND HEATING LTD.** work sites is based on risk assessment. Where cost and product effectiveness are equal, **STARKS PLUMBING AND HEATING LTD.** selects products that pose less risk to employees and the environment.
- Hazardous products are not to be purchased for **STARKS PLUMBING AND HEATING LTD.** unless a risk assessment has been completed and the purchase has been pre-approved by management.

### **OCCUPATIONAL HYGIENE, HEALTH AND ERGONOMICS**

Occupational hygiene seeks to prevent or reduce employee exposure to occupational health hazards that can lead to disease and/or injury. This is done through a systematic process that anticipates, recognizes, measures, evaluates, and controls health hazards. This requires specific expertise, and must be completed by qualified individuals.

Direct any Occupational Hygiene, Health and Ergonomic issues to the Safety Manager for action.

**EMERGENCY CONTROL OF HAZARD**

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

- (a) Only those workers competent in correcting the condition, and the minimum number necessary to correct the condition, may be exposed to the hazard, and
- (b) Every reasonable effort must be made to control the hazard while the condition is being corrected.

**RECORD KEEPING**

All formal hazard assessments will be completed on a **STARCS PLUMBING AND HEATING LTD.** Hazard Assessment Report form or the equivalent.

Copies of workplace hazard assessments are to be kept on file for a period of three (3) years.

**SECTION 3.0 – SAFE WORK PRACTICES**

Safe Work Practices are written descriptions of how work is generally carried out and allow flexibility in how the work is accomplished. Due to the diversity of circumstances and situations within **STARKS PLUMBING AND HEATING LTD.** the information contained in Safe Work Practices cannot be considered complete or applicable in every situation.

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

**DEVELOPMENT**

Employees, Supervisors and Management of **STARKS PLUMBING AND HEATING LTD.** will be involved in the development and/or review of these Safe Work Practices.

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

**REVIEW**

Safe Work Practices will be periodically reviewed to ensure that they are complete, accurate and applicable.

Suggestions for additional Safe Work Practices or changes to the existing Safe Work Practices can be made during safety meetings or in writing to management.

Safe Work Practices can be used in job-specific training to instruct employees in their job duties and to verify employee competency and understanding.

**APPROVAL**

Management will approve all Safe Work Practices for **STARKS PLUMBING AND HEATING LTD.**

**AVAILABILITY**

Safe Work Practices applicable to the work being performed will be available to all workers at the work site.

Applicable Safe Work Practices should be reviewed at Tailgate/Toolbox Meetings before the start of work.

**RESPONSIBILITIES****All Employees**

- Follow the guidelines described in a Safe Work Practice.

**Supervisors / Managers**

- Ensure that the Safe Work Practices and associated Safe Work Procedures are available for review at the work site.

**SAFE WORK PRACTICES – TABLE OF CONTENTS**

<b>SWP-01</b>	<b>AERIAL PLATFORMS</b>
<b>SWP-02</b>	<b>BACKHOE OPERATION</b>
<b>SWP-03</b>	<b>CHEMICALS, BIOLOGICAL, &amp; HAZARDOUS SUBSTANCES</b>
<b>SWP-04</b>	<b>CRANES, HOISTS &amp; LIFTING DEVICES</b>
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<b>SWP-06</b>	<b>ELECTRICAL SAFETY</b>
<b>SWP-07</b>	<b>EXCAVATION AND TRENCHING</b>
<b>SWP-08</b>	<b>FIRE EXTINGUISHERS</b>
<b>SWP-09</b>	<b>GROUND DISTURBANCE</b>
<b>SWP-010</b>	<b>HANTAVIRUS</b>
<b>SWP-011</b>	<b>HOUSEKEEPING</b>
<b>SWP-012</b>	<b>LIFTING &amp; HANDLING LOADS</b>
<b>SWP-013</b>	<b>LOCKOUT / TAG OUT</b>
<b>SWP-014</b>	<b>NOISE</b>
<b>SWP-015</b>	<b>OFFICE SAFETY</b>
<b>SWP-016</b>	<b>OVERHEAD POWER LINES</b>
<b>SWP-017</b>	<b>PORTABLE LADDERS</b>
<b>SWP-018</b>	<b>POWER AND HAND TOOLS</b>
<b>SWP-019</b>	<b>REFUELING EQUIPMENT</b>
<b>SWP-020</b>	<b>RIGGING</b>
<b>SWP-021</b>	<b>SCAFFOLDING</b>
<b>SWP-022</b>	<b>SLIPS, TRIPS, &amp; FALLS</b>
<b>SWP-023</b>	<b>WELDING</b>
<b>SWP-024</b>	<b>POWERED MOBILE EQUIPMENT</b>
<b>SWP-025</b>	<b>CARGO SECUREMENT</b>
<b>SWP-026</b>	<b>HOT WORK</b>
<b>SWP-027</b>	<b>DRILL PRESS</b>
<b>SWP-028</b>	<b>METAL CUT OFF (CHOP) SAW</b>
<b>SWP-029</b>	<b>PORTABLE &amp; BENCH GRINDER SAFETY</b>
<b>SWP-030</b>	<b>PLASMA CUTTER</b>
<b>SWP-031</b>	<b>OPERATION OF 750/850 DOZERS</b>
<b>SWP-032</b>	<b>OPERATION OF TRACK HOE</b>
<b>SWP-033</b>	<b>OPERATION OF VIBRATORY ROLLERS &amp; PACKERS</b>
<b>SWP-034</b>	<b>OPERATION OF RUBBER TIRE LOADER</b>
<b>SWP-035</b>	<b>SKID STEER OPERATION</b>
<b>SWP-036</b>	<b>SHEARING MACHINES</b>

**SWP-001 – AERIAL PLATFORMS**

<b>TITLE</b>	Aerial Platforms
<b>GENERAL</b>	Protecting workers from injuries associated with use of aerial platforms
<b>APPLICATION</b>	As per job description
<b>PROTECTIVE MECHANISMS</b>	Safe work procedure Permit system As per manufacturer instructions ERP (emergency Response Plan)
<b>SELECTION AND USE</b>	Safe work procedure Job requirement
<b>SUPERVISOR RESPONSIBILITY</b>	Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements
<b>WORKER RESPONSIBILITY</b>	<ol style="list-style-type: none"> <li>1. Read and follow manufacturer operators instructions.</li> <li>2. Perform job site inspection and walk around inspections of platform.</li> <li>3. Ensure ground is firm and level.</li> <li>4. Be aware of power line proximity.</li> <li>5. Ensure correct aerial platform is utilized.</li> <li>6. Do not overload the machine at any time.</li> <li>7. No platform is to be made higher by the use of a scaffold, boxes, or ladders.</li> <li>8. Wear a safety harness attached to the machine when operating any aerial platform.</li> <li>9. Get on and off the platform when it is in lowered position.</li> </ol>
<p>* The information presented in this publication is intended for general use and may not apply to every circumstance. It is not a definitive guide to government regulations and does not relieve persons using this publication from their responsibilities under applicable legislation. The Alberta Construction Safety Association does not guarantee the accuracy of, nor assume liability for, the information presented here. Individual counselling and advice are available from the Association.</p>	

**SWP 02 – BACKHOE OPERATION**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

1. Be familiar with oh & s requirements in terms of shoring and sloping
2. Do a visual inspection of equipment.
3. Do a fluid level check
4. **If “roading” equipment, ensure that all 4 way flashers are working and on, and that appropriate speeds are maintained. Observe traffic laws.**
5. Ensure you are using the right equipment for the job – bucket size, etc.
6. Ensure you are wearing your seat belt
7. Start at end of excavation so that you can move backwards as the excavation progresses
8. Lower front stabilizers
9. Lower rear stabilizers
10. Set bucket teeth at a shallow angle and let the dipper do most of the work **or** set bucket teeth at a deeper angle and use a combination of boom and bucket action
11. Continue digging a few inches at a time, until the desired depth has been achieved.
12. To move backwards:
  - a) Raise the boom and bring it to the center of the loader
  - b) Curl the bucket and pull in the dipper
  - c) Retract the stabilizers
  - d) Push the traction lock override button (or its equivalent) **AND SLOWLY MOVE THE MACHINE AWAY FROM THE TRENCH**

**OTHER IMPORTANT INFORMATION FOR THE SAFE OPERATION OF A BACK HOE:**

1. Keep bystanders out of the swing area.
2. Keep your feet behind the shields at all times.
3. Never operate your backhoe from the ground.
4. The boom, dipper and bucket are very powerful and can cause serious injury or death if you don't follow proper precautions.
5. Stay away from overhangs or ditches and do not dig under stabilizers.
6. If you are working on a slope, keep the machine level. Try to dump uphill to maintain stability.
7. If you need to pick up an object using the backhoe, keep the load balanced. Swing the load low and slow. Keep the load close to the loader for stability. Never swing the load over anyone.
8. Anytime you need to leave the backhoe, lower the bucket or attachment to the ground, stop the engine, remove the ignition key and exit the backhoe.
9. When you are ready to drive to the next job site, make sure that you have fully raised both the front and rear stabilizers and you've put the backhoe seat into the "down" position for better visibility. Install the transport locking pin before driving to the next job.
  - a. Never drive the loader from the backhoe seat.

- b. Always return to the loader seat before driving the machine to a new work area to obtain the protection provided by the seat bar, seat belt and ROPS.
- 10. Avoid obstacles that could exceed the clearance between the backhoe and the ground.
- 11. On slopes, drive the loader straight up and then back it down. Never drive across slopes.
- 12. Check doorways, underpasses and tunnels for proper clearance.
- 13. Before you drive a loader and backhoe up a trailer ramp, remember to disengage the backhoe-frame locking levers and raise the lift arms slightly to provide clearance between the stabilizers and the ramp. Lock the backhoe-frame locking levers after you park on the trailer deck. Also, drive the unit onto the trailer only while seated in the loader seat.

**SWP-03 – CHEMICALS, BIOLOGICAL HAZARDS AND HAZARDOUS SUBSTANCES**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

At times; work undertaken by **STARKS PLUMBING AND HEATING LTD.** may expose workers to chemical hazards, biological hazards and harmful substances. Every effort will be made to ensure that workers are appropriately educated and protected from the hazards of the worksite.

All workers will be competently trained in Workplace Hazardous Materials Information System (WHMIS).

The supervisor will be responsible to advise all workers who use hazardous materials, products, and substances of any hazards associated with them and the locations where the potential risk of exposure may occur prior to work commencing at the current worksite. The supervisor will also instruct the workers in the proper use, care, and handling of those materials, products, and substances.

Where reasonably practicable, no worker will be exposed to a substance listed in Schedule 1, Table 2 at a concentration exceeding its ceiling limit at any time.

**TYPES OF HAZARDS****CHEMICAL HAZARDS**

- Chemical hazards are any element, chemical compound, or mixture of elements and/or compounds which is a physical hazard or a health hazard. The standard applies to all hazardous chemicals regardless of the quantity or state (i.e. liquid, solid or vapor).
- A chemical is a physical hazard if it possesses flammable, combustible, explosive, oxidizing, pyrophoric or reactive properties, or if it is an organic peroxide or compressed gas.

**BIOLOGICAL HAZARDS**

- A biological hazard is an organism, or substance derived from an organism, that poses a threat to human health. This can include:
  - human waste (urine and stool)
  - human fluids (blood, saliva)
  - microorganism, virus or toxin (cold, flu)

**EXPOSURE**

- Workers may be exposed to chemical and biological hazards throughout the entire work area. Health hazards associated with the exposure to any chemical or biological hazards vary greatly depending on the substance and 5 factors
  - how toxic the substance is

- how quickly the substance burns or evaporates
  - how the substance reacts with other chemicals
  - how much substance exists at the work site
  - how long workers have been exposed to the substance
- People are typically exposed to chemical and biological hazards in three ways
    - Inhalation
    - Indigestion
    - Injection
  - Chemical and biological substances are a health hazard if they produce acute or chronic health effects in exposed individuals. Types of health hazards include:
    - carcinogens
    - reproductive toxins
    - sensitizers
    - agents that damage the lungs, skin, eyes, or mucus membranes
    - irritants
    - corrosives

### APPLICATION

Two major regulatory systems address hazardous materials in the workplace:

- Workplace Hazardous Materials Information Sheet (WHMIS)
- Transportation of Dangerous Goods Legislation (TDG)

WHMIS deals with safe use and handling of hazardous materials; TDG addresses their safe transport.

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS legislation is intended to provide all workers with information on the chemicals and substances that they handle or to which they may be exposed. There are three main requirements for WHMIS compliance:

- **TRAINING** - All persons working at a worksite where chemicals or controlled substances are being handled must be provided with training on the legislative requirements and how **STARKS PLUMBING AND HEATING LTD.** is meeting those requirements.
- **LABELLING** - All containers of hazardous controlled products must be labeled, with either a supplier label (where the product is still in the original shipping container), or a workplace label (where the product has been decanted into another container). The labels are to identify the product by name, hazard classification (i.e.: corrosive, toxic, flammable, poisonous, reactive, compressed, etc.), and the required protective equipment for safe handling. Whenever any product is put into another container, ensure that a WHMIS tag or label is affixed to the container.
- **MATERIAL SAFETY DATA SHEETS (MSDS)** - MSDS's provide detailed information specific to the product being handled. MSDS's specific to all the products at the worksite must be made available to all workers and information must be kept current (within three years). Information in the MSDS for a product includes: physical, chemical, toxicological, and flammability information; emergency response procedures; required safe handling techniques; and manufacturers' information. All applicable MSDS's are in a binder in each truck. These are to be kept updated every three years by the supervisor.

## CHEMICAL HAZARD IDENTIFICATION

### IDENTIFY THE HAZARDS

You must clearly identify hazardous materials in the workplace. The WHMIS labeling system is used to identify 6 classes of hazardous products which are:

#### Class A - Compressed Gas



Any material that is normally a gas which is placed under pressure or chilled, and contained by a cylinder is considered to be a compressed gas. These materials are dangerous because they are under pressure. If the cylinder is broken, the container can 'rocket' or 'torpedo' at great speeds and this is a danger to anyone standing too close. If the cylinder is heated the gas may try to expand. This may cause the cylinder to explode. Leaking cylinders are also a danger because the gas that comes out is very cold and it may cause frostbite if it touches your skin (for example: carbon dioxide or propane). Common examples include: compressed air, carbon dioxide (fire extinguishers), propane, oxygen, ethylene oxide, and welding gases. The hazard symbol is a picture of a cylinder or container of compressed gas surrounded by a circle. Additional dangers may be present if the gas has other hazardous properties. For example: propane is both a compressed gas and it will burn easily. Propane would have two hazard symbols - the one for a compressed gas and another to show that it is a flammable material.

#### Class B - Flammable and Combustible Material



Flammable means that the material will burn or catch on fire easily at normal temperatures (below 37.8 degrees C or 100 deg F). Combustible materials must usually be heated before they will catch on fire at temperatures above normal (between 37.8 and 93.3 deg C or 100 and 200 deg F). Reactive flammable materials are those which may suddenly start burning when it touches air or water, or may react with air or water to make a flammable gas. The material may be a solid, liquid or gas which makes up the different divisions that fall under this class. Common examples include: propane, butane, acetylene, ethanol, acetone, turpentine, toluene, kerosene, spray paints, varnish, ammonia and chlorine. The symbol for this class is a flame with a line under it inside a circle.

#### Class C - Oxidizing Materials



Oxygen is necessary for a fire to occur. Some chemicals can cause other materials to burn by supplying oxygen. Oxidizers do not usually burn themselves but they will either help the fire by providing more oxygen or they may cause materials that normally do not burn to suddenly catch on fire (spontaneous combustion). In some cases, a spark or flame (source of ignition) is not necessary for the material to catch on fire but only the presence of an oxidizer. Oxidizers can also be in the form of gases (oxygen, ozone), liquids (nitric acid, chromic acid, sodium hypochlorite) and solids (chromates, potassium permanganate). Some oxidizers such as the organic peroxide family are extremely hazardous because they will burn (they are combustible) as well as they have the ability to provide oxygen for the fire. They can have strong reactions that can result in an explosion. The symbol for oxidizing materials is an "o" with flames on top of it inside a circle.

**Class D - Poisonous and Infectious Materials**

Class D materials are those that can cause harm to your body. They are divided into three major divisions.

**Division 1: Materials Causing Immediate and Serious Toxic Effects**

These are materials that are very poisonous and immediately dangerous to life and health. Serious health effects such as burns, loss of consciousness, coma or death within just minutes or hours after exposure are grouped in this category. Most D-1 materials will also cause longer-term effects as well (those effects that are not noticed for months or years). Examples of some D-1 materials include carbon monoxide, sodium cyanide, sulphuric acid, toluene-2,4-diisocyanate (TDI), and acrylonitrile. The symbol for Class D - Division 1 is a skull and crossed bones inside a circle.

**Division 2: Materials Causing Other Toxic Effects**

These materials are poisonous as well. Their effects are not always quick, or if the effects are immediate but they are only temporary. The materials that do not have immediate effects, however, may still have very serious consequences such as cancer, allergies, reproductive problems or harm to the baby, changes to your genes, or irritation / sensitization which have resulted from small exposures over a long period of time (chronic effects). Examples include: asbestos fibers, mercury, ammonia, acetone, benzene, propane, silica, lead and cadmium. The symbol for materials causing other toxic effects looks like a "T" with an exclamation point!" at the bottom inside a circle.

**Division 3: Bio-hazardous Infectious Materials**

These materials are organisms or the toxins they produce that can cause diseases in people or animals. Included in this division are bacteria, viruses, fungi and parasites. Because these organisms can live in body tissues or fluids (blood, urine), the tissues and fluids are also treated as toxic. Bio-hazardous infectious materials are usually found in a hospital, health care facility, laboratories, veterinary practices and research facilities. Workers in these places do not usually know which tissues or fluids contain dangerous organisms. For this reason, the workers assume that every sample is dangerous and proper protection is used all the time. Examples of bio-hazardous infectious materials include the AIDS/HIV virus, Hepatitis B and salmonella. The symbol for this division looks like three "c"s joined together with a little circle in the middle all inside a circle.

### Class E - Corrosive Materials



Corrosive is the name given to materials that can cause severe burns to skin and other human tissues such as the eye or lung, and can attack clothes and other materials including metal. Corrosives are grouped in this special class because their effects are permanent (irritants whose effects may be similar but temporary are grouped in Class D-2). Common corrosives include acids such as sulphuric and nitric acids, bases such as ammonium hydroxide, caustic soda and potassium and other materials such as ammonium, chlorine, and nitrogen dioxide. The symbol for a corrosive is a picture of two test tubes pouring liquid on a bar (piece of metal) and a hand with lines coming off of them inside a circle.

### Class F - Dangerously Reactive Materials



A material is considered to be dangerously reactive if it shows three different properties or abilities: first, if it can react very strongly and quickly (called "vigorously") with water to make a toxic gas; second, if it will react with itself when it gets shocked (bumped or dropped) or if the temperature or pressure increases; and thirdly, if it can vigorously join to itself (polymerization), break down (decomposition) or lose extra water such that it is a more dense material (condensation). If a material is dangerously reactive, it will most likely be described as "unstable". Most of these materials can be extremely hazardous if they are not handled properly because they can react in such a quick manner very easily. Examples of these products are ethyl acrylate, styrene, vinyl chloride, benzyl peroxide, picric acid and aluminum chloride. The symbol for dangerously reactive materials is a picture of a test tube with sparks or lines coming out of the tube surrounded by a letter "R" inside a circle.

Prominently displayed hazard warning placards and signs are also used to alert workers to hazardous conditions.

### CHECK THE LABELING

You must be aware of the precautionary measures and the potential hazards associated with the materials you use or transport.

Hazardous materials information is available from:

- Properly labeled containers (WHMIS and/or TDG labels)
- Material Safety Data Sheets (MSDS's)

To find out how to store, handle or use a hazardous chemical, check the product label. Employers are required to label any containers that have had controlled products poured into them or use on a worksite.

### AFFIX WORKPLACE LABELS

- If the product has not been labeled by the supplier, or if the labeling provided is illegible, you must complete and affix a workplace label after consulting the latest Material Safety Data Sheet (MSDS).
- Apply workplace labels whenever the contents of supplier containers are decanted to a

separate container, repackaged or redistributed. Always decant chemicals to CSA approved containers (e.g., never use recycled windshield washer bottles).

- Do not handle, use or transport unidentified hazardous materials.
- Before using a controlled product, even if it is labeled, check that an MSDS is available for reference. If you do not know what the hazards are and cannot locate the MSDS information, do not handle the product.

### **CHEMICAL HAZARD USAGE AND HANDLING**

#### **SELECT LEAST HARMFUL PRODUCTS**

Use and handle chemicals that pose the least amount of risk to workers and the environment.

#### **PROTECT YOURSELF**

Always protect yourself from potential injury. When handling hazardous materials:

- Follow the precautions outlined on the labels and described in the material safety data sheets.
- Be aware that chemical vapors pose a potential inhalation hazard as well as a possible fire and explosion hazard; therefore, use respiratory protection when required to do so (Refer to the Respirator Protection Procedure for further information).
- Be sure you are wearing appropriate skin and eye protection and protective clothing. The type of protective equipment required will depend on the potential mode of entry (e.g., through inhalation or the skin) as well as the degree of hazard.
- Make sure you do not ingest harmful substances by eating, drinking or smoking in areas that may be contaminated with them.
- Use showers and change work clothes when exposed to hazardous materials (for example, wherever there is a potential exposure to lead, mercury or other toxic substances).

#### **HANDLING FLAMMABLES/COMBUSTIBLES**

Pay particular attention to risk associated with flammable and combustible substances.

- Do not mix, clean or use flammable or combustible liquids in an open vessel if near a potential source of ignition.
- Ensure that static electricity is effectively controlled wherever flammable or combustible substances (includes solids, liquids, vapors, and gases) are present.
- Do not smoke or use an open flame near flammable or combustible substances.
- If clothing becomes contaminated with a flammable or combustible substance:
  - Remove the contaminated clothing and ensure it is decontaminated before reuse.
  - Wash any skin that has come into contact with the substance as soon as possible.
  - Refrain from any activity that could result in production of a spark.

#### **CHECK PROCEDURES**

Refer to local procedures, pre-job work plans, MSDS and safe work permits for specific handling procedures.

#### **PREVENTING FIRE/EXPLOSIONS**

In areas where there is potential for creating an explosive atmosphere ensure that:

- Equipment used in the hazardous location will not ignite any flammable or combustible substance in the atmosphere.
- Static electricity is effectively controlled. This includes bonding and grounding containers and ensuring that sparks cannot be produced by any means in the area.
- The boundaries of the hazardous location are:
  - Clearly marked to warn workers of the nature of the hazards associated with the presence of the flammable or combustible substance in the work area,
  - Fenced off to prevent general entry of workers or equipment into the work area.
- Workers have been trained in fire emergency and specific local work procedures.
- Take the precautionary measure listed above and any other measures necessary to address the specific situation to prevent chemical incidents (such as explosions and fires) from happening.

### IN THE EVENT OF A SPILL

Reduce to a minimum the potential for exposure of workers to hazardous materials by immediately:

- Identifying products.
- Assessing potential exposure hazards (refer to the MSDS and/or labels for immediate information).
- Obtaining personal protective equipment for all involved in the spill response and containment operations.
- Controlling ignition sources to a minimum.
- Containing the spread and minimizing the quantity of the spill or release.
- Ensuring that people not required for the immediate containment are kept out of the danger area.
- Clean up the spill, and place the material in suitable, labeled containers.

### TRANSPORTATION OF DANGEROUS GOODS (TDG)

The purpose of TDG legislation is to ensure that all people that may be exposed to or that must respond to an emergency are provided with information about the safe handling of hazardous products in transit. There are also three main requirements for TDG legislative compliance, including:

- **PLACARDING** - All controlled / designated product loads must be placarded on all four sides of the vehicle. Again, these placards identify the products characteristics (i.e.: flammable, compressed, poisonous, etc.).
- **MANIFESTING** - Information specific to the product, shipper, receiver and carrier of the product has to accompany the product with the driver for each load carried. Some exemptions to the information required are available through the oil and gas industry associations (such as CAODC, PSAC, SEPAC and CAPP). Copies of these exemptions must be carried with the driver in place of the manifest (See SCC Form 93.1 to forward to L3 station-cal-book).
- **TRAINING** - All carriers of these products are required to be certified in the requirements and the fulfillment of the legislation.

### PRECAUTIONS

Take all measures to reduce the risk to public safety described in this procedure and required by the Transportation of Dangerous Goods Act.

**USE SAFETY MARKS**

- Ensure hazardous materials to be transported are identified with safety marks (labels, placards, signs). These marks identify the type and degree of risk the dangerous goods represent.
- Other safety marks include
  - Product Identification Number (PIN) or UN number and correct shipping name of the product.
  - Transporter Pre-Qualification Program.
- Order the safety marks you require from local suppliers.
- Before shipping hazardous materials, ensure that only an approved, qualified carrier is used.

**DOCUMENT SHIPMENTS**

You must also provide product information in a shipping document, such as a bill of lading. If you receive a shipment of hazardous materials, verify that the bill of lading is in order to keep it on file for a minimum of 2 years. **(Note:** If proper documentation or labeling is not provided by the carrier, refuse to receive the shipment.)

**CHECK PACKAGING**

Before transporting hazardous materials, verify that approved containers or packages have been used and that they have not been damaged. Check for defects and repair leaks. Clean up and report any spills.

**SAFE WORK PROCEDURE**

- Keep work area clean and orderly.
- Label all hazardous materials, products, and substances according to guidelines specified through your WHMIS training.
- Read the MSDS and labels to know the procedures for safe use, storage, and handling of all hazardous materials, products, and substances you work with.
- Review MSDS and labels periodically to ensure that they contain the most up-to-date information.
- Know all the hazards (fire/explosion, health, chemical reactivity, corrosivity, pressure) of the hazardous materials, products, and substances you work with.
- Know all emergency procedures associated with all hazardous materials, products, and substances you work with.
- Know the location of decontamination stations (eyewash stations, showers) and how to use them prior to commencing work.
- If a worker may be contaminated by a harmful substance at a worksite the employer shall ensure that a means to decontaminate the worker is available.
- For chemicals that are harmful to the eyes or skin the worker will have immediate access to emergency baths, showers, and eye equipment.
- Inspect all personal protective equipment to ensure that it can perform the functions for which it was designed.
- Wear the proper personal protective equipment required for each job that you perform.
- Personal protective equipment (goggles, face shields, gloves, respiratory protection) will be made available where all harmful substances are used and stored.
- Store incompatible hazardous materials, products, and substances in separate areas.

- Limit the volume of hazardous materials, products, and substances to the minimum needed for short operational periods.
- Ensure that all hazardous materials, products, and substances are contained in the event that a storage container should break or spill its contents.
- All harmful substances used or stored at the worksite; are to be clearly identified using WHMIS, or its container is clearly identified using WHMIS and they are used and stored in such a way that the use or storage is not a hazard to workers.
- Adequate ventilation will be provided where all harmful substances are used or stored.
- Ensure that proper containers are used for transportation, storage and field use of harmful substances.
- Use non-flammable solvents for general cleaning.
- When flammable liquids are used, no hot work will be ongoing in the area.
- If a hazardous waste is generated at the work site, **STARKS PLUMBING AND HEATING LTD.** will ensure that workers are trained in the safe storage, handling and identification of the hazardous waste.

**SWP-04 – CRANES, HOISTS & LIFTING DEVICES**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

Lifting devices are only to be operated by a competent worker authorized by the employer to operate the equipment.

Upon request by the employer; an operator, before operating a lifting device, must be able to demonstrate that the worker is competent in the equipment's operation, load charts and in the code of signals for hoisting operations.

Lifting devices must legibly show the following:

- Manufacturer's rated load capacity
- Manufacturer's name
- Model
- Serial Number
- Year of manufacture or shipment date

**LOG BOOKS**

Cranes, hoists and lifting devices must have a log book. The log books may be paper or electronic, however, each entry in a paper log book must be signed by the person doing the work. It must include the following:

- the date and time when any work was performed on the lifting device
- length of time in lifting service
  - recorded as hours of service if the lifting device is equipped by the manufacturer with an hour-meter, or
  - if required by the manufacturer's specifications
- all defects or deficiencies and when they were detected
- inspections including examinations, checks and tests that are performed (including those specified in the manufacturer's specifications)
- repairs or modifications performed
- a record of a certification under section 73
- any matter or incident that may affect the safe operation of the lifting device
- any other operational information specifically identified by the employer
- in the case of a tower crane, whether or not the weight testing device was lifted for that working day, before the work of lifting loads began.

Before operating a lifting device, the operator must be familiar with all recent entries in its log book.

**PRECAUTIONS**

- Never move a load until you are assured that the working conditions are safe.
- Never permit anyone to ride the lifting hook or the load.

- Never work under a suspended load, unless the load is properly supported.
- Never leave a load suspended when the hoist or crane is unattended.
- Ensure that safety latches on hooks are in place and in good working condition.
- Ensure that the signaler and the hoist operator discuss the signals prior to performing the lift.
- Make sure a tagline is used to control the load.
- Every effort is to be made to ensure that loads are not passed over workers.
- A worker must not stand or pass under a suspended load unless the worker has been effectively warned of the danger and the operator of the lifting device knows the worker is under the suspended load
- Loads must be positioned as close to the ground or grade as possible before unloading.

### **CONSIDERATIONS WHEN OPERATING CRANES, LIFTING DEVICES & OTHER EQUIPMENT**

#### **BEFORE MOVING A LOAD**

- Inspect equipment, cables, hooks, and document the inspection – keep for duration of equipment possession plus 1-year after equipment is no longer on premise.
- Ensure all loose materials, parts, blocking and packaging have been removed from the load before lifting.
- Remove any slack from the sling and hoisting ropes before lifting the load.
- Make sure that the lifting device sits in the saddle of the hook.

#### **EVALUATING THE LOAD**

- Determine the weight of the load prior to making a test lift to ensure that the hoisting equipment can operate within its capabilities.

#### **BALANCE LOADS**

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

#### **MOVING A LOAD SAFELY**

- Make sure everyone is away from the load before hoisting; to do so - sound a bell, siren or other warning device and slowly begin hoisting the load.
- Follow signals only from one signaler in charge of the lift.
- Move crane controls smoothly. Avoid abrupt, jerky movements of the load.
- Ensure nothing links or catches on the load while raising it or traveling.
- Ensure that nothing obstructs the movement of a load.

#### **LANDING THE LOAD**

- Keep the load under control when lowering a load. If the braking system fails, the load can usually be lowered by reversing the hoist controller to the first or second point.

**SWP-05 – DRIVING**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

Driving is a privilege. For many people, it is a major component of how they make their living. It is also a safety issue. During a recent ten-year period, there were fifty-two motor vehicle incident fatalities in the Alberta upstream oil and gas industries alone. Operating a vehicle within legal standards is not enough. Good defensive driving practices and road courtesy are essential to avoid incidents. Always remember, it's a must to drive within the conditions.

Vehicle incidents can have serious consequences for the employer involved. An obvious consequence is physical injury or death. In addition, there will be damage to equipment, which can result in lost productivity and lost jobs. Other major incident costs include replacement cost of the vehicle, increased insurance premiums, and uninsured costs. There are also hidden costs such as investigation time, overtime and the hiring and training of replacement workers. Another effect of incidents is the suffering of the injured. This can continue well after the incident and can put considerable financial burden and emotional stress on the family.

**VEHICLE OPERATION GUIDELINES**

- All drivers of company vehicles must possess a valid provincial driver's license.
- Conduct a pre-use inspection prior to operating a motor vehicle.
- Report any deficiencies to your manager and do not operate until deficiencies are corrected.
- Have knowledge and understanding of traffic laws and government regulations.
- Have knowledge and understanding of the manufacturer's recommendations for the type of motor vehicle being operated.
- Vehicles shall be operated in a safe and legal manner at all times.
- Fluid levels shall be checked at every fill up. This will include oil and water.
- Seat belts shall be worn at all times that the vehicle is in motion.
- No unauthorized person shall operate any company vehicle.
- Never operate a motor vehicle when you are under the influence of drugs or alcohol.
- Avoid driving when fatigued. Pull off to the side of the road and rest if necessary.
- Watch for signs of wildlife. Scan the road and bar ditches well ahead in search of wildlife that may enter the traffic area.
- All ignition systems shall be off and no smoking permitted while refueling.
- Vehicle shall be kept clean at all times and equipped with a fire extinguisher and first aid kit.
- In case of incident:
  - Pull off the road with all wheels off the main roadway, if possible.
  - Place warning reflectors where necessary.
  - Render first aid if needed.
  - Report incident ASAP to your supervisor.
  - Do not enter into any argument or dispute with the other people involved.
  - Make no admissions of liability or offer any settlement of claim.
  - Fill out **STARKS PLUMBING AND HEATING LTD.** Incident Report form.

## **SAFE VEHICLE OPERATION**

### **HAZARD RECOGNITION**

The majority of drivers spend most of their driving hours on paved highways and streets. Signs, road markings and good quality road surfaces assist them. Off-highway roads, on the other hand, are usually not so well marked. There is no center line, or other lines indicating shoulders and safe passing areas. Therefore, you must anticipate and recognize hazards. To do this, you must slow down, be watchful and think ahead.

Some examples of anticipating hazards are as follows:

- What types of vehicles use this road (i.e., logging trucks, farm machinery, etc.)?
- What hazards await around a blind curve (i.e., vehicles stopped, over-dimension vehicles, etc.)?
- What hazards can I expect in a muskeg or swampy area in the summer (i.e., soft spots in the road)?
- What hazard may exist in rocky, hilly areas (i.e., falling rocks, narrow curves carved out of the rock or hillside, etc.)?

Fatigue is a very real hazard to any driver on a long trip. It is a particular problem for off-highway driving. These roads require a much higher level of concentration to drive safely due to their lower quality when compared to paved highways. Even very short lapses in concentration can result in an incident.

You should ensure that you are properly rested before starting a trip. Make sure that you take regular rest breaks. Be particularly careful during the final stages of a long trip. Do not push yourself beyond your personal limits. This is another part of a good driving attitude.

### **OFF-HIGHWAY DRIVING PRACTICES**

It is important to recognize the additional hazards associated with driving on off-highway roads, these roads are not built to the standards of paved highways. They are often narrower, with sharper corners and steeper grades, as well as soft shoulders and unmanaged ditches. There may also be fewer signs to inform the driver of the road conditions ahead. Additional concerns include large trucks, slow traffic and wildlife on the road.

The road surface will be either gravel or dirt. There may be ruts, washboard and other hazards. Weather conditions present additional problems. In the spring and summer, you face dust and mud. In the fall and winter, you can be driving on snow or ice. All these factors combine to require drivers to slow down and stay alert.

Most off-highway roads are narrow when compared to paved highways. These roads typically have very narrow shoulders or none at all. In most cases vehicles can meet and pass each other, however, there is a smaller margin for error. A particularly narrow point is at bridge crossings, which may be much narrower than the roads they join. For this reason, approach off-highway bridges with caution. It may not be possible to have two-way traffic on the bridge. It may be possible for large hauls to coordinate routes. Traffic would enter one way and exit another. Another approach is to set up a two-way radio communication system with other drivers. This way a driver can periodically announce their position and arrange to pass each other at planned points.

Off-highway roads often run through very hilly terrain. You should expect to encounter hills where the grade is steeper than what would be acceptable on paved highways. Drivers will often speed up at the approach of a steep hill to get to the top without spinning out or powering-out. If you do this, do not exceed a safe speed for the road conditions. Also, do not exceed any posted speed limits. Make sure that your speed as you reach the top of the hill is low enough so that you could stop suddenly. There could be many hazards waiting for you on the other side of that hill. A vehicle could be blocking the road. There may be a one land bridge at the bottom of the hill with oncoming traffic and slippery road conditions. There may be animals on the road. The road may be washed out or damaged in some other way. You must also be prepared to meet other vehicles on or at the top of a hill. Watch for dust/snow clouds over the hill. At night, the glow of headlights can alert you to oncoming traffic. Gear down when driving down a steep hill. Let your engine do some of the braking and avoid excessive use of your brakes. Never coast downhill out of gear. This practice is very dangerous because you have less control over your vehicle.

### **EMERGENCY SKID CONTROL**

Skids occur when the friction between the wheels and the road is lost. The best way to defend yourself from a skid is to slow down. There are three types of skids:

- **Braking skid** - the vehicle wheels are not rolling (locked up)
- **Cornering skid** (steering skid) - too much speed in a curve (loss of cornering force)
- **Acceleration skid** - too much power is applied causing the drive wheels to spin.

The cornering skid and acceleration skid are both corrected by taking your foot off the accelerator and then steering in the direction you want to go. It is important to start steering quickly. As your vehicle straightens out, straighten the front wheels. We noted above that locking up your wheels causes a braking skid. Therefore, to correct this

situation, you should release enough brake pressure to get your wheels rolling again. This will allow you to steer the vehicle. Steer in the direction you wish to go. Under certain conditions such as loose gravel and washboard, front wheel drive vehicles can be more difficult to control than rear wheel drive. Rear drive vehicles maximize the friction with the road by separating the power and steering functions between the front and the rear wheels. Therefore, be extra careful when operating a front wheel drive vehicle on off-highway roads.

### **RESTRICTED/CONTROLLED AREAS**

There are areas where the driving rules are set by specific groups and may be significantly different from what we are accustomed to following. These areas include military reserves, private property, Indian reserves and other restricted areas. Enter these areas with additional caution and drive defensively. Pedestrians may be walking close to or on the road. In addition, livestock such as horses or cattle may be roaming at large.

#### **Military Reservations**

- Entry into military reservations is generally through controlled access points. Drivers may have to register with military police and provide information on planned activities. You will be required to follow a designated route and adhere to military rules and regulation. Take particular care to observe speed limits.

- Be aware that military activity may be underway in the area. There may also be unexploded shells or other live munitions present. For these reasons, ensure that you leave your vehicle only in approved areas and do not take short cuts off your designated route.

### **Private Property**

- Companies involved in various land use activities may build private roads to access certain locations. These roads are often well constructed and maintained. Other private access routes include trails or roads on farmers' and ranchers' lands.
- If you drive on private roads, obey all signs but also be prepared for a lack of signs in some instances. Speed limits on private roads are set by the company. On farmland and other less traveled routes, there are generally no posted speed limits. Check with your manager or safety professional regarding speed on unmarked roads.
- Drive according to the conditions. In ranching areas, the owners may have installed a Texas gate to prevent cattle or other livestock from roaming off their land. These gates are usually very rough. This hazard can result in damage to your vehicle. Cross these gates carefully. In some cases, swinging gates may be encountered. Any closed gates should be left closed after you use them.

### **Other Restricted Areas**

- One of the major ongoing issues in our society is the quality of our environment. Vehicles that leave designated roadways to take short cuts can cause major environmental damage. In certain areas, severe erosion problems can result from using unauthorized routes away from the designated roads. Vehicles driving across rivers and streams can create surface damage and interrupt spawning activities. This can have a long-term negative effect on the fish population of that waterway. Other species are also affected by damage to rivers and streams. If you are planning to use any access routes that could result in severe disturbances, contact the appropriate local regulatory agency for approval.

## **DRIVING PRACTICES FOR ADVERSE CONDITIONS**

### **DRIVING IN POOR VISIBILITY**

Driving in conditions of poor visibility requires that you slow down and match your speed with the distance ahead that you can see effectively. Current road conditions must also be considered when setting your speed. If you fail to make these adjustments, you may well encounter a road hazard and not be able to react in time. These hazards could include a stalled vehicle, oncoming traffic on your side of the road, a narrow bridge, sharp curve or other road hazards. Always drive with your headlights on low beam. Keep in mind that if you suddenly slow down or stop on the road during instances of poor visibility, the vehicle behind may drive into you. High mounted taillights will help to reduce the hazard of being rear-ended.

### **Dust**

Dust hazards on off-highway roads are generally created by vehicle traffic but occasionally can be caused by strong winds. We will review the hazards as well as good driving practices for three driving situations: following, meeting and passing other vehicles.

- **Following:** When following other traffic on dusty roads, use the four-second rule. Drive at least four seconds behind the trailing edge of the dust cloud. This allows you time to make an evasive driving maneuver, or stop for hazards hidden in the dust ahead.

