HEALTH, SAFETY & ENVIRONMENT

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The Company is committed to excellence in safety performance. We strive for continuous improvement in safety performance, and require that, as a minimum, industry standards and legislative requirements be met. Company workers and the Contractor(s) we hire share in the successful implementation of this philosophy.

This Health Safety & Environment Manual has been developed to present a consolidated set of rules, safe work practices and procedures related to our business. These rules and procedures were drawn from previous manuals, Government Regulations and accepted industry standard practices.

It is not possible to address all work activities or potentially hazardous situations in a procedures manual. However, it is the intent to present key procedures and methods which the Company expects to be utilized in accomplishing the work. In addition, expects all of our Employees, Contractors and their workers to bring a safe work attitude to the job site.

The Health Safety & Environment Manual provides approved Company practices and procedures and when the words "shall", "will" and "must" are used, the wording indicates the procedures outlined are mandatory. When the word "should" is used, the wording indicates that the HS&E Advisor or Senior Management is allowed to exercise judgement.

The Health Safety & Environment Manual is a minimum standard and where exceeded by Government Safety Acts, Regulations, and Codes the more stringent shall apply. Conversely, where the Manual is more stringent than regulatory requirements, this manual shall govern.

The Company believes that all incidents are preventable and as such, safety objectives are set at ZERO. It is expected that all Company and Contractor workers take every reasonable precaution to eliminate workplace incidents. No job is so urgent that it cannot be done safely. Unsafe conditions and/or work practices are not acceptable on Company sites and must be corrected before work can continue.

All Policy Statements contained within this manual fall under the approval, context and intent of our Health Safety & Environment Policy, which is signed and endorsed by Executive Management annually. All content is reviewed in accordance with our detailed processes.

The Company is committed to working together to ensure all workers are “Home. Safely.”.
Health, Safety and Environment Policy

NC Services Group and its Affiliated Companies are committed to the protection of our employees, contractors, customers and the general public with respect to health, safety and environment. We view safety as our highest core value, and believe that all incidents are preventable, and that effective health and safety management delivers increased value to our shareholders, customers, employees and contractors.

Our goal is to have no incidents, and to ensure that every worker returns home safely at the end of each day. To achieve this we will;

- Conduct business such that the health, safety and environment of our employees, contractors and customers is our first priority.
- Integrate health, safety and environment considerations into all business decisions.
- Hold management and all employees accountable for providing a safe and healthy working environment, and for creating a proactive safety culture.
- Empower all employees and contractors to create and maintain a safe work environment, and for ensuring the safety of themselves and their co-workers.
- Establish health and safety practices and procedures that meet or exceed regulatory requirements, industry codes, guidelines and best practices.
- Provide sufficient resources to ensure our employees and representatives are fully informed of health and safety responsibilities, requirements and best practices.
- Not tolerate unsafe acts, and address non-compliance in a timely manner.
- Align with companies who share our commitment to health and safety.
- Work with industry peers, regulatory agencies and our customers to continually enhance our health and safety performance.

Ted Redmond        Tim Bennett
President & CEO    Vice President
HS&E, Technical Training & Quality

January 10th, 2012
1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) has developed a Hazard Assessment Code to represent an important role in the preparation, organizing, and performance of any task. There is a need to identify and prepare for all hazards that may pose potential risk(s) to all personnel, equipment, and property involved in the task.

2.0 SCOPE AND APPLICATION

The focus of this Code is to identify hazards prior to beginning a new job or task, or when conditions change. This Code is to be viewed in conjunction with NC Services Group (NCSG) Planned General Workplace Inspection Process. Inspections will monitor the risk and hazard potential through a scheduled and appropriately timed process involving a standardized and relevant checklist. Hazard Assessment will use the Field Level Risk Assessment (FLRA) Checklist, the FLRA Lift Evaluation Analysis sheet, and where applicable the Task Hazard Assessment to evaluate and prioritize potential hazards when performing new tasks, evaluating changing conditions or working on unfamiliar sites.

3.0 DEFINITIONS

3.1 Hazard: Any circumstance or condition which poses the risk of an incident.

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

3.3 Incident: Any unplanned event which results in loss to people, property, equipment, production, or the environment. A Near-Miss is any unplanned event which, under slightly different circumstances, could have resulted in loss to people, property, equipment, production, or the environment.

3.4 Inspection: An observational tour of the workplace for the specific purpose of identifying unsafe acts and conditions, and for determining the levels of compliance with established Safe Work Practices, Procedures and Safety Rules. Once a job is underway, inspections are conducted on an ongoing basis to maintain the effectiveness of the safety program.
3.5 **Audit**: A comprehensive examination and evaluation of the organization’s Health & Safety Management system (safety program). An audit is conducted by a trained and certified safety auditor either from within the organization or from outside.

3.6 **Emergency control of hazard**: If emergency action is required to control or eliminate a hazard that is dangerous to the safety or health of workers,
   - Only those workers competent in correcting the condition, and the minimum number necessary to correct the condition, may be exposed to the hazard, and
   - Every reasonable effort must be made to control the hazard while the condition is being corrected.

4.0 **ROLES AND RESPONSIBILITIES**

A hazard assessment must be conducted: before a new job/task is performed, at reasonably practicable intervals between the initial Hazard Assessment and ongoing assessments of regular jobs/tasks, and when there is a change or modification made in a job/task. In addition monthly Formal Hazard Assessments (Inspections) will be conducted on a regular basis for sites owned and operated by NCSG.

4.1 Management will develop, provide, monitor and review a system of analyzing, recording, reporting, and archiving documents related to the assessment of hazardous conditions on the worksite.

4.2 Supervisors will ensure that employees understand and comply with their responsibilities under the Occupational Health and Safety Legislation, and company policy. Supervisors will review any bulletins that NCSG receives from outside sources (ie: Prime Contractors, OH&S etc) that apply to our area of work with employees.

4.3 Employees will complete a Hazard Assessment (or equivalent process specific to a particular site) prior to beginning a new job/task and to review at timely intervals during the course of the work, or when the job/task has a changed or been modified.

4.4 HS&E Advisors personnel will monitor, inspect, comment and archive Hazard Assessment Reports.

4.5 Regional Team Lead HS&E will prepare a Hazard Assessment Report (ie: THA, JHA, FLRA, SWP, SJP etc) appropriate to the situation. As well safe work practices and procedures will be reviewed annually by all employees and will be dated and signed as such.
5.0 HAZARD ELIMINATION AND CONTROL

When an existing or potential hazard is identified the following steps need to be taken in this sequence to eliminate the hazard:

- Implementation of Engineering Control methods, if not then,
- Implementation of Administrative Control methods, if not then,
- Implementation of Personal Protective Equipment (P.P.E.) Control methods, if not then
- Implementation of all three methods to minimize the risk associated with the task.
- NCSG will ensure that workers affected by the hazards identified in a hazard assessment report are informed of the hazards and the methods used to control or eliminate the hazards.

Examples of:

**Engineering Methods:** Good Engineering design reduces, controls, or eliminates exposure to hazards and provides a safe work environment. Some examples are: Isolation, Removal, Segregation, and Substitution.

**Administrative Methods:** When Engineering methods are not applicable, Administrative methods need to be introduced. Some examples of Administrative methods are: Policy statements, Safe Job Procedures, Safe Work Practices, and Job Hazard Analysis.

**P.P.E.:** Personal Protective equipment is the last line of defence against hazards. Some examples of P.P.E. are: Hard Hat, Safety Boots, Safety Glasses, Hearing Protection, RPE, and Fall Arrest Harness.
6.0 METHODS OF CONTROL

The following forms (with the exception of pre-approved client forms specific to a particular job-site) will be used to evaluate the potential hazards and risks prior to a new job/task being performed by a NCSG employee.

- NCSG Field Level Risk Assessment Process
- NCSG Task Hazard Assessment Process
- Northern Crane Services Field Level Risk Assessment Checklist (NCS Safety Manual - Section 2 / Page 1)
- Northern Crane Services / FLRA – Lift Evaluation Analysis Sheet (NCS Safety Manual - Section 3 / Page 5 & 6)
- Northern Crane Services Hazard Assessment Corrective Action Form (NCS Safety Manual – Section 2 / Page 2)
- Northern Crane Services Job Hazard Analysis Sheet (NCS Safety Manual – Section 2 / Page 3)
- Engineered Lift Study when and where it is required.
- Trans Tech Contracting Jack and Roll Tailgate Meeting & Hazard Assessment
- Trans Tech Contracting Tailgate Meeting & Hazard Assessment

7.0 EMPLOYEE EDUCATION

NCSG will provide adequate training in the hazard prevention program to prevent hazards applicable to each worker including identification of hazards, and preventative measures to be taken. Whenever new hazard information becomes available it will be distributed to the worker, including a change in job activity which would include new hazards to the worker.

NCSG will review this training and revise if necessary at least once every three years, when hazards change or new information becomes available. This training will be documented and records kept.
8.0 HAZARD ASSESSMENT PROGRAM EVALUATION

NCSG will review the program and evaluate its effectiveness at least once every three years, when there is a change in conditions in respect to the hazards, and when new hazard information becomes available.