- **Meeting Vehicles:** When you meet a vehicle that is kicking up a lot of dust, you cannot see hazards behind that vehicle. There may be a vehicle behind it attempting to pass. There may be a vehicle entering the road ahead from a side road. As you go past the vehicle, you are now in the dust cloud and you may have near-zero visibility. Your best defense in these situations is to slow down considerably and keep right as you meet the other vehicle. The other driver should do the same reducing the size of the dust cloud. It is dangerous to stop completely because traffic following you may rear-end your vehicle.
- **Passing:** It is extremely dangerous to pass in dense dust conditions and should not be attempted unless necessary. Is there a long clear area ahead? Are there intersections ahead? What other hazards can you see? If everything is favorable, you may pass. Remember though, that you still cannot tell what is in the dust cloud being created by that vehicle. Pick a point ahead of the vehicle you wish to pass and wait until you go by it before attempting to pass. When driving through a valley, the differences in elevation between you and the vehicle ahead may also provide good enough visibility ahead to allow for a pass. When you pass, try not to pull back in too soon, as your dust will blind the other driver. When being passed, slow down and move as far right as safely possible to let the other driver complete the pass quickly.

### Fog

Fog is created when warm, moist air at ground level mixes with a cooler air mass. The density of the resulting fog can vary greatly. You must adjust your speed to the density of the fog and always be prepared for it to suddenly get denser ahead. You can judge density by how clearly you can see the lights of other vehicles. Remember that fog will be thicker in low-lying areas. Fog should be treated as a very serious hazard. If visibility is too low to proceed safely, then find a place to pull off the road. If you are not sure that where you are stopped is completely away from other traffic, then leave your headlights on and activate your four way flashers. Sound your horn when you hear approaching traffic. When driving in fog, use low beam headlights or properly aimed fog lamps. Do not use high beam as the light will reflect back at you, further reducing visibility. High humidity conditions associated with fog can cause the inside of your windshield to 'fog up'. Use your windshield defroster to prevent this problem. Use your windshield wipers and washer as necessary to prevent moisture or ice build-up outside.

### Snow

The hazards of driving in fresh snow are similar in many ways to those created by dust. Snow is kicked up by vehicles, causing problems for following, meeting and passing other vehicles. You can use similar driving techniques as described earlier for dust. However, make allowances for reduced traction and other hazards associated with snow on the road.

Driving in a snowstorm presents several types of hazards that you must contend with all at once. These include severely reduced visibility, slippery roads, snowdrifts on the road and disorientation. Obviously, you should not start a trip in a snowstorm unless absolutely necessary. If caught in a blizzard, go to the nearest town or center and wait for conditions to improve. If you must drive in a snowstorm, use low beam headlights. Keep your windshield defroster and rear defogger on. Use your windshield wipers as necessary to avoid snow and ice build-up. Be prepared for a storm by making sure your vehicle is in good operating conditions. Conduct thorough pre-trip inspections also ensure that you have an adequate cold weather survival kit. When traveling in any adverse weather conditions, ensure that other people know your route and destination. They should also know your estimated time of arrival so that they can call out a search if you don't arrive as planned. Maintain radio or telephone contact with them during your trip. Provide updates on your current location and situation as

well as the present weather and road conditions. Driving in blowing snow conditions requires a great deal of concentration. You may not be able to see the road very well and staying on it will therefore be difficult. You must slow down and drive within your ability to see what's ahead. Do not pass. Be prepared to meet other vehicles and to come upon vehicles stalled or abandoned on the road. If you are having difficulty maintaining your concentration, find a safe place to stop and rest. Another hazard relates to snow build up on the road. If you drive too close to the edge of the road, the snow will be deeper there and may 'pull' your vehicle into the ditch. If you feel this beginning to happen, steer back carefully toward the center of the road. Do not make an abrupt correction.

### **OTHER ADVERSE DRIVING CONDITIONS**

#### **Driving on Ice**

When driving on ice, it is important to have good tires that are properly inflated. Avoid any quick movements of the steering wheel. Slow down, accelerate gradually and allow more distance for stopping. Do not lock up your wheels when braking. All of these guidelines are intended to preserve your vehicles' traction on ice. The use of four wheel drive or chains will also increase your control of the vehicle on ice. Studded tires will also provide additional traction. Studs on the front wheels will give you improved steering control. Note that studs are not permitted in some areas. In other areas their use is restricted to winter.

#### **Driving in Mud and Rain**

There are a number of hazards to consider when traveling on wet, muddy off-highway roads. One problem area is the development of ruts in the road surface. Depending on the width of your vehicle, your wheels may or may not track properly in the ruts. Even if they do, it can be hard to pull out of the ruts to meet other vehicles or execute other driving manoeuvres. It is difficult to maintain steering control on heavily rutted roads. Therefore, slow down and be prepared for ruts to cause rapid movements in you steering wheel. In a deeply rutted road, you need good clearance to avoid damage to your undercarriage. If the ruts are deep enough, you will become 'high centered'.

Another hazard of muddy roads is reduced traction. As we noted for icy roads, you should avoid quick movements of the steering wheel. Also, accelerate gradually and allow more distance for stopping. In emergency stopping situations, use threshold braking and avoid locking up your wheels. Ensure that your tires are in good condition. You may need to install tire chains to reach your destination. Install chains before you get stuck.

Significant amounts of rain on off-highway roads can result in very soft shoulders. Avoid driving on shoulders as you can become stuck very easily. Be aware that washboard areas can be even more treacherous when wet. Water on the road can also hide deep potholes.

Hydroplaning occurs when your tires are riding on a film of water. Hydroplaning can occur any time there is standing water on the road. The result is a significant loss of traction and steering control. This hazard can also exist in areas where the road has been oiled regularly for dust control. The surface can be quite hard and in wet conditions it becomes very slippery and subject to hydroplaning. When meeting traffic be prepared to have your windshield covered in mud. Turn on your wipers before you meet the vehicle to reduce the amount of time that your vision is obscured. Make sure you have adequate supplies of windshield washer fluid and that you wiper blades are in good condition. Remember to stop as appropriate to clean your lights and markers. Finally, slow down and show patience and courtesy to other drivers.

## OFF-HIGHWAY DRIVING STRATEGIES

### **Plan Your Trip**

- Select a route
- Identify road conditions
- Identify weather conditions
- Advise others of your destination, route and ETA (Estimated Time of Arrival)

### **Conduct Pre-Trip Inspections**

- Inspect vehicle operating condition
- Inspect basic vehicle equipment
- Inspect safety equipment
- Inspect survival equipment

### **Recognize and Anticipated Hazards**

- Identify road hazards
- Identify adverse driving conditions

### **Reduce Speed**

- Less traction than paved highways
- Greater limitation in road design
- Inconsistent road surfaces

### **Drive Defensively**

- Demonstrate a good driving attitude
- Use road courtesy
- Follow traffic laws and regulations
- Maintain communications

## CELL PHONE USE

Cell phone users are more likely to get into traffic incidents than those who do not use them. Using cell phones in cars distracts drivers and increases the likelihood of incidents. Some precautions to practice while using a cell phone and driving include:

- **Keep Your Hands on the Wheel** - Buckle your seat-belt and place all ten fingers on the steering wheel. Wrap them firmly around it, positioned at "9 and 3 o'clock" and keep them there while you drive.
- **Use a Hands-Free Model** - A hands-free unit lets you keep both hands on the wheel while you talk on the phone. Attach the microphone to the visor just above your line of vision, so you can keep your eyes on the road.
- **Use Speed Dialing** - Program frequently called numbers and your local emergency number into the speed dial feature of your phone for easy, one-touch dialing. When available, use auto answer or voice-activated dialing.
- **Take a Message** - Let your voicemail pick up your calls in tricky driving situations. It's easy to retrieve your messages later on.
- **Know When to Stop Talking** - Keep conversations brief so that you can concentrate on your driving.
- **Keep the Phone in its Holder** - Make sure your phone is securely in its holder when you are not using it. That way it won't pop out and distract you when you are driving

**SWP-06 – ELECTRICAL SAFETY**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

Electrical shock is responsible for one out of every ten workplace deaths and can cause many serious injuries. This isn't always due to high voltage shock either; a shock from even a small amount of electricity can kill you. So if you receive a minor electric shock, report it immediately. If the circumstances had been just slightly different – if your gloves or boots had been wet, for example – you could have been killed.

Electricity always follows the path of least resistance, traveling through the best conductor it can find on its way to the ground. The human body is a great conductor of electricity. When electricity travels through the body, it causes serious damage including disruption of the heart beat and burning of internal organs.

Many electrical shocks are caused by defective electrical equipment. If insulation is damaged, it won't protect you from contact with the electricity. Incorrectly repaired electrical equipment can cause the electricity to take unexpected routes.

**STARKS PLUMBING AND HEATING LTD.** will ensure that electrical equipment used in electrical installations within the jurisdiction of the inspection department shall be approved and shall be of a kind or type and rating approved for the specific purpose for which it is to be employed.

Only competent, qualified electrical workers are permitted to construct, install, alter, repair, or maintain electrical equipment on behalf of **STARKS PLUMBING AND HEATING LTD.** Only qualified electrical workers may enter electrical rooms and enclosures containing live parts.

All employees of **STARKS PLUMBING AND HEATING LTD.** shall be trained in electrical safety training. Employees will be provided training on working safely with electricity, recognition of electrical hazards, prevention of electrical shock and arc flash, and recognition of electrical shock and arc flash hazard labels.

**CLASSIFICATION OF HAZARDOUS LOCATIONS**

Hazardous locations shall be classified according to the nature of the hazard as follows:

**CLASS I**

Flammable gases or vapours are or may be present in the air in quantities sufficient to produce explosive gas atmospheres.

**CLASS II**

Presence of combustible or electrically conductive combustible dusts.

**CLASS III**

Presence of easily ignitable fibres or filings, but in which such fibres or filings are not likely to be in suspension in air in quantities sufficient to produce ignitable mixtures.

If electrical equipment is required in hazardous locations, it must be approved for use and for the specific gas, vapour, mist or dust that will be present. **STARKS PLUMBING AND HEATING LTD.** will ensure that no electrical equipment shall be used in a hazardous location, unless the equipment is essential to the process being carried on. Service equipment, panel boards, switchboards, and similar electrical equipment will, where practicable, be located in rooms or sections of the building in which hazardous conditions do not exist.

**PRECAUTIONS**

Regular inspection of your work area for electrical hazards is essential for preventing shock accidents. These are some of the things **STARKS PLUMBING AND HEATING LTD.** will regularly look for:

- Personal Protective Equipment must be worn for protection from electrical shock and/or arc flash. PPE must cover the entire body when working within the arc flash boundary. PPE may include, but is not limited to, arc flash suit with face shield, safety glasses, non-conductive head protection, and leather gloves and footwear. Rubber insulating gloves shall be worn for protection from electric shock due to inadvertent contact with an energized electrical conductor or circuit parts.
- All operating electrical equipment shall be kept in safe and proper working condition.
- Electrical equipment maintained for emergency service shall be periodically inspected and tested as necessary to ensure its fitness for service.
- Infrequently used electrical equipment maintained for future service shall be thoroughly inspected before use in order to determine its fitness for service. Defective equipment shall either be repaired or permanently disconnected.
- In locations where explosive or flammable materials or gases are present, special precautions shall be observed as follows: the flammable materials or gases shall not be stored or placed in dangerous proximity to electrical equipment, repairs or alterations shall not be made on any live equipment and fits or seals in enclosures shall be maintained in their original safe condition.
- When installed outdoors, arc-producing electrical equipment will not be installed within 1m of the discharge of a combustible gas relief device or vent.
- Make sure nothing interferes with the electrical grounding or electrical machinery and wiring.
- The path to ground from circuits, equipment, or conductor enclosures will be permanent and continuous, will have ample ampacity to conduct safely and currents liable to be imposed on it, and will have impedance sufficiently low to limit the voltage above ground and to facilitate the operation of the over-current devices in the circuit.
- Electrical equipment shall be installed and guarded so that adequate provision is made for the safety of persons and property and for the protection of the electrical equipment from mechanical or other injury to which it is liable to be exposed.
- Bare live parts shall be guarded against accidental contact by means of approved cabinets or other forms of approved enclosures except where this code exempts.
- Electrical equipment such as switchboards, panel boards, industrial control panels, meter socket enclosures and motor control centres that are installed in other than dwelling units and are likely to require examination, adjustment, servicing or maintenance while energized will be field marked to warn persons of potential electric shock and arc flash hazards. The

markings will be located so that it is clearly visible to persons before examination, adjustment, servicing, or maintenance of the equipment.

- Passageways and working space around electrical equipment will not be used for storage and will be kept clear of obstruction and arranged to give authorized persons ready access to all parts requiring attention.
- A minimum working space of 1m with secure footing will be provided and maintained about electrical equipment such as switchboards, panel boards, control panels, and motor control centres that are enclosed in metal, except that working space is not required behind such equipment where there are no renewable parts such as fuses or switches on the back and where all connections are accessible from locations other than the back.
- Each room containing electrical equipment and each working space around equipment will have suitable means of egress, which will be kept clear of all obstructions.
- Adequate illumination will be provided to allow for proper operation and maintenance of electrical equipment.
- Adequate ventilation will be provided to prevent the development around electrical equipment of ambient air temperatures in excess of those normally permissible for such equipment.
- Electrical installations will be made so that the probability of spread of fire through fire stopped partitions, floors, hollow spaces, firewalls or fire partitions, vertical shafts, or ventilating or air-conditioning ducts is reduced to a minimum. Where a fire separation is pierced by a raceway or cable, any openings around the raceway or cable shall be properly closed or sealed in compliance with the National Building Code of Canada.
- Get rid of overloaded “octopus” plugs.
- Avoid overloading circuits. If a circuit breaker trips, find out what the problem is. Never prop a circuit breaker in the “on” position.
- Check for damage such as frayed insulation on cords.
- Make sure all equipment is clean. Check for oil and dust which can cause overheating and fire hazards.
- Look for loose electrical connections. Switches, outlets and plugs wear out and need replacement periodically.
- Make sure all plugs match the outlets that they are plugged into.
- Check for equipment being used at a rate higher than its capacity because this can cause overheating which can damage the insulation. Wiring and equipment must be labeled as to the electrical current capacity to prevent overloading.
- Check for signs of overloaded electrical circuits. Circuit breakers which trip frequently and equipment which heats up or runs too slowly are warning signals of electrical overloading. Other signs of electrical malfunction include smoke coming from equipment, a burning odor or sparks.
- Do not allow cords or cables to cross traffic areas where they can be damaged. Do not allow cords near water or heat.
- If the electrical tool must be used outdoors or in a damp area, use a waterproof cord and Ground Fault Circuit Interrupter (GFCI) which will detect a leak of electrical current and shut off the power.
- Never allow electrical equipment to get wet. If it has gotten wet, remove it from service so it can be inspected and repaired or replaced. Even after the equipment dries out, it is unusable because the insulation can be damaged.
- Watch for signs of makeshift repairs on electrical equipment. Wiring and electrical repairs must only be carried out by persons who are authorized and qualified to do the work.
- Any equipment with damaged or defective electrical components that may render it unsafe for use shall be tagged and removed from service.

- Lockout procedures must be followed before electrically-powered equipment is inspected or repaired to prevent someone from turning on the power and injuring the person doing the maintenance or repairs. Before any work begins on an electrical conductor or electrical equipment and during the progress of that work, **STARKS PLUMBING AND HEATING LTD.** shall ensure that the electrical conductor or equipment is isolated, locked out, and connected to ground. If it is not practical to de-energize the electrical equipment before performing electrical work, alternative hazard controls must be implemented and approved before work begins.
- **STARKS PLUMBING AND HEATING LTD.** ensures that electrical extension or power supply cords being used for supplying energy to any electrical equipment:
  - a) Approved for the intended use and location of the electrical extension or power supply cord.
  - b) Is fitted with approved cord end attachment devices that are installed in an approved manner.
  - c) Is provided with a grounding conductor.
  - d) Is maintained and protected from physical or mechanical damage.
  - e) Is plugged into an approved GFCI plug adapter or GFCI receptacle (if used in a damp location).

**SWP-07 - EXCAVATION AND TRENCHING**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

*Before doing any digging, ensure all utilities have been notified and the accurate location of all underground facilities have been determined – including gas, oil, steam, water, sewer, communication and electrical.*

*Notification to excavate must be done **48 hours prior** if:*

- *Trench excavation exceeding **1.5 metres***
- *Any other excavation exceeding **1.5 metres***

**NOTE: 45 degree CUT BACK of SHORING is required if workers required to enter**

- *Direct supervision of all excavation work requiring workers to enter the excavation*
- *Workers must be instructed in the safe work practices*

**MAIN HAZARDS: The main hazards associated with Excavation & Trenching include: Collapse of Ground; Slips and Trips; Falls; Struck by Objects or Equipment; Noise and Over-exertion.**

**EXCAVATION – SAFE WORK PRACTICES**

- Workers must be wearing the proper Personal Protective Equipment (PPE) such as a hardhat, safety footwear, safety eyewear, hearing protection, and fall protection as required.
- Never use pointed tools to probe for underground gas and electrical services. Shovels are recommended.
- The spoil pile must be placed at least one meter away from the edge of the excavation.
- The excavation must have adequate entrance and exit points.
- Ladders must be installed in an excavation greater than 1.5 meters - secured and extend at least three rungs above ground level.
- The walls and faces of the excavation must be cut back to a 45-degree angle if they are over 1.5 meters in height or temporary shoring must be provided.
- All work materials should be a least two meters back from the edge of the excavation.
- Before approaching the excavation site workers should make eye contact with equipment operators.
- No vehicles should be within a distance equal to the depth of the excavation.
- Ensure a first aider and first aid supplies are available.
- Workers must receive WHMIS training and MSDS's (Material Safety Data Sheet) must be on site.

**TRENCHING – SAFE WORK PRACTICES**

- Workers must be wearing the proper Personal Protective Equipment (PPE) such as a hardhat, safety footwear, safety eyewear, hearing protection and fall protection as required.
- Never use pointed tools to probe for underground gas and electrical services. Shovels are recommended.

- The spoil pile must be placed at least one meter away from the edge of the excavation.
- The trench must have adequate entrance and exit points every eight meters.
- Protective barricades should be installed to protect workers and the public.
- Ladders must be within 3 meters of workers – secured and extend at least three rungs above ground.
- If trench depth is over 1.0 meters in height below the sloped sides, a support structure or adequate shoring must be provided.
- Shoring is to be installed beginning from the top and working down to the bottom. Removed in reverse order – bottom to the top.
- Hydraulic Shores work well when repairing drainage or waterproofing systems around the house. Set up is fast and they protect the workers well.
- Work materials and equipment must be at least two meters back from the edge.
- No vehicles should be within a distance equal to the depth of the excavation or may endanger the stability of the walls.
- Ensure a first aider and first aid supplies are available.
- Workers must receive WHMIS training and MSDS's (Material Safety Data Sheet) must be on site.

## **GENERAL SAFETY INFORMATION**

### **1. Lifting**

Caution and appropriate controls must be used during any lifting activity – to protect the load and the workers.

Lifting on work sites is done either mechanically or manually.

***Mechanical Lifting:*** Equipment or machinery must be of sufficient size to safely lift anticipated loads.

Equipment or machinery must be properly maintained. Workers must be competent in the operation of the equipment, including certification if cranes or forklifts are used.

***Manual Lifting:*** Proper lifting techniques should be employed (i.e. keep objects as close to the body as possible, keep your back straight, lift with legs, not back, turn your whole body to move or place – don't twist your back). Know your limits, and do not be afraid to ask for help. Eliminate potential tripping or slipping hazards before beginning to lift.

### **2. Access to the Work Area**

Proper access to the work area must be available at all times – this may include grading or levelling of ground during excavation and trenching. Trees, rocks or similar objects near the edge must be removed to avoid falling into the excavation or trench. Ladders are required when entering an excavation deeper than 4 feet. Ladders must be secured from movement, extend a minimum three feet above ground level, and must be within 10 feet of a worker in trench.

***Ladders:*** Ladders should be used for short-term work only. Never lean out while on a ladder – move the ladder. Ladders used to access work areas should be grade 1. They must be secured from movement (normally tied off) and extend a minimum three feet above work level. The ladder should be positioned to maintain a 4:1 slope. Always maintain three-points of contact when climbing or descending a ladder.

***Ramps:*** Ramps should be constructed of at least two – 2 x 10 planks. They must be secured from movement and have a slope no greater than one vertical to three

horizontal. Cross cleats must be provided at regular intervals to exceeding 1 ½ feet – and must be keep clear of snow, ice and mud accumulations.

**Stairs:** Temporary stairs should be constructed to support any likely loads. They must be secured from movement; be uniform in width, length and height; with a slope not exceeding 50 degrees from horizontal. Open sides must have a handrail equivalent in strength to the top rail of a guardrail.

### 3. Trucking Operations and Mobile Equipment

Trucking operations and mobile equipment are used to haul material or equipment to and from work sites. During homebuilding, the site can get very busy with backhoes, loaders, dump trucks, cement trucks and delivery vehicles. Protection of workers and/or the public is required in the working area. Traffic Control techniques should be implemented.

Other general precautions should include:

- Minimize the need for equipment backing up. If required, ensure vehicles and equipment have back-up alarms and workers wear high visibility vests. Ensure standard signalling procedures are known and followed by everyone involved (including drivers of delivery vehicles and spotter).
- Be aware of the operators 'blind spots' – always maintain eye contact with the operator if you must approach equipment.
- Never stand under a suspended load or raised forks, buckets or blades.
- When receiving a load, use taglines to keep a safe distance between you and the load.
- Truck drivers should be competent in the operation of the truck and or any other equipment associated with the truck (i.e. conveyors, hoists) as well as any techniques used to load and unload materials. All equipment must be capable of performing the task for which it is to be used and must be properly maintained.

### 4. General

Housekeeping is a major cause of residential incidents – scrap shingles and asphalt pebbles are often a cause of slips, trips and falls. It's very important to keep your job site clean – clean up as you go. Use a bin or create dedicated scrap piles as soon as possible. From a safety standpoint, cables and cords should be kept clear of workspaces to prevent tripping hazards.

It's recommended for fire extinguishers to be readily available for trades working with open flames.

There must be adequate lighting when performing work at all times.

Prior to beginning work, a toolbox talk can be very beneficial. When safety discussions are held, the chances are higher that a safe job will result.

**SWP 08 – FIRE EXTINGUISHERS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**PURPOSE/APPLICATION**

Fire extinguishers are a common piece of emergency equipment. Fire extinguishers are installed in all vehicles, equipment, shops and offices. Inspection and maintenance must be conducted on a regular basis to ensure proper operation in case of an emergency. The purpose of this safe work practice is to protect workers from injuries associated with the improper selection, use and care of portable fire extinguishers.

**PRECAUTIONS**

- Your safety is paramount, if it is unsafe or you are uncomfortable trying to put the fire out, don't.
- Employees of **STARKS PLUMBING AND HEATING LTD.** will receive the proper instruction and training in the proper use of fire extinguishers. .
- Portable fire extinguishers shall NOT be placed more than nine meters away from each industrial open-flame portable heating device, tar pot or asphalt kettle that is in use and each welding or cutting operation that is in progress.
- Ensure that help is on the way by activating the fire alarm before trying to put the fire out.
- If you are outside keep the wind to your back, if the wind changes direction move around the fire.
- Be conscious of where you are standing and ensure that you are not standing in the contents which are on fire
- Always have an exit behind you, if the fire does not go out you will be able to safely exit without having to go around the fire.
- Do not turn your back on a fire and keep your exit accessible at all times.
- Extinguishers will work for approximately 30 seconds - if you have not put the fire out in that time - leave the area immediately.
- Start expelling the extinguisher at a comfortable distance. It is easier to advance on the fire than it is to retreat from it.
- Once you leave a burning room or area, do not re-enter.
- Close the door to a room with a fire. Leave the door unlocked as the fire fighting professionals will need to enter.
- Once an extinguisher has been discharged ensure that it is removed from service and sent to be re-charged.

**HOW TO CHOOSE A FIRE EXTINGUISHER**

The type of fire will determine the type of extinguisher that can be used. Not all extinguishers can be used on each type of fire.

## **WATER EXTINGUISHERS**

Water extinguishers are good for Type A Fires only. Type A fires are wood, paper or cloth fires. You cannot use a water extinguisher for a Type B fire (flammable liquids), as flammable liquids are lighter than water and will float on the surface of the water. This will simply aid in the spread of the fire. You cannot use a water extinguisher on a Type C fire, (electrical fire), because you run the risk of receiving an electrical shock. Water is an electrical conductor so as the water spreads out, the chance of electrocution increases.

## **CO<sub>2</sub> EXTINGUISHERS**

A CO<sub>2</sub> extinguisher is not a good choice for a Type A fire (wood, paper, cloth); because of the force of the CO<sub>2</sub> gas being expelled from the extinguisher. When this type of extinguisher is used on a wood, paper or cloth fire; the burning items are blown around the room by the force of the CO<sub>2</sub> gas, thereby aiding the spread of the fire. Secondly, a Type A fire will usually re-ignite as soon as the CO<sub>2</sub> gas dissipates.

The CO<sub>2</sub> extinguisher works well on flammable liquids or an electrical fire - Types B or C fires. They work well on an electrical fire in that they do not leave a messy residue on delicate electrical equipment such as dry chemical extinguishers do. The CO<sub>2</sub> displaces the oxygen at the surface of the fire, effectively smothering the fire. The fire can re-ignite once the CO<sub>2</sub> gas dissipates, however, if the ignition source has not been removed.

A CO<sub>2</sub> extinguisher has a wide nozzle that locks into place. Do not hold onto the nozzle when firing the extinguisher. This nozzle will get very cold as the CO<sub>2</sub> gas is expelled. CO<sub>2</sub> gas has a temperature of minus 66 degrees Celsius. If you are holding onto the nozzle, you will receive a cold burn.

## **DRY CHEMICAL EXTINGUISHERS**

The multipurpose Dry Chemical Extinguisher for a Type A, B or C fire is what you will commonly find in industry. These extinguishers are good for most types of fires. A Type BC fire extinguisher contains sodium or potassium bicarbonate and a Type ABC fire extinguisher contains ammonium phosphate. They have an advantage over CO<sub>2</sub> extinguishers in that they leave a blanket of non-flammable material on the extinguished material which reduces the likelihood of re-ignition. They do, however, make quite a mess and the fine powder will irritate the throat and lungs.

The contents of these cylinders can pack down over time and when a person goes to use them they may not fire. If this happens, turn the cylinder over and rap it sharply on the top to loosen the compacted powder inside. Try firing the cylinder again. If the cylinder will not fire - leave the area immediately.

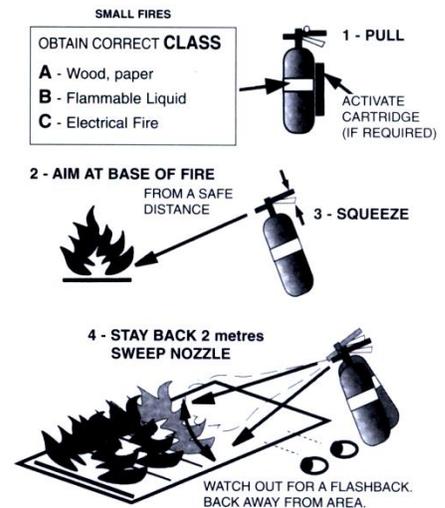
All fire extinguishers have fire ratings stamped on them. You should familiarize yourself with this rating. For example, a dry chemical cylinder may have 2A, 10 BC stamped on it; this means that the contents of the cylinder are enough to fight 2 square meters of a Type A fire or 10 square meters of a Type B or C fire. Higher numbers mean more firefighting power.

**TYPE D FIRES; FLAMMABLE SOLIDS**

There is a fourth type of fire. Type D fires are flammable metal fires such as magnesium, potassium, sodium titanium, as well as alkyllithiums, Grignards and diethylzinc. Type D fires burn at high temperatures and the metals will react violently with water, air, and/or other chemicals. This type of fire requires special metal/sand extinguishers. They work by simply smothering the fire with powdered copper metal or sodium chloride (NaCl).

**HOW TO OPERATE A FIRE EXTINGUISHER****PASS Method**

- 1) **Pull the Pin** - You want to hold onto the extinguisher by the carrying handle and pull/twist the pin out. You do not want to place your hand on the trigger because this will make it impossible to pull the pin out.
- 2) **Aim at the base of the fire** - You aim at the leading edge of the fire, if you aim at the flames you will never put the fire out.
- 3) **Squeeze the trigger** - Fully depress the trigger with the palm of your hand and expel the entire extinguisher onto the fire.
- 4) **Sweep back and forth** - You want to sweep the extinguisher back and forth, ensure that you extend beyond the edges of the fire to ensure you completely cover the base of the fire.

**FIRE EXTINGUISHER INSPECTION AND MAINTENANCE**

1. Fire extinguishers must be inspected at least once a month by workers for any signs of obvious damage, corrosion, leakage or clogged nozzles
  - Check cylinder
  - Inspect cartridge puncture cap
  - Weigh cartridge
  - With cartridge removed, check action of puncture lever
  - Check hose and nozzle for obstruction
  - Check date of manufacture
  - Check level and condition of powder
  - Check fill-cap threads and gasket
  - Attach visual seal
  - Check pressure gauge



- Remove and recharge spent extinguishers immediately and return them to their locations.
- Each extinguisher must be thoroughly examined at least once a year by a certified technician, and whenever a monthly inspection indicates that this may be needed.

**GARBAGE FIRE HAZARDS**

When garbage that constitutes a fire hazard is present at a worksite, 7S CONTRACTING LTD. shall provide covered receptacles suitable to the nature of the hazard for the garbage.

**WORKER RESPONSIBILITIES**

**STARKS PLUMBING AND HEATING LTD.** employees shall NOT:

- Use gasoline to start a fire, or use gasoline as a cleaning agent, or
- Replenish a tank on a heating device with a flammable or combustible liquid while the device is operating, or is hot enough to ignite the liquid.

**IGNITION SOURCE CONTROL**

**STARKS PLUMBING AND HEATING LTD.** ensures that:

- Suitable procedures shall be developed and implemented to prevent the ignition of flammable liquids, or explosive dusts that are present at a worksite.
- All sources or potential sources of ignition shall be eliminated, or controlled where an explosive atmosphere exists, or is likely to exist, and
- Static charger accumulations during transfer of flammable liquids, or explosive substances from once container to another shall be prevented by electrically bonding the containers.

**SWP 09 – GROUND DISTURBANCE**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

A ground disturbance occurs when any activity results in a disturbance of the earth to a depth greater than 30 centimeters. Examples of this include: excavating, digging, trenching, plowing, drilling (sampling), tunneling, auguring, soil stripping, land leveling, clearing, grading, ripping, pile-driving, and installing fence posts.

**HAZARDS**

In the event of contact with a pipeline or cable, the following hazards may be encountered:

- Potential release of fluids – gas or crude oil
- H<sub>2</sub>S release with associated hazards to personnel and area residents
- Contact with high voltage electrical cables
- Fire and/or explosion

**REQUIREMENTS****Planning Elements**

Prior to a Ground Disturbance Operation, the area of disturbance **must be** researched to determine the extent and location of all underground facilities.

Review available information as applicable:

- Survey plans
- Land owner for gas co-op line locations, etc.
- Local utilities – gas and power distribution companies
- Crossing agreements
- Alberta One Call – (check all jurisdictions)
- Road markers
- Line indicators

Identify all facilities along the proposed ground disturbance route or within the ground disturbance area.

Ensure all crossing agreements are in place.

A locating company or survey company must scan and mark all underground facilities within 30 meters of where ground disturbance is to occur.

Ground disturbance areas that involve extensive locating and marking will still require a locating company or survey company.

**All requirements of the Ground disturbance SJP and Ground Disturbance Permit must be adhered to at all times.**

**Field Elements**

Prior to any excavation, Alberta One Call (1-800-242-3447) must be contacted at least 48 hours prior to the commencement of any ground disturbance to check for any additional crossing not identified.

All existing underground facilities in the proposed ground disturbance shall be day-lighted at one or more points by hand exposing or hydro-vac, and identified for size and direction before excavating. Mechanical excavation equipment shall not be used within 60 centimeters of the underground facilities as per the regulations.

When mechanical excavation equipment is used and there is a potential for contacting an underground facility the equipment operator shall be directed by a line locator who is fully visible to the operator at all times.

**SUPERVISOR RESPONSIBILITIES**

- Supervisors are responsible to facilitate and/or provide proper instruction to their workers on protection requirements and training
- The site supervisor shall ensure that the soil in an excavation is stable by shoring or cutting back or by freezing soil by artificial means or ground if the process used is:
  - (a) Designed by a professional engineer to control soil conditions, and
  - (b) Performed in accordance with the professional engineer's specifications.
- The site supervisor shall ensure that:
  - a) the spoil pile is kept a minimum of one meter from the edge of excavations deeper than 1.5 M (5 ft); and
  - b) Heavy vehicles or objects are kept away from the excavation a distance equal to depth of the excavation unless the shoring has been certified as being able to withstand such weights.

**WORKER RESPONSIBILITIES**

- All trenching and excavations shall be in accordance with the applicable Occupational Health and Safety regulations.
- Buried underground services such as gas lines, water lines, sewers, and electrical services must be located and marked before excavation starts.
- Mechanical or power excavating equipment is to be used only in locations where there is no danger of contacting or damaging buried facilities.
- Employees shall not enter trenches or excavations more than 1.5 m (5 feet) in depth unless:
  - a) the walls of the excavation have been cut back to less than 1.5 m (5 ft) in accordance with Occupational Health and Safety Regulations; or
  - b) Temporary protective structures such as an approved cage or proper shoring is in place.

- Employees shall not place or stack tools/material near the edge of the excavation where their falling could cause injury to the employees in the excavation.
- Employees installing shoring, stringers or bracing shall use a ladder and work downward from the top of the excavation, installing each brace in descending order.
- Employees removing shoring, stringers or bracing shall use a ladder and work upward from the bottom of the excavation, removing each brace in ascending order.

#### GUIDELINES

- If the walls of an excavation are cut back, **STARKS PLUMBING AND HEATING LTD.** ensures that:
  - (a) if the soil is classified as “hard and compact soil”, the walls are sloped to within 1.5 meters of the bottom of the excavation at an angle of not less than 30 degrees measured from the vertical,
  - (b) if the soil is classified as “likely to crack or crumble soil” the walls are sloped to within 1.5 meters of the bottom of the excavation at an angle of not less than 45 degrees measured from the vertical, and
  - (c) 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.
- Frozen ground shall not change the requirement of the regulations to provide temporary protective structures or cutting back the walls of the trench except where freezing is a designed specification to control a fluid condition and then only in accordance with the professional engineer's specifications and instructions.
- If there is a danger of a worker or equipment falling into an excavation, workers shall be made aware of the excavation through flagging, marking, safeguards, or other appropriate and effective means.
- When timber shoring is used, it must be installed progressively as the trench is being excavated.
- If a worker is required to enter a trench that is more than 1.5 meters deep, a safe point of entering and leaving must be located not more than 8 meters from the worker. **STARKS PLUMBING AND HEATING LTD.** ensures that if a worker is in a trench that is more than 1.5 meters deep, the trench is supported or sloped so that the worker can reach the safe point in order to enter and leave.
- The company shall provide for each trench more than five (5) feet (1.5 meters) in depth in which employees are working, not less than one ladder for each fifty (50) feet (15 meters) of working length for the trench or fraction thereof and the ladder shall extend at least three (3) feet (0.9 meters) above the top of the trench.

- Excavations which workers are required to enter should be kept reasonably free of water.
- No more trenching than absolutely necessary shall be left open overnight. When trenches are left open, they must be barricaded or guarded to protect the public and employees.
- Warning signs must be posted and barricades erected, where necessary, if the ditch is left open.

**DOCUMENTATION REQUIREMENTS**

All required documentation must be in place before a crossing or ground disturbance occurs. These documents must be retained for at least 2 years, or for life of the line, (depending on the document type).

Documents to be retained on completion of a crossing include, but are not limited to, the following:

- Pipeline Crossing Agreement
- Ground Disturbance Permit
- Pipeline Inspection Report
- "As Built" Crossing Form
- Cathodic Protection Form
- Safety Checklist for Ground Disturbance
- Ground disturbance Acknowledgement Form

**SWP-010 – HANTAVIRUS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

Hantavirus is a disease carried by various species of rodents – field mice, moles, squirrels, and rats, but most commonly carried by the deer mouse. Deer mice are larger than other mice, pale grey or reddish brown in color, have white feet and underbelly, and big ears and eyes.

Hantavirus infection is rarely transmitted to humans but when it is, the virus can cause a serious lung disease known as Hantavirus Pulmonary Syndrome (HPS). The disease has a fatality rate of anywhere from 40 to 77%.

**WHO IS AT RISK?**

Risk of occupational exposure to Hantavirus can occur at any worksite, in rural and urban locations, in any season, and in any enclosed structure.

The risk is high when numbers of mice increase and in areas where mice have lived during the winter. Outdoor workers, remote field workers, and workers who may have incidental contact with mice or their droppings are at risk for exposure, as well as farmers, grain handlers, campers and hikers.

Accumulations of mouse droppings may occur in:

- Rubbish piles and garbage storage areas
- Woodpiles and sawmills
- Infrequently used equipment
- Vacant buildings, inside walls or floor subspaces
- Weeds and long grass
- Food storage containers
- Nooks and crannies

**HOW DOES HANTAVIRUS SPREAD?**

Not all deer mice carry the Hantavirus but all carriers shed the virus in their saliva, urine and droppings. Hantavirus doesn't appear to cause any visible signs of illness in mice and it is difficult to identify different types of mice, so it is best to assume that all mice and their saliva and droppings are infectious.

The most common way the virus is transmitted to humans is by breathing in airborne dust particles or aerosolized droplets from infected rodent urine, feces or saliva. Workers who handle rodents may also become infected from bites or where the virus enters through broken skin or the membrane linings of the nose, eye or mouth. It may also be possible to acquire Hantavirus infection if you eat food or drink water contaminated by rodents.

The best practice is to be safe and treat all rodents with caution.

The virus can survive in dried saliva or excretions but it is not known how long it can survive in the environment. There is no evidence to suggest that Hantavirus can be spread from person to person, from cats and dogs or from insects and ticks, even if they are exposed.

### **SYMPTOMS OF HANTAVIRUS PULMONARY SYNDROME (HPS)**

Humans infected with Hantavirus have an initial flu-like illness, which may rapidly develop into a serious lung condition and acute respiratory distress. Early symptoms begin 1-6 weeks following exposure and may include fever, muscle aches (especially large muscle groups), cough, headaches, nausea, vomiting, diarrhea, or severe abdominal pain. As the disease progresses, fluid collects in the lungs and breathing becomes difficult.

***Anyone who develops flu-like symptoms with shortness of breath and has recently been in an area contaminated by rodents should seek immediate medical attention.***

### **PRECAUTIONS**

Preventative measures involve eliminating or minimizing contact with rodents and adopting good hygiene practices.

- Do not handle live rodents (especially in outdoor settings).
- Do not touch or disturb mouse nests or burrows.
- Do not vacuum, dry sweep or use air hose to clean areas where droppings are present, until area is disinfected.
- Do not occupy rodent infested buildings until cleaned.
- Do not drink untreated surface water.
- Do not sleep in unclean cabins.

Develop a worksite control program which includes:

- Building inspections to look for signs of rodents.
- Notice to workers regarding the risk of exposure.
- Elimination of rodent harborage and populations.
- Use of appropriate removal and clean-up methods.
- Use of appropriate personal protective equipment around high-risk environments.

Recommendations to apply to worksites:

- Store food and water in sealed containers.
- Mouse-proof buildings to prevent entry. Seal holes larger than ¼ inch in diameter with steel wool, screens, or cement.
- Mouse-proof garbage cans with tight-fitting lids.
- Avoid creating dust and disinfect contaminated material before cleanup to reduce chance that virus will get into the air.
- Procedure for clean-up includes:
  - Cover any areas of broken skin
  - Wear rubber gloves, coveralls, goggles and rubber boots

- Wear a respirator with a high efficiency particulate filter (P100, N100 or R100)
- Open doors and windows and vacate building for a minimum of 30 minutes
- Mix bleach and water (1:10) solution immediately prior to use (do not use bleach in the presence of oil)
- Carefully wet down area with bleach solution
- Carefully wipe or wet-mop all surfaces with bleach solution
- Dispose of rodents and droppings in sealed bag and incinerate or place in garbage.
- Disinfect non-disposable clothes and gloves before removal
- Wash hands and face thoroughly with soap and water.
- Consider a pest exterminator for heavily infested areas.

**SWP 011 – HOUSEKEEPING**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

Poor housekeeping practices are responsible for many accidents in the workplace. Periodic cleanups, or cleanups when time permits, is not considered to be adequate. Good housekeeping should be practiced throughout any task as a continual process.

**PRECAUTIONS**

- Tools and materials shall not be scattered around the walking or working surface.
- Sharp and pointed tools shall be stored properly.
- Slick spots on the walking surface caused by water, oil, or other substances shall be cleaned up immediately.
- Waste rags, trash, etc., must not be permitted to accumulate and should be properly disposed of as soon as possible.
- Materials or equipment delivered to the job site shall be kept well away from the working area until needed.
- Protruding nails, straps, or wire shall not be permitted to exist in the workplace and/or shall be removed immediately when found.
- Material which is to be stacked shall be cross-tied or otherwise secured so it will not fall over.
- Aisle ways and walking surfaces shall always be kept clear of materials and equipment as much as possible.
- Oily rags shall be placed in a metal garbage can that is clearly marked "oily rags only".
- Petroleum products, oils, and lubricants shall be stored in the proper cabinets or lockers that are vented and clearly marked "flammable" when not in use.
- Doorways and ladder access parts must be kept clear and unobstructed.

No job is complete until tools have been cleaned and properly stored, scrap and waste materials disposed of, and the equipment and work location is in good orderly condition, and approved for continued operation.

**SWP 012 – LIFTING & HANDLING LOADS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

Manual materials handling (MMH) is known as moving or handling things by lifting, lowering, pushing, pulling, carrying, holding, or restraining. MMH is the most common cause of occupational fatigue, low back pain and lower back injuries. MMH is always hazardous but the level of hazard depends on what you are handling, what the task is, and what the conditions are at the workplace or worksite.

**PREPARATION**

A hazard assessment must be conducted before a worker manually lifts, lowers, pushes, pulls, carries, handles or transports a load that could injure the worker that considers the weight of the load, the size of the load, the shape of the load, the number of times the load will be moved, and the manner in which the load will be moved.

Loads that cannot be handled safely (awkward shape, or too heavy) are to be adapted to minimize manual handling. This is to be done by reshaping or restacking the load or by breaking the load in to smaller bundles.

Workers are to limit manual handling of loads by using the equipment provided by the employer. **STARKS PLUMBING AND HEATING LTD.** will provide equipment for lifting, lowering, pushing, pulling, carrying, handling or transporting heavy or awkward loads.

Workers who may be exposed to the possibility of a musculoskeletal injury will be trained in specific measures to eliminate or reduce that possibility. The training will include:

- identification of factors that could lead to a musculoskeletal injury
- the early signs and symptoms of musculoskeletal injury and their potential health effects
- preventive measures including, where applicable, the use of altered work procedures, mechanical aids, and personal protective equipment

If a worker reports symptoms of a musculoskeletal injury, the employer must promptly review the activities of that worker and of other workers doing similar tasks, to identify work-related causes of the symptoms, if any and take corrective measures to avoid further injuries if the causes of the symptoms are work related.

**PRECAUTIONS**

Commonplace tasks make up the greater part of the daily activities of most employees and not unexpectedly offer more potential sources of incidents with injuries and property damage. Whether the material lifted is a sheet of paper (i.e. paper cut) or a cylinder of toxic gas, risks can be reduced with thorough planning.

Identifying obvious and hidden hazards should be the first step in planning work methods. Thorough planning should include all the steps associated with good management from job conception through group and equipment completion.

In the handling of materials, employees must ensure the following:

- there must be safe clearance for equipment through aisles and doorways

- pallets must be inspected before being loaded or moved
- all employees handling hazardous substances shall review Material Safety Data Sheets (MSDS)
- stacked materials must be separated when being moved to sufficiently provide stability
- use equipment provided to handle heavy or awkward loads

### **MATERIALS HANDLING (MANUAL LIFTING)**

Prior to manually lifting any item, ask the following:

- Would it be more appropriate to use equipment for lifting, lowering, pushing, pulling, carrying, handling or transporting the load?
- Is the load very heavy or awkward? If so, can it be adapted to be less awkward or carried in smaller loads?
- Have you completed a hazard assessment of handling the load by asking the following
  - What is the weight of the load?
  - What is the size of the load?
  - What is the shape of the load?
  - How many times will the load have to be moved?
  - What is the manner in which the load will have to be moved?

If you must manually handle a load, use the following technique.

- Plan your lift - inspect the floor, ground, and surface around the object and inspect the route to be taken.
- Decide how to grasp object to avoid sharp edges and slivers.
- Assess the weight of the load and make sure it is within your lifting capacity.
- Place yourself in the squat position facing the object. Keep head high and chin tucked.
- Set feet solidly squatting close to the object.
- Bend knees at about a 90° angle; ensure your back is in a vertical position.
- Place one foot slightly forward to test weight of object.
- Grasp object firmly when straightening out the legs to standing position.
- Keep a straight back; lift with the object close to your body using leg and arm muscles to do so.
- Place the object in position.
- Do not twist while lifting - turn feet not your body.

### **REPORTING INJURIES**

If at any time during the material handling process, a worker is injured or suffers the symptoms of a musculoskeletal injury; the worker must promptly report the injury to his/her immediate supervisor.

Upon receiving the report of injury, the employer will investigate and implement preventative measures to ensure similar injuries will not recur.

### **TRANSPORTING MATERIALS**

Employees transporting materials must be licensed to operate the vehicle being used and trained in its safe use. If transporting dangerous goods, the operator must also be trained in the transportation of dangerous goods (TDG). Materials and goods must be labeled according to TDG requirements and the transport vehicle may also have to be placarded. Dangerous goods must be accompanied by all necessary documentation and secured to prevent movement while in transport.

**PRACTICE**

If a worker must manually handle a load, the following practices should be used:

- Make sure you have plenty of room to lift the object properly.
- Check to see that nothing blocks the path to your destination.
- Prop doors open or ask someone to hold the door
- Avoid slippery or uneven surfaces. Find a different route.



- Push the object lightly or lift a corner to get a sense of its weight.
- If it's too heavy:
  - break it down into smaller loads;
  - get help; or
  - use a hand truck, pushcart or forklift.
- Make sure the contents won't shift.
- Get help for awkward loads or those that will block your vision.



- Stand as close to the load as possible.
- Face it squarely.
- Bend your knees, not your waist.
- Keep your back as straight as possible.
- Lift slowly and steadily, using your legs, not your back.
- Avoid twisting as you lift. Keep your head up



- Hold the load close to your body, between your shoulders and waist.
- Keep your back straight
- Walk slowly and maintain firm footing.
- Use your feet to change directions.
- Avoid twisting at the waist.



- Move as close as possible to where you want to place the object.
- Squat down to lower the object, using your legs.
- Avoid twisting and bending at the waist.
- Keep your head up.
- Let go only when the object is down.



**SWP-013 – LOCKOUT / TAG OUT**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**Purpose**

This procedure establishes the minimum requirements for lockout of energy sources that could cause injury to personnel. All employees shall comply with the procedure.

**Responsibility**

The responsibility for seeing that this procedure is followed is binding upon all employees. All employees shall be instructed in the safety significance of the lockout procedure by their Department Supervisor.

**Preparation for Lockout**

Employees authorized to perform lockout shall be certain as to which switch, valve, or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, or others) may be involved. Any questionable identification of sources shall be cleared by the employees with their supervisors. Before lockout commences, job authorization should be obtained.

**Sequence of Lockout Procedure**

1. Notify all affected employees that a lockout is required and the reason for the lockout.
2. If the equipment is operating, shut it down by the normal stopping procedure (such as: depress stop button, open toggle switch).
3. Operate the switch, valve, or other energy isolating devices so that the energy source(s) (electrical, mechanical, hydraulic, or other) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating fly wheels, hydraulic systems, and air, gas, steam or water pressure, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down.
4. Lockout energy isolating devices with an assigned individual lock.
5. After ensuring that no personnel are exposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating controls to neutral position after the test.
6. The equipment is now locked out.

**Restoring Equipment to Service**

1. When the job is complete and equipment is ready for testing or normal service, check the equipment area to see that no one is exposed.

2. When equipment is clear, remove all locks. Only the employee who has placed the individual lock may remove their lock. The energy isolating devices may be operated to restore energy to equipment.

### **Procedure Involving More Than One Person**

In the preceding steps, if more than one individual is required to lock out equipment, each shall place his/her own personal lock on the energy isolating device(s). One designated individual of a work crew or a supervisor, with the knowledge of the crew, may lock out equipment for the whole crew. In such cases, it may be the responsibility of the individual to carry out all steps of the lockout procedure and inform the crew when it is safe to work on the equipment.

Additionally, the designated individual shall not remove a crew lock until it has been verified that all individuals are clear.

### **Procedure for Removing a Lock in the event that the individual is not able to remove his/her own lock (this is a special situation, and all efforts MUST be made to avoid it):**

In the event that an individual is indisposed and completely unable to remove his / her lock, the following procedure must be followed:

1. Employees must notify their Supervisor of the situation.
2. All employees are to ensure that the device locked out remains locked out, and that the area remains clear and isolated.
3. The Supervisor and Safety Manager will proceed to the site and will perform a complete inspection of the area.
4. Upon the approval of the Supervisor, with the concurrence of the Safety Manager, the lock will be removed by the Safety Coordinator having the Master Key.

### **Rules for Using Lockout Procedure**

All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.

## SWP-014 – NOISE

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**STARKS PLUMBING AND HEATING LTD.** shall take appropriate measures to protect workers from the temporary and or permanent injury caused by exposure to excessive noise levels encountered in the workplace. A worker's exposure to noise will not exceed the noise exposure limits in Schedule 3, Table 1 of the OHS Code and 85 dBA Lex.

Noise assessments that have been conducted show that **STARKS PLUMBING AND HEATING LTD.** workers are not exposed to noise levels in excess of the occupational exposure limits. In most cases, **STARKS PLUMBING AND HEATING LTD.** does not have control over noise sources at the worksite and must abide by the signage, warnings and information provided by the client.

Occupational Health and Safety Regulations require that whenever employees are exposed to excessive noise levels, feasible engineering or administrative controls must be used to reduce the levels. **STARKS PLUMBING AND HEATING LTD.** will utilize all reasonably practicable measures to reduce the noise to which workers are exposed on their worksites. When these control measures cannot be completely accomplished, personnel must protect from the effects of excessive noise levels wearing suitable protective hearing devices.

**PRECAUTIONS**

All affected workers must wear the hearing protection equipment required. Hearing protective equipment will be made available to every employee.

Only hearing protection devices that meet the requirements of CSA Standard Z94.2-02, "Hearing Protection Devices-Performance, Selection, Care, and Use", and is of the appropriate class and grade described in Schedule 3 Table 2 may be used (i.e. earplugs, earmuffs or a combination of both).

Information shall be provided on an ongoing basis at monthly safety meetings and on-the-job to educate employees on safe levels of noise, exposure, effects of noise on their health, and the use of personal protection.

Employees will be instructed in the selection, use and maintenance of hearing protection equipment required to be used at a worksite in accordance with the manufacturer's specification.

Earplugs should be cleaned daily to prevent ear infections; the disposable type should be thrown in the waste at the end of the shift.

**STARKS PLUMBING AND HEATING LTD.** will conduct 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.

**SWP-015 – OFFICE SAFETY**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**PRECAUTIONS**

- Keep work area clean, orderly, and free of obstructions.
- Know all emergency procedures associated with the office environment.
- Read the MSDS and labels to know the procedures for safe use, storage, and handling of hazardous products, materials, and substances that you work with.
- Identify all hazards associated with the tasks performed in the office environment.
- Ensure that all electrical cords are in good condition and are not overloaded.
- Inspect all office furniture to ensure it is in good repair.
- Ensure all office equipment is maintained according to manufacturer’s specifications.
- Position office equipment to reduce strain on the worker’s body.

**FILE CABINET SAFETY**

	<ul style="list-style-type: none"> <li>• Close cabinet drawers when not in use.</li> <li>• Do not open more than one drawer at a time.</li> <li>• Place cabinets so that the drawers do not open into high traffic areas.</li> <li>• Load cabinets starting from the bottom for stability.</li> <li>• Secure all cabinets to wall joist or floor.</li> <li>• Place the heavy files in the bottom drawers.</li> <li>• Use handles to close drawers to avoid catching fingers.</li> <li>• Avoid overfilling cabinets to prevent paper and staple cuts.</li> <li>• Do not keep heavy objects on top of tall filing cabinets.</li> <li>• Empty cabinets before moving.</li> </ul>
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**PAPER SHREDDER**

	<ul style="list-style-type: none"> <li>• Never put fingers or objects other than paper (like paper clips or staples) into the shredder feed opening.</li> <li>• Keep jewelry, long hair, ties, lanyards, etc. away from the paper shredder feed opening.</li> <li>• Feed paper smoothly into the shredder, not forcing the paper in.</li> <li>• If there is a paper jam, and forward and reverse buttons don’t move the paper, disconnect the power source and contact a qualified person to make repairs. Don’t overheat or burn out the motor.</li> <li>• If the shredder motor overheats, turn off the shredder for at least 15 minutes, allowing the motor to cool before using again.</li> <li>• Locate the paper shredder and its power cord outside of foot traffic areas.</li> </ul>
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**OFFICE ERGONOMICS**

- **Adjusting Your Chair**
  - Raise or lower the chair until the edge of the seat pan is just below your kneecap when you are standing.
  - Sit with your feet resting flat on the floor and your legs at a 90-110 degree angle.
  - Allow enough space for a closed fist between the edge of the seat pan and the back of your legs.
  - Adjust the backrest to support your lower back. You may need to move the backrest up or down as well as towards you, or away from you.

- **Adjusting an Adjustable Working Surface**
  - Sit with your arms hanging straight at your side.
  - Adjust the desk or keyboard tray to be level with your elbows.
  - Raise your forearms to create a 90-degree angle at the elbow.

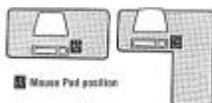
- **Adjusting a Non-adjustable Working Surface - The working surface is too high**
  - Sit with your arms hanging straight at your side.
  - Raise your chair until the desk or keyboard tray is level with your elbow.
  - Use a footrest to support your feet. Remember to keep a 90-110 degree angle at the knee.
  - Raise your forearms to create a 90-degree angle at the elbow.



- **Adjusting a Non-adjustable Working Surface - The working surface is too low**
  - Place blocks under the desk to raise it.
  - Raise the desk until the working surface or keyboard is at the level of the elbow.
  - Raise the forearm to create a 90-degree angle at the elbow.



- **Adjusting Your Keyboard**
  - Place the keyboard directly in front of you.
  - Type with your wrists “floating” over the keyboard.
  - Maintain a straight wrist position when you are typing.



- **Adjusting Your Mouse**
  - Place the mouse in front of your “mouse hand”. You should NOT have to reach away from your body in order to operate the mouse.
  - Position the mouse at the SAME height as the keyboard. Remember to maintain a 90-degree elbow angle.
  - Maintain a straight wrist position when you are using the mouse.



- Use your whole arm to move the mouse.
- If you are a dedicated mouse user, try to work with your forearm supported. An L-shaped desk surface (Figure 9) or an armrest can be used to support your forearm.
- **Adjusting Your Monitor**
  - Adjust the monitor height until the top of the monitor is at or just slightly below eye level.
  - Position the monitor approximately one arm's length away from you when you are sitting.
- **Adjusting Your Document Holder**
  - Place the document holder at the same level as the monitor (Figure 12).
  - Place the document holder the same distance away from you as the monitor.
- **Lighting/Glare**
  - Locate your monitor parallel to the windows and in between overhead light panels.
  - Use curtains and blinds to control the amount of natural light entering your office.
  - Eliminate light sources that shine directly into your eyes.
  - Eliminate light sources that reflect into your eyes.
  - Control light sources that shine directly above your computer monitor. Lights directly above a monitor can create glare.
- **Noise**
  - Install sound absorbing materials when possible. (carpets, acoustical tiles, office dividers, rubber pads under printers).
  - Locate photocopiers, fax machines and other noisy office equipment in a separate room.
  - Follow a regular maintenance schedule for the office equipment.

**MATERIAL HANDLING**

- **Utilize equipment such as carts and trolleys.**
- **Ask a co-worker for assistance.**
- **Split the size of the load into smaller manageable ones.**
- **Activate your core muscles.**
  - This will protect your spine. Start by tightening your abdominal muscles, targeting your belly button.
- **Maintain the natural inward curve of your low back.**
  - This curve has a tendency to flatten when you bend or sit, increasing the strain on the low back.
  - Looking forward (not down) during a lift helps to maintain this curve.
- **Keep objects that you are lifting or carrying close to your body.**
  - The farther the object is from your body, the greater the strain will be.
  - Slide objects close to you before lifting them.
  - When squatting to lift, do not let your knees get between yourself and the load. If the load is not too wide, spread your knees apart so you can bring the load close to your belly.
- **Work with your upper body as close to upright as possible.**
  - Leaning forwards or sideways puts extra strain on your back. Wherever possible:
    - Work with loads between waist and shoulder height.
    - Keep loads you must handle manually off of the floor.
    - For low level work, bend your knees, squat or kneel. Consider a longer handled tool.
- **Minimize twisting of your spine.**
  - Move your feet or swivel your chair instead of twisting at the waist or neck, so that your hips and shoulders are facing in the same direction.

	<ul style="list-style-type: none"><li>• <b>Push, don't pull, whenever possible.</b><ul style="list-style-type: none"><li>➤ Pulling an object you are facing puts more strain on back muscles than pushing it.</li><li>➤ If you must pull something, try to use 2 hands to avoid twisting.</li></ul></li><li>• <b>Use sudden quick movements with care.</b><ul style="list-style-type: none"><li>➤ If not performed carefully, sudden quick movements will put more strain on your back than moving more slowly (e.g., avoid jumping from loading docks or high vehicles).</li></ul></li><li>• <b>Unexpected movements are more likely to cause injuries than deliberate movements.</b><ul style="list-style-type: none"><li>➤ Wear shoes with good traction and support and keep walking surfaces clear to avoid slips, trips or falls.</li><li>➤ Make sure objects you are moving do not shift during transport.</li><li>➤ Proper storage will minimize injuries related to sudden movements to catch falling objects.</li></ul></li><li>• <b>Use a footrest for prolonged standing.</b><ul style="list-style-type: none"><li>➤ A footrest (approx. 8 inches high) can be used to help avoid static postures.</li><li>➤ Vary standing postures by shifting body weight from both to one or the other leg.</li></ul></li></ul>
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**SWP-016 – OVERHEAD POWER LINES**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**Application**

Do not operate heavy equipment near or under a power line until a permit and/or crossing agreement has been obtained.

**STARKS PLUMBING AND HEATING LTD.** ensures that the safe limit of approach distance of 7 meters from overhead power lines shall be maintained at all times and that no work shall be done and no equipment shall be operated at distances less than the established safe limit of approach distance.

Materials shall not be placed under or beside an overhead power line if doing so reduces the safe clearance to less than the safe limit of approach distance of 7 meters.

**Supervisor Responsibility**

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

Supervisors must notify the worker of an energized overhead power line before work is done or equipment is operated in the vicinity of the power line at distances less than the safe limit of approach distances listed in Schedule 4 of the Alberta OHS Act, and obtain the operator's assistance in protecting workers involved.

**Worker Responsibility**

Keep an eye out for overhead lines at all times; take time to examine the hazard.

Before operating equipment, make a Safety plan that prevents contact.

Take extra care and precautions.

Plan your moves. Are there power lines to pass under or avoid?

Look out for uneven ground that may cause your vehicle to weave, bob, or bounce.

Think about wind and temperature - they may affect the power line's height.

Never ride or climb on equipment, or a load when near a power line.

**CLEARANCE:** No part of any equipment, tool, or person operating near power lines may be closer than the safe limits of approach, (listed in Schedule 4) or as directed by local legislation.

Appropriate signs and overhead markers must be in place before work begins.

If there is a risk of exceeding the safe limits of approach, **STOP**.

**Schedule 4 - SAFE LIMIT OF APPROACH**

Operating Voltage between conductors of Overhead Power lines	Safe limit of Approach Distance for Persons and Equipment
0 - 750 V Insulated or Polyethylene Covered Conductors (1)	300mm
0 - 750 Volts - Bare, Un-insulated	1.0 m
Above 750 Volts – Insulated conductors (1) (2)	1.0 m
750 Volts - 40 kilovolts	3.0 m
69 kilovolts - 72 kilovolts	3.5 m
138 kilovolts - 144 kilovolts	4.0 m
230 kilovolts - 240 kilovolts	5.0 m
500 kilovolts	7.0 m

- NOTES:**
- (1) Conductors must be insulated or covered through their entire length to comply with these clearance requirements.
  - (2) Conductors must be manufactured to rated and tested insulation levels.

At all power line locations, "**DANGER-POWER LINES**" signs shall be installed before work commences. These signs shall be placed and maintained 25 meters (80 feet) on each side of the power lines in such a position that they may be seen from all equipment traveling the right-of-way or work site.

Violation of these practices or power line strikes could lead to prosecution under OH&S Regulations.

**SWP-017 – PORTABLE LADDERS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

The use of ladders is a task used every day at home, in the office, shop and in the field. Special care and procedure must be followed when using ladders to prevent personal injury. Ladders are used to get to areas that cannot be reached by any other means and are only in place temporarily until task is completed and then they are put away. In some case ladders must be made a permanent fixture and this case they must constructed, installed and secured to engineered specifications and inspected on a regular basis.

**Precautions**

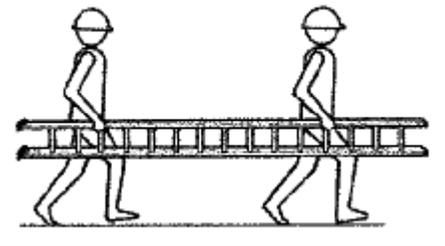
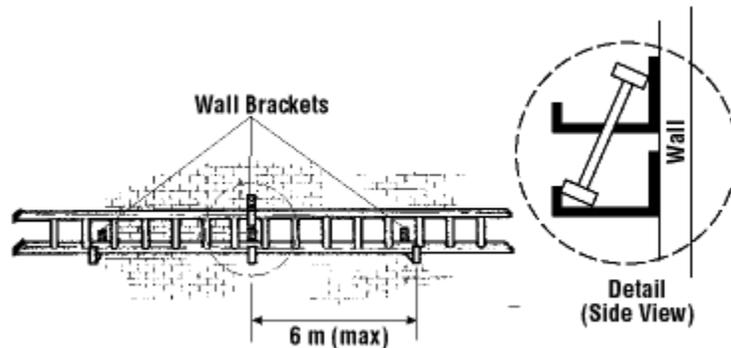
- Conduct a hazard assessment to determine if a ladder is the safest means to complete the work task. If other options, such as a scaffold, would provide a greater level of protection and are feasible to install then this should be completed.
- If you must work from a portable ladder determine if fall protection is required as part of your initial hazard assessment.
- Use a ladder designed for your task. Consider the strength, type, length and the CSA or ANSI approval.
- Thoroughly inspect the ladder prior to use.
  - Check rungs, legs, cross braces, and feet for damage. If a ladder is broken or missing steps, rungs, or cleats, have broken side rails or other faulty parts, employees are prohibited from using it.
  - Moveable parts must operate freely.
  - Hardware and fittings must be securely attached.
  - Rungs and steps must be free of grease or oil
  - Check for labels and markings that identify where the ladder can or cannot be used, such as around electrical equipment.
- Get help when handling a heavy or long ladder.
- Do not use a damaged ladder.
- Do not place a ladder in front of doors opening toward the ladder except when the door is locked or blocked from opening.
- A worker must not perform work from either of the top two rungs, steps or cleats of a portable ladder unless the manufacturer's specifications allow the worker to do so.
- Wooden ladders must not be painted
- A ladder used during the servicing of energized or potentially energized electrical equipment must be made of non conductive material
- A worker must ensure that a portable ladder is secured against movement and placed on a base that is stable.
- Secure ladder or hold in place. Tie off extension ladders. Use a spotter when securing ladder.
- Do not place a ladder on top of another object such as a box to gain additional height.

**3 Point Contact**

- A worker must ensure the base of an inclined portable ladder is no further from the base of the wall or structure than 1/4 of the height to where the ladder contacts the wall or structure.
- A worker must ensure that the side rails of a portable ladder extend at least 1 metre above a platform, landing, or parapet if the ladder is used as a means of access to the platform, landing or parapet.
- Only one person shall be on a ladder at one time.
- Face ladder and use both hands when climbing, always maintain a three point contact when climbing or descending a ladder.
- Don't use a ladder to support a platform.
- Don't place ladder against movable objects.
- Keep footwear and rungs free of mud, snow or grease.
- Heavy, bulky or hazardous objects shall not be carried while climbing up or down a ladder.
- Step ladders shall be fully open when used.
- Protect ladder with a barricade where it could be struck by pedestrians or a vehicle.

### Ladder Storage

- Return ladders to storage area after use.
- Store ladders where they are protected from the weather.
- Support ladders horizontally on racks. To prevent sagging, support ladders every 2 m (6 ft).
- Keep ladders clean and free of foreign materials.
- Ensure that storage areas are easy to reach.
- Keep wooden ladders in a well-ventilated location, away from dampness and excessive heat.
- Avoid long overhangs beyond support points when transporting ladders on vehicles.
- Pad racks on vehicles with soft material to reduce wear and road shocks.
- Tie ladders to each support point to reduce damage.
- Mark ladders which overhang vehicles with a red or orange flag.
- Grasp ladders near the centre when carrying them.
- Use caution when carrying ladders through passageways, doorways or any place where your view is obstructed.
- Use a partner to help carry long or heavy ladders.
- Ensure that you and your partner are on the same side when carrying a ladder. Stay in step. Work out in advance any hand or voice signals to coordinate stopping or changing direction
- Do not hang ladders from rails or rungs.
- Do not store materials on ladders.
- Do not expose fibreglass ladders to excessive temperatures (above 93°C or 200°F).
- Do not hold the front of ladders at head level when carrying them.
- Do not expose plastic-reinforced ladders to excessive sunlight. Ultraviolet light may cause the plastic resins to degrade. If the strength of the ladder is questionable, replace the ladder.



**SWP-018 – POWER AND HAND TOOLS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

- 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.
- With all tools there is potential to have contact between moving parts of machinery, electrically energized equipment or part of the work process with the workers clothing, jewelry or hair may occur.
  - Wear clothing that fits closely to the body
  - Do not wear bracelets, rings, dangling neckwear, a wristwatch or similar articles
  - Have head and facial hair that is short or confined and cannot be snagged or caught.

**PRECAUTIONS****POWER TOOL USE**

- Use the proper tool for the job.
- Power tools and hand tools are to be used and maintained in compliance with the manufacturer's guidelines.
- Ensure you have an adequate supply of the proper type and size of tool for the job.
- Ensure the proper personal protective equipment is worn or used.
- Electrical tools shall have a three prong plug or be double insulated.
- Grinder discs, buffers and stones are to be used for the designed application and at the rated speed.
- Stationary grinders must have properly adjusted tool rests and dressed stones.
- Angle grinders must have the factory-installed guards in place. Guards may be modified after an authorized deviation has been put in place.
- On/off switches must be functional and provide easy access to the operator.
- Saw blades shall be used to cut only the material they were designed for, blades must not be operated at a speed that exceeds the manufacturer's rating, guards must be in place.

**AIR ACTUATED TOOLS**

- Supply air to be controlled to manufacturer's specifications.
- Tools to be used for designed purpose only.
- Follow lubrication guide for proper lubrication of equipment.

**EXPLOSIVE ACTUATED TOOLS**

- Operator must be trained and qualified.
- Tool to be used for designed purpose only and in the manner for which it was designed.
- Explosive cartridges to be stored and handled in accordance with the manufacturer's guidelines.

**HAND TOOLS**

- Tools to be used for the designed purpose
- Chisels, punches, wrenches and hammers etc. to have all burrs removed
- Chisels, punches, screwdrivers etc. to be properly dressed
- Cracked, splintered or damaged handles to be replaced

**CLEANING AND STORAGE**

- All damaged/worn/broken/malfunctioning tools shall be tagged and taken out of service.
- All tools shall be cleaned after use and repairs made before being put into storage.
- Repairs to tools should be done only by a qualified person.
- When repairing tools, be sure to maintain the manufacturer's specifications.

**DEFECTIVE TOOLS**

- Defective tools can cause serious and painful injuries.
- If a tool is defective in some way, DON'T USE IT. Tag it "Out of Service" and remove or replace.
- Beware of problems like:
  - Chisels and wedges with mushroomed heads.
  - Split or cracked handles.
  - Wrenches with worn out jaws
  - Tools, which are not complete, such as files without handles.
- Watch for problems such as:
- 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.
  - The wrong grinder wheel is being used.
  - The guard has been wedged back on a power saw.

**SWP-019 – REFUELING VEHICLES & EQUIPMENT**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

The highly volatile and extremely flammable nature of gasoline means that potentially explosive air/vapor mixtures are likely to form easily at ambient temperatures. Gasoline ignites easily, burns vigorously and gasoline vapors may explode in certain conditions. Keep gasoline away from ignition sources like heat, sparks and flame. It is the policy of **STARKS PLUMBING AND HEATING LTD.** that appropriate methods and equipment be utilized during refueling operations to minimize the risk of injury or loss to personnel, equipment, property and the environment.

**PRECAUTIONS**

- Exposure to gasoline liquid or vapor can adversely affect health. Avoid prolonged breathing of the gasoline vapors.
- Keep your face away from the nozzle.
- Keep gasoline away from your eyes and skin.
- All equipment and machinery must be shut off prior to fueling.
- An open flame or light, including smoking, near any fuel is prohibited when fueling or the transfer of fuel is occurring.
- Smoking is not allowed within 7.5 metres of a vehicle while it is being fuelled.
- Operators and/or refueling personnel shall stand beside the fueling nozzle in order to prevent a spill if a self-closing nozzle should happen to fail.
- Employees will notify foreman if spillage occurs during fueling operations.
- All fuel spills shall be cleaned and contaminated material disposed of at an approved facility.
- The types and designs of fueling hoses shall be selected and utilized as per the specific types of fuel, whether fueling is being done with a nozzle that is a gravity flow system or self-closing.
- Refueling personnel must maintain control over the fuel nozzle at all times.
- Rigging the nozzle in an open position is prohibited.

**GUIDELINES FOR FUELING VEHICLES**

- Turn off your engine. Disable or turn off any auxiliary sources of ignition such as a camper or trailer heater, cooking units or pilot lights.
- Put your vehicle in park and/or set the emergency brake.
- Do not smoke, light matches or use lighters while refueling.
- Use only the refueling latch provided on the dispenser. Never jam the refueling latch on the nozzle with any object (i.e. gas cap, etc.).
- Never leave the nozzle unattended.
- Do not overfill or top-off your vehicle tank – it can cause spillage.
- Do not allow children to fuel and/or assist fueling vehicle.
- Never use a cell phone or other personal electronic device while refueling (for example, laptops, PDAs and electronic games).

**STATIC ELECTRICITY AT THE GAS PUMPS**

- Static electricity-related incidents at retail gasoline outlets can be avoided.
- In the unlikely event a fire occurs when refueling, leave the nozzle in the fill pipe and back away from the vehicle.
- Notify the station attendant immediately so that all dispensing devices and pumps can be shut off with emergency controls.
- Use the emergency shutdown button to shut off the pump.

**AVOIDING STATIC ELECTRICITY BUILDUP**

- Upon exiting vehicle and before handling the nozzle or fuel door, always touch a metal part of the vehicle such as the door or hood.
- To avoid a build-up of static electricity, do not get back into your vehicle during refueling.
- If you cannot avoid getting back into the vehicle, upon exiting always touch a metal part of the vehicle away from the fill point before handling the nozzle.

**GUIDELINES FOR FUELING FROM A PORTABLE CONTAINER**

- Transfer gasoline in an area with good ventilation to reduce hazard of fire and exposure to vapors.
- Ensure that there are no sources of ignition (gas pilot lights or flames, electric motors, stoves, heaters) within 50 feet.
- Before refueling, turn off the engine or appliance. Allow hot surfaces to cool enough so they cannot ignite gasoline vapor.
- Avoid getting gasoline on your skin or clothes. Use a funnel to avoid spills. Do not breathe gasoline vapors.

**SWP-020 – RIGGING**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

Although rigging appears to be an easy operation that requires no particular skill or experience, it should only be performed by competent workers. Suspended loads have the capacity if improperly rigged to cause substantial damage or serious injury.

- Rigging will not be subjected to loads more than outlined in the legislative requirements.
- **STARKS PLUMBING AND HEATING LTD.** will make available the maximum load rating of the rigging to all of its workers at the work site.
- Inspect all rigging before commencing work to ensure that it is functional and safe.
- Ensure that wire rope, alloy steel chain, synthetic fibre rope and metal mesh slings all meet the requirements of ASME Standard B30.9-1996, *Slings*.
- Ensure that all hooks have a safety latch, mousing or shackle if the hook could cause injury if it becomes dislodged while in use.

**REJECTION CRITERIA****SYNTHETIC FIBRE SLINGS**

- Synthetic fiber web slings are easily cut and have poor abrasion resistance when compared with chain and wire rope slings. It is important to use slings made of the right material for the job. Nylon slings are damaged by acids, but resist caustics. Polyester slings are damaged by caustics, but resist acids. Sunlight, moisture and temperatures above 90° C damage both nylon and polyester slings. Damaged slings must be permanently removed from service and physically altered to prevent further use. The simplest way to do this is to cut the sling into many small, unusable pieces. The pieces should be disposed of immediately.

**METAL MESH SLINGS**

- Only a metal mesh sling manufacturer is able to undertake repairs to a damaged sling. Repaired slings must be proof-tested to a minimum of 2 times their vertical hitch rated load.

**ELECTRIC ARC DAMAGE**

- Electric arc contact can result in burn damage or removal and weakening of material. A rigging component that has been contacted by an electric arc must therefore be removed from service unless a professional engineer certifies that it is safe to use.

**DAMAGED HOOKS**

- Unless otherwise specified by the manufacturer, a worn or damaged hook must be permanently removed from service if
  - the throat opening, measured at the narrowest point, has increased by more than 15 percent of the original opening,
  - the hook has twisted more than 10 degrees from the original plane of the hook,
  - the hook has lost 10 percent or more of its cross-sectional area, or
  - the hook is cracked or otherwise defective.

**DO'S & DON'TS OF RIGGING**

- Choose one member of the crew to act as a signalman and instruct the equipment operator to respond only to signals from that person. The signalman will not order a move until he has received the "all ready" signal from each member of the crew. When visual contact cannot be maintained, radio contact will be utilized.
  - Each rigger will be in the clear before he gives an "all ready" signal 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. Your hand should be far enough away so there is no possibility of a frayed wire catching your glove and jerking your hand into a pinch point. (Frayed cables should never be used.)
  - Be aware of the roll or swing of the load. Since it is almost impossible to position the hook exactly over the load centre, there will almost always be a swing or roll. Anticipate the direction of the swing or roll and work away from it.
  - Perform a test lift to ensure balance of load and lifting capability of the picker, etc.
  - Never position yourself between material, equipment or any stationary object and the load swing.
  - Never stand under the suspended load and keep from under the boom, always select an escape route prior to hoisting the load.
  - Observe the site where the load is to be set. Remove unnecessary equipment, materials etc.
  - When lowering or setting the load, be sure your feet and all other extremities are out from under it. Set the load down easily and slowly so that if it rolls on the blocking, it will be a slow shift that you can move away from.
  - Identify the designated signalman by the use of distinctive vest, armllets, etc.
- Use tag lines to control the loads.

**SWP-021 – SCAFFOLDING**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

- To protect workers from injuries associated with erecting and working with scaffolding.
- **Starks Plumbing and Heating Ltd.** is responsible to facilitate and/or provide proper instruction to their employees on protection requirements and training concerning the use of scaffolding.

**PRECAUTIONS**

1. Ensure grounding is on a firm and level base.
2. Maintain the established minimum clearances from all power lines.
3. Provide a safe access ladder.
4. Ensure scaffold has a platform perimeter handrail.
5. Anchor or tie a free standing scaffold according to legislation.
6. **DO NOT** use a ladder sloped against the side of a scaffold at any time.
7. A toe board is required on all platforms.
8. Ensure tube and clamp modular construction is utilized. Wood construction is to be used only when absolutely necessary.
9. Ensure color coded scaffold tags are installed at each point of entry indicating its status and condition as follows:
  - (a) a green tag with "Safe for Use",
  - (b) a yellow tag with "Caution: Potential or Unusual Hazard",
  - (c) a red tag with "Unsafe for Use".
10. Ensure that workers are aware of the recognition and use of scaffold tags. Workers must not use a scaffold if it has a red tag, a green or yellow tag that has expired, or no tag at all.
11. Ensure that the load to which a scaffold is subjected never exceeds the equivalent of one quarter of the load for which it is designed.
12. Utilize a tag line when hoisting material.
13. Minimize tools, material and debris on the platform.
14. Ensure a hand line with a tool bag for tools is utilized.
15. When working at 3m (10 ft.), a fall protection system must be used.
16. Follow scaffold safe work procedure step by step.

**SWP-022 - SLIPS, TRIPS, AND FALLS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

In Canada some sixty thousand workers get injured annually due to fall accidents. This number represents about fifteen percent of the "time-loss injuries" that were accepted by workers' compensation boards or commissions across Canada. In addition to great economical loss, it amounts for a lot of pain and suffering and sometimes (much too often) even death. All these, in most of cases, do not have to happen. What is needed is:

- understanding how fall accidents happen
- identifying the trouble areas, and
- eliminating or minimizing hazards of falling

**GUIDELINES**

Both slips and trips result from some a kind of unintended or unexpected change in the contact between the feet and the ground or walking surface. This shows that good housekeeping, quality of walking surfaces (flooring), selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

**Housekeeping**

Good housekeeping is the first and the most important (fundamental) level of preventing falls due to slips and trips. It includes:

- cleaning all spills immediately,
- marking spills and wet areas,
- mopping or sweeping debris from floors,
- removing obstacles from walkways and always keeping them free of clutter,
- securing (tacking, taping, etc.) mats, rugs and carpets that do not lay flat,
- always closing file cabinet or storage drawers,
- covering cables that cross walkways,
- keeping working areas and walkways well lit,
- replacing used light bulbs and faulty switches.

Without good housekeeping practices, any other preventive measures such as installation of sophisticated flooring, specialty footwear or training on techniques of walking and safe falling will never be fully effective.

**Flooring**

Changing or modifying walking surfaces is the next level of preventing slip and trips. Recoating or replacing floors, installing mats, pressure-sensitive abrasive strips or abrasive-filled paint-on coating and metal or synthetic decking can further improve safety and reduce risk of falling.

However, it is critical to remember that high-tech flooring requires good housekeeping as much as any other flooring. In addition, resilient, non-slippery flooring prevents or reduces foot fatigue and contributes to slip prevention measures.

### **Footwear**

In workplaces where floors may be oily or wet or where workers spend considerable time outdoors, prevention of fall accidents should focus on selecting proper footwear. Since there is no footwear with anti-slip properties for every condition, consultation with manufacturers' is highly recommended.

Properly fitting footwear increases comfort and prevents fatigue which, in turn, improves safety for the employee.

### **What can you do to avoid falling at work?**

It is important to remember that safety is everybody's business. However, it is employers' responsibility to provide safe work environment for all employees. Employees can improve their own safety too.

You can reduce the risk of slipping on wet or icy surfaces by:

- taking your time and paying attention to where you are going,
- adjusting your stride to a pace that is suitable for the walking surface and the tasks you are doing,
- walking with the feet pointed slightly outward, and
- making wide turns at corners.

You can reduce the risk of tripping by:

- always using installed light sources that provide sufficient light for your tasks or,
- using a flashlight if you enter a dark room where there is no light, and
- ensuring that things you are carrying or pushing do not prevent you from seeing any obstructions, spills, etc.

**SWP-023 – WELDING SAFETY**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**PROTECT YOURSELF**

- **Effective ventilation** is the first step to controlling exposure. Ask your employer to check the ventilation system regularly. Before starting work, check that the fan operates properly and the filters are clean. Learn how to use the exhaust system correctly.
- **Know what materials and hazards** you are dealing with. Make sure you read the Material Safety Data Sheet (MSDS) supplied with welding electrodes. It contains information you need to know and understand. Your employer is responsible for having up-to-date MSDSs at the worksite and providing you with WHMIS (Workplace Hazardous Materials Information System) training.
- **Evaluate the work situation.** Are you in a confined space with little or no ventilation? What type of metals are you welding? Are the work pieces clean? Are the work pieces coated, painted or covered with a film of degreasing solvent? Whenever possible, weld on clean metal only. Remove all coatings or paints that are within 5 - 10 centimeters of the weld area.
- **Use respiratory equipment when necessary.** The risks of exposure to gases and fumes are high for plasma-arc cutting and for arc gouging and cutting. They are also high when welding stainless and high-alloy steel; as well as galvanized, coated and painted steels, even when air-movers and draft fans or wide-open work areas provide good ventilation. Always use respiratory equipment under such conditions. With poor ventilation and no local exhaust, most jobs, whatever the welding process, will require a respirator.