To evaluate the program the following documents and information will also be reviewed:
- conditions related to workplace and activities of employees
- workplace inspection reports
- hazardous occurrence investigation reports
- safety audits
- first aid and injury statistics
- any observations given by the workplace health and safety committee
- any other relevant information

Once the evaluation has taken place a formal report shall be prepared and a copy will be submitted where applicable under the appropriate legislation. This report shall be kept for six years.

9.0 INTERNAL COMPLAINT RESOLUTION PROCESS

Workers may raise a formal complaint of where reasonable grounds exist that a contravention to the company rules, processes or regulations has occurred.

In the event of a complaint, the Worker is to take the complaint as soon as reasonably practical to their Supervisor and HS&E Advisor. The Worker, Supervisor and HS&E Advisor will try to resolve the complaint by themselves as soon as possible. If the complaint remains unresolved then the Worker and Supervisor must forward the complaint to the Regional Team Lead HS&E who may further involve a chairperson of the work place health and safety committee. This will be investigated jointly by the Worker and an Employer member of the work place health and safety committee. Persons investigating the complaint will inform both the Employer and Worker in writing, in the form and manner prescribed, if any is prescribed, of the results of the investigation.

Persons investigating the complaint may also make recommendations to the employer with respect to the situation that gave rise to the complaint, whether or not they conclude that the complaint is justified.
If the complaint is justified the employer shall, upon written notice, ensure that the matter is resolved accordingly and will notify the persons investigating, in writing, of how and when the matter was resolved.

10.0 HEALTH AND SAFETY WORK REFUSAL

The worker shall immediately protect themselves and others, where imminent danger is perceived or exists, by refusing work and stopping work involved immediately. The worker is obligated to report this immediately to their Supervisor and HS&E Advisor.

Workers have the right to refuse work that they have reason to believe is unsafe. As per the Occupational Health & Safety legislation, a worker may refuse to work or do particular work where he/she or another worker may be endangered by (not limited to):

- perception of imminent danger;
- equipment, machine, device or things;
- physical condition of the workplace; or
- equipment, machine, device or thing that is to be used or the physical condition of the workplace is in contravention of the Act or Regulations and may endanger himself / herself or another worker.
REMEMBER!

- Halt all activities and vacate the worksite within close proximity to the suspected asbestos material. Ensure adequate ventilation.
- Never attempt to remove, handle, transport or conduct any work around or in close proximity of asbestos without prior approval.
- Know the MSDS location and Emergency Response Plan.
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Asbestos Identification and Control Code to identify the proper level of protection that will assist all employees in performing their tasks effectively and efficiently when operating. This code will aid employees in minimizing the risks of exposure and assist in the knowledge of safe work practices.

This document was created to provide the reader with the basic information about asbestos and the NCSG requirements for working with asbestos.

2.0 SCOPE AND APPLICATION

This document serves as an approved NCSG HS&E Guideline for worksite encounters with asbestos. This guideline is applicable to NCSG employees, contractors, visitors, operations, or property. This standard is in effect for all NCSG work areas (i.e. field operations and corporate office).

3.0 DEFINITIONS

3.1 Asbestos

The name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are: a) chrysotile, b) amosite and c) crocidolite.

3.2 Asbestosis

A lung disease first found in naval shipyard workers. As asbestos fibres are inhaled, they may become trapped in the lung tissue. The body tries to dissolve the fibres by producing an acid. This acid, due to the chemical resistance of the fibber, does little to damage the fibber, but may scar the surrounding tissue. Eventually, this scarring may become so severe that the lungs cannot function. The latency period (the time it takes for the disease to develop) is often 25-40 years.
3.3 Chrysotile

Also known as white asbestos and a member of the Serpentine mineral group which is the most common. Asbestos can only be identified under a microscope. Asbestos differs from other minerals in its crystal development. The crystal formation of asbestos is long thin fibres.

3.4 Mesothelioma

A cancer of the pleura (the outer lining of the lung and chest cavity) and/ or the peritoneum (the lining of the abdominal wall). This form of cancer is peculiar because the only known cause is from asbestos exposure. The latency period for mesothelioma is often 15-30 years.

3.5 Lung Cancer

Caused by asbestos. The effects of lung cancer are often greatly increased by cigarette smoking (by about 50%). Cancer of the gastrointestinal tract can also be caused by asbestos. The latency period for cancer is often 15-30 years.

4.0 EXPECTATIONS

Asbestos is not always an immediate hazard. In fact, if asbestos can be maintained in good condition, it is recommended that it be left alone and periodic surveillance performed to monitor its condition. It is only when asbestos containing materials (ACM) are disturbed or the materials become damaged that it becomes a hazard. When the materials become damaged, the fibers separate and become airborne. In the asbestos industry, the term ‘friable’ is used to describe asbestos that can be reduced to dust by hand pressure. ‘Non-friable’ means asbestos that is too hard to be reduced to dust by hand. Non-friable materials, such as transite siding and floor tiles are not regulated, provided they do not become friable. Machine grinding, sanding and dry-buffing are ways of causing non-friable materials to become friable.

The main properties that make asbestos useful are its incombustibility, strength and flexibility when separated into fibres. It is also effective as a reinforcing or binding agent when combined with cement or plastic. Many products which at one time contained asbestos are either no longer in use or have been replaced. The uses for asbestos ranged from products in which the fibres were well bound to friable products in which the fibres could easily become airborne. The construction industry was the main user of asbestos products. Sprayed insulation, stucco and joint cements manufactured in Canada and the United States no longer contain asbestos in an unbound form. Building materials containing asbestos in a bound form are typically found in the following locations and products:

Building exteriors
- Asbestos cement siding panels – flat, corrugated, shingles or accent panels
- Asbestos cement soffits – flat or perforated panels
- Asbestos cement roof panels – corrugated
- Roofing felts and mastics
- Building overhangs – thermal spray
- Stucco
- Brick and block mortar
Loose fill insulation in exterior wall cavities (vermiculite)

**Flooring**
- Vinyl asbestos tiles (VAT)
- Sheet vinyl flooring (asbestos paper backing)
- Floor leveling compound

**Ceilings**
- Bare ceiling tile
- Asbestos cement ceiling tile
- Acoustic and stippled finishes
- Plaster or drywall jointing materials

**Walls**
- Plaster or drywall jointing materials
- Stippled finishes
- Thermal spray
- Asbestos cement panels

**Service areas**
- Insulation in boiler rooms — boilers, vessels, pipes, ducts, incinerators, floors, ceilings, walls
- Fan rooms — insulation on pipes, ducts, chillers, floors, ceilings, walls
- Machine rooms — insulation on pipes, ducts, floors, ceilings, walls
- Crawl spaces — insulation on pipes, ducts
- Wall cavities, insulation above ceiling spaces — pipe and duct chases, pipes, ducts

**Structural**
- Fireproofing spray on beams, decks, joists, columns and other structural members

**Pipes (insulation on either exposed or concealed pipes)**
- Steam and hot water heating supply and return lines
- Domestic water supply and drain lines
- Chilled water lines
- Rain water and sanitary lines — asbestos cement or bell and spigot cast iron, insulated or bare pipe
- Gaskets in flanged pipe joints

**Miscellaneous**
- Incandescent light fixture backing
- Wire insulation
- Fume hoods — internal linings and exhaust ducts
- Lab counters
- Elevator brake shoes
- Heating cabinet panels (asbestos cement)
- Fire dampers and fire stop flaps
- Diffuser backplaster
- Emergency generators — thermal insulation and exhaust manifolds
- Firestopping
THE ATG COUNCIL OF VETERANS' AFFAIRS

HEALTH, SAFETY & ENVIRONMENT

ASBESTOS IDENTIFICATION AND CONTROL

CODE

- Theatre curtains
- Welding blankets and screens
- Incinerators – internal insulation
- Cooling towers – panels and fill
- Duct tape
- Duct expansion/vibration isolation joints building products containing asbestos in an unbound or loosely bound form include:
  - Insulating cements
  - Sprayed insulation — fire resistant, acoustic, thermal, condensation control
  - Insulation block — magnesia or calcium silicate
  - Textiles — not saturated, for lagging, curtains or clothing
  - Bound fibre products
  - Brake linings, brake blocks, clutch facings
  - Gaskets, packings
  - Plastics
  - Textiles and catalyst supports
  - Non bound fibre products such as millboards and papers
  - Some electrical insulation and filters or filter aids

It is extremely unlikely that an NCSG employee will come in contact with Asbestos in their day-to-day working activities. However, in the event Asbestos is suspected to be present in a worksite this code of practice is to be immediately implemented.

At no time and for any reason will NCSG personnel ever attempt to remove, handle, transport or conduct any work around or in close proximity of asbestos without prior approval from the Vice President of HS&E.

NCSG will immediately engage an competent contract service, specializing in the isolation, removal, storage and transportation of Asbestos.