**PERSONAL PROTECTIVE EQUIPMENT**

You may need to use protective equipment to protect yourself from the numerous other hazards present during welding. Examples of these include:

- Eye hazards - All welding jobs present these either from ultraviolet radiation, flashes, “weld-spatter,” or from chipping or grinding
- Burns - From radiation, hot metal spatter or handling hot tools and equipment
- Electrical shock - Caused by inadequate grounding of equipment, worn or damaged cables, lack of proper gloves and working in wet conditions
- Fire and explosion - From welding or cutting close to combustible materials, leakage of welding or cutting gases from poorly fitting and leaky hoses
- Compressed gas cylinders - Hazardous if there is damage to cylinder valves and because of the risk of explosion or flashback (compressed gas cylinders need to be equipped with reverse flow check valves to prevent flashback)
- Heat stress - From wearing protective clothing and being subjected to heat from the welding process
- Dust hazards - From some welding jobs as work is performed
- Overhead hazards - Where head protection is required
- Excessive noise levels - Where hearing protection is required

- Confined spaces - A Code of Practice is required

### **SUPERVISOR RESPONSIBILITIES**

Supervisors are responsible to facilitate and/or provide proper instruction to their workers on:

- Protection requirements and training
- Hazard assessment
- Site inspection

### **WORKER RESPONSIBILITIES**

- Worker must be trained in use of welder.
- Perform a “walk around” inspection before starting equipment.
- Ensure welder is firmly attached to the transporting unit (if applicable).
- Check all fluid levels to ensure that they are at acceptable levels for operation.
- Do not fuel the machine while it is running.
- 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.
- Ensure the side covers are kept closed to protect equipment from any damage from external objects, as well as to protect the operator and others from the moving parts of the machine.
- Ensure sure all cables are wound securely when transporting equipment.
- Any repairs should be done by qualified mechanics or technicians.
- Ensure Working Alone policy is followed, where applicable.
- Welders shall check their equipment at frequent and regular intervals for defects, particularly for defective cables in wet areas.
- Wear face shields and safety glasses when buffing and grinding.
- Ensure full and empty cylinders are kept separate and identified.
- Ensure cylinders are secured and in upright position.
- Ensure flammable materials are kept out of weld areas.
- Avoid watching arc without proper eye protection.
- Ensure grinders and buffers have proper guards installed as per manufacturer.

### **GASES AND FUMES**

#### **GASES**

All welding processes produce hazardous gases. Gases are invisible to the eye, and may or may not have an odor. The heat in both the flame and the arc, and the ultraviolet radiation from the arc, produce gases such as carbon monoxide, carbon dioxide, oxides of nitrogen and ozone. Other gases and vapors may be produced as byproducts from the breakdown of solvents or coatings on the metal. Gases used for arc shielding, or as a fuel, are also given off during welding.

Welding gases and fumes can be hazardous to your health. The health risks and effects associated with welding gases and fumes are determined by:

- the length of time that you are exposed to them
- the type of welding you do
- the work environment
- the protection you use

## FUMES

Welding also produces fumes. Fumes are formed when hot metal vapors cool and condense into very small particles that stay suspended in the vapor or the gas. Fumes may be visible or not. Welding “smoke” is an example of a visible fume. But even if the fume can’t be seen, its particles are still present.

Gases, vapors and fumes enter the body through the air we breathe. Different gases and fumes affect us in various ways. Gases such as carbon monoxide, nitrogen oxides and ozone are extremely toxic.

The health effects of inhaling fumes depend on the type of fume inhaled. The early symptoms of harmful exposure to most substances produced during welding are similar. These may consist of:

- Irritation of the eyes, nose, respiratory system and sometimes the skin (such as “nickel itch,” caused by exposure to nickel fumes).
- Coughing, a tight chest or chest pains, headaches, nausea, vomiting and fatigue may also be some persistent symptoms.

You can reduce exposure to welding fumes and gases by taking these four steps:

- substituting less hazardous flux materials
- introducing engineering controls, by using enclosures and improving ventilation
- developing administrative controls, such as implementing work-rest schedules and safe-work practices
- wearing respiratory protection

## OCCUPATIONAL EXPOSURE LIMITS

Occupational Exposure Limits (OELs) are the maximum permissible concentrations of a hazardous substance that most healthy adults may be repeatedly exposed to without suffering adverse health effects.

OELs are often assigned three values.

- **One value** is based on normal working conditions of 8 hours per day, over an average lifetime of exposure. If more than 8 hours are worked (for example, in a 12-hour shift), this value must be adjusted.
- **A second value** provides a limit for a 15-minute, short-term exposure. This is a value to which a worker may be exposed for 15 minutes, a maximum of 4 times per shift, with at least 1 hour between exposures. In this case, the 8-hour OEL cannot be exceeded.
- **A third value** is the ceiling limit. This limit must never be exceeded. If more than one type of contaminant is present, as in most welding situations, and the effects of exposure to each is similar, an exposure limit for the mixture is calculated. This value is lower than the limits set for exposure to individual contaminants.

OELs represent only minimum standards. Because measurements and workers’ susceptibility is expected to vary, the law in Alberta requires that employers keep exposure levels to harmful substances “as low as reasonably practicable.”

The intent of the law is for employers to reduce exposure to a fraction of the OEL using ventilation or other control measures. Where it is not possible to reduce levels to below the

OEL, workers must use personal protective equipment.

### **HOW DO YOU KNOW WHEN VENTILATION IS EFFECTIVE?**

A welder's work area can be ventilated in several ways. Each method, however, has its limitations.

- **Prevailing winds** — In outdoor or semi-outdoor situations, air movement can provide natural ventilation. Its effectiveness, however, depends on whether the day is windy or calm, and whether you are working upwind or downwind. Using welding curtains, spark enclosures or hoardings when working outside prevents exposure to natural air movement and therefore prevents effective ventilation.
- **General ventilation** — In indoor locations and confined spaces, draft fans or air-movers provide general or dilution ventilation. A well-designed and well-maintained ventilation system is usually effective for most situations involving clean, uncoated, mild steels. However, the only means of judging if the system is doing its job is to take regular airflow measurements and to sample for exposure. As a guide, the U.S. Occupational Safety and Health Administration (OSHA) requires that a minimum of 65 cubic meters (2000 cubic feet) of air be moved per minute for each welder in a room. These figures will change if, for example, a plasma-arc machine is being used in the room. Since welding curtains may interfere with airflow, make sure that they are at least 20 centimeters off the floor. Hoardings should have sufficiently large openings to allow good airflow. A rule of thumb often used is that if the visible fume clears within 30 seconds after the welding stops, ventilation is probably adequate.
- **Local exhaust systems** — Vent hoods or gun-mounted exhausts can provide local exhaust ventilation. Local exhausts are the most effective ventilation systems for all situations that generate fumes containing heavy metals and, particularly, for stainless steel or plasma-arc welding. In field locations portable hoods may be available. The effectiveness of local exhaust ventilation depends on the distance the hood is from the source of gases and fumes, on the air velocity and on the hood placement.

When using local exhaust systems, in general:

- Place vent hoods close to the source of the airborne contaminants
- Ensure that air moves across the arc at about 0.5 m/s (100 ft/min). In processes that use shielding gases, higher air velocities may strip them away.
- Place the hood above and to the side of the arc to capture the contaminants.

Vent hoods often fail to protect welders because they are poorly designed and located. To properly design and locate the vent hood system you must have a good understanding of the types of contaminants being produced, and of the work procedures and characteristics of the work area. Airflow checks must also be done regularly with a measuring instrument. The checks will ensure that the equipment is working as designed. Remember, when using vent hoods; make sure that the exhaust discharges outside the room or confined space.

**SWP-024 POWERED MOBILE EQUIPMENT**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GUIDELINES**

Only those persons who have received adequate instruction in the safe use of the equipment can operate mobile equipment and they must also have demonstrated to a qualified supervisor or instructor competency in operating that equipment. Once competency is established they may be authorized to operate the equipment.

A supervisor must not knowingly operate or permit a worker to operate mobile equipment which is, or could create, an undue hazard to the health or safety of any person, or is in violation of this Regulation.

Mobile equipment in which the operator cannot directly or by mirror or other effective device see immediately behind the machine must have an automatic audible warning device which activates whenever the equipment controls are positioned to move the equipment in reverse. This warning device must be audible above the ambient noise level, if that is at all practicable.

Where mobile equipment has exposed moving parts which are a hazard to the operator or to other workers it must be guarded according to acceptable standards. If a part must be exposed for proper function it must be guarded as much as is practicable consistent with the intended function of the component. Where there is a danger of falling objects or projectile, the powered unit must be equipped with a suitable cab, guard, or screen.

The operator of mobile equipment is the only worker permitted to ride the equipment unless the equipment is a worker transportation vehicle.

Where powered mobile equipment is fitted with a Roll-over Protective Structure (ROPS) it must be equipped with seat belts. The operator and passengers must use the belts whenever the equipment is in motion, or engaged in an operation which could cause the equipment to become unstable.

Powered mobile equipment is to be inspected by a competent person for defects and unsafe conditions before each use and as often as is necessary in accordance with the manufacturer's specifications to ensure that it is capable of safe operation. If an inspection indicates that a hazardous or potentially hazardous condition exists, the company ensures that:

- (a) the health and safety of a worker who may be exposed to the hazard is protected immediately,
- (b) the powered mobile equipment is not operated until the defect is repaired or the condition is corrected, and
- (c) the defect is repaired or the unsafe condition corrected as soon as reasonably practicable.

A written record of the inspections and any maintenance performed is kept at the relative business place. These reports must be readily available to the operator. As soon as is reasonably practicable the defect must be repaired or the unsafe condition corrected.

Workers are not permitted to remain within range of a swinging load or part where they may be in danger.

In the event that a worker is required or permitted to travel in or on an all terrain vehicle or snowmobile that does not have an enclosed cab they are required to wear approved protective headgear and eye or face protectors.

Where forklifts are used they must provide a clearly and legible load rating chart that is readily available to the operator.

### **OPERATOR RESPONSIBILITIES**

Operators of mobile equipment must operate the equipment safely, maintain full control of the equipment at all times, and comply with the laws governing the operation of the equipment. They must be familiar with the manufacturer's operating instructions.

Operators are responsible to use seat belts (when unit is equipped) and ensure that passengers also use the seat belts.

The operator must maintain the cab, floor and deck of mobile equipment free of material, tools or other objects which could create a tripping hazard, interfere with the operation of controls, or cause a hazard to the operator or other occupants in the event of an accident.

The operator of mobile equipment must not leave the controls unattended unless the equipment has been secured against inadvertent movement such as by setting the parking brake, placing the transmission in the manufacturer's specified park position, and by chocking wheels where necessary and a suspended or elevated part of the powered mobile equipment is either landed, secured in a safe position, or both.

Before starting up any powered mobile equipment operators must do a walk around visual inspection of the equipment and surrounding area to ensure that no worker is endangered by the start-up of the equipment and that everything is in safe operating condition. The walk around inspection is to be done before the start of operation on their shift and any other time as required.

The operator must report defects and conditions affecting the safe operation of the equipment to the supervisor or management. Any repair or adjustment necessary for the safe operation of the equipment must be made before the equipment is used. Servicing, maintenance and repair of mobile equipment must not be done when the equipment is operating, unless continued operation is essential to the process and a safe means is provided.

### **TRUCK MOUNTED CRANES**

You must use extreme caution when working near or operating truck mounted cranes. You must watch overhead for power lines and other obstructions at all times.

The vehicle must be well blocked and on a level, stable surface that can support the weight of both truck and load.

Take care to plan each lift. Though each lift may be loading an identical size of material, the crane may be placing the item in a different spot each time - if one lift requires extending the crane to maximum reach, make sure safe operating charts are consulted.

When cranes are used to lift pallets make sure that the materials are well stacked, tied and secure. Ensure that workers are not below the lift area and cannot be struck by falling objects.

## **FORKLIFTS**

Forklifts are commonly used for loading and lifting. As an operator, make sure you:

- Lower the forks to the ground when not in use
- Do not exceed the maximum load shown on the forklift data plate
- If seat belts are available, be sure to use them
- Position the load according to the recommended load center
- Insert the forks all the way under the load
- Never move an unstable load - get help and repack the load if necessary
- Never raise or lower the forks until the forklift is stopped and braked
- Drive slowly, avoid sudden stops, and turn with care
- Don't lift a load that extends above the load backrest - you're a sitting duck if the load slides back
- Communicate with your co-workers about the job you're doing
- Take extra precautions when unloading elevators, railway cars, tractor trailers, and straight trucks
- Be aware of overhead heights, entrances and clearances needed, and factors special to each type of job - follow the safety guidelines for each

**NOTE:** *Whether it is a truck mounted crane or a forklift in use, the area must be clear of obstructions and unnecessary workers.*

**SWP-025 CARGO SECUREMENT**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**PURPOSE/APPLICATION**

To protect workers and the general public from injuries/incidents associated with cargo that could leak, spill, blow off, fall through or otherwise be dislodged from a vehicle or shift upon or within the vehicle, which could adversely affect the vehicle's stability or manoeuvrability.

This practice applies to all commercial vehicles traveling on private or public road systems and is to be used whenever it is necessary to transport any material, tools or equipment on a private or public road system.

**PRECAUTIONS**

The following conditions must exist before a driver can operate a commercial motor vehicle and a carrier can require or permit a driver to operate a commercial motor vehicle.

- The commercial motor vehicle's cargo must be properly distributed and adequately secured.
- The commercial motor vehicle's structure and equipment must be secured:
  - Tailgate
  - Doors
  - Tarpaulins
  - Spare tire
  - Other equipment used in the vehicle's operation
  - Cargo securing equipment.
- The cargo or any other object must not:
  - Obscure the driver's view ahead or to the right or left sides (except for drivers of self-steer dollies).
  - Interfere with the free movement of the driver's arms or legs.
  - Prevent the driver's free and ready access to accessories required for emergencies. OR
  - Prevent the free and ready exit of any person from the commercial motor vehicle's cab or driver's compartment.
- All cargo must be contained, immobilized, or secured so that it does not:
  - Leak
  - Spill
  - Blow off the vehicle
  - Fall from the vehicle
  - Fall through the vehicle
  - Otherwise become dislodged from the vehicle

- Shift upon or within the vehicle to such an extent that the vehicle's stability or manoeuvrability is adversely affected.
- Each cargo securement system must be able to withstand a minimum amount of force in each direction.
  - **Forward Force** = 80% of cargo weight when braking while driving straight ahead.
  - **Rearward Force** = 50% of cargo weight when accelerating, shifting gears while climbing a hill, or braking in reverse.
  - **Sideways Force** = 50% of cargo weight when turning, changing lanes, or braking while turning.
  - **Upward Force** = 20% of cargo weight when traveling over bumps in the road or cresting a hill.

**SWP-026 – Hot Work**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL**

No person shall perform any work in a Hot Work Permit Area without a duly authorized Hot Work Permit.

A hazardous environment is an extraordinary situation which may result in bodily harm or property damage due to:

- Fire / Explosion
- Body Burns
- Oxygen deficiency
- Toxic fumes, vapors, gasses, or dust
- Radiation
- Noise
- Heat Stress

**GUIDELINES**

Hot work shall not begin until:

- (a) A hot work permit is issued that indicates
  - (i) the nature of the hazard,
  - (ii) the type and frequency of atmospheric testing required,
  - (iii) the safe work procedures and precautionary measures to be taken, and
  - (iv) the protective equipment required,
- (b) The hot work location is inspected and:
  - (i) cleared of combustible materials, or
  - (ii) suitably isolated from combustible materials,
- (c) Procedures are implemented to ensure continuous safe performance of the hot work, and
- (d) Testing shows that the atmosphere does not contain
  - (i) 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
  - (ii) the minimum ignitable concentration for dust.

In the event that a welding or allied process is performed above an area where a worker(s) may be present, precautions must be taken to protect a worker(s) below the operation from sparks, debris, and other falling hazards.

**STARKS PLUMBING AND HEATING LTD.** ensures that:

(a) compressed or liquefied gas containers are used, handled, stored, and transported in accordance with the manufacturer's specifications,

(b) a cylinder of compressed flammable gas is not stored in the same room as a cylinder of compressed oxygen, unless the storage arrangements are in accordance with part 3 of the Alberta Fire Code (1997),

(c) compressed or liquefied gas cylinders, piping, and fittings are protected from damage during handling, filling, transportation, and storage,

(d) compressed or liquefied gas cylinders are equipped with a valve protection cap if manufactured with a means of attachment, and

(e) oxygen cylinders or valves, regulators, or other fittings of the oxygen using apparatus or oxygen distributing system are kept free of oil and grease.

A hot work permit will be issued for all work in a hazardous environment that involves the use of:

- Electric arc welding or cutting equipment.
- Flame cutting or heating equipment.
- Spark generating tools (i.e. grinders, chippers).
- The supervisor is responsible to ensure all hot work permits are completed and signed prior to the job commencing. Hot work permits must be approved by management.

No internal combustion engine may be operated in a hazardous environment without being equipped with intake/exhaust flame arresting devices. Proper and regular atmospheric monitoring will be done prior to and during the use of such internal combustion engines and all readings will be entered on the Hot Work Permit.

All Hot Work performed by **STARKS PLUMBING AND HEATING LTD.** shall comply with the requirements of CSA Standard W117.2-06, Safety in Welding, Cutting, and Allied Processes (or current version).

Welding or allied process equipment shall be erected, installed, assembled, started, operated, used, handled, stored, stopped, inspected, serviced, tested, cleaned, adjusted, carried, maintained, repaired, and dismantled in accordance with the manufacturer's specifications.

**SWP-27 – DRILL PRESS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**Warning:**

The use of this tool may be hazardous. The Drill Press is a high-speed, fast-cutting power tool so special safety precautions must be observed to reduce the risk of personal injury. It is important to fully understand and observe the safety precautions and procedures below. If not familiar with the use of this equipment, obtain practical instruction from a competent operator or Supervisor. Do not operate without thorough training or unless under the direct supervision of an instructor. Do not operate if safety devices are not in place.

**Purpose:**

The Drill Press is an electrical powered high speed rotating tool meant for drilling holes into different types of material. The holes cut into the material depend on the size of the bit used. The Drill Press is capable of cutting through metals of many thicknesses and sizes. Bits are made of different for the product that is being drilled.

**Hazards:**

• Cuts	• Flying debris	• Burns and heat
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**PPE Required:**

• CSA approved face shield or glasses	• Safety footwear
• Approved hearing protection	• Leather gloves

**Pre Set-Up:**

- Ensure lighting is adequate.
- Do not wear loose clothing.
- Make sure there are no flammables around Drill Press.
- Clamp working piece to drill press table tightly.
- Keep cutting fluid (met cool) close to you as it will be needed.
- Use a saw horse roller if work piece is too long for saw to clamp.
- Ensure you're wearing appropriate PPE.
- Ensure all locking adjustment handles are tight.

**To replace the drill bit:**

- Turn off the Drill Press.
- Make sure rotation has stopped and use chuck key to loosen chuck.
- Remove drill bit from Drill Press.
- Fit the proper size and type of drill bit for the Work piece you are going to drill.
- Tighten the chuck with the chuck key.
- Replace chuck key on hook so it is not forgotten on chuck.

**Procedure**

- Adjust Drill Press table to the depth you want to drill and tighten table clamp.

- Tighten work piece to Drill Press table with a “C” clamp or vice to avoid spinning causing injury.
- Place Drill Press gear in a proper speed for size of hole drilled (slow for large holes, high for small holes).
- Start Drill Press by turning on switch.
- Avoid awkward operations and hand positions where a sudden slip could cause a hand to move toward the drill bit while it’s spinning.
- Keep one hand on the work piece to stabilize it, with your other hand pull down on the handle till the bit touches the work piece.
- Let the drill bit make a mark, lift the handle and look at the work piece to confirm hole location.
- Pull down on the handle and start to drill.
- Use cutting fluid (met cool) to keep the drill bit sharp and drill clean holes.
- Once drilled through, lift handle till bit is completely out of work piece.
- Turn of switch to shut down Drill Press.
- With gloves on hands, loosen “C” clamp or vice and remove steel.

**Post Procedure/take Down:**

- Keep the work area clean for other people to use it.
- Put scraps in metal bin.

**Summary:**

- Always wear appropriate PPE.
- Remove chuck after drill bit change.
- Ensure Drill Press is in good working order before you use it.
- Always make sure the rotation has stopped before changing the drill bit.
- Consult the supervisor if unsure of how to use.

**SWP-28 – METAL CUT-OFF SAW**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**Warning:**

The use of this tool may be hazardous. The cut-off saw is a high-speed, fast-cutting power tool so special safety precautions must be observed to reduce the risk of personal injury and fire. It is important to fully understand and observe the safety precautions and procedures below. If not familiar with the use of this equipment, obtain practical instruction from a competent operator. Do not operate without thorough training or unless under the direct supervision of an instructor. Do not operate if safety devices are not in place.

**Purpose:**

The cut-off saw is an electrical powered high speed rotating disk capable of cutting most metals of many sizes and angles using a type of abrasive wheel.

**Hazards:**

• Cuts	• Fire and sparks	• Burns and heat
• Flying debris	• Explosive disk	

**PPE Required:**

• CSA approved face shield &/or safety glasses	• Safety footwear	• Welding jacket
• Approved hearing protection	• Leather gloves	• N95 Respirator

**Pre Set-Up:**

- Ensure lighting is adequate.
- Do not wear loose clothing.
- Make sure there are no flammables around saw
- Make sure the blade guard is down
- Blade is spring lift so it will return back up.
- Set blade angle on table.
- Clamp working piece to saw table tightly.
- Use a saw horse roller if work piece is too long for saw to clamp.
- Ensure you're wearing appropriate PPE .
- Ensure all locking adjustment handles are tight.

**To replace the cut off wheel:**

- Turn off the saw and unplug.
- Make sure rotation has stopped and use lock pin to hold blade.
- Use combination wrench to loosen and remove hexagonal arbour bolt.
- Fit the new wheel.
- Screw in the bolt and tighten it firmly with the combination wrench.
- Remove the brace or locking pin.
- Plug back into wall

**Procedure**

- Keep arms, arms and fingers away from blade.
- Avoid awkward operations and hand positions where a sudden slip could cause a hand to move into the blade.
- Make sure saw table is clear of all scraps.
- Start the saw by pressing the trigger.
- Gently bring the saw blade down onto the work piece to start cutting.
- Be prepared to have sparks coming from the back of the saw and be aware of the direction of sparks to avoid starting a fire or spraying someone else.
- Do not force saw blade down hard on work piece as could cause blade to explode.
- Remove finger from trigger after piece has been cut.
- With gloves on hand, loosen clamp and remove steel.

**Post Procedure/take Down:**

- Keep the work area clean for other people to use it.

**Summary:**

- Always wear appropriate PPE.
- Ensure saw is in good working order before you use it.
- Always make sure the saw is unplugged before changing the blade.
- Consult the supervisor if unsure of how to use.

**SWP-29 – PORTABLE & BENCH GRINDER SAFETY**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**PURPOSE/APPLICATIONS**

To protect workers from injuries associated with the use of grinders. **STARKS PLUMBING AND HEATING LTD.** will promote the safe use, operation and maintenance of all grinders. All grinders and abrasive wheels will comply with manufacturer's recommendations and specifications.

**PRECAUTIONS**

- Keep work area clean and free of combustible materials
- Conduct a pre-use inspection before using
- Secure work firmly when using the grinder
- Use wheel washers when installing grinding wheels
- Examine wheels for cracks and chips
- Do not grind on the sides of a regular wheel.
- Do not press too hard into the wheel
- Material rest should not be more than 1/8" (3 mm) from grinding wheel
- Always use hearing, eye and face protection
- Set up fire proof barriers to contain sparks
- Stand away from the wheel when you start the grinder
- Run the wheel for one minute before commencing grinding
- Use the correct wheel for the job
- Never remove or disable guards on grinders
- Adhere to the maximum speed marked on the grinding wheel
- Ensure that the wheel speed is equal to or greater than the grinder shaft speed

**PORTABLE SIDE GRINDERS**

- Ensure that the proper guards are in place
- Ensure that the maximum rated speed on the disk is equal to or greater than the maximum speed of the grinder
- Never exceed the maximum speed marked on the grinding disk
- Grinding disks shall be checked for cracks and defects before mounting them
- Ensure that the mounting flanges are clean and the mounting blotters are used
- Do not over tighten the mounting nut
- Run a newly mounted grinding disk at operating speed, before grinding, to check for vibrations
- Do not use grinders near flammable materials
- Do not use grinders for jobs, which they are not designed for (i.e., cutting)
- Clean grinders according to manufacturers' recommendations

- Ensure that the grinder will not operate when the trigger switch is released
- Observe proper storage, installation and use of grinding disks and grinders

#### **BENCH OR PEDESTAL GRINDERS**

- Bench and pedestal grinders shall be permanently mounted to a heavy base
- The minimum RPM rating of each abrasive wheel should be compatible with the RPM rating on the grinder motor
- The work rest used shall be kept adjusted to within 1/8 inch of the wheel
- The adjustable tongue on the topside of the grinder should be kept adjusted to within 1/4 inch of the wheel. The side guards should cover the spindle, nut and flange and seventy-five percent (75%) of the wheel diameter.
- Each grinder shall have an individual on and off control switch
- The switch should be easily accessible anytime you operate the machine
- Each electrically operated grinder is effectively grounded
- Do not defeat the grounding mechanism, especially by using non-three prong plug adapters
- Note the method by which new abrasive wheels are mounted. Visually inspect and ring test new abrasive wheels.
- Do not use a wheel that has been dropped
- Do not grind wood, plastics and non-iron metals on ordinary wheels
- Do not leave grinding wheels standing in liquids. The liquid can cause balance problems.
- Do not grind on the side of a regular wheel
- Stand to one side of the grinder until the wheel reaches operating speed
- Bring work into contact with the grinding wheel slowly and smoothly, without bumping
- Apply gradual pressure to allow the wheel to warm up evenly. Use only the pressure required to complete a job.
- Move the work back and forth across the face of the wheel. This prevents grooves forming.

## SWP-30 – PLASMA CUTTER

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**Warning:**

The use of this tool may be hazardous. The Plasma Cutter is an electrically powered, high intensity electric arc-cutting tool. Special safety precautions must be observed to reduce the risk of personal injury and fire. It is important to fully understand and observe the safety precautions and procedures below. If not familiar with the use of this equipment, obtain practical instruction from a competent operator. Do not operate without thorough training or unless under the direct supervision of an instructor. Do not operate if safety devices are not in place.

**Purpose:**

The Plasma Cutter is High powered machine that uses up to 400V electricity mixed with 100lbs of constant air to cut Metal work pieces. The plasma cutter can cut steel, aluminum, brass and most other metallic substances at many different thicknesses up to 3/4 thick. The plasma cutter can cut angles and gouge metals as well

**Hazards:**

• Toxic fumes	• Fire and sparks	• Noise	• Burns and heat
• Flying debris	• Electrocutation	• Static electricity	• Eye injury-u/v rays

**PPE Required:**

• ISO11 or better face shield	• Safety footwear	• Spark resistant clothing
• Approved hearing protection	• Leather gloves	• Respirator (if required)
• Welding screens (if required)		

**Pre Set-Up:**

- Ensure lighting is adequate.
- Do not wear loose clothing.
- Make sure there are no flammables around your work area
- Make sure welding screens are in place depending on your surroundings while cutting metals, sparks are generated from torch tip cutting work piece.
- Make sure you are wearing a respirator or using an exhaust extractor depending on materials cut, products like stainless steel, galvanized steel, carbon steel, zinc and certain paints can give off cadmium, beryllium, chromium and many other toxic poisons.
- Make sure you are wearing appropriate face and eye protection, a high intensity light is generated by machine.
- Make sure you are wearing hearing protection as long term use can cause hearing problems.
- Make sure the work area is not around any liquids as electrocution can happen from completing a current of electricity through you.
- Make sure you are wearing gloves as the material cut can get quite hot.
- Place marked work piece on a welding table or metal surface.

- Use a saw horse roller if work piece is too long for table or surface.
- Attach ground cable to work table or metal surface under the work piece.
- Set the plasma cutter controls depending on thickness of material and cutting you are going to do.

**Procedure**

- With settings adjusted, turn power switch on in the back of the machine
- Take whip of torch in hand, lift the safety switch and pull trigger, air pressure and spark will start.
- Start the cut slowly, if you move the tip to fast, the spark spray will come back at you.
- Place torch tip 1/8" from work piece edge if possible, it will start to cut work piece.
- Keep arms and fingers away from torch tip while cutting.
- Avoid awkward operations and hand positions where a sudden slip could cause a hand to move into the stream of spark spray or path of spark from tip.
- Keep an eye on direction of spray while cutting to avoid damage to plastics, flammables, glass yourself or anyone else, and use a welding screen if it is unavoidable.
- Make sure molten slag, hot metal or sparks are not directed on the cables of plasma cutter.
- Once cut is completed, remove finger from trigger and spark will stop.
- With gloves on hands, you can move work piece.

**Post Procedure/take Down:**

- Turn off plasma cutter from the switch in the back.
- Wrap torch whip back onto machine.
- Remove ground from work table or surface, wrap back on machine.
- Dispose of scraps and keep the work area clean for other people to use it.

**Summary:**

- Always wear appropriate PPE.
- Be aware what type of material you are cutting.
- Ensure all cable look to be in good working order before you use it.
- Always make sure the Plasma cutter is turned off before changing the torch tip.
- Consult the supervisor if unsure of how to use.

**SWP-31 – OPERATION OF 750/850 DOZERS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

For the safe operation of these machines you must be a qualified and authorized operation. To be qualified you must understand the written instructions supplied by the manufacturer, have training, actual operational experience and know the jobsite rules and regulations.

Human error is the leading cause of accidents. Some of these factors may be carelessness, fatigue, preoccupation, overload and drugs or alcohol. Follow these rules for the safe operation of the 750 and 850 dozers:

- Check the safety equipment:
  - Seatbelts / operator restraints
  - Rollover protective devices
  - Lights
  - Safety signs
  - Horn / Backup alarms
  - All guards and shields
  - Fire extinguishers
  - First aid kit
- Inspect the machine daily or before each shift:
  - Check for broken, missing or damaged parts
  - Check the tracks for broken or damaged pins, bushings and other track parts
  - Check all hydraulics prior to starting the machine
  - Check service and parking brakes for proper operation
  - Perform daily maintenance as set out by the manufacturer
- Know the operating capacity and operating characteristics of the machine
- Never allow riders on the machine
- Know the working area; learn beforehand if possible the following:
  - Location of slopes
  - Amount of traffic working around you
  - Exact locations of ALL underground utilities in the area you are working in
- Mount and dismount the machine safely using a three point contact and facing the machine
- Do a complete walk around of the machine before starting, looking for obstructions or other employees
- Start the machine only when seated and buckled in and follow manufacturer's instructions
- After starting the machine check all the gauges, instruments and warning lights to ensure the machine is functioning properly
- When travelling around the jobsite do it slowly giving the right of way to loaded machines while maintaining a safe distance
- **ALWAYS** be aware of other people working around you, visually checking and sounding your horn if necessary before moving.
- Always lower the dozer blade and engage the parking brake whenever exiting the machine

## SWP-32 – OPERATION OF A TRACK HOE

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

- Wearing proper PPE applies to all ground personnel as well as the equipment operator. Ensure that the clothing or PPE properly fits. This PPE may include the following:
  - CSA approved hard hat
  - CSA approved safety boots
  - Safety glasses, goggles, or if required, a full face shield
  - Heavy gloves
  - Hearing protection
  - Reflective clothing
  - We weather gear
  - Respirator or filter mask
- When mounting or dismounting the equipment a three point contact should be maintained to avoid slipping.
 

**NOTE: *Jumping or falling from a piece of equipment may result in injury***
- Visually inspect the equipment daily or pre-shift before using by walking around and physically checking fluid levels, belt tensions, and obstructions around or under the equipment
- Ensure backup alarm is working
- Always confirm the direction the equipment will be moving
- Always wear your seatbelt
- Provide a signal person if the equipment will be moving around other equipment or around overhead utilities
- Keep riders off the equipment while it is in operation
- Ensure the equipment has enough swing area to operate by swinging the boom slowly around the area to be worked in
- Ensure all precautions are taken to prevent people from walking into the swing area of the equipment
- Know the capacity and operating characteristics of the equipment before you start
- Keep the equipment as level as possible while digging to prevent it from tipping over
- Never move or position the bucket over anyone or and vehicle
- Avoid undercutting or over cutting the excavation
- Dig with caution; ensure that **ALL** underground utilities have been located and marked. Obtain copies of locate sheets and give them to the equipment operator
- Park the equipment safely on level ground at the end of the shift or day. Lower the bucket to the ground, run the engine for approximately five minutes without a load, close all the windows, roof vents and cab doors.
- Lock all access doors and compartments

**SWP-33 – OPERATION OF VIBRATORY ROLLERS AND PACKERS**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**GENERAL RULES OF USE**

These machines are designed and built in accordance with the latest technical standards, rules, and regulations. There is a risk of danger to persons and property if:

- These machines are used for purposes other than it is intended
- The machines are operated by untrained personnel
- The machines are modified or converted in an unprofessional way
- The machines are used in a manner not observing the applicable safety regulations

**INTENDED USE**

These machines are to be used only for:

- The compaction of bituminous materials (e.g. road surface layers)
- Medium and heavy compaction tasks in earth work (e.g. road sub-bases)
- These machines are to only be operated with fully functional safety equipment
- These machines should receive a full inspection annually by a trained expert

**OPERATION OF THESE MACHINES**

These machines should only be operated by trained and authorized personnel who are at least 18 years of age. Personnel who are thought to be under the influence of drugs or alcohol must not operate, service, or repair these machines.

Operation of these machines is only permitted when sitting in the operator's seat.

Operators should become familiar with the equipment, the control elements, the working mode of the machine and the areas where it is being operated.

Operators should always be wearing the appropriate PPE during operation of these machines.

**PRE-START CHECK OF THESE MACHINES**

Before starting these pieces of equipment the following steps should be followed:

- When approaching these machines check for obstructions under or around the pieces of equipment.
- Ensure these machines are free of all oily and other combustible materials.
- Check all handrails, steps, platforms to ensure they are free of all grease, oils, fuels, ice, snow, or dirt.
- Ensure the engine compartment is closed and secured.
- Check for any obvious damages or defects.

**DRIVING THESE MACHINES**

- Operate only from the operator's seat.
- Operate with the cabin doors closed (if equipped).
- Do not allow people to climb on or off while machine is in motion.
- Do not make adjustments to the mirrors or seat while the vehicle is in motion.
- Do not use machine to transport other people around the jobsite.
- Stop machine if you hear unusual noises or develop smoke issues.
- Do not drive machine up or down grades that exceed the maximum allowed by the machine.
- Always use a lower speed when working on slopes.
- Be aware that wet or loose soils reduce the ground stability of the machine when working on slopes increasing the risk of an accident.
- **DO NOT** work with the vibration on while on concrete or heavily frozen ground to prevent bearing damage.

**PARKING THESE MACHINES**

Always park these pieces of equipment on firm and level ground. Before leaving the machine the following steps should be followed:

- Straighten the articulated joint to allow easy dismounting.
- Place the machine into neutral and apply the parking brake.
- Allow the engine a 5 minute cool down period before shutting the engine off.
- Once the engine has been shut off, remove the key.
- Entering or leaving the cab should always be done using a three point contact with the handrails and the steps.

**IN THE CAB**

Once seated in the operator's seat the following checks should be done:

- Ensure all mirrors and other glass surfaces are clean and adjusted to meet the operator's needs.
- Ensure all protective devices are present and properly secured in their place.
- Adjust the seat to ensure you can comfortably see and reach all of the machine's controls.
- Turn the key on to ensure all the gauges, control elements, lighting and horn are functioning properly.
- **DO NOT** start the machine if any of the gauges, control elements or control lights are not functioning properly.
- Put on your seatbelt.

**STARTING THESE MACHINES**

- Place the equipment into neutral before starting.
- Once the vehicle is running observe all the gauges, control elements and control lights to see if they are functioning properly.
- Allow the machine to warm up before placing it under work load situations.
- Sound the horn before moving the vehicle to warn others.
- Lock or secure all doors and windows.
- Shut off master electric switch if machine is equipped with one.

**SWP-34 – OPERATION OF RUBBER TIRE LOADER**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

Human error is caused by many factors – carelessness, fatigue, pre-occupation, overload, drugs or alcohol. Be prepared and fit to operate this machine.

**GENERAL RULES**

- Know the working capacities of the machine.
- Never remove or modify any parts of the machine except for servicing.
- Always use your seatbelt (if equipped) when operating.
- Never allow riders on the machine.
- Be aware of other personnel around your operating jobsite.
- Always carry a loaded bucket low when moving around the jobsite.
- Always lower the bucket and engage the parking brake when stopping and leaving the machine.

**PRE-JOB START-UP**

To protect yourself and others around you **always** do a check of the machine. This check should include the following:

- Check the integrity of the rollover protection cage.
- Check the seatbelt or other safety restraints.
- Check the lights.
- Check the horn and backup alarm.
- Check all guards and shields.
- Check the condition and cleanliness of all mirrors.
- Check the fire extinguisher.

**DAILY EQUIPMENT CHECK**

Begin each day with a visual routine check of the equipment. This check should include, but not be limited to the following:

- Check under the machine for any obstructions or leaks.
- Check for missing, damaged or broken parts.
- Check tires for cut, bulges, and correct pressures.
- Replace badly worn tires.
- Check they hydraulic system for leaks and normal wear and tear.
- Always perform maintenance and repairs according the Manufacturer's recommendations.

**ENTERING OR LEAVING THE MACHINE**

- Maintain a three point contact with the ladder handholds.
- Always face the machine when mounting or dismounting.
- Never jump off the machine.
- Never attempt to mount or dismount a moving machine.

**STARTING THE MACHINE**

Know the exact starting procedure for this machine. If uncertain, check the manufacturer's operator's manual. The following steps should be followed:

- Start the machine while seated in the operator's seat.
- Adjust the seat so you can easily access all the controls.
- Familiarize yourself with all gauges, warning devices and operating controls.
- Ensure the park brake is engaged before starting the engine.
- Check the area around you and then start the engine.
- Allow at least a five minute warm-up period before loading the machine.

**SAFE OPERATION ON THE JOBSITE**

- Never allow an untrained or unqualified person to operate the machine.
- Never use the bucket for a platform or personnel carrier.
- Always remember the other people working on the jobsite.
- Always look around before you back up, hook up, or swing any attachments.
- Know the pinch and rotating points of the machine.
- Travel slowly through jobsites giving the right of way to loaded equipment.
- Maintain safe travelling distances from other machines.
- Don't obstruct your vision when travelling; carry the bucket low for maximum stability and visibility.
- Operate at speeds slow enough so as to maintain control at all times.
- Stay in gear when travelling down hills using the engine RPM to provide steering and braking functions.
- Use the same gear travelling down a hill as you would going up the hill.
- Use extreme caution when backfilling as the weight of the machine may cause the area being filled to collapse.
- When working at the base of a bank avoid undercutting the bank to prevent it from collapsing on the machine.
- Never drive across a steep slope under any circumstances; this could result in the machine rolling over.
- ALWAYS travel up an incline with a loaded bucket going bucket first, and travelling down an incline with the empty bucket going first.
- ALWAYS be aware of overhead lines and underground utilities before beginning and excavation.

**MACHINE SHUT DOWN**

At the end of each shift or day the following shut down procedures should be followed:

- Select a level site to park, and engage the park brake.
- Lower the bucket to the ground.
- Chock the wheels if required to do so.
- Place all controls in neutral / park and lock.
- Idle the machine for five to ten minutes allowing it to cool down.
- Cycle all the hydraulic controls to relieve system pressures.
- Stop engine and remove the key.
- Lock all windows, doors, and tool boxes.
- Shut off master electric switch (if equipped with one).