In the event the asbestos is on a site not controlled by NCSG, then NCSG will take all necessary measures to ensure its personnel are not exposed to the material until such time as the company, client, agency or authority have implemented measures acceptable to NCSG standards.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- To read and understand this procedure and attend any educational presentation around this topic where appropriate.
- To immediately notify their immediate supervisor or manager if they suspect the presence of asbestos on or near their assigned work environment.
- Be responsive, through adequate training, to minimize the risk of hazards relating to exposure to asbestos in the work environment.
5.2 **Workers**

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in asbestos exposure or potential exposure a worker, employees, contractors, or general public within the area.

5.3 **Supervisors**

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure when the potential hazard to asbestos exposure exists that all NCSG personnel or contractors working with or on behalf of NCSG are informed and educated as to the particulars of this type of hazard.
- Ensure that in the event asbestos or materials thought to contain asbestos are identified that the area around the suspect material is immediately isolated to prevent potential contact and that the Health and Safety Representative for NCSG accountable for that worksite is contacted immediately.
- Ensure through routine inspections that the isolated location of the asbestos or suspect material related to or possibility containing asbestos has not been disturbed or otherwise altered in any way.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.5 **Health, Safety and Environment Team**

- Develop Health, Safety and Environment Management System Documents and Procedures relating to the identification, Isolation, and Contracted Removal of materials containing or suspected to contain asbestos or asbestos related materials.
- Maintain Health, Safety and Environment records or documents relating to this topic.
- Ensure any necessary education or training required for any NCSG or contractor working on a site containing or thought to contain asbestos is provided in accordance with the applicable legislation for that worksite location.
- Ensure any contractor employed by NCSG for the purpose of asbestos removal services has retained and maintains the necessary competency and legal certificates and validations for that activity.

6.0 **METHOD**

6.1 **Isolation of a worksite where asbestos is suspected to exist**

When a worksite is suspected to contain asbestos the following practices will immediately be implemented;

- All personnel shall immediately halt all activities and vacate the worksite within close proximity to the suspected asbestos material.
- The Supervisor responsible for that worksite shall isolate the suspected worksite and restrict access to the area through the use of barrier tape or some other means of control.
- The Supervisor shall immediately contact the responsible NCSG Health and Safety Representative to arrange for guidance and positive identification of the suspected material.
• Until such time as either the suspected material has been deemed to not contain asbestos by accredited authority no access to the isolated worksite shall be permitted.
• The Supervisor will generated the necessary hazard reporting documentation as deemed by the NCSG Health and Safety Representative for that worksite.

6.2 Asbestos Removal Process

In the event the isolated worksite does contain asbestos of any form listed in this Code and removal of the substance is deemed necessary by NCSG Management, no NCSG personnel shall engage in the removal process in any form or action.

No NCSG materials, tools or equipment shall be employed in an asbestos removal activity unless approved by NCSG Management and that the materials, tools or equipment will be disposed of once the removal process is complete. Under no circumstance will materials, tools or equipment be allowed back into a NCSG worksite if it has been used for asbestos removal.

7.0 TRAINING REQUIREMENTS AND MATERIALS

All supervisors and workers on NCSG worksites require training in the application and content of this Code.

8.0 RESOURCES

• Canadian Hazardous Products Act, Part 1
• Alberta OH&S Code Part 4
• Alberta OH&S Code Sections 16,21,22

Contact Health, Safety and Environment for more information regarding this Code.

9.0 APPENDICIES

• None
1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Behavior Based Safety/Work Observation Process as a proactive approach to safety performance improvement to having employee(s) taking preventative measures to protect themselves from hazards & risks and to provide an understanding of how the Behavior Based Safety/Work Observation Process can be fully implemented on NCSG Sites and Projects to achieve 100% safe culture.

Behaviour Based Safety/Work Observation promotes safe work practices through enhanced employee engagement, involvement and awareness.

2.0 SCOPE AND APPLICATION

Behavior Based Safety/Work Observation is an innovative improvement technology that focuses on identifying and reinforcing safe behaviors in the workplace. All workers, whether trades people, supervision, or management is visible, involved and empowered in the Behavior Based Safety/Work Observation Process.

In a 100% safe culture, Behavior Based Safety/Work Observation techniques are employed to provide positive reinforcement to the workers promoting increased performance of safe behaviors in the future. The objective of Behavior Based Safety/Work Observations is to create a work environment in which employees encourage each other to use safe behaviors and eliminate at risk behaviors.

This work process is intended to ensure that there is a formal process for NCSG to observe the work practices of workers and provide leadership by ensuring interpersonal interactions occur between employee(s), senior employees and supervisors for the interest of workplace safety. The Behavior Based Safety/Work Observation Process will improve and enhance the health, safety and environment of NCSG work sites.

A properly implemented and managed Behavior Based Safety/Work Observation Process provides the management team an effective diagnostic tool for controlling and improving the Safety Management System.

3.0 DEFINITIONS

3.1 Hazard

A situation that has the potential to harm a person, the environment or damage property.

3.2 Behavior

An action that can be observed.
3.3 Behavior Based Safety

Behavior Based Safety focuses on the use of rewards, positive feedback, and recognition to motivate and support safe behaviors. The methods and tools are based on more than 50 years of research. Behavior Based Safety employs only the most objective and reliable aspects of the science of behavioral psychology. It is a fact that nearly every injury that happens at work involves at-risk behaviors; therefore Behavior Based Safety aims to address the cause of most work injuries.

3.4 At Risk Behavior

The unsafe act workers perform.

3.5 Safe Behavior

The safe and risk free acts that workers perform.

3.6 Risk

The probability (likelihood) of harm or damage occurring from exposure to a hazard, and the likely consequences of that harm or damage.

3.6 Hazard and Risk Assessment

Hazard and Risk assessment is the formal process of evaluating the probability and consequences of injury or illness arising from exposure to an identified hazard.

3.7 Control

The actions, processes, barriers or control measures available to minimize or eliminate the probability of an incident occurring from an identified risk or hazard.

4.0 EXPECTATIONS

Active participation in the Behavior Based Safety/Work Observation Process is an occupational requirement which promotes health and safety awareness and reduces workplace incidents.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

- Understand that 95% of site or project related injuries are caused by employee at risk behaviors.
- Participate in the Behavior Based Safety/Work Observation Process in the role of observation team member or as a trade’s person who agrees to allow them to be observed.
- Communicate knowledge of perceived Hazards and Risks.
- Notify their supervisor if they become aware of factors or circumstances where they feel the measures taken to ensure their safety are inadequate.
- Utilizing Behavior Based Coaching to demonstrate actively caring for the other employees.
• Maintaining the vision of everyone gets home 100% safe and zero harm.

5.2 Supervisors

• Implement and use this Process;
• Use work observations as a coaching tool to focus on positive feedback;
• Be involved in work observation planning; and
• Ensure employees participate in work observations.
• Utilize Behavior Based Safety/Work Observation techniques, such as positive reinforcement during the carrying out of their daily supervisory responsibilities.
• Supporting Behavior Based Safety/Work Observation Process by encouraging the Behavior Based Safety/Work Observation team members to conduct their observations.
• Recognizing and supporting the safe behavior that they observe.
• Giving corrective feedback for at risk behaviors in a way that is accepted by the employee observed.
• Focusing on worker behavior in an actively caring way.
• The goal is helping workers improve themselves of their own free will therefore with no direct forcing, no direct coercion, in order to establish a work atmosphere of genuine helpfulness.

5.3 HS&E Advisors

• Monitor implementation and practice of this Process; and
• Monitor program use during work observations and audits.
• Provide the appropriate level of Behavior Based Safety/Work Observation education and training to site / project management, supervision and employees.
• Support Behavior Based Safety/Work Observation Process by encouraging the Behavior Based Safety/Work Observation team members to conduct their observations.
• Facilitating the Behavior Based Safety/Work Observation team by:
  • Coaching the Team in the proper methods and observations
  • Facilitating the Behavior Based Safety/Work Observation Team meetings

5.4 Branch / Site Managers

• Ensure the timely and appropriate implementation of this Process;
• Approve work observation plan; and
• Provide support to resolve issues on the application of Work Observations.
• Demonstrating his/her commitment to the Behavior Based Safety/Work Observation Process;
• Ensuring that all site / project related staff participate and are involved;
• Monitoring the Behavior Based Safety/Work Observation Process to assure that the Behavior Based Safety/Work Observation Process is effectively implemented.

6.0 METHOD

6.1 Behavior Based Safety/Work Observation Process

The Behavior Based Safety/Work Observation Process is implemented on a NCSG Site / Project in accordance with the following Behavior Based Safety/Work Observation Process execution steps Behavior Based Safety/Work Observation Process.
6.1.1 Selection of Observers

Behavior Based Safety/Work Observation observers will be selected from the ranks of workers and trades persons. Observers can be members of supervision but the focus should be worker involvement, members of the HSE Department should not be observers. Observers are selected on the basis of their natural leadership abilities.

6.1.2 Duties and Responsibilities of the Behavior Based Safety/Work Observation Team

The Behavior Based Safety/Work Observation Process puts workers in control of safety. Furthermore the Behavior Based Safety/Work Observation Team is empowered to establish the guidelines for conducting work observations, team meetings, activities, etc. The Behavior Based Safety/Work Observation Team is required to receive initial training and participate in a training session in order to learn and develop a Behavior Checklist relevant to the project work activities being performed.

The Team will meet on a regular (monthly) basis, with work observations conducted daily by each team member. Observation Checklists are to be returned to the NCSG HSE Advisor or Supervisor by the end of each day. Data from each Work Observation Checklist is to be compiled into and reviewed for trends, and a report measuring observed behaviors in terms of “% Safe” can be issued weekly. The reports are to be discussed at the Safety Meetings, posted and made available at the Site / Project level.

6.1.3 NCSG Behavior Based Safety/Work Observation Process Team establishment

A Behavior Based Safety/Work Observation Team should be initiated at the beginning of the year or the start-up of field project activities. The Site / Project Manager will champion the Committee and its members. The HSE Advisor will work closely with each of the Branch / Site / Project Observation Teams and with the Committee.

6.1.4 100% Safe Team (Audit)

The Branch Manager / Site Manager / Project Manager will chair the 100% Safe Team. The team will be comprised of the Supervisors and HSE Advisor, as well as craft/trade representation, and client representation as appropriate. The Team will meet weekly with a mission to create a 100% safe culture throughout the Branch / Site / Project by anticipating health and safety issues, and by identifying barriers to achieving this goal. Tools at the disposal of the Team may include the weekly Behavior Based Safety/Work Observation Team Report, the Loss Control Reports / incident reports of the past week, any HSE Audits/Assessments.

6.1.5 Maintenance of Safety Standards

This Behavior Based Safety/Work Observation Process holds everyone accountable for the same safe behaviors across the company. Not only does it monitor compliance to safety rules, it demonstrates that the corporate management team is fully dedicated to improving safety and engaging, involving and empowering the workers.
6.1.6 Increasing Safety Awareness

Establishing and maintaining a safe work culture requires managers, supervisors and workers to be aware of and follow safe work practices, rules and regulations. The Behavior Based Safety/Work Observation Process increases supervisors and workers awareness of safety policies, rules, regulations and work practices.

6.1.7 Measure Behavior

Behavior Based Safety/Work Observation measure what is actually taking place in the field, they also provide an opportunity to coach and counsel workers to improve their safety performance within an atmosphere of trust, caring and mutual respect and consideration since our workers are our number one resource.

6.1.8 Communication of Expectations and Feedback

Behavior Based Safety/Work Observations are designed to help communicate the safety responsibilities and expectations of management, supervisors and workers. They can be used to notice good work practice as well as provide opportunities to change behaviors when required.

6.1.9 Reveals Weaknesses in the Safety Process

Behavior Based Safety/Work Observations help monitor the effectiveness of training and identify additional training needs. They provide the opportunity to be proactive by noticing at risk behaviors, unsafe practices, and performance issues. Evaluation of the overall process can spot trends and system deficiencies.

6.1.10 Reduces or Mitigates Risk

Proactive interventions of unsafe work practices, will work to reduce risk of or eliminate injuries and property damages.

6.2 Behavior Based Safety/Work Observation Practice

For the Behavior Based Safety/Work Observation Process to provide the most efficient results the emphasis must be on recognizing workers when they perform safely or, intervening to provide correction and coaching to the workers when the required behaviour is being performed unsafely.

A suggested set of steps to perform a complete observation and proper interaction are:

1) Observe the employee(s) for 30-60 seconds as you approach them, introduce yourself.
2) When doing this the observer should not distract the employee(s) at a critical moment (e.g. operating equipment, welding, cutting, lifting, using ladders etc). Wait until the interruption can occur when there will be no risk posed to the workers.
3) Explain what you are doing and that you will observe them for a short while.
4) Observe them for some additional time.
5) Provide feedback on what you have observed in a positive manner with awareness of the self esteem of the employee(s) that have been observed.
6) Provide positive reinforcement for all those behaviours that were performed in a safe manner.
7) When at risk behaviours are observed ask for feedback from the workers to help understand why at risk behaviours are being performed, and provide coaching and correction so that the required safe behaviour is obtained.

8) Thank the employee(s) for their assistance; encourage them to continue to work safely.

Feedback will involve positive reinforcement and coaching on safe behaviour. Positive reinforcement does not always require stopping work. When work is performed safely, it can be as simple as a smile and a wave. However, the positive reinforcement the observer provides to the worker when unsafe behaviours are observed is a key part of improving the overall behaviour performance of a work group. It is essential that this reinforcement is given. Whenever “at risk” behaviour is observed, there must be an interaction with the person performing it, so that some coaching and correction can occur as appropriate. If this does not happen, particularly when a supervisor sees “at risk” behaviour and subsequently ignores it, then the workers will get the feedback that doing the “at risk” behaviour is acceptable. They will see that there is no consequence for “at risk” behaviour and there will be no influence on the worker to stop doing the “at risk” behaviour. The comments made by the workers observed should be recorded when possible. Often these comments will give good indications of why the required behaviour is not being performed; i.e. wearing gloves the observed workers’ comments might all suggest that the gloves are not comfortable to wear and might be too big or too small, this points to the need for making a wider range of sizes available to the workers. The more information that can be obtained from the employee(s) as to why they are not performing the correct behaviours make it easy to address the issue and it will help to identify the appropriate changes required to get the behaviours performed correctly.

It is extremely important that all observed behaviours that are immediately dangerous to life, health or the environment are stopped as soon as they are observed. In this situation the observer does not follow the observation steps. The first priority is to stop the dangerous behaviour. The Observer needs to call a “time out”! The observer should stop work and discuss the issue with the employee(s).

6.3 Minimum Required Behavior Based Safety/Work Observations

It is up to each Branch / Site / Project to establish observation schedules. The minimum required observations are established based on the expected duration of the job and number of workers. Work observations are tracked by the HS&E Advisor.

The observation process can take as little as ten minutes to complete or they can last for several hours depending upon the supervisor, workgroup and their situation.

6.4 Forms and Record Retention

The Behavior Based Safety/Work Observation forms are designed to be flexible documents. They target the most common activities that particular work groups face. One work group or project area may require different forms (SCL Voice Cards, Bantrel, Chevron) depending on the activities being performed in any given situation. Management and supervisors can also focus on specific issues in the Behavior Based Safety/Work Observation Process. To determine the areas needing attention, the management group needs to develop a work observation action plan.

Completed Behavior Based Safety/Work Observations should be retained in accordance with the HS&E Document Management and Control Process.
6.5 Work Observation Action Planning

Step 1: Review the current safety performance.
- Review Incidents and Injuries Reports
- Conduct a field assessment to determine the level of compliance with the rules such as establishing a benchmark number.
- Data should be collected by each project area in order to review incidents and target the common types.
- Office hazards such as lifting and RSI (Repetitive Strain Injuries) are common and very costly both personal and financial and should not be viewed as low priority.

Step 2: Identify opportunities for improvement.
- Time should be spent on rules that have weak conformity.

Step 3: Develop an action plan to address the opportunities identified in Steps 1 & 2.
- Compare the identified opportunities with the current observation form. Add any additional observation areas to the form.
- Review forms on a periodic basis.

Step 4: Conduct observations and measure the behavior.

Step 5: Assess the observation plan and revise accordingly

7.0 TRAINING REQUIREMENTS AND MATERIAL

- Work Observation Training

8.0 RESOURCES

- The Psychology of Safety, E. Scott Geller, Ph.D.
- What Can Behavior-Based Safety Do For Me? E. Scott Geller, Ph.D.

Please direct any questions that you may have regarding the Work Observation Program to the Lead HS&E Advisor.

9.0 APPENDICIES

- Appendix A – Observation Checklist

10.0 REFERENCES

- Occupational Health and Safety Legislation
- NCSG Focus Inspection Process
## Behavior Based Safety Process

### Appendix A

**BEHAVIOURAL BASED OBSERVATIONS**

<table>
<thead>
<tr>
<th>Location:</th>
<th>Date:</th>
<th>Time:</th>
<th>Observer #1:</th>
<th>Observer #2:</th>
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<tr>
<th>Categories</th>
<th>Safe</th>
<th>At Risk</th>
<th>What</th>
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<td><strong>Body Mechanics</strong></td>
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<td>1.1 Lifting</td>
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<td>1.2 Body Positioning</td>
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<td>1.3 Keeping Out of Pinch Points</td>
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<td>1.4 Staying Out of Line of Fire</td>
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<td>1.5 Keeping Eyes on Work/Path</td>
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<td>1.6 Ascending/Descending</td>
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<td><strong>Personal Protective Equipment</strong></td>
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<td>2.1 Safety Glasses</td>
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<td>2.2 Gloves</td>
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<td>2.3 Fall Protection</td>
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<td>2.4 Hard Hat</td>
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<td>2.5 Hearing Protection</td>
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<td>2.6 Protective shields</td>
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<td><strong>Job Factors</strong></td>
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<td>3.1 Pre-Job Planning</td>
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<td>3.2 Communication</td>
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<td>3.3 Work Surfaces</td>
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<td>3.4 Barricade/Flagging</td>
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<td><strong>Tools &amp; Equipment</strong></td>
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<td>4.1 Tool/Equipment Selection</td>
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<td>4.2 Tool/Equipment Use</td>
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<td>4.3 Tool/Equipment Condition</td>
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<td>4.4 Equipment</td>
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<td><strong>Housekeeping</strong></td>
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<td>5.1 Trash/Dirt</td>
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<td>5.2 Material Storage</td>
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<td>5.3 Tools &amp; Cords</td>
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<td><strong>Equipment Operation</strong></td>
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<td>6.1 Operation</td>
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<td>6.2 Rules and Procedures</td>
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<td>6.3 Communication</td>
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**Coaching Moments:**

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3/8/2012
REMEMBER!