**SWP-35 – SKID STEER OPERATION**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

Most accidents involving skid steers can be avoided by following the basic safety rules and precautions. These rules and precautions can be found in the manufacturer's operating manual. The information provided in this manual does not replace company safety policy or procedures, municipal, provincial, or federal legislation.

**GENERAL SAFETY RULES**

It is the responsibility of the operator to read and understand the operator's manual and use the correct operating procedures. The machine should be operated only by qualified personnel. The following procedures should be done before operating the machine:

- Do not operate or perform maintenance on this machine unless you have been properly trained.
- Inspect the rollover protective structure and the seatbelt daily before use to ensure their protective integrity.
- Always wear seatbelt to maximize the protection.
- Never permit riders on the machine.
- Make sure all protective guards, canopies and doors are in place and secure.
- Remove all loose objects from inside the cab.
- Do not use the machine as a Manlift.

**PERSONNEL SAFETY RULES**

Operators of the equipment should always be prepared for an emergency. The operator should always have a first aid kit and fire extinguisher on hand and be trained in its use. The following general safety precautions should also be observed:

- Operators should not wear loose clothing, loose or uncovered long hair or jewelry.
- Operators should know and use PPE while using this equipment.
- Operators should conduct daily checks of certain protective equipment for wear and tear from use or aging.
- Always walk on all jobsites.
- Know and use hand signals as the job requires.

**PROPER ENTRY AND EXIT**

When entering or exiting this machine use the following steps:

- Lower the boom or attachments.
- Engage the park brake.
- Stop the engine.
- Remove the seatbelt.
- Use the recommended three point contact when entering or exiting.
- Foreign material or grease on the steps and handrails can cause an accident; keep the hand and foothold areas clean.
- Never jump off the machine.
- Never dismount from a moving machine.

## STARTING AND STOPPING PROCEDURES

The equipment check begins as the operator is walking up to the equipment. The operator should be looking for obstructions, fluid leaks, low tires and broken glass if the machine is equipped with a cab. At the machine the following steps should be followed:

- A complete walk around of the machine and its attachments should be done.
- Warn people immediately around the machine that it is about to be used.
- Check that the park brake has been applied.
- Place the transmission into neutral and disengage the PTO (if equipped with one).
- Adjust the seat to ensure the operator is comfortable and has easy access to all controls.
- Ensure that all glass and mirrored surfaces are clean and adjusted to meet the needs of the operator.
- Ensure that all protective equipment and devices are present and properly secured.
- Turn on the key to activate the gauges, control elements, lighting and horn is functioning properly.
- **DO NOT** start the machine if any of the gauges, control elements or control lights are not functioning properly.
- Start the engine.
- Allow approximately 5 minutes to warm up before starting the job.
- At the end of the day or shift, park the machine on level and stable ground.
- Lower the boom to the ground.
- Allow the engine to idle to cool for about 5 minutes.
- Shut the engine off.
- Place the function cancellation lever into locked or up position.
- Remove the key, secure all windows and lock the door.

## SAFE OPERATING PROCEDURES

To maximize daily efficiency and production the operator should follow these steps:

- No person should operate this machine under the influence of prescription or illegal drugs or alcohol.
- The operator should understand the machine's load and operational capabilities.
- The operator should operate and drive the machine with care and consideration at speeds compatible with conditions.
- The operator should identify and communicate to the other workers all jobsite hazards and obstructions as they appear.
- The operator should know and understand the jobsite traffic flow patterns and obey all signalmen, flagmen, and traffic control devices.
- Before any excavations are undertaken, ensure all underground utilities have been located and marked.
- The operator should develop smooth operating techniques to maintain safe operation of this machine.

**SWP-36 – SHEARING MACHINES**

<b>Developed by:</b>	<b>Reviewed / Revised by:</b>
<b>Date:</b>	<b>Date:</b>

**Safeguarding for Specific Types of Machinery**

Mechanical power shears contain a ram for their shearing action. The ram moves a non-rotary blade at a constant rate past the edge of a fixed blade. Shears may be mechanically, hydraulically, hydra-mechanically, pneumatically, or manually powered and are used to perform numerous functions such as squaring, cropping, and cutting to length.

In the basic shear operation, stock is fed into the point of operation between two blades. A hold-down may then be activated that applies pressure to the stock to prevent movement. One complete cycle consists of a downward stroke of the top blade until it passes the lower fixed blade followed by an upward stroke to the starting position.

***Shears can be categorized as stand-alone manual shears, stand-alone automatic shears, and process-line shears.***

**Stand-Alone Manual Shears**

An operator controls them from a control station. The operator feeds the shear either by hand or the automatic loading mechanism and activates the equipment using hand or foot controls or a tripping device on the back side of the shear. An example is an alligator shear.

**Stand-Alone Automatic Shears**

These feed and stroke automatically and continuously. The operator uses hand-activated or foot-activated controls to initiate the operation requiring limited additional operator interaction. An example is a guillotine shear.

**Process-Line Shears**

These are integrated into an automated production process and are controlled automatically as part of the process. Examples include crop shears and cut-to-length shears.

**Shearing machine hazards**

The primary hazard associated with shears is the shearing action at the point of operation. Amputations may occur in the following situations:

- The foot control inadvertently activates while the operator's hands are in the point of operation. Such amputations usually relate to foot-activated, stand-alone manual shears that require the use of both hands to feed the stock.
- A tripping device located on the back side of the shear's mouth operates the shear but does not prevent the operator from reaching into the hazard area. Such tripping devices, commonly found on stand-alone manual shears, may increase productivity but must be used in conjunction with appropriate safeguards.

- When there is no hold-down and stock being fed into a stand-alone manual shear kicks out and strikes the operator's hands or fingers.
- The shear is not equipped with either a full-revolution or a part-revolution clutch. Even after it is shut down, a shear that is not equipped with either type of clutch continues to cycle until its energy is exhausted.

### Shearing Machines Safeguards

Because shears have a wide variety of applications, safeguarding methods must be determined individually for each machine based on its use. A number of different safeguarding methods may be necessary to adequately protect the operator as well as other workers nearby. For example, you will need to consider the machine size, operating speed, size and type of material, length of production runs, required accuracy of the work, methods for material feeding and removal, operator controls, and clutch type.

Here are some engineering controls you should use:

- Use automatic-feeding devices such as conveyors with stand-alone manual shears when the material is uniform in size and shape.
- Equip mechanical shears with either a part-revolution or full-revolution clutch. Methods of safeguarding depend on the type of clutch in use. Shears equipped with full-revolution clutches used in single-stroke operations must be equipped with an anti-repeat feature.
- The following recommendations apply to safeguarding the shear's point of operation during feeding activities at the front of the machine:
  - Install a fixed or adjustable point of operation guard at the in-feed of the shearing machine to prevent operator contact with the shear's point of operation as well as the pinch point of the hold-down. The guard's design should prevent the employee from reaching under or around it.
  - Install a safety trip control device — such as a pressure-sensitive body bar, safety tripod, or safety tripwire cable — at the in-feed section of the shear.
  - Install a presence-sensing device, such as a light curtain, near the in-feed area of a stand-alone automatic or process-line shear.
  - Install hold-down devices that prevent the work piece from kicking up and striking the operator.
  - Install and arrange two-hand trips and controls so that the operator must use both hands to initiate the shear cycle. Two-hand trips and controls should be designed so they cannot be defeated easily. The ANSI B11.4 Safety Requirements for Construction, Care, and Use of Shears standard recommends the installation of additional safeguarding when two-hand controls are used on part-revolution shears, based on the nature of the shearing operation. ANSI specifies the use of guards on full-revolution shears.
- Use restraints for stand-alone manual shears when other guarding methods are not feasible or do not adequately protect employees. These devices may not be appropriate if the job requires employee's mobility.

- Install guarded operating stations at a safe distance from the shear's point of operation to prevent inadvertent activation.
- Mount guarded foot pedal controls at a safe distance away from the point of operation to prevent accidental activation.
- The following recommendations apply to safeguarding for operations performed at the rear of the shear:
  - Install fixed guards on the back side of shears.
  - Install an awareness barrier guard with an interlocking gate, a presence-sensing device (light curtain), or a safety trip control (safety tripwire cable or safety tripod) on the back the shear.

### **Work Practice and Administrative Controls**

Here are some work practices and administrative controls for shearing machines you can follow:

- Develop and implement safe operating procedures for shearing machines and conduct periodic inspections to ensure compliance.
- Instruct operators to use distancing tools when their hands might reach into the point of operation because of the size of the material being cut.
- Instruct employees to perform routine maintenance on the clutch and braking systems.
- Instruct employees to inspect all guarding to ensure that it is in place properly before the machine is operated.
- Instruct supervisors to ensure that operators keep their hands out of the shear's point of operation at all times while the machine is energized and not properly locked out.
- Instruct employees not to perform activities on the back side of a shear while it is operating or still energized.
- Prohibit employees from riding the foot activation pedal.
- Ensure that all operators receive on-the-job training under the direct supervision of experienced operators until they can work safely on their own.

**SECTION 4.0 – SAFE JOB PROCEDURES**

A Safe Work Procedure is a written step-by-step description of how a particular task is to be performed that is used during performance of the work by the person performing the work (or by two people doing the work – one reading and one doing). Examples of procedures include: equipment start-up or shut-down procedures; normal operating procedures; written operating instructions; abnormal operating procedures, emergency procedures, maintenance procedures, and preventive maintenance procedures. If further clarification is required, contact your Manager.

**DEVELOPMENT**

Procedures should be developed for high-hazard work or where historical information, legislation, a Hazard Assessment or customer requirements dictate.

Employees, Supervisors, Foremen, and Management of **Starks Plumbing and Heating Ltd.** will be involved in the development and/or review of these Safe Work Procedures.

All Safe Work Procedures will be developed using a Safe Work Procedure / Task Hazard Assessment format and are based on a hazard assessment.

**REVIEW**

Employees, Supervisors and management will periodically review Safe Work Procedures to ensure that they are complete, accurate and applicable.

Suggestions for additional Safe Work Procedures or changes to the existing Safe Work Procedures can be made at safety meetings or documented in writing.

**AVAILABILITY**

Safe Work Procedures applicable to the work being performed will be available to all employees at the work site.

Safe Work Procedures must be reviewed at Safety Meetings before the start of any work using the procedure or often enough for employees to understand the content of the procedure.

Safe Work Procedures can be used in job-specific training to instruct new employees in their job duties and to verify new employee competency and understanding.

**EMPLOYEE RESPONSIBILITIES**

- Follow all established steps described in a Safe Work Procedure.

**SUPERVISORS/MANAGERS RESPONSIBILITIES**

- Ensure that the Safe Work Procedures and associated practices are available for review at the work site.
- Ensure that all the steps in a Safe Work Procedure are carried out in accordance with the Procedure.

**SECTION 5.0 – GENERAL SAFETY RULES****Mandatory Regulations**

1. CSA approved steel-toed boots will be worn by all personnel, on all sites, at all times.
2. All unsafe acts, conditions and near-miss incidents will be reported to the supervisor on site immediately
3. Report all injury or damage accidents immediately
4. Perform all work in accordance with safe work practices and your supervisor's direction
5. **Housekeeping is a must. Sites must be maintained in good condition at all times.**
6. All mobile equipment must be operated in accordance with government regulations and laws, and may only be operated by a person who has been deemed competent by the site designate.
7. All workers on all sites must wear appropriate clothing, which includes full length pants and a short sleeved shirt **as a minimum.**
8. **No worker shall perform any work which can reasonably be believed to cause imminent danger to the worker, or any person present on the work site.**

**Prohibitions**

**THE FOLLOWING ARE PROHIBITED AT ALL TIMES ON ALL COMPANY PROPERTY AND ALL COMPANY JOB SITES:**

1. Possession or consumption of alcohol or illegal drugs
2. Possession of firearms
3. Fighting, horseplay, practical jokes
4. Theft, vandalism
5. Damaging, disabling or interfering with safety, fire fighting or first aid equipment
6. Arriving for work or remaining at work when ability to perform the job safely is impaired
7. Playing loud music
8. Wearing ear buds or any other type of headphones

It is the policy of **Starks Plumbing and Heating Ltd.** that all employees be held accountable for their own safety. Because everyone has been empowered to adhere to safety rules and regulations, Starks has implemented the following enforcement policy:

- 1<sup>st</sup> offence – verbal warning
- 2<sup>nd</sup> offence – written warning
- 3<sup>rd</sup> offence – suspension
- 4<sup>th</sup> offence – discharge or termination

Please note that all levels of enforcement will be documented. A copy of this document may be obtained by the employee.

## **RIGHT TO REFUSE**

Employees have the right to refuse any work, if on reasonable and probable grounds they believe that there exists an imminent danger to the health or safety of themselves or any other person who is present at the work site. In this event the worker shall refuse to carry out work or refuse to operate a tool, appliance, or equipment. The concern must be brought immediately to the attention of the onsite Supervisor and/or company management.

**STARKS PLUMBING AND HEATING LTD.** believes that no job requires such urgency that it cannot be planned and executed safely with the proper tools, equipment and personal protective equipment required for the job.

If a worker refuses to complete dangerous work, he or she must:

- Stop work in the immediate area
- Contact supervisor or owner
- Give reason for refusal to work
- Aid in investigation that the supervisor or owner is responsible to conduct
- Do not return to dangerous work until investigation is complete, danger/hazards have been eliminated, or control measures have been implemented.

## **DEFINITIONS**

### ***Imminent Danger***

- a) A danger that is not normal for that occupation, or
- b) A danger under which a person engaged in that occupation would not normally carry out the person's work

**STARKS PLUMBING AND HEATING LTD.** shall:

- Temporarily reassign the worker with work that he/she is competent in performing
- Ensure there is no loss of pay during the reassignment
- Ensure there is no disciplinary action towards the worker
- Prepare documentation of incident and provide a copy to the worker
- Investigate the incident and follow up on all corrective actions

If the concern is not addressed by your employer or you are not satisfied with your employer's decision, contact Workplace Health & Safety. An officer will visit the worksite and conduct an investigation. The officer will then make recommendations of the actions that the worker should take. An employer is not allowed to dismiss (lay you off or fire) or discipline you because you refuse to do dangerous work.

**SECTION 6.0 – PERSONAL PROTECTIVE EQUIPMENT**

**STARKS PLUMBING AND HEATING LTD.** philosophy for protecting its workers and contract personnel is to eliminate or reduce hazards by:

- Engineering controls and systems.
- Developing safe work practices, based on sound judgment and past experience.
- Implementing administrative controls and policy.
- **STARKS PLUMBING AND HEATING LTD.** will do everything reasonably practical to protect the health and safety of its workers.
- No worker, under normal conditions, will work in an atmosphere, which is Immediately Dangerous to Life and Health (IDLH).
- No worker, under normal conditions, will work in a flammable atmosphere.
- No worker, under normal conditions, will be exposed to a noise level in excess of 85 dBA.

If the hazard assessment indicates the need for personal protective equipment (PPE), **STARKS PLUMBING AND HEATING LTD.** will ensure that:

- the workers wear PPE that is correct for the hazard and protects the workers
- the workers properly use and wear the PPE in accordance with the training and instruction they have received
- the PPE is in a condition to perform the function for which it was designed

**STARKS PLUMBING AND HEATING LTD.** will make sure that the use of PPE will not in any way endanger the worker.

**ADMINISTRATION**

- Management is responsible to ensure that activities on **STARKS PLUMBING AND HEATING LTD.** sites are carried out in accordance with this policy. Supervisors must assess the hazard associated with a particular activity in a responsible manner and with a thorough knowledge of any pertinent regulations.
- Any questions regarding implementation of this policy must be reported to the office or the safety advisor.
- The following will be observed and practiced by the company and employees when the company undertakes any job or contract.
  - All employees, guests and visitors will wear CSA approved safety glasses, CSA Grade 1 safety boots, long trousers, long-sleeved shirts, CSA approved hard hats, and any other specialty PPE that may be required for the work site.
  - All PPE used by **STARKS PLUMBING AND HEATING LTD.** will be within the requirements of the OH&S Regulations and CSA standards.
  - All PPE used by **STARKS PLUMBING AND HEATING LTD.** will be maintained in accordance with manufacturer's instructions and requirements.
  - Company-issued PPE will be inspected at the time of issue and before each use by the employee using the PPE.
  - Workers will not use PPE that is unable to perform the function for which it is designed.
  - All PPE that is of questionable reliability, damaged, or in need of service or repair will be removed from service immediately.
  - All PPE that has been removed from service will be tagged "OUT OF SERVICE". Any PPE tagged as such will not be returned to service until repaired and inspected by qualified

- personnel.
- **STARKS PLUMBING AND HEATING LTD.** will maintain appropriate inspection and service logs for specialty PPE.
- No piece of PPE will be modified or changed contrary to the manufacturer's instructions or specifications or OH&S Regulations.

#### **PPE AND SAFETY EQUIPMENT FOR ROUTINE OPERATIONS MAY INCLUDE:**

- Fire retardant coveralls
- Approved hard hat
- Hearing protection
- Face shields
- Gloves
- Safety glasses
- Safety-toed footwear
- Cold weather clothing (must meet fire retardant requirements).
- Fire extinguishers
- H<sub>2</sub>S personal monitors
- First Aid Kits
- Maintenance schedule for all safety equipment and vehicles

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS**

The following Personal Protective Equipment (PPE) will be worn by workers and contractors on **STARKS PLUMBING AND HEATING LTD.** worksites:

##### **HARD HATS**

- Hard hats shall be worn at all times outside vehicles, offices, and on all job sites by all employees and visitors. Hard hats must be appropriate to the hazard and meet the requirements of CSA Standard Z94.1-92.
- Hard hats are not required in certain areas such as the office, smoking area, inside vehicles or walking from the parking area to change areas.
- If hardhat liners are worn, they shall be manufactured of fire retardant material.
- Hard hats must not be altered in any way.
- Do not paint, imprint or apply decals or stickers to hard hats. Paint can attack the shell and cause degradation and stickers can cover cracks or damage on the shell.
- Clean hard hats with warm soapy water and a soft cloth. Do not clean with solvents or any cleaner not approved by the manufacturer.
- Store hard hats in a clean, dry room temperature environment out of direct sunlight or other harmful energy sources when not in use. Do not store a hard hat where it is exposed to temperature extremes or direct sunlight. Never store the hard hat on the back window shelf of a car or truck or in the trunk of the car. Do not compress the shell to try to fit it into a toolbox or other space-restricted area.
- Metal and fibreglass hats must not be worn and are forbidden.
- Hard hats will be supplied by **STARKS PLUMBING AND HEATING LTD.** and it is the employees' responsibility to look after this equipment and to wear this equipment in all designated areas. Should hard hats be continuously lost or damaged by employees, the employees may be required to pay the cost of replacement of the hard hat.

- **STARKS PLUMBING AND HEATING LTD.** encourages the use of hard hats while working in the yard and loading areas.

### FOOTWEAR

- C.S.A. approved Grade I footwear shall be worn on all **STARKS PLUMBING AND HEATING LTD.** work-sites. Footwear must be suitable for the hazards associated with the work being performed, the work site and the weather conditions. Grade I footwear is identified by a green triangle permanently attached to the upper of the right boot. The green triangle shows that the toe and insole have passed impact and penetration tests as specified in C.S.A. Standard Z195-02 Protective Footwear.
- Use a protective coating to make footwear water-resistant.
- Inspect footwear regularly for damage.
- Repair or replace worn or defective footwear.
- Electric shock resistance of footwear is greatly reduced by wet conditions and with wear.

### EYE PROTECTION

- CSA approved safety glasses are minimum protection on all sites and are provided by **STARKS PLUMBING AND HEATING LTD.** for all employees. Workers must wear properly fitting eye protection equipment that is approved to CSA standard Z94.3-92, Z94.3-99, Z94.3-02 and is appropriate to the work being done and the hazard involved.
- All employees must wear chemical goggles when working with chemicals. Signs will designate chemical goggle areas within each location. Use goggles when opening containers.
- Goggles or a face shield is required for all grinding, chipping, or any operation that may have foreign objects in the air. Safety glasses are not sufficient protection.
- Welding and cutting goggles must be used on all gas welding and cutting operations regardless of the size of the job.
- Clean your safety glasses daily. Follow the manufacturer's instructions. Avoid rough handling that can scratch lenses.
- Scratches impair vision and can weaken lenses.
- Store your safety glasses in a clean, dry place where they cannot fall or be stepped on. Keep them in a case when they are not being worn.
- Replace scratched, pitted, broken, bent or ill-fitting glasses. Damaged glasses interfere with vision and do not provide protection.
- Replace damaged parts only with identical parts from the original manufacturer to ensure the same safety rating.
- Employees shall not attempt to remove foreign objects, including chemicals, from the eye except by washing with water. Only water is approved for eye washing. Other specially prepared solutions must not be used. If any foreign object gets in the eye, the eye shall be washed immediately with water (preferable at an eye wash station or eyewash bottles) for at least 15 minutes.
- Eye protection signs will be placed on or near all power and welding machines.
- C.S.A. approved eye protection shall be worn when potential hazards exist or when there is a potential for harmful material entering the eyes. If corrective lenses are required, prescription safety lenses and frames shall be used in the work environment as long as they comply with CSA Standard Z94.3 Industrial Eye and Face Protectors.
- Workers, whose central and peripheral vision can be increased by the wearing of contact lenses, as contrasted to spectacle lenses, are permitted to wear contact lenses on the job provided they have

medical clearance to do so, and with the following considerations:

- Approval to wear contact lenses on the job must be obtained and documented in the Safety Manual.
- Contact lenses may be used on the job only if worn in combination with appropriate industrial eye protection where hazards indicate a need for eye protection.
- Contact lenses should NOT be worn in atmospheres containing volatile vapors, high particulate matter (dust, smoke, etc.), intense heat or dryness, excessive wind, or where there is likelihood of chemical splash.
- A contact lens wearer should have a pair of prescription safety glasses at the work place in the event eyes become irritated and contact lenses shall be removed.
- A contact lens wearer shall advise his supervisor and co-workers of the use of contact lenses on the job to facilitate lens removal should an emergency arise. Contact lenses should be removed from an unconscious person to avoid eye damage. (The best person to remove lenses is another contact lens wearer).
- **STARKS PLUMBING AND HEATING LTD.** will advise workers of the hazards and the alternatives to wearing contact lenses if wearing contact lenses poses a hazard to the workers eyes during work.

### **RESPIRATORY PROTECTION**

- Respiratory protective equipment will be available and shall be worn, when conditions warrant. All employees who may have to use respiratory protective equipment must be instructed in its proper use.
- Follow the manufacturer's specific instructions for use, care, and maintenance of respiratory protection equipment.

### **HAND/ARM/LEG/TORSO PROTECTION**

- Workers must wear properly fitting hand, arm, leg or body protective equipment that is appropriate to the work, the work site and the hazards identified.
- Suitable mitts or gloves will be worn to protect the hands against hazards from sharp or jagged material, skin irritants, and extremes in temperature.
- Follow the manufacturer's specific instructions for use, care, and maintenance of hand/arm/leg/torso protection.

### **HEARING PROTECTION**

- Hearing protection shall be worn in any area where the noise level exceeds 85 decibels. These areas will be posted with signs.
- Hearing protection should be inspected to ensure
  - it remains in good, clean condition
  - earmuff seals are undamaged
  - the tension of the headbands is not reduced
  - there are no unofficial modifications
  - compressible earplugs are soft, pliable and clean
- Legislative Requirements
  - An employer shall ensure that no worker is exposed to noise in excess of the Occupational Exposure Limit by first taking all reasonable steps to institute:
    - ❖ Engineering
    - ❖ Work practice or administrative controls

- ❖ And, if such reasonable steps are not effective to keep noise exposure under those limits, then by supplying Protective Equipment to the worker in accordance with this regulation.
- Any work area with hazardous noise exposures must be clearly marked with danger warnings. Workers must be informed of the hazards of high noise levels and of the purpose and limitations of any equipment work to protect them from noise.
- Workers who are exposed to noise in excess of the occupational exposure limits must also have their hearing tested regularly:
  - within six months after starting the job,
  - within the next year,
  - and every two years thereafter, as long as the worker remains exposed to noise.
- By testing the worker's hearing it can be determined if hearing protection methods are working. Testing is also a good educational tool for promoting the use of hearing protection.

### CLOTHING

- **STARKS PLUMBING AND HEATING LTD.** requires that field employees wear flame-resistant garments (Proban or equivalent) while working on, or near production facilities, or any other area, if there is a possible exposure to a flammable atmosphere. This policy exceeds the requirements of the Occupational Health and Safety Regulations, and is in place because **STARKS PLUMBING AND HEATING LTD.** believes flame resistant garments may prevent tremendous pain, suffering and agony in the event that an employee is exposed to a fire and explosion.
- If a worker may be exposed to a flash fire or electrical equipment flashover, **STARKS PLUMBING AND HEATING LTD.** will ensure that the worker wears flame resistant outerwear and uses other PPE appropriate to the hazard.
- A worker's skin must be protected with clothing from harmful substances that may injure the skin on contact or may adversely affect a worker's health if it is absorbed through the skin.
- All clothing (**HOT/COLD WEATHER**) from undergarments to outerwear worn on the worksite shall be:
  - Manufactured of material other than polyester, nylon or poly-cotton.
  - Maintained in a clean condition. Clothing contaminated by flammable substances, or skin-irritating substances shall be changed as soon as practical.
  - Rinsed, or dried, with a fabric softener to reduce the build-up of static electricity.
  - Made of a material that will not melt when exposed to heat. Suitable materials include cotton or wool.
  - Cleaned and tested for continued fire retardancy, as instructed by the manufacturer.
- Fire Retardant Clothing should have the following characteristics:
  - High level of flame resistance (it should not ignite easily, nor continue to burn).
  - Fabric integrity (it should not melt into the skin).
  - Anti-static properties (the fabric should not act as an ignition source).
  - Maintenance of flame resistance when washed or cleaned.
- Garments worn over the flame resistant coveralls during cold or wet weather should also be of flame resistant material. An employee must not wear any under or over garments made of nylon at the work site.
- Any **STARKS PLUMBING AND HEATING LTD.** field employee/contractor found not wearing protective clothing near a potential flammable atmosphere and a potential source of ignition will be subject to disciplinary action.

**FACIAL HAIR/JEWELRY****FACIAL HAIR**

- The Occupational Health and Safety Act requires that employees be clean - shaven when working in hazardous areas where respiratory protective equipment may have to be used. The regulation reads as follows:

**"WHERE RESPIRATORY PROTECTIVE EQUIPMENT IS OR MAY BE REQUIRED TO BE WORN IN AREAS WHICH ARE OR MAY BE CONTAMINATED WITH SUBSTANCES IMMEDIATELY HAZARDOUS TO LIFE, EXCESS HEAD OR FACIAL HAIR WHICH PREVENTS EFFECTIVE SEALING OF THE FACEPIECE TO THE FACIAL SKIN SHALL BE REMOVED."**

- It is **STARKS PLUMBING AND HEATING LTD.** policy that our employees' wear no beards at any time while on Company Business.

**JEWELRY**

- The wearing of rings, neck chains, wrist chains and earrings is discouraged due to the fact that these items of jewelry may become loose objects caught up in machinery. Finger rings, in particular, have caused many hand injuries as they get caught up on ladder rungs and other equipment. This has the potential to cause severely damaged or lost fingers.

## SECTION 7.0 – PREVENTATIVE MAINTENANCE

**Starks Plumbing and Heating Ltd.** believes that a schedule of planned maintenance actions aimed at the prevention of breakdowns and failures will ultimately lead to improved system reliability, and will mitigate hazards associated with equipment failure. Our primary goal is to prevent the failure of equipment before it actually occurs. In order to accomplish this, our program will include equipment checks, partial or complete overhauls at specified periods, oil changes, and lubrication; employees will be instructed to record equipment deterioration so we know when to replace or repair worn parts before they cause system failure and lead to property **damage or injury**.

**Starks Plumbing and Heating Ltd.** has a preventative maintenance program in place for the inventory of machinery / equipment. When new machinery / inventory is purchased it is added to the inventory list. This list will be kept current.

The preventative maintenance and inspection schedule is based on manufacturer's specifications so as to meet industry standards.

All repairs and maintenance are to be performed by qualified individuals or service providers. Any maintenance performed shall be documented and the records will be kept for the life of the machinery / equipment.

It will be the responsibility of each department to work with our field mechanics to ensure consistent scheduling of equipment maintenance.

### MOBILE EQUIPMENT PREVENTATIVE MAINTENANCE

All mobile equipment, including motor vehicles, will be maintained according to the manufacturer's specifications.

### TOOL & EQUIPMENT PREVENTATIVE MAINTENANCE

All equipment shall have maintenance performed twice a year. Equipment is scheduled with the primary user.

- A. Spring – March and April
- B. Fall - October and November

### PERSONAL PROTECTIVE EQUIPMENT

All operating divisions will have a well-planned and organized maintenance program for keeping personal protective equipment in safe working condition, according to original manufacturer's specifications.

### DEFECTIVE TOOLS & EQUIPMENT

All employees are to remove any defective tools and equipment from service immediately. They must be tagged and brought to the attention of the person designated to inventory tools. These tools are to remain out of service until they have been repaired or replaced.

**Information put on the tag must include:**

- Date
- Name of the worker who identified the deficiency
- Description/Make/Model/Serial Number of the tool
- Description of the defect

Supervisors will be responsible to check the defective tools in their area of responsibility on a regular basis.

If the tool is repaired, the tag is to be removed and the information entered in to the Defective Tool Logbook. Once repaired the tool is to be returned to the owner or its regular location in the shop or tool crib.

**Examples of Defective Tools**

- Chisels and wedges with mushroomed heads.
- Split or cracked handles.
- Chipped or broken drill bits.
- Wrenches with worn-out jaws.
- Tools which are not complete, such as files without handles.
- Broken or inoperative guards.
- Insufficient or improper grounding.
- No ground wire on the plugs or cords of standard tools.
- An on/off switch not in good working order.
- A cracked tool blade.
- The wrong grinder wheel is being used.
- The guard on a power saw has been wedged back.

**To ensure the safe use of tools:**

- Inspect all tools prior to use.
- Never use a defective tool.
- Ensure that defective tools are tagged out and repaired or removed from service as necessary.

**RESPONSIBILITIES****Management**

- Ensure that equipment and tools are inspected, maintained and repaired in accordance with industry practice, legislated requirements and manufacturer's specifications.
- Remove from service any piece of equipment or tools that have been tagged "OUT OF SERVICE" or are otherwise defective.
- Any piece of equipment or tools that have been removed from service shall not be used until adequately repaired.

**Supervisors**

- Ensure that all defects reported to them are repaired or corrected in a timely manner by a competent individual.
- Remove from service any pieces of equipment or tools that have been tagged "OUT OF SERVICE" or are otherwise defective.
- Periodically inspect equipment and tools for defects.

- Verify the preventative process to ensure compliance with the Slick Inspection Ltd. maintenance policies.

**Employees**

- Inspect all equipment and tools before use and to keep all equipment and tools in good repair.
- Perform a daily inspection of a vehicle or piece of equipment and tools the employee operates.
- Remove from service any piece of equipment or tools that have been tagged "OUT OF SERVICE" or are otherwise defective.
- Report any repairs or alterations required on the equipment and tools he or she operates.
- Leave all safety devices operative on equipment and tools.
- Ensure maintenance and/or inspection logs remain with the vehicle or equipment when releasing to another site.

**TOOLS & EQUIPMENT MAINTENANCE SCHEDULE**

<b>EMERGENCY EQUIPMENT</b>	<b>TYPE OF INSPECTION</b>	<b>SCHEDULE</b>
Fire Extinguishers	Formal Inspection Preventative Maintenance Certification	Monthly As needed per inspection Annual
First Aid Kits, Eye Wash Stations, Shower Units, Blankets, etc.	Formal Inspection Maintenance	Monthly As required
<b>PERSONAL PROTECTIVE EQUIPMENT</b>	<b>TYPE OF INSPECTION</b>	<b>SCHEDULE</b>
Fall Protection Equipment	Visual Preventive Maintenance	Prior to Use As required
Basic PPE: Fire Retardant Coveralls, Hard hats, safety glasses/goggles, gloves, safety footwear, high visibility apparel, welding helmet, etc.	Visual Preventive Maintenance / Cleaning	Prior to Use As required
<b>TOOLS / EQUIPMENT</b>	<b>TYPE OF INSPECTION</b>	<b>SCHEDULE</b>
Semi Tractors	Oil Change, Tire Rotation, Torque wheels, etc.  Visual Pre-trip Inspection  Formal Inspection  CVIP	As per manual; Repairs as needed  Daily  Monthly  Annual
Trailers: gooseneck, end dump, low boy, flat deck, tandem axle, cargo, etc.	Visual  Preventative Maintenance  Formal Inspection  CVIP	Prior to Use  As per manual; repair as required  Monthly  Annual
Heavy Equipment: Loaders, Dozers, Skid Steers, Excavators, Packers	Visual Preventive Maintenance CVIP	Prior to Use After each use Annual
Pickup Trucks – ½ Tons, ¾ Tons Cube Vans. Cargo Vans Welding Truck	Visual Regular Maintenance: Oil Chang, Tire Rotation, etc.  Formal Inspection	Prior to Use As per owner’s manuals  Quarterly
Lift Equipment: Scissor Lift, Forklift, etc.	Visual Formal Inspection	Prior to Use Quarterly
Other equipment: Fusing Machine, Generators, Plasma System, Ripper, Scaffolding, 72” Broom, etc.	Visual Preventive Maintenance Formal Inspection	Prior to Use As per owner’s manuals Quarterly

<b>SHOP EQUIPMENT</b>	<b>TYPE OF INSPECTION</b>	<b>SCHEDULE</b>
<ul style="list-style-type: none"> <li>• Air Tools, drills, skill saw, grinders, reciprocating saw, grease guns, etc.</li> <li>• Mig Welder, Arc Welder</li> <li>• Air Compressor, Pressure Washer</li> <li>• Acetylene Cutter</li> <li>• Shop Vac</li> <li>• Various small tools / equipment</li> </ul>	Visual Preventive Maintenance Formal Inspection	Prior to Use As required Monthly

**SECTION 8.0 – COMMUNICATION AND TRAINING****SAFETY ORIENTATION****PURPOSE**

Orientations help new workers and contractors become familiar with the company's safety program and the worksite.

**PROCEDURE**

Every employee and contractor who is new to a job or worksite shall receive a safety orientation. Full orientation must be completed no later than three days after commencement of work.

Records of **all** orientations will be kept on file.

**INTRODUCTION**

A new employee should be introduced to the rest of the employees and especially to the crew the new employee will directly be working with. At this introduction, the new employee will be assigned a mentor. The new employee should find out whom to report to and who will be responsible for the actions of the new employee.

**TOPICS**

The orientation shall cover:

- Company safety policies
- Company rules
- Worker's responsibility to wear required PPE
- Violence and Harassment Policy
- Drug and Alcohol Policy
- Inspections
- Company Enforcement Policy
- Safety Meetings
- Training / First Aid / WHMIS
- Accident / Injury Reporting
- Emergency Response Plan
- WCB Claims Management Program
- Right To Refuse Unsafe Work
- Job Hazard Assessments
- Review of Relevant and Vital OH&S Legislation

**WORK ENVIRONMENT**

All new employees' should have a brief introduction to **STARKS PLUMBING AND HEATING LTD.** work practices and be informed of any potential hazard that they may encounter during their normal work schedule.

**EMPLOYEE / CONTRACTOR ORIENTATION**

Before a new employee or contractor begins work, a competent worker will be assigned to review the more important details of the New Employee Safety Orientation Checklist with the new worker. The orientation checklist is intended to assist the employer in this process, to ensure that no important details are missed and to ensure consistency from orientation to orientation. The orientation checklist will be signed by both the new worker and the trainer and will be maintained on file. The worker will also be provided access to this manual for reference purposes. An orientation handbook will also be read and signed by each employee/contractor. The new employee/contractor will remain under the constant supervision of a competent employee (mentor) until the supervisor believes that the new employee is competent enough to perform the job without supervision.

**TRAINING REQUIREMENTS**

A training schedule, outlining what training programs the new employee/contractor will attend and when to attend, will be set up as soon as practical. On-the-job training schedules should also be included in this outline.

Documentation of all training a new employee receives will be added to the personnel file and the training records file. Required training programs should be of top priority when setting up this schedule, while on-the-job training is ongoing and can be spread out over a longer period of time.

Government regulations require that all employees receive training in specific safety courses. These programs can be taught by classroom training, on-the-job training or correspondence courses. Other training will be provided on an "as needed" basis.

***Although this training may not be completed before the employee starts the job, it shall be completed as soon as scheduling permits.***

**TICKET REQUIREMENTS:**

\*\*Some or all of the following may be required:

- Standard First Aid/CPR
- H<sub>2</sub>S Alive
- Confined Space
- WHMIS
- TDG
- Driver's License
- Defensive Driving
- Fall Protection

**ON-THE-JOB TRAINING**

The supervisor is responsible for ensuring that employees and contractors are adequately trained to safely perform their job duties.

Required competency levels by position or job level will be identified. This will be done through regular competency tests and through behavior observation.

Before being promoted from one job level to the next, the employees' and/or contractors' ability to perform the required tasks of the position will be reviewed. Additional training requirements will be based on these evaluations.

Informal on-the-job training will continue throughout all employees' and contractors' careers with **STARKS PLUMBING AND HEATING LTD.**

## **COMMUNICATION**

### **SAFETY MEETINGS**

Depending upon their frequency and efficiency, health and safety meetings form an integral part of any safety management program. The effective meeting will provide a venue for critical information exchange, as well as a forum for the provision of training.

#### **1) Weekly Toolbox Safety Meetings**

- Weekly Toolbox Meetings will be held by the supervisor on site and attended by all field personnel prior to start of each shift to discuss any concerns that may arise.
- Topics of discussion include
  - Vehicle and equipment location.
  - Review process, scope of work and precautionary measures.
  - Pre-job meetings are intended to be used to review job procedures and the scope of work. This review ensures consistency in understanding among all those involved. Applicable procedures as contained in this manual should be reviewed.
  - The meeting should also provide workers with the opportunity to ask questions regarding the job.
  - Formal minutes need not be kept, although the date, time, topic and those in attendance should be recorded and sent to the office.

#### **2) Quarterly Shop Safety Meetings**

- **STARKS PLUMBING AND HEATING LTD.** will hold Quarterly General Safety Meetings with all employees to review significant incidents, to solicit employee input to the program and any health and safety concerns, and to communicate specific health and safety information as necessary to maintain the employee's awareness and knowledge at the level necessary to support, safe, effective work habits.
- Action items arising from the meeting will be assigned to specific personnel for resolution, given a specific completion date, with the action reviewed at subsequent meetings, until they are satisfactorily resolved.

### **FOLLOW-UP**

- Meeting minutes should be distributed within one week of the meeting.
- A copy will be filed in the office.
- Outstanding concerns should be scheduled for follow up and completion by a specific person and date.
- Site Representatives are responsible for ensuring that the follow-up action occurs when and as specified.
- These follow up actions should be recorded on the minutes.
- **STARKS PLUMBING AND HEATING LTD.** values employee participation and any suggestions in regards to the safety manual, program or procedures. Any suggestions you may have please forward to the Safety Advisor.

**SECTION 9.0 – INSPECTIONS****PURPOSE OF INSPECTIONS**

Inspections identify unsafe acts and conditions in the work place. A well managed inspection program will identify potential hazards before they become problems by revealing where improvements to equipment, work procedures, worker training and worksite conditions are needed. Conducting regular inspections demonstrates the company's commitment to health and safety.

All personnel of **STARKS PLUMBING AND HEATING LTD.** are included in the inspection program.

It is the policy of this company to conduct Inspections on a regular basis. The objective of this program is to control hazards in the workplace.

Formal inspections must be completed to the following minimum standards. Where a hazard assessment, task or customer requirements dictate, inspections will be completed on a more frequent basis.

All inspections must be recorded using the relative *Work Site Inspection Report* forms.

**TYPES OF INSPECTIONS****DEFINITIONS*****Informal (Ongoing) Inspection***

- Informal inspections include the daily, visual inspection of workplace tools, equipment, PPE and conditions. These inspections are conducted by all employees as a part of their regular work tasks.

**Formal Inspection**

- Formal inspections are documented visual inspections of the work place. Formal records are kept, action assigned and follow-up inspections planned.