- The machine guard must prevent hands, arms, or any other part of the employee's body from making contact with dangerous moving parts.
- Ensure guards are not easily tampered with.
- Check for possible falling objects which may strike moving parts of machine.
- Ensure machine guard DOES NOT create a new hazard.
- Lockout machine if maintenance is required.
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed an Equipment Guarding Code to identify the proper level of protection against a potential injury / damage to employees, contractors and the public / property while working near machines with hazardous moving parts.

2.0 SCOPE AND APPLICATION

There are a wide variety of mechanical motions and actions on machines, which may present hazards to NCSG employees, contractors, visitors and the general public. These can include movement of rotating members, reciprocating arms, moving belts, meshing gears, cutting teeth, and any part that may impact or shear. This code shall provide guidelines for safeguarding and recognizing mechanical hazards due to dangerous moving parts. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Equipment Guarding Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Electrical Guard

Electronic means of protection provided to protect employees from electrical components or accidental equipment start-up.

3.2 Guard

An enclosure designed to protect employees from rotating or moving mechanical parts. All Guards designed for use with NCSG equipment shall be designed based on the location of openings and the estimated reach distance to the hazard being controlled in accordance to CSA Standard Z432-94, Safeguarding of Machinery or the applicable ASME Standard.
3.3 Kickback Device
Any device that protects the operator from equipment throwing the work back towards the operator.

3.4 Portable
Hand-held operated.

3.5 Shield
An enclosure or barrier designed to protect employees from processes involving the possibility of disintegrating machine parts or parts being ground upon, pressed, or struck.

3.6 Point of Operation
A point where work is performed on the material.

3.7 Power transmission components
Parts of the mechanical system that transmits energy to the part of a machine performing the work

4.0 EXPECTATIONS
The Equipment Guarding Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Equipment Guarding Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees
It is the employee’s responsibility to:
- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments, which may be prone to injury due to failure of equipment guarding.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Identification of Equipment Guarding Hazard Environment

- A requirement for equipment guarding can be identified in the following types of equipment. The list is not exhaustive and NCSG employees / contractors shall endeavour to continually be familiar with any new equipment and guarding applications which may be introduced to the work site.
  - Concrete Circular Saws
  - Woodworking Machines (Circular, Radial, Mitre saw)
  - Power Presses (Drill Presses)
  - Metal Working Machines
  - Abrasive Wheel Machines (Grinders)
EQUIPMENT GUARDING CODE

- Pulleys (on machinery, equipment)
- Sprockets (on machinery, equipment)
- Chains (on machinery, equipment)
- Machinery Belts
- Flywheels (on machinery, equipment)
- Hand and Portable Power Tools
- All classes of mechanized field equipment.
- Any employee who is exposed to mechanical hazards due to a machine’s moving parts, including machine operators and maintenance and equipment repair personnel.

6.2 Recognizing Where Equipment Guarding Hazards Occur

- In conjunction with FLRA’s and Company Standard Operating Procedures, NCSG shall identify areas that require machine guarding. These may include but are not limited to:
  - Point of Operation – Examples of the point of operation may be seen as cutting, shaping, boring, or forming of stock
  - Power Transmission Components – Examples of the Power transmission component may be seen as flywheels, pulleys, belts, connecting rods, couplings, cams, spindles, chains, crank, and gears
  - Other Moving Parts – may include but are not limited to parts which move while the machine is in operation (e.g. reciprocating, rotating, and transverse moving parts, as well as feed mechanisms and auxiliary parts of the machine.)
  - No operator shall start any guarded equipment without first ensuring that starting the equipment shall not endanger themselves or any other worker.

6.2.1 Contact with Tools, Equipment and Machinery

- NCSG shall ensure where contact between moving parts of machinery, electrically energized equipment or part of the work process and a worker’s clothing, jewelry or hair is likely, workers must:
  - wear clothing that fits closely to the body,
  - not wear bracelets, rings, dangling neckwear, a wristwatch or similar articles, and
  - have head and facial hair that is short or confined and cannot be snagged or caught.

6.3 Machine Guard Requirements

- NCSG shall designate a competent employee / contractor to ensure that all manufacturer’s guards and barrier devices are in place and in safe working condition prior to the use of any equipment.
- Guards are barriers which prevent access to dangerous areas.
- The four general types of guards which may be seen in the workplace are:
  - Fixed
    1. the guard is a permanent part of the machine
    2. is not dependent upon moving parts to perform its intended function.
  - Interlocked
    1. When they are opened or removed, automatically shuts off or disengages the machine.
  - Adjustable
    1. Allow flexibility in accommodating various sizes of stock.
  - Self Adjusting
    1. protect the operator by placing a barrier between the danger area and the operator
    2. allow a large enough opening to admit stock
    3. After the stock is removed, the guard returns to its rest position.
Appendix C provides illustrations of the types of guards.
NCSG shall ensure through formal / informal inspections that equipment guarding is maintained in a safe working condition.

Equipment guarding shall protect employees, contractors, visitors, and the general public by ensuring that the following is achieved. This list includes but is not limited to:
- Prevent contact of the employee with moving parts
- If required in accordance with the manufacturer's specifications, shall be secured to the machine
- Prevent and protect equipment and personnel from falling objects
- Through the use of JSA’s, FLRA’s ensure that the guard does not create new hazards
- Ensure that the guard does not interfere with job performance
- Allow for safe lubrication and maintenance as required of the machine.

Required safeguards shall remain in place and un-tampered with.
In conjunction with Company Standard Operating Procedures, NCSG shall provide required checklists to ensure equipment guarding applications are achieved. Appendix A provides recommended items to be included in these lists.

NCSG forbids the removal of any safety guard device in any manner other than that which the guard is designed.

6.4 Machinery Maintenance and Repair

Where reasonably practicable, machine design shall permit lubrication and adjustment without removal of guards.
If machine guards must be removed, the maintenance and repair shall ensure the lockout procedure required in accordance with the Hazardous Energy Isolation code is adhered to.
NCSG shall ensure that if required for any mechanical power presses, safety blocks are used as an additional safeguard in conjunction with any lockout procedures being used.
Equipment blade changes or adjustments shall be performed only when the power source has been disconnected to comply with the lockout, tagout codes.
Equipment in which guards cannot be installed shall be removed from service. This includes older equipment which never had factory-installed guards.
All bearings shall be lubricated and any debris removed from surfaces to prevent fires.
All adjustments shall be made by an employee / contractor who are trained and knowledgeable about the particular piece of equipment being adjusted.

6.5 Label, Signs, and Marking Requirements

NCSG shall ensure that equipment labels for guarding are legible and adequately fixed to ensure employees, contractors, visitors, and general public are aware of the hazards of the equipment. Appendix B presents some specific examples of label requirements for machine guarding.

7.0 TRAINING REQUIREMENTS AND MATERIALS

NCSG shall provide site specific training for equipment in conjunction with JSA’s and Task Hazard Analysis which includes but is not limited to:
- discussion on where hazards occur,
- machine guarding requirements,
- machinery maintenance and repair requirements,
- Label, signs, and marking requirements for machines with hazardous moving parts.
• NCSG shall provide visitors to a work site an orientation, which includes, but is not limited to the identification of equipment guarding labelling for any area that the visitor may be in proximity to during the visit.
• Employee training shall include, but not be limited to the following instructions and hands-on training:
  o Description and identification of the hazard associated with the machine
  o The guards, how they provide protection, and the hazard for which they are intended
  o Precautions to take when machine is unguarded during maintenance and repair
  o What to do and who to contact if a guard is damaged, missing, or defective
  o Review of the Standard Operating Procedures for the specific machines to be used by the employee
• PPE Equipment specific training for equipment used
• NCSG orientation

8.0 RESOURCES
• Alberta OH&S Code Part 25
• Alberta OH&S Code Part 22
• BC OH&S Regulation Part 12
• Manitoba OH&S Regulation Part 16
• Saskatchewan OH&S Regulations Part X
• CSA Z432-94 – Safeguarding of Machinery
• OSHA 1920
• OSHA 1926

NCSG understands that there may be questions and concerns regarding the Equipment Guarding Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES
• Appendix A – Minimum Machine Guarding Checklist Criteria
• Appendix B – Selected Machine Guarding Labelling Requirements
• Appendix C – Illustrations of Types of Guards

10.0 SUPPORTING DOCUMENTS
• NCSG Code – Personal Protective Equipment - Eye and Face Protection
• NCSG Code – Personal Protective Equipment – Respiratory Protection
• NCSG Code – Hazardous Energy Isolation
Appendix A

Minimum Machine Guarding Checklist Criteria
Requirements for All Safeguards

Yes No

☐ ☐ Do the safeguards prevent workers’ hands, arms, and other body parts from making contact with dangerous moving parts?