**STARKS PLUMBING AND HEATING LTD.** inspections include:

- Shop/Office/Worksite Inspections
- Work Practices
- Vehicles and Heavy Equipment Inspections
- Tools
- Personal Protective Equipment
- New Equipment

**RESPONSIBILITIES****All Employees**

- No one individual has exclusive responsibility for conducting inspections. As part of their normal job duties employees should conduct continuous ongoing inspections.
- Participate and contribute to the inspection process by identifying unsafe conditions in the workplace and correcting those unsafe conditions.

### Management/Supervisors

- Participate in and complete formal worksite inspections in their area of responsibility.
- Support the corrective actions and initiatives in their area of responsibility.
- Ensure that employees under their supervision complete inspections as required in the **STARKS PLUMBING AND HEATING LTD. Company Safety Manual**.
- Promptly review all inspection reports and communicate with the employees and supervisors to ensure prompt correction of deficiencies is being carried out.
- Ensure that training is provided on how to conduct inspections.

### INSPECTIONS – PERMANENT FACILITIES – SHOP / OFFICE / YARD

Management shall conduct a planned quarterly inspection of all permanent facilities. The inspection will assess both worksite conditions and work practices. The intent is to ensure that all aspects of the company's business and compliance to this safety program are assessed and all findings properly documented.

- A general worksite safety inspection form will be completed and signed off by management.
- Deficiencies and required corrective actions/improvements will be recorded and followed-up in writing.
- When corrective action is completed, this will be noted in the documentation.
- The supervisor is to ensure that all corrective action(s) is completed in a timely manner.
- Results of inspections will be discussed at safety meetings.
- All noted deficiencies will be corrected as quickly as practicable. Deficiencies that cannot be corrected will be flagged or another method should be used to inform others of the hazard.

### INSPECTIONS – ACTIVE WORK SITES

Supervisors shall conduct a monthly formal inspection of each active job site in their area of responsibility.

Please try to remember that you, the employee are our only constant link to the job site. It is up to you to inform us of identified or potential hazards so we can make immediate changes to protect you on the job. These inspections are a way for you to inform us of what is required on your job site.

### INSPECTIONS - WORK PRACTICES

Employees should be regularly observed and questioned, where applicable, to ensure they:

- Know and follow standard work procedures.
- Properly use tools and equipment.
- Correctly use personal protective and other safety equipment.
- Are adequately trained to perform their work properly.
- Know emergency response procedures.
- Properly supervise and direct workers under their supervision.

If you notice any unsafe behavior, work practices or conditions, work shall be stopped immediately and the problems rectified. This sends a strong message that proper behavior and

work practices must always be followed. Also, if you witness safe work or safe worksites, let the workers involved know their efforts to maintain a safe workplace are working and are appreciated.

**INSPECTIONS – VEHICLES AND HEAVY EQUIPMENT**

Since equipment and facilities do wear out, loss exposures are created by the day-today activities of any operations. At some point the wear and tear make the risks of incidents too high. Inspections are needed to detect these exposures before losses occur.

Operators will ensure that the vehicles and equipment they use are visually inspected daily before it leaves the yard and at the commencement of each job. Some heavy equipment and lift equipment is required to have documented inspections each day while others only require visual, informal inspections. Refer to owner's manual for specific inspection requirements.

All company vehicles shall be formally inspected once every six months (semi-annually). These inspections are to be conducted by supervisors and workers.

All deficiencies shall be recorded on the inspection form along with corrective actions required/completed. Deficiencies will be corrected as soon as possible. Other members of the worksite crew will also take turns in performing inspections as this serves as a learning tool.

**INSPECTIONS – NEW EQUIPMENT**

All new tools and equipment will be inspected upon delivery and prior to initial use to ensure that it is in compliance with manufacturer's specifications and in good working order.

Informal visual inspections are to be conducted by all personnel on an ongoing basis in their work areas. Informal inspections that identify deficiencies are to be reported to the worksite supervisor immediately. These deficiencies should be documented on a Hazard Identification Report form. Corrective actions are to be documented on the same form.

**SECTION 10.0 – INCIDENT REPORTING AND INVESTIGATION****PURPOSE**

To investigate accidents, incidents and illnesses so that causes can be determined and corrective actions can be implemented to prevent recurrence.

**GENERAL**

**STARKS PLUMBING AND HEATING LTD.** shall investigate the following types of accidents, incidents and illnesses:

- Accidents, Incidents and illnesses that result in injuries requiring medical aid.
- Accidents, Incidents and illnesses that cause property damage, environmental damage, or interrupt operations with potential loss.

**STARKS PLUMBING AND HEATING LTD.** will also conduct informal reviews of the following types of accidents, incidents and illnesses to make recommendations of preventative measures:

- Accidents, Incidents and illnesses that have the potential to result in either of the above such as close calls or near misses.

All incidents that fall under Section 18(2) of the Occupational Health & Safety Act must be reported to Alberta Human Resources & Employment and to the WCB or other regulatory agencies as defined by the Occupational Health & Safety Act.

**RESPONSIBILITIES**

All employees shall report all accidents, incidents and illnesses as soon as possible to their immediate supervisor and assist in the investigation when requested.

- Supervisors shall conduct initial investigations and submit their reports to **STARKS PLUMBING AND HEATING LTD.** management promptly.
- **STARKS PLUMBING AND HEATING LTD.** management shall determine the need for and, if necessary, shall direct detailed investigations. They shall also determine causes, recommended corrective action and report to the supervisor.
- Management shall then review all investigation reports, determine the corrective action to be taken and ensure that such action is implemented.

**INCIDENT RESPONSE**

- Do not put yourself at risk.
- Assess and control all hazards prior to responding to an incident.
- Call for professional services as needed (fire, ambulance and/or police).
- Care for the ill or injured.
- Ensure appropriate treatment is provided to the ill or injured. A supervisor or designated **STARKS PLUMBING AND HEATING LTD.** employee must accompany any ill or injured worker who is transported from the worksite to medical attention.
- Follow the Emergency Response Plan for that worksite.
- Notify the appropriate individuals, as required.
- Do not resume work until authorized to do so.

**STANDARD OPERATING PROCEDURE – INJURY REPORTING**

1. THE WORKER IS TO NOTIFY THE SITE FOREMAN IMMEDIATELY!
2. THE FOREMAN IS TO NOTIFY DEPARTMENT HEAD IMMEDIATELY!
3. THE FOREMAN WILL APPOINT SOMEONE TO ACCOMPANY THE INJURED WORKER TO EITHER THE EMERGENCY ROOM, OR TO THE MEDICAL ARTS CENTER.
4. IF NO ONE IS PRESENT TO ACCOMPANY THE INJURED WORKER, THE FOREMAN IS RESPONSIBLE TO ACCOMPANY THEM, OR TO CONTACT THE OFFICE AND HAVE SOMEONE ELSE ACCOMPANY THEM. **NO INJURED WORKER, REGARDLESS OF THE SEVERITY OF THE INJURY IS PERMITTED TO TRANSPORT THEMSELVES.**
5. **THE INJURED WORKER MUST BE ABLE TO CONTACT THE SITE FOREMAN, SHOULD THEY REQUIRE TRANSPORTATION HOME OR BACK TO THE WORKSITE.**
6. THE FOREMAN WILL PROVIDE THE DESIGNATE WITH THE *WCB PACKAGE* APPROPRIATE TO THEIR TRADE, ALONG WITH INSTRUCTIONS TO THE INJURED EMPLOYEE TO ENSURE THAT THE ATTENDING DOCTOR IS PRESENTED WITH THE PHYSICIAN DOCUMENTATION INSIDE THE *WCB PACKAGE*.
7. THE DESIGNATE IS TO STAY WITH THE INJURED EMPLOYEE UNTIL THEY ARE CALLED UPON BY THE ATTENDING PHYSICIAN, AND IS TO ENSURE THAT THE ATTENDING PHYSICIAN RECEIVES THE REQUIRED DOCUMENTATION.
8. THE DESIGNATE IS THEN TO RETURN IMMEDIATELY TO THE SITE FOREMAN.
9. BEFORE THE END OF THE DAY, THE INJURED WORKER MUST HAVE MADE CONTACT WITH THE SITE FOREMAN, AND/OR THE SAFETY MANAGER TO INFORM THEM OF THE OUTCOME. *IF THIS CONTACT IS MADE, THE WORKER WILL BE PAID FOR THE HOURS HE WOULD HAVE WORKED, HAD THE INCIDENT NOT OCCURRED.*
10. IF REASONABLY POSSIBLE, THE SAFETY MANAGER AND THE INJURED WORKER MUST COMPLETE THE APPLICABLE PAPERWORK THE SAME DAY AS THE INJURY OCCURS.

**INVESTIGATION PROCEDURE**

As with any activity that must be initiated quickly under emergency/stressful conditions, we need to have in place a procedure for the investigation of incidents and illnesses. Planning will save time and avoid confusion. Our plan must include a determination of who will conduct investigations, procedures to be used, the preparation and positioning of appropriate investigation kits and training for all concerned.

The investigation should commence as soon as possible after the incident or illness has occurred.

**INVESTIGATION TEAM**

The composition of the investigation team may vary according to the severity of the incident or illness. Two standard requirements the investigators should be knowledgeable in, are; **the types of work involved** and that both a **worker representative and an employer representative** participate. The immediate supervisor in the work area should be included in the investigation team. In addition to meeting the legal requirements, they will be most familiar with the workers involved, equipment, processes and conditions at the time of the incident or illness. Investigation team members must be trained in investigation techniques.

**INVESTIGATION KIT**

Investigation kits should be assembled and located where they are readily available (at each facility location). Kit contents may contain but not limited to:

- Still camera and film
- Clipboard and paper (including graph paper)
- Pens and pencils
- Straight edge
- Tape measure
- Flashlight
- Container for samples

Items specific to a particular incident or illness (MSDS's, copies of standard operating procedures, codes of practice, checklists, etc.) would be added to the kit each time it is used.

**STAGES OF INVESTIGATION****1) FIRST AID**

The first actions after an incident or illness is to administer first aid to any ill or injured persons and make the location safe to prevent further injuries or illnesses.

**2) NOTIFICATION**

Notify immediate supervisors who in turn shall notify **STARKS PLUMBING AND HEATING LTD.** senior management. **STARKS PLUMBING AND HEATING LTD.** head office is responsible to notify any government agents, if required.

**3) SKETCH OF THE SCENE**

Sketches, drawn to scale or showing measured distances, can be used to indicate relative positions of casualties, witnesses, equipment and materials involved in the incident. If it is necessary to move pieces of equipment to allow work to re-start, mark their position on the ground or floor before moving them. Take pictures.

**4) INTERVIEW WITNESSES**

It is important that eyewitnesses be interviewed as soon as possible after the incident or illness while their memories are fresh and before they have the chance to compare notes with fellow employees. It is a natural reaction for most people to conform to a consensus view of events where uncertainty may exist. Witnesses, for this reason, should be interviewed individually and not as a group.

The interview may take place at the scene of the incident or illness in order to make it easier for the witness to describe what happened. Otherwise, an office offers fewer distractions. Witnesses to an incident or illness may be under considerable stress, especially if a co-worker has been injured. Some may be reluctant to tell everything they saw for fear of getting someone into trouble. The interviewer should try to overcome these obstacles by explaining the reason for the investigation and interview - which is not to lay blame, but to find causes so that occurrences of similar incidents and illnesses can be prevented. Explain that the witness's cooperation and suggestions can help achieve this.

An effective interview is one that provides accurate and complete information about the incident or illness as seen or known by the witness. Some guidelines that should be followed by

interviewers are:

- Let the witness tell the story initially without interruptions.
- If some prompting is necessary to get the interview going, ask open-ended questions that require more than a single word or phrase answer. For example, ask, "What did you see?" rather than "Did you see the incident?"
- Have the witness repeat his statement, this time making short written notes (do not use a tape recorder). Explain that notes are necessary to ensure that you will have the facts straight on your final report.
- **Ask the witness:**
  - To describe what happened in his/her own words.
  - Do they know what the correct procedures are?
  - If so, were the procedures followed?
- **Ask the employees involved:**
  - What supervision was there?
  - What supervision training do they have?
  - What experience do they have? Years, months?
  - 24 hrs prior to the incident, what sleep did they have?
  - Had they been drinking or taken drugs prior to the incident?
- Ask questions to confirm your understanding, but avoid leading questions (ones that lead the witness to a particular answer). For example, ask, "What were the weather conditions?" instead of "Was it a dark and stormy night?" Questions requiring one-word answers are acceptable at this stage of the interview in order to establish specific details. Using your notes, summarize what you have been told so that the witness can correct any misunderstanding or add any pertinent information.
- Close the interview by asking the witness for suggestions on how similar incidents or illnesses may be prevented in the future and thank them for their co-operation.

## 5) EXAMINATION OF EQUIPMENT

Before performing any test on equipment or dismantling it, its configuration must be recorded (by means of photographs or sketches). If it is necessary to measure the material properties of components, then non-destructive methods are preferred. Destructive testing or the cuttings up of components are only considered as a last resort and only with management's approval.

## 6) REPORTING

As a minimum requirement, the worker will complete the **STARKS PLUMBING AND HEATING LTD.** Incident/Illness Investigation Form. In addition to this form, an investigation must take place in order to prevent re-occurrence. The investigator(s) need to determine the root cause(s) of the incident or illness and implement the corrective action(s).

When an Investigation Report is prepared, it is important that the investigator include all relevant facts so the appropriate steps can be taken to prevent future incidents or illnesses and implement remedial training if necessary.

It is important to distinguish between actual facts and things that are not facts. Facts; simply put; are those things which can be seen, heard, tasted, smelled or touched. In other words, something that is directly observable through the senses. This includes things that can be measured and/or calculated. Facts do not include suspicions, guesses, speculation, conclusions or other results of mental processes that are combinations of facts with personal viewpoints, emotions, personal agendas or personal needs which take this opportunity to

advocate certain actions.

### **FOLLOW-UP**

An incident investigation completed to this stage, no matter how well it was done, will do very little in the area of proactive incident or illness prevention. The follow up, starting with valid recommendations presented in a comprehensive report and ending with positive management action are essential steps towards preventing similar incidents and illnesses in the future.

### **RECOMMENDATIONS**

Once the causes of the incident or illness have been determined, the next task is to make recommendations on how to prevent similar occurrences in the future. A widely accepted hierarchy of remedial actions, in order of desirability is:

- Eliminate the hazard (i.e. by substituting a non-hazardous chemical for a hazardous one)
- Contain the hazard (i.e. prevent contact, as by machine guarding)
- Revise the work procedure (i.e. incorporating a lockout system) or
- Reduce the exposure (i.e. use personal protective equipment)

Recommendations should be specific, stating exactly what is to be done, who will do it, when it will be done by and how completion of the corrective action is to be confirmed or monitored. If the investigation has uncovered safety deficiencies not directly related to the incident or illness, it is still useful to make note of them and make general recommendations for their solution.

A recommendation the investigation team should **never make** is one suggesting discipline of an employee. Incident/illness investigation is not intended to be a fault - finding exercise. If it was an individual's shortcomings that contributed to the incident or illness, these must be pointed out if the report is to be complete and honest.

Follow-up action, including discipline if warranted, is up to management.

### **CORRECTIVE ACTION**

When hazards posing an imminent threat to health, safety or the environment are detected in the course of an investigation; corrective action must be taken. Interim measures may be necessary pending a more permanent solution. In some cases the immediate supervisor in the incident area may be able to implement remedial action without requiring management approval.

Management shall initiate corrective action without delay to prevent recurrence of similar incidents or illnesses and shall post the report for reference by workers. Management may decide to implement the recommendations either as presented or in modified form. Reasons for revision or rejection of recommendations should be communicated to all concerned.

It should be clearly stated who is to be responsible for the follow-up action, what deadlines are to be met, what additional resources have been allocated to the task and how completion is to be reported or monitored.

**MANAGEMENT REVIEW**

After reviewing the report, management may consider other initiatives based on the findings of the investigation; the following questions must be addressed in the course of all investigation reviews:

- Does management have an adequate system in place for reporting, investigating and following up on incidents and illnesses?
- Does the investigation meet the expected standard, or do investigators need more training?
- Are inspection procedures adequate? Do inspectors need more training?
- Are more frequent inspections required?
- Are job hazards analyses available? Do they need revision?
- Are safe work procedures in place? Are they complete and correct?
- Is supervision adequate? If not why not? How are supervisors held accountable for safety, health and environmental responsibilities?
- Is new, additional or refresher training indicated?
- Are revisions to the health and safety program needed?
- Does the periodic safety audit require changes?

An incident or illness is an unfortunate reminder that problems exist in the work system. Management should make every effort to learn as much as possible from each event in order to ensure recommended corrective action has taken place.

**SECTION 11.0 - EMERGENCY PREPAREDNESS & RESPONSE****APPLICATION**

The emergency preparedness and response plan will be used for routine and non-routine emergencies as well as changes in operation, and products and services which warrant new emergency situations.

**PROCEDURE**

This procedure outlines the preparation, training and implementation of emergency plans and how it applies to emergency situations involving **STARKS PLUMBING AND HEATING LTD.** employees and contractors. It is to be implemented as soon as practical after the occurrence of any emergency situation.

**1) Assessment**

An initial assessment will be conducted to establish the potential emergencies involved in the work of **STARKS PLUMBING AND HEATING LTD.** An appropriate plan of response will be developed to minimize the impact of such emergencies on personnel, equipment, materials and the environment. Some of these potential emergencies include:

- Fire and Explosion
- Electrocutation
- Tornado
- Bomb Threat
- Flood
- Severe Storm
- Death On Site / Medical Emergency
- Motor Vehicle Incident
- Chemical Exposure

All personnel, including contractors, will be appropriately trained in the emergency response plan as necessary to ensure they understand their role and have the understanding and knowledge to respond to the emergencies identified.

Regular drills will be conducted annually to ensure personnel are familiar with the emergency response process and equipment.

The potential emergencies identified for the site and the work, and the associated emergency response plans, will be reviewed at the site pre-job meetings to ensure that appropriate emergency procedures are known and understood by the site personnel and the required emergency equipment (first aid kits, fire extinguisher, alarms, etc.) is readily available and maintained in good condition. This review will be repeated as necessary for all subsequent personnel arriving at the site.

The emergency contact list will be available at the worksite and in all safety manuals in case of an emergency.

## 2) Response Plan

Upon hearing the announcement of the emergency, all personnel, unless actually involved in controlling the fire or leak, will evacuate the site to the designated muster point.

All work in the immediate area will cease until the emergency situation is resolved, and permission is given to resume work.

### ❖ **First Responder**

The First Responder will assess the situation and the available resources and direct the response to the emergency. The First Responder will be identified prior to commencing each shift. Where more than one person is present on the scene and able to assist, the First Responder will direct the response until a more senior **COMPANY** representative is present at the scene.

The priorities for the First Responder are:

- a) Sound the alarm
- b) Commence rescue activities if it is necessary to preserve life or deal with injuries, and if it is safe to do so
- c) Attend to medical needs
- d) Secure the area (or have someone else secure the area, as appropriate)
- e) Evacuate the immediate area if necessary to preserve life/health
- f) Notify the **STARKS PLUMBING AND HEATING LTD.** office of the emergency and actions taken
- g) Record the details of the emergency (i.e. sequence of events), actions taken, personnel notified, and times of all activities on the Emergency/Incident Log.

### ❖ **Supervisor**

- a) Organize emergency activities at the site in accordance with the applicable Emergency Response Plan
- b) Direct the emergency response activities at the site to minimize injuries and damage
  - Assign individuals to stand near the road to direct emergency responders.
  - Assign personnel to provide emergency first aid where required.
  - Upon arrival of the emergency responders, advise them of the situation.
- c) Contact police, ambulance and other emergency resources where necessary
- d) Determine when the emergency situation is resolved and signal a return to work.

### ❖ **STARKS PLUMBING AND HEATING LTD. Office:**

- a) Document the call from the first responder/supervisor and record all details
- b) Notify **STARKS PLUMBING AND HEATING LTD.** President, to inform him of the incident
- c) Arrange for additional resources (i.e., manpower and equipment) as requested, or in accordance with the Emergency Response Plan, or as required by the contract
- d) Maintain a regular contact with the emergency scene as necessary to coordinate the transfer of information to the client, and other **STARKS PLUMBING AND HEATING LTD.** personnel involved
- e) Maintain up to date copies of the Employee Information Sheets for each employee for use in an emergency.

## DOCUMENTATION

In any level 2 or 3 emergency; necessary steps must be taken, at the earliest convenient time, to record the accident scene and to record the names of all witnesses.

**NOTE:** This must be done before work resumes.

Personnel involved in resolving the emergency will log all calls and critical activities.

All calls from media personnel will be recorded on the Media Contact Log and handled in accordance with the procedure provided on the back of the form. The contacts will also be recorded in the Emergency/Incident Log.

### **FOLLOW-UP**

A complete description of the emergency will be developed using the information gathered in the Emergency/Incident Logs.

**STARKS PLUMBING AND HEATING LTD.** President, safety advisor and the involved employee will participate in a review of the emergency and the effectiveness of **STARKS PLUMBING AND HEATING LTD.** response activities as soon as possible after the resolution of the emergency.

Within one week of the review, **STARKS PLUMBING AND HEATING LTD.** President, safety advisor and the involved employee(s) will conduct a "post-mortem" review with all involved **STARKS PLUMBING AND HEATING LTD.** personnel to evaluate the effectiveness of the emergency response and identify improvements to the plans.

A company representative will be responsible to ensure the emergency response plan remains current and up-to-date if changes occur in the workplace.

### **EMERGENCY LEVELS**

#### **1) Level 1**

An emergency that forces a portion of the operation to be temporarily suspended and which can be entirely handled by on-site personnel and equipment.

At level 1, the emergency does not present any potential danger to the public or outside of the boundaries of the company property.

Examples of Level 1 emergencies for all work areas include:

- A small fire that can be extinguished locally
- A minor injury
- A spill of a hazardous chemical, in a limited quantity, within a specific area

#### **2) Level 2**

A Level 2 Emergency is an escalated Level 1 emergency for which the entire operation may be temporarily shut down and where in some cases outside emergency services are put on standby.

At level 2, there is no immediate danger to the public or immediate need for outside assistance, but sufficient potential exists to justify the notification of outside services (e.g., police, fire, emergency groups) to make them aware of the potential danger.

Examples of Level 2 emergencies include:

- Detection of a low release of a toxic gas or chemical in any area populated by people,
- A spill of hazardous material that has the potential to extend beyond the company boundaries, or reach a waterway,
- A moderate explosion or fire that threatens nearby critical equipment

### 3) Level 3

An extreme emergency that forces the indefinite shutdown of the entire operation and for which outside emergency services are immediately required.

Any situation where safe, effective operating control has been lost, causing or having the potential to cause: severe injury or fatalities among employees, contractor's personnel or one or more members of the general public; or serious damage to the environment and/or the surrounding communities.

Media and community relations may become major factors in Level 3 emergencies.

Examples of Level 3 emergencies include:

- A life threatening injury or death
- A major fire or explosion at a facility
- An uncontrolled H<sub>2</sub>S release in a concentration of 20ppm or more in any area populated by people or livestock
- A significant spill of oil, salt water, or a hazardous chemical, that will contaminate soil and groundwater, extend beyond company boundaries, and/or reach a waterway
- The upset of any vehicle or heavy equipment

Early in the emergency response, the Supervisor (or First Responder) will make a determination of the seriousness/level of the emergency and the appropriate process for response.

**NOTE:** If there is a doubt about the level of the emergency, the decision should be made to move to the higher level under consideration.

The purpose of an emergency response plan is to ensure that sufficient planning, preparation, and training occur so that response to an emergency is timely and effective, and that losses are minimized.

The following steps below are intended to provide a guideline in determining the appropriate response to an emergency.

#### **Assess the Situation**

- Immediately assess the scene (identify what is wrong and the present dangers)
- Set priorities
- THINK: Don't rush out to help if you are putting yourself at risk!
- DON'T panic. Rely upon your common sense
- DON'T try to be a hero! If a rescue is required, assess the situation to ensure it is safe to do so.
- Do you have appropriate PPE and resources for the situation?

**Protect the Scene and Yourself**

- Do not put yourself or others at risk
- Do not disturb the scene except to preserve life or prevent injury
- Secure the area, ensuring that outside parties keep a safe distance
- Instruct people not to touch or move anything.

**Send for Help**

- Call emergency services such as fire, police, and/or ambulance when required.

**Take Appropriate Action**

- Take action ONLY when it is safe to do so.
- Continually monitor the hazards and potential effects
- Provide first aid if required (do not move or evacuate the injured person(s) if injuries are severe except in cases where life threatening dangers are present. You might worsen the injury if the person appears to have spinal injury or broken bones)
- Provide fire control where possible
- Arrange for emergency transportation if ambulance service is not available
- Evacuate. DO NOT disturb the scene except to preserve life or prevent injury.
- Immediately evacuate the area if necessary to preserve life/health

**When Help Arrives**

- Provide details to emergency services personnel (such as fire, police, and or ambulance crews)
- Cooperate with emergency services personnel and provide assistance as requested (manning road blocks, or helping with equipment)
- DO NOT talk to media personnel or the public asking for details of the incident scene.

**Notify Parties**

- Contact the manager to inform him of the emergency (they will contact further parties requiring notification of the incident.
- All incidents must be reported immediately to the manager\
- All injuries requiring hospitalization or fatality must be reported immediately to the manager (in addition to other required parties such as local police.
- All environmental incidents must be reported immediately to the manager.

**EMERGENCY RESPONSE PLAN – EVACUATION**

**ALL SITES WILL HAVE AN IDENTIFIED MUSTER POINT FOR EMERGENCY RESPONSE, AND THE FOLLOWING PROCEDURES WILL BE FOLLOWED:**

**EMPLOYEES**

1. Evacuation procedures shall be initiated by the Management or designate only.
2. The person initiating the site evacuation shall sound the alarm.
3. All employees will be aware that the sound of an air horn signals an emergency.
4. When you hear the alarm, stop what you are doing immediately.
5. All workers are to leave the site upon hearing the evacuation signal via the nearest exit and assemble at the muster point.
6. Remain calm, move safely and quietly.

7. Do not gather at exits that are required for use by emergency personnel.
8. Once all employees have mustered, the site designate (identified during the pre-job planning) will take attendance which will be a WRITTEN, PHYSICAL document.
9. Employees are required to remain together (even if evacuated) until dismissed by their Safety Coordinator AND Department Head. Do not attempt to go back to your place of work to attempt a rescue or any other reason.
10. All employees will be required to attend a post-emergency tool-box meeting conducted by the department head, and/or safety coordinator.

**NO ONE, OTHER THAN THE PRESIDENT, OR HIS DESIGNATE, IS TO DISCUSS ANY MATTER PERTINENT TO THE EMERGENCY, WORKSITE OPERATIONS, OR ANY PERSONNEL, WITH ANY PERSON UNLESS DIRECTLY REQUESTED TO DO SO BY THE PRESIDENT, OR HIS DESIGNATE.**

### **SUPERVISORS**

**ALL SUPERVISORS WILL BE RESPONSIBLE FOR ENSURING THAT THEIR ENTIRE CREW IS PRESENT AT THE MUSTER POINT.**

1. Ensure immediate evacuation – stop work without delay!
2. Notify Department Head of emergency situation IMMEDIATELY.
3. Take attendance in written form to give to emergency response personnel.
4. Ensure that crews remain together until dismissed by the Department Head and Safety Coordinator.
5. Remain with Department Head and Safety Coordinator for reporting purposes.
6. Attend post-emergency tool-box meeting with crew.

### **DEPARTMENT HEAD / FOREMEN**

1. Notify Safety Coordinator of emergency situation immediately.
2. Report to site with Safety Coordinator to perform investigation and/or incident report.
3. Ensure work is stopped until cleared by OH&S / emergency personnel or a complete investigation of incident has been conducted and hazard has been eliminated.
4. Conduct post-emergency tool box meeting.
5. Attend post-emergency meeting with all department heads and senior management.

### **SENIOR MANAGEMENT**

**SENIOR MANAGEMENT WILL BE RESPONSIBLE FOR WORKING WITH THE SAFETY COORDINATOR TO ENSURE THAT A REOCCURRENCE OF THE HAZARD IS CONTROLLED AND/OR ELIMINATED IF POSSIBLE.**

### **EMERGENCY RESPONSE PLAN – FIRE AND EXPLOSION**

**STARKS PLUMBING AND HEATING LTD.** will ensure that:

- All worksites have adequate fire protection available.
- Employees are trained in the use of the fire extinguishers and alarms in their work area.
- Portable fire extinguishers and alarms are provided in adequate numbers and type and are located throughout our facilities, in vehicles, on equipment, and at work sites.
- Fire extinguishers and alarms shall be mounted in readily accessible locations.
- Fire extinguishers are recharged regularly and the date of the last inspection noted on their tag.
- Fire prevention is included in regular workplace inspections.

- Where computers are present, fire extinguishers are of a type designed for use with electrical equipment.

A fire emergency exists if a fire is suspected or discovered, when you discover smoke, or when you hear the alarm. The following steps must be taken:

- Remove those in immediate danger. Close door to room where fire is located.
- Activate fire alarm.
- Call 911 and report the following information:
  - Your name/address
  - Building name
  - Floor
  - Room number if known
  - Phone number you call from
- Close all doors and windows in the surrounding areas.
- Extinguish the fire if possible.
- Evacuate the building via the nearest and safest exit. Familiarize yourself with the evacuation maps in your building.

### **SAFETY TIPS**

- Know your emergency exits. Exits shall be kept clear of obstructions to allow easy exit of the building and to prevent tripping at the doors.
- Memorize a room in case smoke obscures your view of the exit signs.
- If you hear the alarm put your hand against your room door. If it's not hot, crack your door to check for smoke. If there's little or no smoke, proceed carefully to a fire exit.
- If the door is hot, wet a towel and place it in the crack under the door to keep smoke out. Then go to your window and try to signal fire fighters by waving a towel or sheet.
- Close ALL doors in the area. Close all windows on upper floors if fire is located on a lower floor.
- Every employee is required to know the location of alarm boxes and fire extinguishers and their use. If you don't have this information, check your work area or ask your supervisor.
- Halls and stairways must be kept clear.
- Stay low when working in smoke or heat, as both will rise.

### **EMERGENCY RESPONSE PLAN - ELECTROCUTION**

Despite lock-out/tag-out procedures and multiple repetitions of electrical safety rules in industry, accidents still do occur. The vast majority of the time, these accidents are the result of not following proper safety procedures. But however they may occur, they still do happen, and anyone working around electrical systems should be aware of what needs to be done for a victim of electrical shock.

Electric shocks from high voltage electricity such as power lines or cables are instantaneously fatal. Never approach a casualty of this shock, as high voltage electricity can travel several meters through the air.

Turn off the electricity. Switch off the current or turn off the master switch.

Move the injured person away from contact with the electricity source. Use a wooden chair, broom handle, or other dry non-metal object. Bear in mind that the victim will be holding on to the conductor with all their strength, so pulling them away probably won't be easy!

Call 911.

Once the victim has been safely disconnected from the source of electric power, the immediate medical concerns for the victim should be respiration and circulation (breathing and pulse). If the rescuer is trained in CPR, they should follow the appropriate steps of checking for breathing and pulse, then applying CPR as necessary to keep the victim's body from deoxygenating. The cardinal rule of CPR is to keep going until you have been relieved by qualified personnel.

If the victim is conscious, it is best to have them lie still until qualified emergency response personnel arrive on the scene. There is the possibility of the victim going into a state of physiological shock -- a condition of insufficient blood circulation different from electrical shock -- and so they should be kept as warm and comfortable as possible. An electrical shock insufficient to cause immediate interruption of the heartbeat may be strong enough to cause heart irregularities or a heart attack up to several hours later, so the victim should pay close attention to their own condition after the incident, ideally under supervision.

Remember, the injured person may have experienced other injuries such as burns.

Wet conditions increase risk of electric shock by lowering skin resistance. Keep dry when working near electricity.

#### **EMERGENCY RESPONSE PLAN - TORNADO WARNING**

A tornado warning indicates that an actual tornado has been identified in the area by spotters and/or radar. Public warning will be given.

- If in the warning area, seek shelter immediately.
- If in a vehicle, get out and seek shelter in a sturdy building. If a building is not available, a depression such as a ditch or ravine offers some protection.
- Do not open windows, this can increase damage to the buildings
- Stay away from exterior glass.
- Basements, interior hallways and small interior rooms on lower floors offer the best protection.

Report all injuries and damage to the safety advisor and Police.

After the all clear signal sounds, evacuate damaged buildings and do not attempt to return to the building unless directed to do so by safety advisor.

Proceed to the designated meeting location area. Account for all personnel in your area. Notify emergency personnel of any missing person(s).

In case of a severe weather warning or tornado warning, persons in the respective buildings are directed to go to the lowest point of the building unless otherwise instructed to go to another building. Stay against an outside wall, away from any windows and away from the direction of the approaching disaster.

**EMERGENCY RESPONSE PLAN - BOMB THREAT****RECEIPT OF THREAT BY TELEPHONE**

Person receiving a phone call involving a bomb threat or a threat against an individual should attempt to keep the caller on the telephone as long as possible and obtain as much information as possible from the caller. This information is invaluable in determining the validity, urgency, and nature of the threat, and consequently in determining what action is appropriate in response to that threat. Alert someone else while still on the telephone with the caller to notify police about the threat. Record the EXACT WORDS of the caller. Write down the exact words as soon as possible so they will not be forgotten or distorted. Person receiving such calls should be aware of the following guidelines and suggestions:

- Be calm; be courteous; listen; do not interrupt the caller; write down notes.
- Try to keep the caller on the line as long as possible in order to obtain as much information or characteristic comments or accents as possible.
- Ask the caller to repeat the message. Attempt to determine the type of device, what it looks like, where it's located, what time it will go off, etc.
- Pay particular attention for any strange or peculiar background noises, such as a motor running, background music and type of music, train whistle, sirens, and any other noises which might provide clues as to the place from which the call was being made.
- Listen closely to the voice (male/female) (young/mature) for voice quality, accents, speech impediments, or words/phrases used repeatedly.
- After receipt – then what??
  - Immediately notify Police
  - Immediately after notification, record as much information as possible on paper.
  - Notify your immediate supervisor of the fact that you received a threatening phone call and have already notified Police.
  - Evacuation.

Evacuation will proceed in the same manner as fire drills. Count personnel as normal. Move to a location at least 500 feet away from the affected building. Stay there until an accurate HEADCOUNT is taken. Keep streets, fire lanes, hydrants and walkways clear for emergency vehicles.

**DO NOT RETURN TO AN EVACUATED BUILDING** unless told to do so by the Police.

**EMERGENCY RESPONSE PLAN - FLOODS**

Floods are the most common and widespread of all natural disasters. Most communities, including ours, can experience some degree of flooding after spring rains, heavy thunderstorms or winter snow thaws.

Most floods develop slowly over a period of days. Flash floods, however, are like walls of water that develop in a matter of minutes. Flash floods in our area are generally caused by intense storms, but can be caused by dam failures.

**During a Flood Watch**

- Listen to a radio or TV for the latest storm information.
- Fill sinks and jugs with clean water in case water becomes contaminated.
- Bring outdoor belongings indoors.
- Move valuable possessions to the upper floors or to safe ground if time permits.
- If you are instructed to do so by local authorities, turn off all utilities at the main switch and close the main gas valve.
- Be prepared to evacuate.

Flood **Warning** - Flooding is already occurring or will occur soon. Take precautions at once. If advised evacuate immediately.

**During a Flood**

- If Indoors - Turn on battery operated radio or television to get the latest emergency information. If told by authorities to leave, do so immediately.
- If Outdoors - Climb to high ground and stay there. Avoid walking through any flood waters. If it is moving swiftly, even water 6 inches deep can sweep you off your feet.
- In a Car - If you come to a flooded area, turn around and go another way. If your car stalls, abandon it immediately and climb to higher ground. Many deaths have resulted from attempts to move stalled vehicles.

During an **Evacuation** - If advised to evacuate, do so immediately. Evacuation is much simpler and safer before flood waters become too deep for ordinary vehicles to drive through. Listen to a battery operated radio or television for evacuation instructions. Follow recommended evacuation routes - shortcuts may be blocked. Leave early enough to avoid being marooned by flooded roads.

**After the Flood –**

- Flood dangers do not end when the water begins to recede. Listen to a radio or television and don't return until authorities indicate it is safe to do so. Remember to help those that may require special assistance.
- Stay out of buildings if flood waters remain around the building. When entering buildings, use extreme caution.

**EMERGENCY RESPONSE PLAN – SEVERE STORM**

The objective of this plan is to prepare you and your family to properly respond to and recover from extraordinary emergency situations. Proactive steps taken BEFORE anticipated emergencies will dramatically affect your behavior both during and after the event

**WHAT TO DO DURING A WINTER STORM WARNING OR A BLIZZARD WARNING:**

- Stay indoors and dress warmly during the storm. Wearing layers of loose-fitting, lightweight, warm clothing will keep you warmer than one bulky sweater. Remove layers to avoid overheating, perspiration and subsequent chill.
- Listen to a battery-powered radio or television for updated emergency information. If the power goes out, you will still have access to important information.
- Eat regularly. Food provides the body with energy for producing its own heat.
- Keep the body replenished with fluids to prevent dehydration.
- Conserve fuel. Winter storms can last for several days. Great demand may be placed on electric, gas, and other fuel distribution systems (fuel oil, propane, etc.).

**IF YOU MUST GO OUTSIDE, PROTECT YOURSELF FROM WINTER STORM HAZARDS:**

- Wear layered clothing, mittens or gloves, and a hat. Layering clothes will keep you warmer than a single heavy coat.
- Cover your mouth to protect your lungs from extremely cold air. Avoid taking deep breaths; minimize talking.
- Watch for signs of hypothermia and frostbite.
- If frostbite or hypothermia is suspected, begin warming the person slowly and seek immediate medical assistance.
- Keep dry. Change wet clothing frequently to prevent a loss of body heat. Wet clothing loses much of its insulating value and transmits heat rapidly away from the body.
- Stretch before you go out. If you go out to shovel snow, do a few stretching exercises to warm up your body. This will reduce your chances of muscle injury.
- Avoid overexertion, such as shoveling heavy snow, pushing a car or walking in deep snow. The strain from the cold and the hard labor may cause a heart attack. Sweating could lead to a chill and hypothermia.
- Walk carefully on snowy, icy sidewalks. Slips and falls occur frequently in winter weather.

**IF STRANDED ON THE ROAD:**

- Keep calm and stay in your vehicle. Do not attempt to walk out of a blizzard. You are much more likely to be found by staying in your vehicle.
- Keep fresh air in your vehicle - especially if you are using a candle, solid fuel or other type of heating device - to prevent carbon monoxide build-up and oxygen starvation.
- Run motor and heater sparingly and only with the down-wind window open for ventilation. Make sure snow has not blocked the exhaust pipe.
- Turn on dome light at night. This helps make the vehicle visible for work crews.
- Keep watch. Do not permit all occupants to sleep at once.
- Exercise. Clapping hands and moving arms and legs vigorously will help keep you awake and improve circulation.

**EMERGENCY RESPONSE PLAN – MEDICAL EMERGENCY / FATALITY**

- Take charge
- Call for help - Medical & Law Enforcement
- Assess situation for additional wounded
- Assess the scene for hazards
- Provide privacy for the victim
- Provide emergency first aid &/ CPR if applicable to survivors
- Notify your supervisor and management
- Provide information on the number and location of casualties. Confirm the number of wounded.
- Supervisor is to call appropriate Governmental Departments
- If ambulance is required, designate a crew member(s) to guide emergency personnel to the scene
- Rope off the incident/accident area
- Keep witnesses separated until authorities arrive.
- Update management and supervisors on progress
- Remove ALL UNNECESSARY personnel

**EMERGENCY RESPONSE PLAN – MOTOR VEHICLE INCIDENT**

If you are involved in an accident:

- Do not leave the scene.
- Do not argue.
- Do not admit liability.
- Do not discuss accidents with anyone but police.

**MINOR**

A "fender bender" in which there is no personal injury, vehicular damage (for the vehicles involved) is estimated at less than \$1000 and no damage has been done to property.

- Stop at once to prevent further mishap.
- Stay calm
- Put flares up to warn other traffic if needed
- Call Police (if damage is estimated greater than \$500).
- Call management.
- Complete accident/incident report form as soon as possible and forward form to safety advisor.

**MAJOR**

An incident/accident in which someone is injured, property has been damaged, or damage to all vehicles involved is estimated to be greater than \$1,000.00.

- Administer first aid or if needed call 911
- Stay Calm
- Put flares up to warn other traffic
- Call Police (if damage is estimated greater than \$1,000.00).
- Call management.

**Fill out a *Vehicular Accident Report* while at the scene**

**POST EMERGENCY PROCEDURES**

- Direct any inquiries (media, etc) to management.
- Management will complete a media release, if required.
- Management will notify insurance company.
- Complete accident/incident report form as soon as possible.
- Conduct an investigation by a trained accident/incident investigator.
- Forward all paperwork to safety advisor.

**EMERGENCY RESPONSE PLAN – CHEMICAL EXPOSURE HAZARD**

**DO NOT ATTEMPT TO USE A CHEMICAL WITHOUT FIRST READING AND UNDERSTANDING THE APPROPRIATE MSDS.**

Prior to using any chemicals ensure you are aware of the following:

- Know the location of the emergency shower and eye wash stations.
- Know the location of the first aid kit
- Know the location of the spill kit.

If a chemical spill occurs:

- Ensure injured or contaminated personnel receive prompt first aid/medical treatment.
- Remove contaminated clothing immediately.
- If eyes are contaminated, rinse thoroughly under running water for a minimum of 15 minutes and seek medical attention.
- Consult MSDS for proper first aid treatment.
- If an injured person (s) requires medical attention, take the MSDS with you to emergency.
- Have someone contact the supervisor and inform them of the nature of the spill, involvement of personnel, telephone number etc.

If Evacuation becomes Necessary:

- Once outside, move to the building's evacuation assembly point at least 500 feet away from the affected building(s).
- Keep streets, fire lanes, hydrants and walkways clear for emergency vehicles and crews.
- If requested, assist emergency crews as requested.
- A Field Emergency Command Post may be set up near the emergency site. Keep clear of the Command Post unless you have official business.
- **DO NOT RETURN TO AN EVACUATED BUILDING** unless told to do so by an official.

**IMPORTANT:** After any evacuation report to your designated muster point. Stay there until an accurate HEADCOUNT is taken. The safety advisor will take attendance and assist in accounting for all building occupants.

- Follow guidelines in MSDS sheet for clean up.
- Wear appropriate personal protective equipment.
- If you are unsure what to do, call your supervisor for help.
- Post warning signs and/or tape off the area to prevent the spread of contamination.
- Personnel involved shall wait outside the contaminated area, in the immediate vicinity, for arrival of safety advisor.

### **FIRST AID**

### **RESPONSIBILITIES**

**STARKS PLUMBING AND HEATING LTD.** shall supply training, first aid equipment, supplies and a first aid room to all employees to ensure that in the event they need first aid treatment, it will be provided as rapidly as possible and by qualified first aiders, in full compliance with applicable legislation. It will be located at or near the worksite they are intended to serve, and available and accessible during all working hours.

The first aid equipment and supplies will be maintained in a clean, dry and serviceable condition; contained in a material that protects the contents from the environment; and clearly identified as first aid equipment and supplies.

**STARKS PLUMBING AND HEATING LTD.** shall post signs, at conspicuous places on the worksite, indicating the location of first aid services, equipment and supplies. If posting of signs is not practicable, they shall ensure that each worker knows the location of first aid services, equipment and supplies.

There will be an emergency communication system in place for workers to summon first aid

services.

**STARKS PLUMBING AND HEATING LTD.** utilizes an approved training agency to provide the first aid training to its workers for a certificate in emergency first aid, standard first aid or advanced first aid.

**STARKS PLUMBING AND HEATING LTD.** will ensure that a worker who successfully completes the training by an approved training agency will meet the standards for a certificate in emergency first aid, standard first aid or advanced first aid that are adopted by the Director of Medical Services in consultation with the Joint First Aid Training Standards Board.

**STARKS PLUMBING AND HEATING LTD.** keeps a record of all workers at a worksite who are first aiders.

### **TRANSPORTATION**

**STARKS PLUMBING AND HEATING LTD.** shall; prior to the dispatch of workers to a worksite, make arrangements for transportation of injured or ill workers from the worksite to the nearest health care facility.

**STARKS PLUMBING AND HEATING LTD.** will ensure that the transportation meets the following requirements:

- an ambulance service is available for the worksite under normal travel conditions or
- a means of transportation is available from the work site that
  - is suitable, considering the distance to be traveled and the types of acute illness or injuries that may occur at the work site,
  - affords protection against the weather,
  - is equipped with a means of communication with the health care facility to which the injured or ill worker is being transported and the work site, and
  - is of sufficient size and suitability to accommodate a stretcher and an accompanying person where required.

If a worker is acutely ill or injured, or needs to be accompanied during transport to a health care facility, **STARKS PLUMBING AND HEATING LTD.** will ensure that the worker is accompanied by at least one first aider, other than the operator of the transportation.

### **RECORD OF ACCIDENT/ILLNESS**

A worker must, on suffering an acute illness or injury, report it to **STARKS PLUMBING AND HEATING LTD.** as soon as possible.

**STARKS PLUMBING AND HEATING LTD.** will create and maintain a written record, for at least 3 years, of every acute illness or injury that occurs at the worksite. Each must include the following:

- name of the employee;
- name and qualifications of the person giving first aid;
- date and time of the acute illness or injury
- date and time the acute illness or injury was reported;
- description of the acute illness or injury, where it occurred and the cause;
- first aid provided.

**ACCESS TO RECORDS**

Access to first aid records is restricted to individuals requiring access, use and disclosure of the information for the purpose of:

- medical treatment,
- worksite inspections,
- accident and incident investigation, or
- evaluation of health and safety programs and statistics.

The Workers' Compensation Board may access first aid records for the purposes of worksite health and safety programs and statistics.

Persons with access to the first aid records must keep confidential the information contained in the records.

On request, a worker may be given a copy of first aid records pertaining to the worker.

**CORROSIVE CHEMICALS**

If workers are employed at a worksite where corrosive or other chemicals harmful to the eyes or skin are used in any process at that worksite, facilities must be immediately available to cleanse contaminated body areas.

The facilities must include emergency baths, showers, eye wash equipment or similar equipment that is appropriate to the level of exposure to the hazard at that worksite.

**EMERGENCY CONTACTS**

<b>Albert Stark, President</b>	<b>Cell 403-952-4147</b>
<b>Warren Stark, Vice President</b>	<b>Cell 403-952-0328</b>
<b>Office</b>	<b>403-527-2929</b>
<b>Fax</b>	<b>403-527-3414</b>
<b>Terry Baumbach, Excavation Manager</b>	<b>Cell 403-952-0347</b>
<b>Brian Schlacter, Electrical Manager</b>	<b>403-952-1862</b>
<b>Cam McCarty, HVAC Manager</b>	<b>403-952-2246</b>
<b>Dylan Hodgson, Service Manager</b>	<b>403-952-0291</b>
<b>Medicine Hat Regional Hospital</b>	<b>24hrs. 403-342-1310</b>
<b>Poison Control</b>	<b>24hrs. 800-332-1414</b>
<b>Medivac (STARS) Trauma (ALBERTA ONLY)</b>	<b>24hrs. 888-888-4567</b>
<b>E.U.B</b>	<b>Edmonton 780-460-3800</b>
	<b>Calgary 403-297-8303</b>
	<b>Medicine Hat 403-527-3385</b>
<b>Department of Environment</b>	<b>24hrs. 800-222-6514</b>
<b>Forestry Fires</b>	<b>24hrs. 800-427-3473</b>
<b>Workplace Health and Safety Alberta</b>	<b>24hrs. 780-415-8690</b>
<b>Transportation of Dangerous Goods</b>	<b>24hrs. 800-272 9600</b>

## SECTION 12.0 – RECORDS AND STATISTICS

The **STARKS PLUMBING AND HEATING LTD.** safety program is a dynamic and constantly evolving process. Well maintained records provide the information necessary to assess the program, make necessary modifications, and plan for future activities. Analysis of these records provides an opportunity to determine trends, measure success and improve overall safety performance.

### STATISTICS

Data collected relating to safety provides management with an overview of the safety program's activities and results. Examining summaries provides information to determine trends and setting priorities for future safety program measures. These summaries will be circulated to all management levels within **STARKS PLUMBING AND HEATING LTD.** and are to be reviewed with employees at regular safety meetings.

The annual **STARKS PLUMBING AND HEATING LTD.** corporate statistical report will consist of a breakdown of:

- Lost time and Lost Days
- LTI Frequency Rate
- Restricted Work and Restricted Work Days
- Medical Aid
- TRI Frequency Rate / Severity Rate
- First Aid
- Near Miss incidents
- Hazard Identifications

### ANNUAL SAFETY REPORT

**STARKS PLUMBING AND HEATING LTD.** will prepare an Annual Report summarizing the safety successes and opportunities within the company from the previous year. This report will include statistical summaries, incident summaries, training information, ongoing safety projects, successes as well as the goals and objectives for the upcoming year.

### SAFETY FILES

**STARKS PLUMBING AND HEATING LTD.** will maintain a filing system that includes:

- Emergency Response Plans
- Pre-Job Hazard Assessments
- Job Safety Analysis (JSA)
- Employee Orientations
- Employee Sign-up Package
- Approved Driver Records and Driver Abstracts
- Safety Meeting minutes
- Safe Work Practices/Procedure Review
- Worksite Inspections
- Equipment Maintenance And Inspection Records
- Incident Investigation Reports
- On-the-job Training

- Training Certificates
- Health & Safety Committee meeting minutes
- COR Audits
- Drug Test Results
- Statistics
- Safety Alerts
- All WCB Documentation
  - Restricted Work Offers
  - Restricted Work and Lost Time Reports

### **INCIDENT CLASSIFICATION**

All **STARKS PLUMBING AND HEATING LTD.** incidents will be classified as per the **ANSI Standard Z216.5.**

### **FIRST AID INJURY**

Any one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters and so forth, which do not ordinarily require medical care. Such treatment and observation are considered first aid even though provided by a physician or registered professional medical personnel. The following are considered to be **first aid treatments**:

- application of antiseptics during the first visit to medical personnel
- treatment of first degree burn(s) and “minor” second degree burns treated with non-prescription medication on first visit only
- application of bandage(s) during any visit to medical personnel
- removal of foreign bodies not embedded in the eye, if only irrigation or cotton swab is required
- removal of foreign bodies from a wound, if the procedure is uncomplicated and considered non-invasive (i.e.: by tweezers or other simple technique)
- use of non-prescription medications and administration of a single dose of prescription medication.
- Administration of a Tetanus vaccination
- soaking therapy during an initial visit to medical personnel or removal of bandages by soaking
- application of hot or cold compresses during the first visit to medical personnel
- application of ointments to abrasions to prevent them from cracking or drying
- application of heat therapy during the first visit to medical personnel
- use of whirlpool bath therapy during the first visit to medical personnel
- negative X-ray diagnosis
- Observation of injury during a visit to medical personnel.

### **MEDICAL AID INJURY**

A medical aid injury is any injury that involves neither lost workdays nor restricted workdays but which includes treatment by a physician, registered professional personnel, or lay persons (i.e.: non-medical personnel). Medical aid treatment does not include first aid treatment (treatment and subsequent observation of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care) even though provided by a physician or other registered

professional medical personnel. Administration of tetanus shots or boosters is not considered medical treatment. Diagnostic procedures are not considered medical treatment.

The following examples are considered to be **medical aid injuries**.

- treatment of infection
- application of antiseptics during a second or subsequent visit to medical personnel
- treatment of second or third degree burn(s), except 'minor' second degree burns treated with non-prescription medication on first visit only
- application of sutures, or the application of butterfly adhesive dressing(s) or steristrip(s) in lieu of sutures
- removal of foreign bodies embedded in the eye
- removal of foreign object from a wound, if the procedure is complicated due to depth of embedment, size or location
- use of prescription medications (except a single dose of prescription medication)
- cutting away dead skin (surgical debridement)
- positive X-ray diagnosis (fractures, broken bones, etc.)
- chipped or broken teeth, requiring treatment by medical personnel
- admission to hospital or equivalent medical facility for treatment
- if a worker loses consciousness as the result of a work-related exposure or injury or illness, the case is at minimum a medical aid injury regardless of what type of treatment is involved

### **RESTRICTED WORK INJURY**

A restricted work injury is an injury (excluding the day of the injury) that results in a person:

- Assigned to another job on a temporary basis
- Working at a permanent job less than full-time
- Working at their permanent job, but not able to perform all the normal job duties connected with it. This excludes limitations for incidental/peripheral job duties.

### **LOST TIME INJURY**

A lost time injury is an injury that results in complete days away from work, after the day the injury occurred. An exception is time for medical assessment, including travel time, provided there is no time delay in seeking treatment.

**SECTION 13.0 – CONTRACTOR SAFETY MANAGEMENT****CONTRACTOR SELECTION**

The selection of a qualified contractor is a major step toward obtaining safe contractor performance. **STARKS PLUMBING AND HEATING LTD.** will evaluate a contractor's safety program by using the safety information furnished by the contractor in response to the pre-bid request.

The following points may be used in judging a contractor's safety performance:

- The contractor's commitment to safety as demonstrated by an ongoing safety program that is supported by its top management.
- The completeness of the contractor's safety programs and their appropriateness for the type of work and **STARKS PLUMBING AND HEATING LTD.** safety standards.
- The contractor must either have a safety program, or adopt **STARKS PLUMBING AND HEATING LTD.** resources. As a minimum, contractors will follow **STARKS PLUMBING AND HEATING LTD.** policies and procedures.
- The contractor's response to pre-bid safety request, which may include the following:
  - Safety statistics obtained from WCB Rate Statements (e.g. incident frequency and severity rates).
  - The contractor's safety staffing plan. The plan describes the on-site person(s) appointed by the contractor and subcontractor who will be responsible for safety. It also describes their expertise and authority.
  - A description of the safety orientation program to be provided by the contractor to all contractor and subcontractor employees on site.
  - The contractor's enforcement and disciplinary action program regarding safety violations.
  - The contractor's policy and programs regarding alcohol, controlled substances and firearms.
  - A list of safety equipment that will be provided by the contractor.
  - A narrative from the contractor's viewpoint that identifies the significant hazards of the job and a listing of the steps that will be taken to eliminate or minimize the potential for incidents.
  - A description of the contractor's programs to comply with applicable regulatory requirements.
  - A description of the contractor's employee training program and review of safety training documents.
  - Their rights and responsibilities regarding safety.
  - Site-specific emergency and evacuation procedures.
  - The responsibility to refuse any job which, in their opinion, puts the worker or other workers in danger.
  - **STARKS PLUMBING AND HEATING LTD.** will ensure that subcontractors are aware of the Owner Client's Drug and Alcohol Policy and they must adhere to the requirements of that policy.

**GENERAL SAFETY REQUIREMENTS FOR CONTRACTORS**

**STARKS PLUMBING AND HEATING LTD.** recognizes that the contractor is an independent contractor and that the work to be performed shall be carried out by the contractor under his own direction and supervision, and at his own risk. Notwithstanding this, the **STARKS PLUMBING AND HEATING LTD.** operator will monitor the contractor's conduct regarding safety. He should bring safety violations to the attention of the contractor's representative.

- The contractor shall comply with all federal, provincial, and local government laws and regulations and **STARKS PLUMBING AND HEATING LTD.** or contractor job site rules for safety, health and fire protection. The contractor shall require that subcontractors similarly comply.
- It shall be the contractor's responsibility to become fully acquainted with applicable safety and health laws and regulations prior to commencing work.
- The contractor and any subcontractors must participate in **STARKS PLUMBING AND HEATING LTD.** pre-job safety orientations and pre-job meetings.
- The contractor and any subcontractors must participate in tailgate meetings, regular job safety inspections and job hazard analysis.
- The contractor and any subcontractor or agent shall inform **STARKS PLUMBING AND HEATING LTD.** of any notices, warnings, or orders issued by any government agencies relative to the contracted work. In addition, the contractor shall immediately report governmental inspections and the results of the inspections to the owner's representative. Where advance notice is given of an inspection, the contractor shall report it to the operator.
- The contractor shall take all necessary precautions to keep the worksite free from recognized hazards that are likely to cause injury, death, illness or damage to property or equipment.
- The contractor will adhere to all legally mandated and industry accepted practices of safety and workmanship and to site safety standards or job work rules to avoid injury to workers and others and damage to equipment, materials, and property.
- **STARKS PLUMBING AND HEATING LTD.** may suspend work at any time or terminate the contract for a pattern of frequent failure to adhere to safety laws and regulations, or the owner's established on-site safety procedures.
- **STARKS PLUMBING AND HEATING LTD.** may deny access to the site by the contractor and its employees if, in **STARKS PLUMBING AND HEATING LTD.** sole judgment, such action is justified on the basis of safety.
- The contractor will allow the owner or its representative to enter the worksite to audit for compliance with the terms of the contract, including all addenda.
- The contractor agrees to maintain current records covering safety training for employees working on this project for the duration of this contract and agrees to make these records available to **STARKS PLUMBING AND HEATING LTD.** for review, if requested.
- The contractor shall supply to the owner, and maintain current, a list of all supervisory personnel.
- The contractor shall ensure that all workers are competent to perform their assigned tasks.
- Starks Plumbing and Heating Ltd. shall confirm that Contractors supply proof of coverage from Workers' Compensation Board and commercial liability insurance.
- The contractor will cause the least possible inconvenience to the public and to private individuals in the vicinity of the work, and shall render them all reasonable assistance wherever so required. The contractor will avoid excessive noise, dust, speeding, road damage, pollutants and noxious smells.
- It shall be the contractor's responsibility to ensure that safe working conditions prevail at all times that work is in progress.

Notwithstanding the foregoing, the owner reserves the right to have the owner's appointed representative suspend work at any time, whether it be because of the presence of a hazard or to check the possibility of the presence of a hazard. All incidents are to be communicated to the supervisor immediately (when safe to do so) and submitted in writing within 24 hours, and shall include the following:

- Name of facility
- Location

- Date of accident
- Name and address of contractor
- Name and address of person injured
- Job description of person injured
- Description of accident
- Description of device or equipment damaged or involved in accident
- Action taken
- Name and title (if any) of person submitting report
- Remarks
- Basic and underlying causes
- Preventive action

Contractors shall be informed that they must report all incidents to **Starks Plumbing and Heating Ltd.** management and/or immediate supervisor. **Starks Plumbing and Heating Ltd.** shall ensure the incident is investigated, participate in the investigation and is responsible to report the incident to the Owner Client.

The contractor is required to cooperate fully with **STARKS PLUMBING AND HEATING LTD.**, other contractors and subcontractors performing other work in or near the worksite and must coordinate planning the work with the other contractors to prevent interference with their operations, to share information and to ensure that conflicting activities do not create hazards.

Post-job safety performance reviews will be conducted by **STARKS PLUMBING AND HEATING LTD.** on contractors.

### Contractor Agreement

This agreement made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between Starks Plumbing and Heating Ltd., hereinafter referred to as “The Company” of Medicine Hat, Alberta, and \_\_\_\_\_, hereinafter referred to as “Contractor”.

Starks Plumbing and Heating Ltd. recognizes that the Contractor is an independent contractor and that the work to be performed shall be carried out under his own direction and supervision, and at his own risk.

The Contractor agrees to the following terms and conditions when working on any worksite belonging to The Company:

1. Ten percent (10%) holdback will be maintained on all Contract invoices submitted to The Company. Holdback will be released upon satisfactory and substantial completion of Work on the Project as per agreement and supply of required documents.
2. All Contractor invoicing, complete with applicable supporting documentation, are to be submitted to The Company prior to the twenty-fifth (25<sup>th</sup>) of each month for payment release by the twenty-fifth (25<sup>th</sup>) of the following month. No application for payment will be approved or processed until all documentation, such as insurance certificates, WCB clearance, Company Safety Plan and COR (if available) have been received by Starks Plumbing and Heating Ltd.
3. WCB Requirements  
Prior to commencing Work on the Project, and when requested by The Company, the Contractor shall provide a *Workers' Compensation Board of Alberta* Clearance Letter.
4. Insurance Requirements \$2 Million  
The Contractor shall maintain at his expense:
  - a) Public Liability and Property Damage Insurance with a minimum limit of \$2 million per occurrence
  - b) Owned Vehicle Insurance with a minimum limit of \$2 million
  - c) Non-Owned Vehicle Insurance with a minimum limit of \$2 million
  - d) Equipment InsurancePrior to commencing Work on the Project, the Contractor shall furnish certificate of such insurance to The Company. The certificate shall include the clause “The insurer shall mail to Starks Plumbing and Heating Ltd. 30 days written notice of any material change in or cancellation of these policies”. The policies shall include The Company as an Additional Insured and certificates issued shall list Starks Plumbing and Heating Ltd. as an Additional Insured.
5. Prior to commencing Work on the Project, the Contractor shall provide, to The Company, a copy of their Corporate Safety Plan and, if available, Certificate of Recognition (COR). If there is no safety program in place the Contractor must, at a minimum, follow The Company's policies and procedures.

6. The Contractor shall comply with all federal, provincial, and local government laws and regulations and Starks Plumbing and Heating Ltd. health and safety policies, rules, and procedures, as well as contractor site-specific rules for safety, health and fire protection.
7. The Contractor is required to cooperate fully with Starks Plumbing and Heating Ltd. other contractors performing work in or near the worksite and must coordinate planning the work with the other contractors to prevent interference with their operations, to share information and to ensure that conflicting activities do not create hazards.
8. All Contractor employees will participate in Toolbox / Safety Meetings conducted by The Company for the duration of this project.

**Starks Plumbing and Heating Ltd.**

Albert Stark, President  
(Print)

\_\_\_\_\_  
(Sign)

**Contractor Representative**

\_\_\_\_\_  
(Print)

\_\_\_\_\_  
(Sign)

**CONTRACTOR PRE-QUALIFICATION**

**Starks Plumbing and Heating Ltd.** is committed to a safety program that protects our employees, property, the environment and the general public. Starks Plumbing and Heating Ltd. is also committed to compliance with all applicable federal, provincial and local Legislation.

Our goal is an injury free workplace. We encourage all contractors to help us to achieve this goal through their actions, and to work with us, as an organization, to achieve this safety goal.

<b>Name of Contractor</b>			
<b>Representative</b>			
<b>Telephone Number</b>		<b>Fax Number</b>	
<b>Services Provided</b>			

<b>A. Contractor WCB / Insurance</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
1. Does your company have a WCB account in good standing for all provinces in which your company performs work?			
1.1 Copy of WCB Clearance or letter of good standing?			
1.2 WCB Employer Rate Statement for current year?			
2. Does your company have Commercial Liability Insurance (minimum \$2,000,000)?			
2.1 Certificate of Insurance – Commercial General Liability Insurance?			
2.2 Owned / Non-Owned Vehicle insurance?			
<b>B. Contractor HSE Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
3. Do you have a contact person for health, safety and environmental issues? Name: Phone #:			
4. Do you have a Company Safety Plan? **If Yes, provide copy; if <b>No</b> , go to <b>Section C</b> below**			
5. Does your company have a Certificate of Recognition (COR) or Small Employer COR? Attach copy. Certificate # _____ Expiry Date: _____			

<b>C. If No Safety Plan In Place</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
6. Contractor agrees to adopt Starks Plumbing and Heating Ltd. health and safety program and follow all Company policies and procedures.			

<b>CONTRACTOR APPROVAL</b>	<b>Yes</b>	<b>No</b>
Contractor Acceptable - meets <i>Starks Plumbing and Heating Ltd.</i> requirements		
Conditional Acceptance – additional action required		
Recommendations:		
Rejected – does not meet requirements		

Evaluated by: \_\_\_\_\_ Date: \_\_\_\_\_

## SECTION 14.0 – CODES OF PRACTICE

Codes of Practice are specific Safe Work Practices that are required by Health and Safety Legislation for hazardous work, and normally contain Policies, Procedures, and Practices. The workers and management will develop all Codes of Practice.

### ASBESTOS – CODE OF PRACTICE

**STARKS PLUMBING AND HEATING LTD.** has adopted this policy for the general safety of its workers in accordance with the following Alberta OHS Code and Act:

**AB OHS – Part 4, Sections: 16, 28(a-c), 29(1-3) & 40**

**AB OHS Explanation Guide – Part 4, Sections: 16, 28(a-c), 29(1-3) & 40**

**AB OHS Act, Sections: 30(c) & 33**

**STARKS PLUMBING AND HEATING LTD.** has implemented this policy to inform workers of the written Asbestos plan in the workplace. This plan includes safe work practices to be used to prevent the uncontrolled release of asbestos and procedures to be followed if there is an uncontrolled release. This ensures the health and safety of workers at the work site. **STARKS PLUMBING AND HEATING LTD.** is responsible for ensuring that the following policy for control, training, personal protective equipment and safe work practices is enforced.

#### Potential Encounters

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

Workers may encounter high-risk asbestos exposure in buildings where possible Asbestos-Containing Material (ACM) is present. ACM may be present in buildings in the following:

- Acoustical plaster
- Adhesives
- Asphalt floor tile
- Base flashing
- Blow-in (loose fill) insulation
- Boiler insulation
- Caulking / putties
- Ceiling tiles and lay-in panels
- Cement pipes
- Cement siding
- Cement wallboard
- Construction mastics (floor tile, carpet, ceiling tile, etc.)
- Cooling towers
- Decorative plaster
- Ductwork flexible fabric connections
- Elevator Equipment panels
- Fire doors
- Fireproofing materials
- Flooring backing
- Heating and electrical ducts
- High temperature gaskets
- HVAC duct insulation
- Joint compounds
- Pipe insulation (corrugated air-cell, block, etc.)
- Roofing felt
- Roofing shingles
- Spackling compounds
- Taping compounds (thermal)
- Textured paints / coatings
- Thermal paper products
- Vinyl floor tile

- Electrical cloth
- Electrical panel partitions
- Electrical wiring insulation
- Elevator brake shoes
- Vinyl sheet flooring
- Vinyl wall coverings
- Wallboard

**Note:** *Even where no work is being done to a building, if friable material used as fireproofing or acoustical or thermal insulation has fallen and is being disturbed, ALL WORK involving the material MUST CEASE and the material must be examined to determine whether it is ACM.*

In the event that the material is determined to be ACM the material must be cleaned up and removed. If the material will continue to fall it must be repaired, sealed, removed or permanently enclosed.

### **Definitions**

“Being disturbed” – refers to any activity that may result in the release of fibres into the air.

“Friable material” – friable asbestos is in the form of a powder, or can be crumbled, pulverized or reduced to powder by hand pressure when dry.

### **General Provisions**

**STARKS PLUMBING AND HEATING LTD.** shall:

- 1) Minimize the release of asbestos into the air as far as is reasonably practicable, and
- 2) Keep the worksite clear of unnecessary accumulations of asbestos and waste material containing asbestos

If a building is being altered or renovated, **STARKS PLUMBING AND HEATING LTD.** ensures that materials in the area of the alterations or renovations that could release asbestos fibres are encapsulated, enclosed or removed.

### **Repair**

Repair is the easiest control option when damage to pipe or boiler insulation is limited. Non-asbestos plastering can restore open joints, wrapped or plastered areas that are damaged and areas around valves and flanges.

### **Sealing**

The spray application of a sealant to friable ACM is classified as a Type 3 operation under the regulation and all measures and procedures prescribed for outdoor and indoor Type 3 operations must be followed / complied with when engaging in this type of operation.

Sealants can be used only on granular, cementitious material and applied with airless equipment. A sealant should penetrate the ACM and adhere adequately to the substrate. It should also withstand moderate impact, be flexible and flame retardant, resist deterioration over

time and be non-toxic. Sealants are not recommended for use if the ACM is deteriorated or delaminated or where the ACM may be repeatedly abused.

### **Enclosure**

Enclosure involves the construction of airtight walls and ceilings around the ACM. It is a highly effective method of protecting building occupants from asbestos fibre release if the enclosure is properly constructed. The construction material should be impact-resistant and assembled to be airtight. Suspended ceilings with lay-in panels are not acceptable.

Since fibre release can continue within the enclosure, special procedures have to be established to control access to the enclosure for maintenance and renovation.

### **Removal**

Removal of ACM, if done properly, permanently eliminates the ACM and the potential for exposure. However, if the removal is not done correctly there is a high risk of exposure for the workers carrying out the work and a high risk of contaminating the building.

## **CONTROL OPTIONS FOR DETERIORATING ACM INSULATION**

### **Engineering Controls:**

- **STARKS PLUMBING AND HEATING LTD.** ensures only a person authorized by this Company, or by law to do so, shall enter a restricted area. Signs shall be posted in a conspicuous location at the entrance to and on the periphery of each restricted area, as appropriate, and remain posted until the area is no longer a restricted area. The signs shall clearly indicate that:
  - Asbestos is present in the area,
  - Only authorized persons may enter the area, and
  - Eating, drinking and smoking are prohibited in the area.
- **STARKS PLUMBING AND HEATING LTD.** ensures that asbestos waste is stored, transported, and disposed of in sealed containers that are impervious to asbestos and asbestos waste. Containers of an asbestos product and asbestos waste shall be clearly labeled to identify the contents as an asbestos product and carcinogenic, and to warn handlers that dust from the contents should not be inhaled.
- **Wet work:** Airborne asbestos dust shall be minimized, or reduced by applying water to the process or clean up. Drop sheets made of polyethylene or other suitable material that is impervious to asbestos must be placed so as to control the spread of dust from the work area. Drop sheets must not be reused.
- **Dust control:** Adequate measures shall be taken to ensure that any discharge would not produce health hazards to the outside environment. A vacuum with a high efficiency particle air (HEPA) filter can be used to remove dust from work areas.

- Routinely maintain ventilation systems to keep them in good working condition.

### **Administrative Controls:**

- Air monitoring shall be performed to determine exposures, evaluate engineering controls, selecting respiratory protection, evaluate work practices, and determine the need for medical surveillance.
- Exposure measurements should be made in the worker's actual breathing zone.
- Any appropriate combination of long-term or short-term respirable samples is acceptable.
- Total sampling time shall be at least seven (7) hours.
- Monitoring shall be repeated at least quarterly.
- **STARKS PLUMBING AND HEATING LTD.** ensures that a worker who enters a restricted area that is designated as a restricted area due to the presence of asbestos:
  - (a) has successfully completed a course of instruction approved by a Director of Occupational Hygiene, and
  - (b) has in the worker's possession the original valid certificate of completion of the course issued to the worker.

### **Decontamination**

**STARKS PLUMBING AND HEATING LTD.** must:

- 1) Provide workers in a restricted area with protective clothing that protects other clothing worn by the worker from asbestos contamination,
- 2) Ensure that workers' street clothing is not contaminated by asbestos, and
- 3) Ensure that a worker does not leave a restricted area until the worker has been decontaminated.

**STARKS PLUMBING AND HEATING LTD.** ensures that the methods used to decontaminate the work area, workers, equipment and protective clothing prevents, as much as is reasonably practicable, the generation of airborne asbestos.

### **Training**

**STARKS PLUMBING AND HEATING LTD.** ensures workers who may be exposed to asbestos fibres shall:

- 1) Be informed of the health hazards associated with exposure to this substance
- 2) Receive training in the procedures developed by this Company to minimize the workers exposure, and
- 3) Each worker will be competent in the procedures, when working with or in proximity to Asbestos Containing Material.
- 4) Be informed of measurements made of airborne concentrations of asbestos at the work site.

### **Worker Health Assessments**

**STARKS PLUMBING AND HEATING LTD.** shall conduct a health assessment of the worker who may be exposed to asbestos in compliance with the requirements outlined in Part 4, Section 40 (2) of the Alberta OHS Code. The assessment shall include the following:

- The identity of the worker,
- The date of the medical examination, chest x-ray and spirogram,
- A 35 cm by 43 cm posterior-anterior view chest x-ray, including a radiologist's report,
- A spirogram, conducted by a pulmonary function technician, including determinations of forced expiratory volume in the first second and forced vital capacity,
- A history covering:
  - Occupational exposures to asbestos,
  - Significant exposure to asbestos,
  - Significant symptoms that may indicate silicosis, pneumoconiosis, asbestosis or cancer,
  - Past and current medical diagnoses of respiratory disease, and
  - The worker's smoking history,
- A written interpretation and explanation of the results of the assessment by a physician with particular reference to the worker's exposure to airborne substances.

The assessment physician shall give the written interpretation and explanation of the results of the assessment to the worker:

- Not more than 60 days after the tests are completed, and
- The records of the health assessment shall be kept for not less than 30 years.

**STARKS PLUMBING AND HEATING LTD.** ensures a worker shall undergo a health assessment:

- Not more than 30 calendar days after the worker becomes an exposed worker, and
- Every two (2) years after the first health assessment.

When a worker received a health assessment from a previous employer within the immediate preceding two (2) years, the worker shall:

- Inform **STARKS PLUMBING AND HEATING LTD.** of the date or approximate date of that health assessment at the earliest possible time.

**STARKS PLUMBING AND HEATING LTD.** ensures at all times that an exposed worker has received a health assessment within the immediate preceding two (2) years.

**Note:** Exposed workers may refuse to undergo part or all of a health assessment, by giving this Company a written statement refusing it.

**STARKS PLUMBING AND HEATING LTD.** shall:

- Not coerce, threaten, or force a worker into refusing part or all of a health assessment,
- Pay the cost of the health assessment, medical interpretation and explanation required by legislation, and
- Ensure that, when it is reasonably practicable, a health assessment be performed during normal work hours.

**STARKS PLUMBING AND HEATING LTD.** shall not make deductions from the worker's wages, salary, or other remuneration or benefits for the time an exposed worker:

- Undergoes a health assessment, or
- Travels to and from a health assessment.

### **Health Assessment Records**

**STARKS PLUMBING AND HEATING LTD.** ensures, in regards to the health assessment records, that:

- No person, other than the worker, or health professional who conducts the health assessment, the staff supervised by the health professional, or another person authorized by law to have access, shall have access to the exposed worker's health assessment unless:
- The record shall be in a form that does not identify the worker, or
- The worker shall give written permission for access by another person.

**CONFINED SPACES – CODE OF PRACTICE****CONFINED SPACE ENTRY**

Confined space entries are required for inspections, maintenance, repairs, and cleaning.

**UNPLANNED AND/OR UNCONTROLLED CONFINED SPACE ENTRIES CAN POTENTIALLY BE EXTREMELY HAZARDOUS TO THE HEALTH OF THOSE ATTEMPTING TO EXECUTE THEM. THE PRACTICE OUTLINED HEREIN IS VIEWED AS A MEANS OF PROTECTING THE HEALTH OF THE INDIVIDUAL BY SIGNIFICANTLY REDUCING THE RISK OF ACCIDENTAL INJURY ASSOCIATED WITH ENTERING CONFINED SPACES, AND TO MAKE THE EMPLOYEE AWARE OF THE HAZARDS ASSOCIATED WITH THE WORK AND THE SAFE PRACTICES NECESSARY TO DEAL WITH THESE HAZARDS. EMPLOYEES MUST UNDERSTAND AND APPLY THE HEALTH AND SAFETY PRINCIPLES WHICH ARE FUNDAMENTAL TO THE PROPER IMPLEMENTATION OF THIS CODE OF PRACTICE.**

**STARKS PLUMBING AND HEATING LTD.** has implemented this policy to ensure that our workers are familiar with the legislation for confined spaces. This policy is available to all employees upon request.

**DEFINITION**

Confined Space means a restricted space - an enclosed or partially enclosed space, not designed or intended for continuous human occupancy, having a restricted, limited, or impeded means of entry or exit because of its construction - that may become hazardous to a worker entering it due to:

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

Examples of confined spaces may include (but are not limited to):

- Crawlspace
- Ducts
- Excavations
- Exchangers
- Pipelines
- Piping Systems
- Sewers
- Some components of major equipment
- Tanks
- Utility manholes
- Vessels

## **HAZARD ASSESSMENT**

If a worker will enter a confined space to work, a competent person(s) will be assigned to prepare a written, dated document which will:

- Identify existing or potential hazards to which the worker is likely to be exposed while in the confined space.
- Specify the type and frequency of inspections and tests necessary to determine the likelihood of worker exposure to any of the identified hazards.
- Specify who will perform the inspections and tests identified.
- Specify the safety and personal protective equipment required to perform the work.
- 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.
- Identify emergency evacuation and communication requirements.

Where reasonably practical, the affected workers shall be involved in the hazard assessment and in the control or elimination of the hazards identified.

## **SAFETY AND PROTECTION**

### **EMPLOYER RESPONSIBILITIES**

An employer must ensure that:

- The safety and personal protective equipment required is available to workers entering a confined space.
- A worker who enters, occupies or leaves a confined space uses the safety and personal protective equipment.
- The personal protective, emergency and rescue equipment required is available to workers undertaking rescue operations in a confined space.
- A communication system is established that is readily available to workers in a confined space and is appropriate to the hazards.
- Workers in a confined space are protected from hazards created by traffic in the vicinity of the confined space.
- Workers affected by the hazards identified in the hazard assessment report will be informed of the hazards and the methods used to control or eliminate the hazards.

An employer must ensure that all personal protective equipment (PPE) and emergency equipment required for use in a confined space is inspected by a competent person before workers enter the confined space to ensure the equipment is in good working order.

- Each employee is responsible for inspection of his or her basic PPE; documentation of inspection will be recorded on a sign out list.
- Employer shall ensure specialized PPE and emergency equipment will be inspected and maintained as per manufacturer's specifications, and a record shall be kept by the responsible Department.

An employer must ensure that written records of the inspections required by legislation are retained.

### **PERSONAL PROTECTIVE EQUIPMENT**

Mandatory PPE required for all work in Confined Spaces includes, but is not limited to:

- Flame retardant coveralls
- Safety footwear
- Hard hat
- Safety glasses
- Intrinsically safe flashlight and gloves
- Hearing protection (if deemed necessary by Hazard Assessment)
- 4 head gas monitor (Methane, CO, Air, H<sub>2</sub>S)
- Work Alone SPOT II Personal Tracker
- Other PPE as required by Hazard Assessment

### **TRAINING AND DOCUMENTATION**

**STARKS PLUMBING AND HEATING LTD.** ensures that all workers assigned duties related to confined space entry shall be trained by a competent person in recognizing hazards associated with working in confined spaces, and performing the worker's duties in a safe and healthy manner.

Workers responding to a confined space emergency shall be competent in the following:

- first aid
- the use of appropriate emergency response equipment
- procedures appropriate to the confined space.

**STARKS PLUMBING AND HEATING LTD.** shall retain records of all training provided.

### **PROTECTION – HAZARDOUS SUBSTANCES AND ENERGY**

An employer must ensure that workers within a confined space are protected by means of positive isolation against the release of hazardous substances or energy that could harm them.

An employer must ensure that a worker does not enter a confined space unless adequate precautions are in place to protect a worker from drowning, engulfment or entrapment.

### **UNAUTHORIZED ENTRY**

No person shall enter a confined space unless adequately trained and authorized by this Company.

### **TESTING THE ATMOSPHERE**

If the hazard assessment identifies a potential atmospheric hazard and a worker is required or authorized by an employer to enter the confined space, the employer must ensure that a competent worker performs a pre-entry atmospheric test of the confined space to:

- Verify that the oxygen content is between 19.5 percent and 23 percent by volume.
- Identify the amount of toxic substance.
- Identify the amount of flammable or explosive substance that may be present.

The employer must ensure that the testing required is performed using calibrated test instruments appropriate for the atmosphere being tested and the instruments are used in accordance with the manufacturer's specifications.

**Note:** The results of this test shall be recorded on the entry permit itself or other document specifically for this purpose.

The employer must ensure that as often as necessary after the first time a worker enters the confined space, a competent worker:

- Performs and records the tests, and
- Identifies and records any additional hazards.

If tests identify additional hazards, the employer must control or eliminate the identified hazards. Any additional hazards identified must be included in the original hazard assessment.

### **VENTILATION AND PURGING**

- If the atmospheric testing identifies that a hazardous atmosphere exists or is likely to exist in a confined space, an employer must ensure that the confined space is ventilated, purged or both before a worker enters the confined space.
- If ventilating or purging a confined space is impractical or ineffective in eliminating a hazardous atmosphere, the employer must ensure that a worker who enters the confined space uses personal protective equipment appropriate for the conditions within the confined space.
- If mechanical ventilation is needed to maintain a safe atmosphere in a confined space during the work process, an employer must ensure it is provided and operated as needed.
- If mechanical ventilation is required to maintain a safe atmosphere in the confined space, the employer must ensure that:
  - The ventilation system incorporates a method of alerting workers to a failure of the system so that workers have sufficient time to safely leave the confined space, and
  - All workers must evacuate a confined space or use an alternative means of protection if a ventilation system fails.