☐ ☐ Are the safeguards firmly secured and not easily removed?

☐ ☐ Do the safeguards ensure that no objects will fall into the moving parts?

☐ ☐ Do the safeguards permit safe, comfortable, and relatively easy operation of the machine?

☐ ☐ Does the manufacture allow the machine to be serviced without removing the safeguard?

☐ ☐ Is there a system for shutting down the machinery before safeguards are removed?

☐ ☐ Can improvements be made to the existing safeguards?

Mechanical Hazards

The point of operation:

☐ ☐ Is there a point-of-operation safeguard provided for the machine?

☐ ☐ Does it keep the operator’s hands, fingers, and body out of the danger area?

☐ ☐ Is there evidence that the safeguards have been tampered with or removed?

☐ ☐ Could you suggest a more practical, effective safeguard?

☐ ☐ Could changes be made on the machine to eliminate the point-of-operation hazard entirely?

Power transmission apparatus

☐ ☐ Are there any unguarded gears, sprockets, pulleys, or flywheels on the apparatus?

☐ ☐ Are there any exposed belts or chain drives?
HEALTH, SAFETY & ENVIRONMENT
EQUIPMENT GUARDING CODE

☐ ☐ Are there any exposed setscrews, key ways, or collars?

☐ ☐ Are starting and stopping controls within easy reach of the operator?

☐ ☐ If there is more than one operator, are separate controls provided?

**Other moving parts:** Insert Equipment Specific parts as identified through NCSG Standard Operating Procedures

**Non-Mechanical Hazards**

- Yes
- No

☐ ☐ Have appropriate measures been taken to safeguard workers against noise hazards?

☐ ☐ Are safeguards provided for including auxiliary parts?

☐ ☐ Have special guards, enclosures, or Personal Protective Equipment (PPE) been provided, where necessary, to protect workers from exposure to harmful substances used in machine operation?

**Electrical Hazards**

☐ ☐ Is the machine installed in accordance with National Fire Protection Association and National Electrical Code requirements?

☐ ☐ Are there loose conduit fittings?

☐ ☐ Is the machine properly guarded?

☐ ☐ Is the power supply correctly fused and protected?

☐ ☐ Do workers occasionally receive minor shocks while operating any of the machines?

**Training**

☐ ☐ Do operators and maintenance workers have the necessary training in using the safeguards and why?

☐ ☐ Have operators and maintenance workers been trained in locating safeguards, how they provide protection, and what hazards they protect against?

22/11/2011
Have operators and maintenance workers been trained in the circumstances in which guards can be removed?

Have workers been trained in the procedures to follow if they notice damaged, missing, or inadequate guards?

**Protective Equipment and Proper Clothing**

Is Personal Protective Equipment (PPE) required?

If PPE is required, is it appropriate for the job, in good condition, kept clean and sanitary, and stored carefully when not in use?

Is the operator dressed safely for the job (that is, no loose-fitting clothing or jewellery)?

**Machinery Maintenance and Repair**

Yes No

Have maintenance workers received up-to-date instruction on the machinery they service?

Do maintenance workers lock out the machine from its power sources before beginning repairs?

Where several maintenance persons work on the same machine, are multiple lockout devices used?

Do maintenance persons use appropriate and safe equipment in their repair work?

Is the maintenance equipment itself properly guarded?

**Other Items to Check**

Are emergency stop buttons, wires, or bars provided?

Are the emergency stops clearly marked and painted red?

Are there warning labels or markings to show hazardous areas?

Are the warning labels or markings appropriately identified by yellow, yellow and black, or orange color?
Appendix B

Selected Machine Guarding Labelling Requirements

Appropriate labels shall be placed on all machines (old and new) requiring machine guarding when the machine is not in operation or while it is being serviced. If labels have been painted over, defaced, or removed they shall be replaced.

Woodworking Machinery Requirements

Radial Saws-
The direction of the saw rotation shall be conspicuously marked on the hood. In addition, a permanent label at least 1-1/2 inches by 3/4 inch must be affixed to the rear of the guard at about the level of the arbour. The label must read as follows:

DANGER:
DO NOT RIP OR PLOUGH FROM THIS END

Mechanical Power Presses- Presence Sensing Device Initiation (PSDI) Prior to the initial use of any mechanical press in the PSDI mode, certification as applicable to legislative regulation are required. A label shall be affixed to the press as part of each installation certification/validation and the most recent recertification/revalidation. The label must indicate:

- The press serial number
- The minimum safety distance
- The fulfillment of design certification/validation
- The employer’s signed certification
- The identification of the OSHA-recognized third party validation organization and its signed validation
- The date the certification/validation and recertification/revalidation are issued

Portable Power Tool Guards

The phrase, “CAUTION. BE SURE THAT GUARD IS IN PLACE BEFORE USE,” or similar wording must be clearly visible on or near the guard or starting control point.

Jacks - Loading and Marking

The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, stencilling, or other suitable means. Jacks which are out of order shall be tagged accordingly and removed from service.
Appendix C

- Figure 1 provides an example of a fixed guard.
- Figures 2 and 3 provide examples of adjustable guards.
- Figures 4 and 5 show examples of a self-adjusting guard.
1.0 PURPOSE

NC Services Group (NCSG) is committed to maintaining a safe and healthy workplace by ensuring hazards are identified and corrected. Through Field Level Risk Assessments (FLRA), hazards specific to a task can be identified, assessed and corrected before work commences, to reduce the potential for loss.

Regular FLRA's will be completed by employees at all levels within NCSG and its affiliates as hazard communication and prevention.

2.0 SCOPE AND APPLICATION

The process applies to all employees who are engaged in company business, including contractors. All craft work employees, including supervisors will conduct FLRA’s when deemed necessary for the task or site as outlined in the methodology. FLRA's conducted will be tracked and evaluated for quality, completion and compliance.

3.0 DEFINITIONS

3.1 Hazard

The potential to cause harm.

3.2 Risk

The likelihood of harm, based on severity, frequency and probability.

4.0 EXPECTATIONS

In an effort to reduce loss in the workplace, FLRA’s will be conducted daily by a worker or crew and reviewed by the supervisor. FLRA’s will be gathered and reviewed by Supervisors and Management for quality and compliance.

FLRA’s will be completed daily and/or as work conditions change.

The reporting of unsafe acts, unsafe conditions, incidents, injuries and near misses is an essential part of identifying and correcting hazards. Accurately reporting unsafe acts, unsafe conditions, incidents, injuries and near misses allows for opportunity to provide awareness and prevention.
5.0 ROLES AND RESPONSIBILITIES

5.1 HSE Advisors

- Audit overall FLRA summary’s and provide feedback to Manager and/or Supervisor.
- Provide training and assistance to supervisors and employees on FLRA’s.
- Report FLRA compliance to Branch Manager and VP HSE.

5.2 Supervisors

- Assist workers in FLRA completion and provide feedback.
- Ensure FLRA’s are being completed where as required by task or process.
- Ensure all pertinent information is collected.
- Review to ensure all risks identified are eliminated or controlled.
- Review and sign off if properly completed.
- Audit FLRA’s to identify opportunities for improvement and re-training, following focus inspector process.

5.3 Management

- Assist Supervisors in FLRA process.
- Ensure FLRA’s are being completed and reviewed by Supervisors.
- Review overall audit and compliance summaries and implement corrective actions.
- Ensure all risks identified are eliminated or controlled.

5.4 Employees

- Complete FLRA’s daily prior to commencing work and when task or conditions change.
- Consult with the Supervisor or HSE Advisor on FLRA completion.
- Complete FLRA in the field so that hazards are assessed accurately.
- Ensure that for every hazard identified, an appropriate corrective action is in place. Do not assume risk.

6.0 METHOD

6.1 FLRA Implementation

The FLRA process will be implemented at all NCSG sites to provide a tool for the identification and control of risks within an employees work environment. The Process will be apart of new hire orientation, both corporately and for site. This will be an introduction to the process and further training will be required and provided by Supervisors and HSE Advisors as necessary.
6.2 FLRA’s

FLRA’s are a method of identifying hazards and correcting them to prevent loss. In order for the process to be effective, FLRA’s must be conducted at least daily by all site workers as part of a group or individually and supervisors. FLRA’s must be conducted when:

- New workers or new to work area are introduced;
- New tools or equipment is introduced;
- Conditions change (i.e. Weather);
- The job or task changes.

6.3 Identify, Assess, Control

FLRA’s are designed to identify and outline the steps of the job to be conducted. Each step is then assessed for potential or actual hazards and risks. Each identified hazard is then controlled by elimination, engineering, administration or personal protective equipment before work commences. A crew FLRA should be discussed together in the field prior to commencing work and is in addition to the Pre-Job Safety Instruction Meeting. An individual FLRA should be completed by a worker once the area of work, route, lift, load, ramps, etc. have been assessed.

FLRA’s will be conducted in one of the following ways:

1. Crews will conduct FLRA’s as a team activity with a Supervisor. This will be a meeting conducted at the actual work site location.
   - Crew members identify work;
   - Crew members identify job hazards;
   - Crew members identify plans to eliminate or control the risks;
   - Supervisor provides input and complete FLRA Card;
   - Crew members sign onto the completed card.
2. A individual working on mobile equipment, completes the FLRA at the actual work site location prior to any work.
   - Individual identifies work;
   - Individual identifies job hazards;
   - Individual identifies plans to eliminate or control the risks;
   - Supervisor reviews and provides input on the FLRA Card;
   - Any workers in the affected work area sign onto the completed card.

3. Crews working on maintaining equipment, conduct a FLRA with a Supervisor at the start of each shift or when work conditions change.
   - The Supervisor will suggest a work step to discuss that is pertinent to the activity for the day;
   - Crew members identify the hazards;
   - Crew members identify plans to eliminate or control the risks;
   - Supervisor will ask for additional input from those who have not volunteered;
   - Supervisor provides input and complete FLRA Card;
   - Supervisor and crew members will sign onto completed FLRA Card.

6.4 Tracking and Auditing

FLRA’s will be evaluated based on completion and quality. By utilizing the tracking tool, a random sampling of 10 FLRA’s, either by location, crew or supervisor, will be evaluated at least once per shift cycle by an HSE Advisor. Completion and quality are relative to overall compliance of a crew or individual on a job or task. The compliance rating from a sampling will indicate the overall understanding within a crew or site, and may prompt additional resources, such as training.

FLRA’s will also undergo an Audit process annually to measure effectiveness, consistency and continuous improvement.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Field Level Risk Assessment Training

8.0 RESOURCES

Contact the Regional Team Lead – HS&E for more information regarding this Process.

9.0 APPENDICIES

- Appendix A – FLRA Card
- Appendix B – FLRA Evaluation Tool
FIELD LEVEL RISK ASSESSMENT

<table>
<thead>
<tr>
<th>Task Location</th>
<th>Emergency Meeting Point</th>
</tr>
</thead>
</table>

Identify & Prioritize the Steps and Hazards below, then identify the plan to eliminate or control the hazards.

<table>
<thead>
<tr>
<th>Steps</th>
<th>Hazards</th>
<th>Plan to Eliminate or Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Reviewed 1st Break: [ ] Yes [ ] No
Is a lockout required? [ ] Yes [ ] No
Reviewed 2nd Break: [ ] Yes [ ] No
Warning or Caution tape? [ ] Yes [ ] No
Reviewed 3rd Break: [ ] Yes [ ] No

Please print name & sign below (all members on this task) prior to commencing work. This form must be completed at the end of the unit.
Worker Name and Signature (below):

All names & signatures must be legible.

Are all permits closed out? [ ] Yes [ ] No
Are there any hazards remaining? [ ] Yes [ ] No
Is the work area cleaned up? [ ] Yes [ ] No

Reviewed by (Name & Signature): __________________________ Date: ___________
### Field Level Risk Assessment Process

Review the following and check the items which apply to the job.

#### Permits
- Required
- Received/Issued
- All permit conditions met
- Other

#### Access/Exit
- Confined Space Entry
- Scaffold (Properly Inspected and Tagged)
- Ladder (Properly Inspected and Tagged)
- Aerial Lift (ASME, Standard, etc)
- Personal Protective Equipment (Approved)
- Hot/Cold Permit
- Special Provision

#### Rigging/Handling
- Lift Study Required
- Proper Tool Used
- Tools Inspected
- Sling Attached
- Ground Dock Permit
- Others (please specify below)

#### Housekeeping
- Area clean and free
- Trash containers
- Other

#### Health
- Personal Protective Wear
- Respirator (Approved)
- Eye Protection
- Hard Hat
- Other

#### Ergonomics
- Repetitive Motion
- Painful motion
- Other

#### Process Hazards - Client
- Process Equipment - hot or cold
- Fumes or fumes
- Hydrocarbon leak
- Steam leak
- Process valve or instrument
# Field Level Risk Assessment Process

## Field Level Risk Assessment Evaluation

<table>
<thead>
<tr>
<th>Elements</th>
<th>Quality &amp; Completeness Questions</th>
<th>Sample 1</th>
<th>Sample 2</th>
<th>Sample 3</th>
<th>Sample 4</th>
<th>Sample 5</th>
<th>Sample 6</th>
<th>Sample 7</th>
<th>Sample 8</th>
<th>Sample 9</th>
<th>Sample 10</th>
<th>Element %</th>
</tr>
</thead>
</table>
| 1        | Has the task at hand been clearly identified?  
(Task Name, Task location, Date, Time) |          |          |          |          |          |          |          |          |          |           |          |
| 2        | Have all applicable steps been identified?  
(Steps, Time, Equipment, Material, SOP) |          |          |          |          |          |          |          |          |          |           |          |
| 3        | Have hazards been identified for each task step?  
(Hazards that involve people, equipment, environment) |          |          |          |          |          |          |          |          |          |           |          |
| 4        | Have Corrective Actions for hazards Identified been developed?  
(Uses Engineering, Administrative, and PPE Controls) |          |          |          |          |          |          |          |          |          |           |          |
| 5        | Has the FURA been signed off by all necessary people?  
(Includes signature for worker, supervisor, adjoining cranes) |          |          |          |          |          |          |          |          |          |           |          |

Sample %

Overall Score %
1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Gas Monitoring Code to identify the proper level of protection against a potential injury to persons due to unsafe or uncontrolled exposure to toxic gases in the workplace.

2.0 SCOPE AND APPLICATION

This code applies to any workplace or designated work area where a NCSG employee or a contractor is exposed to an environment where toxic gases or fumes may exist.

This Process applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to the Gas Monitoring Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 ALARA

As Low As Reasonably Achievable, a measure must be taken to keep the worker's exposure to a level as low as reasonably achievable.

3.2 Confined Space

A space such as a tank, a silo, storage bin, process vessel, sewer, or other enclosure not designed or intended for human occupancy, or an area, other than underground working such as a tunnel or shaft, that:
- Is enclosed or partially enclosed.
- Is not designed or intended for continuous human occupancy.
- Has limited or restricted means of entry or exit that may complicate the provision of first aid, evacuation, rescue, or other emergency response service.
- Is large enough and so configured, a worker could enter to perform assigned work.
3.3 Exposure Limit

The maximum concentration of a contaminant that workers are allowed to be exposed to without respiratory protection, as set out in specified regional legislation.

3.4 IDLH Atmosphere

An atmosphere containing the substance in a concentration that is immediately dangerous to life or health (IDLH) because it impairs a worker's ability to escape without serious injury or irreversible health effects.

3.5 Hydrogen Sulphide

A colorless inflammable gas having the characteristic odor of bad eggs, and found in many mineral springs. It is produced by the action of acid on metallic sulphide, and is an important chemical reagent.

3.6 Atmospheric Testing

A process whereby a select area of atmosphere is through the use of equipment such a monitors, tested on a fix schedule to ensure the exposures of personnel to the effected atmosphere is regulated.

3.7 Highly Toxic Gases

Gases that have a median Lethal Concentration (LC50) in air of 200 parts per million by volume or less of gas or vapour when administered by continuous inhalation for one hour.

A Threshold Limit Value (TLV) as established by ACGIH or a Permissible Exposure Level as established by OSHA, less than or equal to one part per million.

3.8 Toxic Gases

Gases that have a median Lethal Concentration (LC50) in air of more than 200 parts per million, but not more than 2000 parts per million by volume of gas or vapour when administered by continuous inhalation for one hour.

4.0 EXPECTATIONS

The Gas Monitoring Code shall provide required and adequate guidelines to ensure knowledge of requirements regarding NCSG personnel to implement and participate in Gas Monitoring activities on a NCSG worksite.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Understand and adhere to the conditions of the Gas Monitoring Code.
- Report any violations or deviations from the Gas Monitoring Code by any unauthorized personnel at anytime to a immediate supervisor or manager.

5.2 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers are adequately trained in the application of this code as it relates to their specific job tasks or functions.
- Ensure all Gas Monitoring activities comply with the applicable Legislation and this Code.

5.3 Management

In addition to 5.1, it is the management responsibility to:

- Any form of Toxic Gas usage on an NCSG site shall have onsite monitoring according to this procedure and NCSG Management will ensure the work not commence prior to meeting all applicable elements.
- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.