### **INERTING**

- An employer must ensure that a confined space is 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, an employer must ensure that:
  - Every worker entering the confined space is equipped with supplied air respiratory protection equipment.
  - All ignition sources are controlled.
  - The atmosphere within the confined space stays inerted while workers are inside.

### **CLASSIFICATION OF CONFINED SPACE LEVELS**

To reflect the relative hazards, and to ensure a consistent approach, confined space entries have been classified into Class A, Class B and Class C. The classification of entry shall be based on the conditions present at the time of entry with consideration for potential changes of conditions as identified in the hazard assessment.

#### **CLASS A**

A confined space will be considered Class A if the entry is either the first or initial entry or *any* of the following applies:

- The hazards in the confined space or in its proximity are either not known or have not been determined
- The hazards in the confined space include one or all of the following:
  - Oxygen concentration is less than 19.5% or more than 23% by volume.
  - Explosive or flammable atmosphere between 10% and 20% Lower Explosive Limit (“LEL”).
  - The area atmosphere exceeds the protective limits of air purifier respiratory equipment.

The following controls must be put in place for a “Class A” classified area:

- Will require an approved hazard assessment.
- Supplied breathing air available and worn.
- All Entrants and Monitors must be trained in the use of supplied breathing air equipment.
- A Confined Space Monitor in attendance at all times.
- A specific Rescue Plan which has been reviewed and approved.
- A valid Confined Space Entry Permit.
- A valid Class A Entry Tag hung at each entrance.
- An Evacuation Procedure.

Note: Any time a Class A entrance is left unattended the entrance must be barricaded physically and a “*Danger, Do Not Enter*” sign hung at the entrance.

#### **CLASS B**

A confined space will be considered “Class B” if all identified hazards are controlled and the following applies:

- Oxygen concentration is between 19.5% and 23% by volume; and
- Either of the following exists or is likely to exist:
  - Explosive or flammable atmosphere, less than 1% of the Lower Explosive Limit (of 10% LEL).

- Or the concentration of toxic substances exceeds 50% of the Occupational Exposure Limit (“OEL”).

The following controls must be put in place for a “Class B” classified area:

- Will require an approved hazard assessment.
- A Confined Space Monitor in attendance at all times (see note below).
- A valid Confined Space Entry Permit.
- A valid Safe Entry Tag hung at each entrance.
- An Evacuation Procedure.
- A valid Rescue Plan.

### **CLASS C**

A confined space will be considered “Class C” if all identified hazards are controlled, the potential for change is unlikely, and *all* of the following apply:

- Oxygen concentration is between 19.5% and 23% by volume.
- Concentration of explosive gases is less than 1% of LEL
- Airborne concentration of toxic substances is less than 50% of OEL.

The following controls must be put in place for a “Class C” classified area

- Will require an approved hazard assessment.
- A Confined Space Monitor may be required.
- A valid Confined Space Entry Permit.
- A valid Safe Entry Tag hung at each entrance.
- An Evacuation Procedure.
- A valid Rescue Plan.

**Note: If the hazard assessment determines that a Confined Space Monitor is not required at the point of entry, a competent worker must be designated to be in communication with worker(s) in a confined space (e.g. co-worker, buddy system). The entry log must still be maintained.**

### **ENTRY PERMIT AND TAG SYSTEM**

#### **ENTRY PERMIT**

A person must not enter a confined space without a valid entry permit.

An employer must establish an entry permit system for a confined space that:

- Maintains a list of the names of each worker who enters the confined space.
- Gives the location of the confined space.
- Specifies the time during which an entry permit is valid.
- Takes into account the work being done in the confined space.
- Takes into account the code of practice requirements for entering, being in and leaving a confined space.
- Ensures all required documents are collected and maintained for retention.

An employer must ensure that, before a worker enters a confined space, an entry permit is properly completed, signed by a competent person and a copy kept readily available at the confined space location.

### **ENTRY TAG**

Before any permit is issued for entry to a confined space, an Entry Tag must be completed and will contain the following information as a minimum:

- Equipment number, identification or description.
- Entry level Class (A, B or C).
- Checks completed (gas tests, temperature, cleanliness, etc.).
- Frequency of subsequent tests.
- Personal protective equipment required for entry.
- Name and signature of tester.
- Date and time of initial tests.
- On the reverse of the tag signature and time of subsequent retests will be recorded.

#### **Class A Entry Tag**

A red safe entry tag shall be used to identify the space as being Immediately Dangerous to Life and Health (IDLH).

#### **Class B & C Entry Tag**

A yellow safe entry tag shall be used.

### **SIGNAGE FOR CONFINED SPACE**

Whenever an entrance to a confined space is left unattended three (3) types of signs are used as indications of the status of the space and the requirements for entry.

#### **1) *DANGER, DO NOT ENTER:***

This sign overrides all other signs at entrances to confined spaces. When it is placed NO ONE is to enter the space under any circumstances. This sign will be placed if an event occurs that could compromise the conditions in a confined space.

If entry is required operations personnel must be contacted to evaluate the situation, test the atmosphere of the space and remove the sign if everything meets the standards to enter and work.

For Class A entries the "*DANGER, DO NOT ENTER*" sign must be hung at the entrances every time the space is left unattended.

#### **2) *CONFINED SPACE MONITOR AND PERMIT REQUIRED FOR ENTRY:***

This sign is used to signify that a space is safe to enter PROVIDED that the people authorized to enter have a valid permit to work and that there is a Confined Space Monitor present at the entrance when they enter.

This sign can be removed by the Confined Space Monitor provided all the permit criteria are met and the Safe Entry Tag is valid and current. When the Confined Space is left unattended, provided the status of the confined space has not changed, this sign must be hung at the entrance by the Confined Space Monitor when leaving.

### **3) *CONFINED SPACE PERMIT REQUIRED FOR ENTRY:***

This sign must be used on a Class C entry, where a Confined Space Monitor is not required, to indicate that although there is a Safe Entry Tag on it, the space can only be entered with a valid permit.

### **CONFINED SPACE MONITOR**

#### **CLASS A & B ENTRY:**

For every Class A and B confined space entry, a Confined Space Monitor will be assigned. The Confined Space Monitor will:

- Be capable and equipped to summon rescue personnel, if required. A means of communication is mandatory.
- Be in communication or visual contact with personnel inside the confined space at all times.
- Initiate evacuation as necessary, and ensure proper signage is posted at the entrance(s) to the confined space.
- NEVER leave the entry to the confined space with people inside unless properly relieved by another certified monitor.
- NEVER enter the confined space for any reason.
- After verifying all personnel have exited the confined space, ensure correct signage is in place prior to leaving the confined space entrance(s) unattended (e.g. breaks and end of shift).
- Control the number of personnel allowed in the confined space, as identified by hazard assessment.
- Maintain a Confined Space Entry and Exit log for the duration of the job. Entry and exit logs must be safely stored for record retention purposes.
- Ensure Entry and Exit points are kept clear and clean.
- Maintain awareness of potential hazards in the vicinity of the confined space that may affect the health and safety of the worker(s) inside.

#### **CLASS C ENTRY**

Class C entries may require a Confined Space Monitor as determined by the hazard assessment. If a Confined Space Monitor is not deemed necessary a competent worker designated by the employer must be in communication with the worker(s) in a confined space.

#### **SAFE MEANS OF ENTRY AND EXIT**

**STARKS PLUMBING AND HEATING LTD.** ensures that a procedure for a safe means of entry and exit shall be available to all workers required to work in a confined space and to rescue personnel attending to the workers. These methods to ensure safety include, but are not limited to:

- secured steps,
- temporary platforms and handrails (may be suitable in certain circumstances), and
- ensuring the area is free from traffic hazards.

For all Class A and B entries, and when there is a Confined Space Monitor on a Class C entry, all personnel who enter the confined space will sign in the Safe Entry Tag outside the space clipped to the ring or board provided at the entrance. Personnel are expected to enter and leave a confined space by the same entrance. If this is not possible, then they must return to their point of entry to sign out the Safe Entry Tag and inform the Confined Space Monitor as soon as they exit the confined space.

**Note: This tracking method is not required when all personnel are visible at all times**

### **CONFINED SPACE EMERGENCY RESPONSE**

#### **RULES**

An employer must ensure that a worker does not enter or remain in a confined space unless an effective rescue can be carried out.

A worker must not enter or stay in a confined space unless an effective rescue can be carried out.

The worker must refuse to do work where on reasonable and probable grounds, an unsafe condition exists or may be caused to exist.

An employer must ensure that the emergency response plan includes the emergency procedures to be followed if there is an accident or other emergency, including the procedures in place to evacuate the confined space immediately:

- When an alarm is activated.
- If the concentration of oxygen inside the confined space drops below 19.5 percent by volume or exceeds 23 percent by volume; or;
- If there is a significant change in the amount of hazardous substances inside the confined space.

An employer must ensure that an effective means of communication is in place to summon emergency response.

#### **RETAINING RECORDS**

An employer must ensure that all records with respect to entry and work in a confined space, including entry permits, safe entry tags and entry/exit logs are retained for not 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.

**CONFINED SPACE ENTRY PROCEDURE**

**\*\*This procedure is to be used only if all hazards identified in the confined space have been eliminated, isolated, or otherwise controlled so as not to expose entrants to additional risk.\*\***

1. A JOB HAZARD ASSESSMENT MUST BE COMPLETED PRIOR TO ANY CONFINED SPACE ENTRY WORK
2. A CONFINED SPACE ENTRY CODE OF PRACTICE CHECKLIST must be completed and authorized
3. APPROPRIATE PERMITS (I.E. CONFINED SPACE ENTRY PERMIT AND/OR HOT WORK PERMIT) MUST BE COMPLETED AND POSTED
4. The Departmental Supervisor must be aware of the Confined Space Entry and present for the Code of Practice Checklist completion. The Confined Space Entry Code of Practice Checklist must be reviewed and authorized by the Safety Coordinator prior to permit authorization.
5. Personal Protective Equipment must be present and procedural requirements for entry must be readily available.
6. There must be established communication between entrants and personnel outside the confined space. A "SAFETY WATCH" must be posted at all times!
7. Atmospheric testing must be conducted in sub-grade areas or areas where traffic or similar fumes may migrate into the space. Atmospheric testing results must be recorded on the Permit.
8. Should conditions arise that may affect the health or safety of personnel inside the space, the space must be evacuated and the Department Supervisor must reassess the confined space and re-evaluate the entry procedure.
9. All Permits must be closed out at the end of every shift.

## FALL PROTECTION

**STARKS PLUMBING AND HEATING LTD.** shall take appropriate measures to protect workers from potential injury resulting from a fall from a temporary or permanent elevated work location if a worker could fall 3 meters or more or if there is an unusual possibility of injury from a fall that is less than 3 meters.

Personnel will be trained when required; as to the fall protection plan and to the inspection, safe use, maintenance, and assembly of the fall protection system provided by **STARKS PLUMBING AND HEATING LTD.** Written training records will be kept.

### Determining the Fall Distance

The 3 meter fall distance is measured from the point on the platform, stair, or working surface from which a worker may fall. It is usually measured from the position of the feet where the worker is standing, to a lower level. Lower levels include, but are not limited to, those areas or surfaces to which a worker can fall such as: ground levels, floors, platforms, ramps, runways, excavations, pits, tanks, material, water, equipment, and structures.

A fall protection plan is needed when there is a potential to fall more than 3 meters and/or guard rails are not provided. A full body harness **must** be worn by personnel working 3 meters (9.84 ft) above the ground and they must be tied off using a safety line (lanyard). Examples of fall hazards at **STARKS PLUMBING AND HEATING LTD.** are working atop the tank of vacuum trucks and tanker trucks. Workers are discouraged from climbing on the top of tanks however, at times during the course of work it may be necessary for workers to engage in this procedure. The safe work practices established in this fall protection plan must be followed.

### Fall Protection Systems

The OHS Code defines a fall protection system as:

- a) a personal fall arrest system
- b) a travel restraint system
- c) a safety net
- d) a control zone
- e) another system approved by a Director of Inspection

Fall protection systems will meet or exceed the criteria set forth by the latest revision of the Occupational Health and safety act for that region.

Equipment used as part of a fall protection system must be:

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

Equipment used as part of a fall protection system is to be removed from service and either returned to the manufacturer or destroyed if:

- a) it is defective, or

- b) it has come into contact with excessive heat, a chemical, or any other substance that may corrode or otherwise damage the fall protection system.

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

## **Procedure**

### **1. Request Pre-Job Meeting**

- To discuss if the need for fall protection could be managed or engineered out. PPE must be the last resort.
- The meeting should be held well enough in advance of the work, to allow for the sourcing of the right labour, equipment, material and for proper planning to take place.

### **2. Conduct Site Specific Hazard Assessment**

- Look for any sharp protruding objects or sharp edges, or any objects below that might be in fall path.
- Choose an anchor point that will hold your weight load on the fall protection system.
- If the anchor point has not been engineered it must be able to hold 5000lbs shock load.
- Take any kind of swing fall into consideration when picking an anchor point. Consider the area below; is it a high traffic route?

### **3. Review Existing or Develop a Fall Protection Plan Including:**

- The fall hazard(s) at the worksite.
- The fall protection system to be used at the site. Use only fall protection equipment that meets the standards referenced in applicable legislation.
- The procedure to assemble, maintain, inspect, use and disassemble the fall protection system.
- Workers must be competently trained in the fall protection plan and the safe use, care and limitations of a fall protection system before they are allowed to carry out any tasks at heights.
- The rescue procedure to be used if a worker falls, and is suspended by a personal fall protection system or a safety net and requires a rescue.
- Fall protection plan must be readily available and posted at worksite before any working at heights work begins.

### **4. Communicate Task and Hazards**

- Determine if/when a Safe Work Permit is required
- Determine what type of Safe Work Permit required for task
- Follow Safe Work Permit requirements
- Conduct Pre-Job Safety Meeting
- Define the scope of the work in general terms
- Review the specific worksite hazards and intended controls
- Review work restrictions and limits
- Review the Fall Protection Plan in full

## 5. Install Hazard Controls

- Install all signage, barriers, and ribbons needed to control area below
- Inspect and maintain all fall protection equipment prior to installation or use by the worker on each work shift. If fall protection equipment is defective or destroyed it must be removed from service immediately.
- Install all safeguards
- Install rated anchor equipment
- Don fall protection system

## Equipment Standards

All equipment identified for use in fall protection will be in compliance with the Saskatchewan OH&S regulations and applicable CSA standards. All CSA requirements will be met.

- CSA Z259.10-M90 (R1998)-Full Body Harnesses
- CSA-Z259.1-95, Safety Belts and Lanyards,
- CSA-259.1-95 (R1999), Safety Belts and Lanyards,
- CSA-Z259.11-M92 (R1998), Shock Absorbers for Personal Fall Arrest Systems,
- CSA Standard Z259.12-01, Connecting Components for Personal Fall Arrest Systems (PFAS),
- CSA Z259.2.1-98 Fall Arresters, Vertical Lifelines and Rails,
- CSA Z259.2.-98, Self Retracting Devices for Personal Fall Arrest Systems, and,
- CSA Z259.2.3-99, Descent Control Devices,
- CSA-Z259.2.1-98, Fall Arrestors, Vertical Lifelines, and Rails
- CSA Z259.14-01, Fall Restrict Equipment for Wood Pole Climbing.

**RESPIRATORY PROTECTIVE EQUIPMENT CODE OF PRACTICE**

Operations of **STARKS PLUMBING AND HEATING LTD.** may involve the risk of sudden and violent release of dust, mist, vapors and contaminants from handling chemicals which are either hazardous to health or potentially fatal. The industry has developed Codes of Practice with respect to the risks associated with this hazard. In general these include the use of detection equipment, respiratory masks and self-contained breathing apparatus. It is the responsibility of each supervisor and worker to be aware of risks related to respiratory hazards and to be prepared to enforce regulations and Company Codes of Practice.

- **WHENEVER POSSIBLE RESPIRATORY HAZARDS IN THE WORKPLACE WILL BE CONTROLLED THROUGH ADEQUATE VENTILATION. WHEN IT IS NOT PRACTICAL TO CONTROL WORKER EXPOSURE TO AIRBORNE CONTAMINANTS THROUGH THIS METHOD EMPLOYEES MUST WEAR APPROVED RESPIRATORY PROTECTION.**
- **STARKS PLUMBING AND HEATING LTD.** will provide workers and contractors with adequate RPE that is NIOSH approved and in accordance with the *CSA Standard Z94.4-02, Selection, Use, and Care of Respirators*.
- It is mandatory that workers and contractors shall wear approved respiratory protective equipment (RPE) if:
  - a) they are or may be exposed to an airborne contaminant or a mixture of airborne contaminants in a concentration exceeding their occupational limits
  - b) the atmosphere has or may have an oxygen concentration of less than 19.5 % by volume
  - c) they are or may be exposed to an airborne bio-hazardous material
- Employees and contractors that may be required to use a self contained breathing apparatus must be trained in the operation, maintenance, cleaning and storage of the apparatus.
- **STARKS PLUMBING AND HEATING LTD.** will ensure that where a tight fit is essential to the proper functioning of the respiratory protective device, it is the proper size and makes an effective facial seal to prevent the worker being exposed to an extent that may pose a risk of significant harm to the worker.
- Employees and contractors who require such respiratory protection will receive a fit test every two years by a competent person to ensure that their equipment is continually effective for them.
- The Company will maintain records of fit test results and worker instruction and training.
- RPE shall be inspected before and after each use. If not used routinely, the equipment shall be inspected at least monthly.

**Self Contained Breathing Apparatus**

Where a worker or contractor is required to enter an atmosphere that is immediately dangerous to the life or health of the worker (IDLH), **STARKS PLUMBING AND HEATING LTD.** ensures that they are provided with and use a self-contained breathing apparatus or an air line respirator that:

- Provides full-face protection in situations where contaminants may irritate or damage the eyes.
- Is of a type that will maintain positive pressure in the face piece
- Has a capacity of at least 30 minutes unless the employer's hazard assessment indicates the need for a greater capacity

- In the case of a self-contained breathing apparatus, has an alarm warning of low pressure
- In the case of an air line respirator, is fitted with an auxiliary supply of respirable air of sufficient quantity to enable the worker to escape from the area in an emergency

### **Respiratory Masks**

When the inhalation of harmful airborne contaminants could be injurious to the health of a worker, it is mandatory that respiratory masks shall be worn as per the product Material Safety Data Sheet.

The two main types of respirators are air-purifying respirators (APRs) and supplied-air respirators (SARs).

APRs can remove contaminants in the air that is breathed by filtering out particulates (e.g., dusts, fumes, mists, etc.). Other APRs purify air by adsorbing gases or vapors on a sorbent (adsorbing material) in a cartridge or canister.

SARs supply clean air from a compressed air tank or through an airline. This air is not from the work environment area. All air supply used in a self-contained breathing apparatus or an air line respirator:

- a) Is of a quality that meets the requirements of Table 1 of FSA Standard Z180.1-00 (R2005)
- b) Does not contain a substance in a concentration that exceeds 10 % of its occupational exposure limit

This category of respirators includes the SCBA and SABA respirators. It is the policy of **STARKS PLUMBING AND HEATING LTD.** to rent supplied air respiratory equipment in the rare event that this type of RPE would be required.

**STARKS PLUMBING AND HEATING LTD.** ensures that RPE kept ready to protect a worker is:

- a) Stored in a readily accessible location
- b) Stored in a manner that prevents it's contamination
- c) Maintained in a clean and sanitary condition
- d) Inspected before and after each use to ensure it is in satisfactory working condition
- e) Inspected at least once a month by a competent person to ensure that they are in satisfactory working condition.
- f) Serviced and used in accordance with the manufacturer's specifications.

**STARKS PLUMBING AND HEATING LTD.** will consider:

- a) The nature and exposure circumstances of any contaminants or bio-hazardous material
- b) The concentration or likely concentration of any airborne contaminants
- c) The duration or likely duration of the worker's exposure
- d) The toxicity of the contaminants
- e) The concentration of oxygen
- f) The warning properties of the contaminants
- g) The need for emergency escape.

**STARKS PLUMBING AND HEATING LTD.** ensures that any worker is medically fit to use a respirator without serious difficulty. The use of a respirator may place a physiological or psychological burden on a person that depends on:

- a) The health of the person
- b) The type of respirator worn
- c) The job and workplace conditions in which the respirator is used.

#### Cleaning and Maintenance

- Inspect self-contained breathing apparatus (SCBA) units prior to each use.
- A worker 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* before each use of a respirator which requires an effective seal with the face for proper functioning. Test and clean after each use.
- Inspect SCBA equipment at least monthly if not in use.
- Regular inspections and maintenance is to be done for all respiratory protection.
- Inspections on all RPE are to be recorded and must include the date of inspection, the name of the person who made the inspection, and any defects identified during the inspection. This documentation is to be displayed at the location where the RPE is stored. Any defects which have been identified must be corrected immediately by a competent person.
- Do not mix parts from different manufactures.
- Respiratory protection must be stored in a sanitary location and not be exposed to any contaminants or to extreme temperatures.

#### Face piece

- Disconnect face piece from the breathing apparatus. Wash alone in warm, soapy water.
- Rinse the water through the face piece by placing the palm of the hand over the breathing tube connector on the exhalation valve body.
- Remove excess water with a paper towel or lint-free cloth.
- Allow to air dry.
- Check for tears in the rubber.
- Check head strap for deterioration.
- Examine lens for cracks or excessive scratching.
- Check rings and clamps securing the lens for bends or bulges in the metal.
- Check the exhalation valve. Block the air intake openings and exhale gently. If the valve is not working properly, a heavy blow-by will be felt at the temples. Inhale and a partial vacuum will be formed.
- Do not mix demand and pressure demand face pieces and regulators.

#### Regulator

- Check the regulator, breathing tube-threads, pressure gauge and bypass and mainline valves for impact damage.
- Store with the cylinder valve completely closed.
- Bleed off air remaining in the regulator after each use.

#### Breathing Tube

- Stretch the breathing tube and check for cracks, tears and punctures.
- Check gaskets.

- Check clamps and rings to ensure that they are tight, properly located, and are not dented or excessively corroded.

### **High Pressure Hose**

- Check the hose for cuts, bubbles and abrasions.
- Check the fitting between the high-pressure hose and the regulator for damage or irregularities.
- 

### **Audible Alarm**

- Check the audible alarm for damage.
- Clean belts.
- Ensure that the alarm is working. If the alarm does not go off when the pressure reaches 20 - 25% of service time, the unit is defective. Remove from service.

### **Backpack**

- Inspect the straps of the backpack for excessive wear, broken stitches, and damaged or missing hardware.

### **Cylinder**

- Ensure recent hydrostatically tested. Read the date stamp.
- Inspect for cuts or gauges which can cause unraveling of the overwrap, if so equipped.
- Check unwrapped cylinders for impact damage.
- Check for evidence of exposure to heat. Look for discolored paint or melted gauge lens.

### **Remainder of Unit**

- Remove backpack, cylinder and regulatory assembly.
- Clean with soapy water.
- Wipe the regulator, high-pressure hose, audible alarm, air cylinder, backpack and harness with a damp cloth.
- Dry with a cloth.
- Record all maintenance in appropriate logbook.

## **SAFETY DEVICES**

Safety valves, governors, automatic cutouts, fuses, guards and similar devices are installed for the protection of equipment and prevention of injuries. The following rules apply:

- Do not alter or tamper with these devices in any way.
- Do not attempt to repair or adjust safety devices unless fully authorized.
- Do not operate machinery unless all the guards are in place.
- Do not remove guards without permission.
- Replace all guards before returning the equipment to service.

## SILICA – CODE OF PRACTICE

### General

**STARKS PLUMBING AND HEATING LTD.** has adopted this policy for the general safety of its workers in accordance with the following Alberta OHS Code and Act:

**AB OHS – Part 4, Sections: 16, 28(a-c), 29(1-3) & 40**

**AB OHS Explanation Guide – Part 4, Sections: 16, 28(a-c), 29(1-3) & 40**

**AB OHS Act, Sections: 30(c) & 33**

**STARKS PLUMBING AND HEATING LTD.** has implemented this policy to inform workers of the written Silica plan in the workplace. This ensures the health and safety of workers at the work site. **STARKS PLUMBING AND HEATING LTD.** is responsible for ensuring that the following policy for control, training, personal protective equipment and safe work practices is enforced.

### Potential Encounters

**STARKS PLUMBING AND HEATING LTD.** ensures that a worker's exposure to silica is kept as low as reasonably achievable. Employees must not be exposed to airborne concentrations of silica that exceed its occupational exposure limit. Atmospheric testing results should be assessed before a worker is exposed.

The potential to be exposed to silica dust in various levels includes the following:

- Construction: Sand blasting, rock drilling, masonry work, jack hammering, tunnelling
- Mining: Cutting or drilling through sand stone or granite
- Foundry work: Grinding, mouldings, shakeout, core room
- Stone cutting: Sawing, abrasive blasting, chipping, grinding
- Glass manufacturing
- Agriculture
- Railroads: Setting and laying track
- Manufacturing and use of abrasives
- Manufacturing of soaps and detergents
- Shipyards: Abrasive blasting
- Rock crushing and transport: Sand and gravel operations
- Demolition of concrete and masonry structures
- Dry sweeping or pressured air blowing of concrete or sand dust
- Cement and asphalt paving manufacturing: Concrete mixing, tunnelling, and cutting
- Paper and pulp mills: Repair or replacement of linings of rotary kilns
- Food processing operations: Preparing crops for market, sorting, grading, and washing

Workers may encounter high-risk silica exposures through the following, and are at risk of overexposure to crystalline silica:

- Sandblasting, rock drilling, and mining
- Workers who remove paint and rust from buildings, bridges tanks, and other surfaces
- Clean founding castings
- Work with stone or clay
- Etch or frost glass; and
- Work in construction

### **Decontamination**

**STARKS PLUMBING AND HEATING LTD.** must:

- 1) Provide workers in a restricted area with protective clothing that protects other clothing worn by the worker from silica contamination,
- 2) Ensure that workers' street clothing is not contaminated by silica, and
- 3) Ensure that a worker does not leave a restricted area until the worker has been decontaminated.

**STARKS PLUMBING AND HEATING LTD.** ensures that the methods used to decontaminate the work area, workers, equipment and protective clothing prevents, as much as is reasonably practicable, the generation of airborne silica.

### **Training**

**STARKS PLUMBING AND HEATING LTD.** ensures workers who work with or in proximity to silica dust shall:

- 5) Be informed of the health hazards associated with exposure to this substance
- 6) Receive training in the procedures developed by this Company to minimize the workers exposure, and
- 7) Each worker will be competent in the procedures, when working with or in proximity to silica dust.

### **Code of Practice**

When **STARKS PLUMBING AND HEATING LTD.** meets the requirements it shall establish and maintain a code of practice when:

- 1) A pure substance in an amount exceeding ten (10) kilograms, or
- 2) In a mixture in which the amount of the substance is more than ten (10) kilograms and at a concentration of 0.1% by weight or more at a worksite.

The code of practice shall include when required:

- 1) Practical guidance on the requirements of legislation, or the adopted code applicable to the worksite, and
- 2) Safe working procedures in respect of the worksite, and other matters required by a Director, legislation or adopted code.

### **General Provisions**

**STARKS PLUMBING AND HEATING LTD.** shall:

- 3) Minimize the release of silica into the air as far as is reasonably practicable, and
- 4) Keep the worksite clear of unnecessary accumulations of silica and waste material containing silica

STARKS PLUMBING AND HEATING LTD. shall implement appropriate controls for dusts containing crystalline silica.

### Engineering Controls:

- **Wet work:** Airborne silica dust shall be minimized, or reduced by applying water to the process or clean up. When sawing or drilling concrete or masonry use saws/drills that provide water to the blade.
- **Isolation:** Use containment methods such as, blast-cleaning cabinets when sandblasting. Cabs of vehicles or machinery cutting or drilling through rock that might contain silica should be enclosed and sealed.
- **Ventilation:** Use local exhaust systems to remove silica dust from industrial processes. Dilution ventilation may be used to reduce the silica dust concentration to below the PELs in large areas.

Adequate measures should be taken to ensure that any discharge would not produce health hazards to the outside environment. A dust collector should be set up so that accumulated dust can be removed without contaminating work areas.

Routinely maintain ventilation systems to keep them in good working condition.

- **Dust control:** A vacuum with a high efficiency particle air (HEPA) filter can be used to remove dust from work areas.
- **Substitute with less hazardous materials:** Do not use silica sand or other substances containing more than 1% crystalline silica as abrasive blasting materials.

### Administrative Controls:

- **Air monitoring:** Air monitoring shall be performed to determine exposures, evaluate engineering controls, selecting respiratory protection, evaluate work practices, and determine the need for medical surveillance.

Exposure measurements should be made in the worker's actual breathing zone.

Any appropriate combination of long-term or short-term respirable samples is acceptable.

Total sampling time shall be at least seven (7) hours.

Monitoring shall be repeated at least quarterly.

STARKS PLUMBING AND HEATING LTD. ensures only a person authorized by this Company, or by law to do so, shall enter a restricted area.

This Company shall post signs that clearly indicate that:

- Silica is present in the area,
- Only authorized persons may enter the area, and
- Eating, drinking and smoking are prohibited in the area.

Signs shall be posted in a conspicuous location at the entrance to and on the periphery of each restricted area, as appropriate, and remain posted until the area is no longer a restricted area.

### Health Assessment Records

STARKS PLUMBING AND HEATING LTD. ensures, in regards to the health assessment records, that:

- No person, other than the worker, or health professional who conducts the health assessment, the staff supervised by the health professional, or another person authorized by law to have access, shall have access to the exposed worker's health assessment unless:
- The record shall be in a form that does not identify the worker, or
- The worker shall give written permission for access by another person.

### **Worker Health Assessments**

**STARKS PLUMBING AND HEATING LTD.** shall conduct a health assessment of the worker who may be exposed to silica; the assessment shall include the following:

- The identity of the worker,
- The date of the medical examination, chest x-ray and spirogram,
- A 35 cm by 43 cm posterior-anterior view chest x-ray, including a radiologist's report,
- A spirogram, conducted by a pulmonary function technician, including determinations of forced expiratory volume in the first second and forced vital capacity,
- A history covering:
- Occupational exposures to silica,
- Significant exposure to silica,
- Significant symptoms that may indicate silicosis, pneumoconiosis, silicosis or cancer,
- Past and current medical diagnoses of respiratory disease, and
- The worker's smoking history,
- A written interpretation and explanation of the results of the assessment by a physician with particular reference to the worker's exposure to airborne substances.

The assessment physician shall give the written interpretation and explanation of the results of the assessment to the worker:

- Not more than 60 days after the tests are completed, and
- The records of the health assessment shall be kept for not less than 30 years.

**STARKS PLUMBING AND HEATING LTD.** ensures a worker shall undergo a health assessment:

- Not more than 30 calendar days after the worker becomes an exposed worker, and
- Every two (2) years after the first health assessment.

When a worker received a health assessment from a previous employer within the immediate preceding two (2) years, the worker shall:

- Inform **STARKS PLUMBING AND HEATING LTD.** of the date or approximate date of that health assessment at the earliest possible time.

**STARKS PLUMBING AND HEATING LTD.** ensures at all times that an exposed worker has received a health assessment within the immediate preceding two (2) years.

**Note:** Exposed workers may refuse to undergo part or all of a health assessment, by giving this Company a written statement refusing it.

**STARKS PLUMBING AND HEATING LTD.** shall:

- Not coerce, threaten, or force a worker into refusing part or all of a health assessment,
- Pay the cost of the health assessment, medical interpretation and explanation required by legislation, and
- Ensure that, when it is reasonably practicable, a health assessment be performed during normal work hours.

**STARKS PLUMBING AND HEATING LTD.** shall not make deductions from the worker's wages, salary, or other remuneration or benefits for the time an exposed worker:

- Undergoes a health assessment, or
- Travels to and from a health assessment.

#### **ACCIDENTAL RELEASE OF SILICA**

In the event of an accidental release of Silica:

- Immediately evacuate the area
- post signs that clearly indicate that:
  - Silica is present in the area,
  - Only authorized persons may enter the area, and
  - Eating, drinking and smoking are prohibited in the area.
- Take all necessary steps to control the release of the substance through engineering and administrative controls, and proper PPE, as discussed earlier in this code
- Call Emergency Medical Services if required

**WCB CLAIMS MANAGEMENT**

The most important asset of **Starks Plumbing and Heating Ltd.** is its people. The people in our workplace and on our worksites are at the greatest risk for injury or occupational illness. It has been proven that having injured workers return to the workplace as soon as is permissible to do **meaningful** work contributes to a “win/win” situation for both the employee and the organization. This is where Claims Management comes in.

The term “Restricted Work” simply means the normal work activities of the injured employee have been temporarily changed to accommodate the limitations imposed by the injury. The Restricted Work Program is intended to allow and encourage an employee to remain a productive member of our workforce. The Restricted Work Program must meet the criteria for meaningful, value-added work. This means the duties will increase the employee’s knowledge, skills and/or experience, and will be integral and valuable to the work and business of the organization.

**INJURY RESPONSE AND REPORTING**

Injury response and reporting ensures that there is an immediate start of the claims management process and compliance with legislative requirements.

**Starks Plumbing and Heating Ltd.** will ensure:

- Immediate availability of medical aid
- Company-wide awareness of Occupational Health and Safety legislation regarding First Aid requirements
- Compliance with legislation governing the transportation of injured employees
- All employees report **all** injuries and incidents immediately to their supervisor, regardless of severity
- **All** incidents must be documented on a **Starks Plumbing and Heating Ltd.** Incident Investigation Report and faxed immediately to management
- Injuries in accordance with WCB Policy will be reported to WCB by **Starks Plumbing and Heating Ltd.**
- A return to work, whether it is for restricted work or a return to full duties will be reported to WCB by the **Starks Plumbing and Heating Ltd.** Management.

**RESTRICTED WORK**

Restricted work assists in the rehabilitation and early return to work of ill or injured employees. **Starks Plumbing and Heating Ltd.** will provide suitable (temporary) restricted work to any employee unable to perform their regular duties due to injury, illness or mental or emotional stress. This may include a modification of the employee’s original position, providing an alternate position, or providing a training course.

Only work that is considered to be meaningful and productive to **Starks Plumbing and Heating Ltd.** will be considered for use in the Restricted Work Program.

All Restricted Work Injuries must be reported to the Worker’s Compensation Board. Therefore, the following steps will be undertaken for a Restricted Work injury:

### Review the “Incident Information Package”

The Manager and/or Safety Coordinator will ensure that the Information Package is reviewed with the injured employee upon report of an injury, before the employee leaves the worksite, or at the earliest possible opportunity. They will also ensure that all the necessary documentation and information is completed and is handed in to the **Starks Plumbing and Heating Ltd.** office.

A **Starks Plumbing and Heating Ltd.** representative will accompany the employee to the medical service provider\* and, if necessary, will discuss the **Starks Plumbing and Heating Ltd.** Restricted Work Program.

- If the injury requires the employee to be placed on restricted work a Physical Demands Analysis Form must be presented to the medical service provider. The employee will complete and sign the Authorization for Release of Medical Information form.
- **Alberta** - a “WCB Worker’s Handbook” will be given to the employee and the employee will complete and sign the “Worker’s Report of Injury or Occupational Disease” (CO60). This form will be detached from the booklet and submitted along with the rest of the paperwork to **Starks Plumbing and Heating Ltd.** management. The employee will keep the rest of the booklet for his or her reference.

\*Medical service provider refers to General Practitioners, Specialist, Physiotherapist, Chiropractors and Optometrist/Ophthalmologist.

### Collect All Documents

Management will review these documents along with the Incident Investigation Report. Management will work with the employee to arrange a Return-to-Work plan. Once a claim has been established at the WCB, the Workers’ Compensation Board Claim Adjudicator or Case Manager will be notified.

### Make an Offer of Modified Work

A written Offer of Modified Work must be presented to the employee. This offer will state the following information:

- a) Specific job duties to be performed;
- b) Pay rate. This will be the same rate of pay as their pre-incident employment;
- c) Hours of the employment. These are important in the case of transitional employment where the hours may vary during the placement;
- d) Length of placement. This will be noted and made clear to the employee;
- e) The offer will be signed by the employee and the manager, and will be forwarded to WCB.

### Refusal of Offer

Any refusal by an employee to participate in the Restricted Work Program will be dealt with immediately by interviewing the employee and recording the reasons for not participating in the program. The employee needs to sign the Offer of Modified Work “Refusal” section, and indicate the reasons for refusing the Offer. The employee must be made aware that by refusing a reasonable Modified Work Offer, he or she may not be eligible for wage loss benefits through the Worker’s Compensation Board.

## Monitor Return to Work

Once the employee has been placed on restricted duties, Management will monitor the progress of the employee on a regular basis and address any concerns immediately. The employee will keep all medical appointments and follow **all** medical instructions. All physiotherapy, chiropractic and practitioner appointments should be arranged before or after working hours or as close to the beginning or the end of their shift as possible. ***For each medical appointment, the Physical Demands Analysis Form must be taken by the employee and completed by the medical service provider.*** Once completed by the treating health care provider, it must be faxed as soon as possible to management of **Starks Plumbing and Heating Ltd.**

## RESPONSIBILITY OF THE INJURED EMPLOYEE

Employees are responsible for keeping all medical appointments and returning with medical documentation after each visit. Employees are also responsible for keeping **Starks Plumbing and Heating Ltd.** informed of any changes in their medical treatment program or medical appointments. If the employee is unable to come into work for any reason they **must** inform their Supervisor immediately. **Starks Plumbing and Heating Ltd.** will advise WCB if it will be a compensable day off. The employee is also responsible for contacting **Starks Plumbing and Heating Ltd.** management if they are being asked to work in conditions or to perform duties that are not within their listed work restrictions.

## EMPLOYEE'S RETURN TO REGULAR DUTIES

When medical clearance is received for the employee to return to regular duties, **Starks Plumbing and Heating Ltd.** will inform the WCB. **Starks Plumbing and Heating Ltd.** will continue to monitor the employee's ability for up to two weeks following the return to regular duties.

**NOTE:** The Worker's Compensation Board considers ANY variation of an employee's regular duties as "Restricted Work".

## CASE COORDINATION

To ensure that all claims are effectively managed and in order to allow an early and safe return to work for the injured employee, communication will be maintained regularly with the injured employee and their families, medical service providers, and the Worker's Compensation Board. **Starks Plumbing and Heating Ltd.** will monitor the progress of any employee returning to restricted work or regular duties.

**The following steps will be taken to coordinate claims management:**

### Maintain Contact with the Injured Employee

In the case where an employee is unable to return to work, the Supervisor or Manager must contact the employee at least once a week to ask about the general condition of the employee, the nature of the treatment they are receiving, what medical service provider they are seeing and the date of all appointments. All contacts will be recorded. This information will immediately be passed on to management. This will ensure that all parties are kept aware of the situation.

**Follow status of Injured Employee after his/her return to work**

Once the employee has returned to work on restricted work duties, the Supervisor or Manager must follow-up with the employee on a daily basis until the employee has resumed their regular duties. This ensures that any problems or concerns that may arise can be addressed immediately. Any problems will be brought to the attention of **Starks Plumbing and Heating Ltd.** immediately. The Supervisor or Manager will keep notes on any contact made with the employee during this time and forward copies to the **Starks Plumbing and Heating Ltd.** office. Once the employee has resumed full regular duties, the Supervisor or Manager should follow-up with the employee each week for up to two weeks to ensure that there are no ongoing concerns.

**Create File**

A WCB file will be created which will include any and all documents and conversations related to the claim. This file will be kept at the **Starks Plumbing and Heating Ltd.** office and treated as highly confidential.

**Contact the WCB**

**Starks Plumbing and Heating Ltd.** will maintain weekly contact with the WCB claims Adjudicator/Case Manager. This ensures information on the progress and condition of the employee is up to date for both parties. Management of **Starks Plumbing and Heating Ltd.** and the WCB will discuss what the treatment or rehabilitation plan is; the likely date of a return-to-work; and discuss any work restrictions. The amount and type of benefits provided to the injured employee should also be discussed. All contact, details, conversations and medical information will be recorded in the file. Management of **Starks Plumbing and Heating Ltd.** will determine the validity of the claim and if necessary appeal any questionable decisions made by the WCB and/or request denial or cost relief on the claim.

**Determine Injured Employee's Fitness to Return to Work**

Prior to any return to work, whether to regular duties or to restricted work, management along with the Supervisor and any medical service providers, will discuss and determine the fitness of the employee. Medical clearance will be obtained from the treating medical service provider.



Signature of President



Date Signed