5.4 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Designations of Toxic Gases

In order to determine the appropriate levels of monitoring the following table outlines the Toxic Gas and the monitoring requirement.
### Toxic Gas Monitoring Table

<table>
<thead>
<tr>
<th>Type of Gas</th>
<th>Monitoring Requirement</th>
<th>ERP Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen Sulfide</td>
<td>Continuous Monitoring through out operation. Alarms required for exposure limit thresholds. Specialized Respiratory equipment required to mitigate exposure.</td>
<td>Yes</td>
</tr>
<tr>
<td>Benzene</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Specialized Respiratory equipment required.</td>
<td>Yes</td>
</tr>
<tr>
<td>Cadmium</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Specialized Respiratory equipment required.</td>
<td>No</td>
</tr>
<tr>
<td>Ethylene Oxide</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Specialized Respiratory equipment required.</td>
<td>No</td>
</tr>
<tr>
<td>Silica Cyrstalline</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Specialized Respiratory equipment required.</td>
<td>No</td>
</tr>
<tr>
<td>Vinyl Cihloride</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Respirator equipment required.</td>
<td>No</td>
</tr>
<tr>
<td>Isocyanates</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Specialized Respiratory equipment required.</td>
<td>Yes</td>
</tr>
<tr>
<td>Lead and Lead Compounds</td>
<td>Continuous Monitoring required through out operations. Alarms required for exposure limit thresholds. Respirator equipment required.</td>
<td>No</td>
</tr>
</tbody>
</table>

**Note:** The ERP Requirement can be addressed through the application of a Safe Work Permit Process.

### 6.2 Monitoring of Toxic Gases
To prevent potential exposure to identified toxic gases on a NCSG worksite the following two methods of gas monitoring may be employed by NCSG.

<table>
<thead>
<tr>
<th>Gas Monitoring Equipment</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Monitors</td>
<td>• Designated only in areas where exposure potentials are relatively small.</td>
</tr>
<tr>
<td></td>
<td>• To be employed as an alarm and evacuation device only, not for continuous work.</td>
</tr>
<tr>
<td></td>
<td>• Must be certified to measure the identified gas as well as oxygen breathing limits.</td>
</tr>
<tr>
<td></td>
<td>• Must be calibrated as per the manufacturers specification, utilizing the gas mixtures appropriate for the atmosphere to be tested.</td>
</tr>
<tr>
<td>Fixed Gas Monitoring Units</td>
<td>• To be calibrated in accordance with Manufactures requirements.</td>
</tr>
<tr>
<td></td>
<td>• To be installed in locations identified as potential exposure points.</td>
</tr>
<tr>
<td></td>
<td>• Must be accompanied by a site specific Emergency Response Plan prior to commencing work.</td>
</tr>
</tbody>
</table>

7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG orientation
- NCSG Site Specific Orientation

8.0 RESOURCES

- Workers Compensation Board of BC – WorkSafeBC – Breathe Safer – How to Use Respirators Safely and Start a Respirator Program
- AB OHS Code Part 18, Sec 244(3)
- AB OHS Explanation Guide Part 18, Sec 244(3)
- AB OHS Code Part 18 Sec 244 (4)
- Alberta OH&S Explanation Guide Part 18
- BC OH&S Regulation part 32
- BC OH&S Regulations Part 8
- BC OH&S Regulations Part 6
- CSA Z94.4-02 Selection, Use, and Care of Respirators (R2007)
- CSA Z180.1-00 Air Quality Table 1 Requirement
- OSHA 1920
- OSHA 1926

Please direct any questions regarding this Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

24/11/2011
None

10.0 SUPPORTING DOCUMENTS

- NCSG New Employee Orientation Process
- NCSG PPE – Respirator Code
- NCSG First Aid Code
REMEMBER!

- Look UP, Look DOWN, Look ALL AROUND
- Ensure the work site is free of debris and waste material
- Are waste containers and storage areas available and clearly identified to collect waste
- Use the correct PPE (gloves, masks, goggles, disposable coveralls) to prevent injury during collection of debris and waste material
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a General Housekeeping Code to identify adequate practices of tidiness and cleanliness is maintained in the workplace. Application of appropriate housekeeping practices by employees, contractors, and the public while operating within NCSG areas of responsibility will provide both visible and practical means in which to maintain the workplace.

2.0 SCOPE AND APPLICATION

The housekeeping required in certain environments or with specific equipment shall be detailed within those codes. General Housekeeping Code shall enable employees to understand the minimum requirements to ensure adequate guidelines are in place to provide a safe environment. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG when ensuring a work site free and safe from housekeeping hazards.

3.0 DEFINITIONS

There are no definitions for the General Housekeeping Code.

4.0 EXPECTATIONS

The General Housekeeping Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Ensure a safe and hazard free work site is maintained throughout the entire shift.
- Clean up schedules and monitoring shall be conducted as applicable to the nature of the work being done.
- If an untidy or hazardous condition is identified, all employees have a responsibility to correct the condition or have it identified to a person responsible to correct the condition.
- Be responsive, through adequate training and understanding, to minimize the risk of injury through keeping the work site clean and free from materials or equipment that could cause workers to slip, trip, or come into unplanned contact with a body.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers maintain a clean and safe work site through on-going general housekeeping as specified in this code in accordance with the training and instruction received.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Use of Field Level Risk Assessment

Through the use of the FLRA, employees and contractors shall identify the work site requirements for cleanliness prior to the start of work. Any and all hazards that may be cleaned and removed shall be done prior to the start of work.

6.2 Toolbox / Safety Meetings

Toolbox / Tailgate / Safety meetings shall be conducted prior to the start of work where applicable and supervisors shall reinforce the need to maintain a clean and tidy workspace. Emphasis must be placed on ALL works sites, not just the traditional “field environment”

6.3 Prevention Practices

Adequate waste storage bins, locations and containers shall be made available to employees to assist in maintaining a clean and debris free work site. All waste storage bins, locations and containers shall meet or exceed the required standards to comply with any WHMIS regulations.

6.4 Protection Practices

Company Standard Operating Procedures will further define site-specific housekeeping requirements due to environmental hazards, which may be present.

6.5 Facilities

Lighting:
- NCSG shall ensure that all designated work locations and worksites shall be equipped with sufficient lighting to allow all workers to perform their jobs in a safe manner.
- Must be sufficient to protect the health and safety of workers and suitable for the work to be done at the worksite.
- Lighting must be maintained and replaced when damaged or burned out.

Smoking:
- Smoking is permitted in designated areas only.
- Smoking must not occur indoors.
- Smoking must not occur within 5 meters of any building door or window.
6.6 Storing and Handling

- Material and equipment must be placed, stacked or stored in a stable and secure manner. Stacked material or containers must be stabilized as necessary by interlocking, strapping or other effective means of restraint to protect the safety of workers.
- An area in which material may be dropped, dumped or spilled must be guarded to prevent inadvertent entry by workers, or protected by adequate covers and guarding.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG orientation
- Understanding for completion of FLRA
- WHMIS Compliance standards for storage of waste products and materials

8.0 RESOURCES

- Manitoba WS&H Regulations Part 4

NCSG understands that there may be questions and concerns regarding the General Housekeeping Code and shall assist employees in any areas of concern which are brought forward.

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None
REMEMBER!

- KNOW the potential Hazardous Energy Source
- Know how to identify a Lockout Tag / Lock
- Understand Lockout procedures
- DO NOT assume lock out is completed
- Read and understand the LOCKOUT TAGS and LOCKS
- NEVER remove a LOCKOUT TAG / LOCK that is not yours
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Hazardous Energy Isolation (Lockout) Code to identify the proper level of protection against a potential injury / incident due to an unplanned activation of an energy source to employees, contractors, and the public while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The application of an effective lockout program is identified in preparing a written, standardized procedure, necessary training and responsible supervision. The application of this code shall ensure that a sequence for access, de-energizing, lockout, clearance, release, and start-up of equipment is in place. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Hazardous Energy Isolation (Lockout) Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Lock out

The use of a lock or locks or a computer isolation code specific to the user to render machinery or equipment inoperable or to isolate an energy source in accordance with a written procedure.

3.2 Block

Blocks, special brackets, or special stands such as those commonly used under raised vehicles, or equipment. Blocks must be placed under raised dies, lifts, or any equipment that might inadvertently move by sliding, falling or rolling.
Another form of blocking is the placement of a blind. A blind is a disk of metal placed in a pipe to ensure that no air, steam, or other substance will pass through that point if the system is accidentally activated. Before installing blinds or blocks, bleed down steam, air, or hydraulic lines to get rid of any pressure.

Coiled springs, spring-loaded devices, or suspended loads must also be released so that their stored energy will not result in inadvertent movement.

3.3 Locks

As defined a lock or a code with only one key which is assigned to an individual employee. The lock should be substantial and durable, and should have the name of the employee on it. In addition, locks can be color-coded to indicate different shifts or types of trades.

When more than one worker is servicing a piece of equipment that must be locked out, a lockout adaptor can be used which allows all the workers to place their locks on the disconnecting means.

3.4 Lockout adaptor

A device that enables multiple workers to isolate an energy source to complete assigned works on a piece of equipment or task. After the work is completed, each worker removes his lock and only upon removal of all locks can the equipment be returned to serviceable condition.

3.5 Tags

A recordable one time use item to be attached to the lockout location and able to identify the following:
- reason for the lockout.
- name of the employee who is working on the equipment and how that person may be reached.
- date and time the tag was put in place.

Tagout devices shall be capable of enduring at least 50 pounds of pull, and a non-reusable type.

3.6 Energy source

Any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other source of energy.

4.0 EXPECTATIONS

The Hazardous Energy Isolation (Lockout) Code shall provide required and adequate procedure to ensure knowledge of potential hazards of an energy source available to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Hazardous Energy Isolation (Lockout) Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.
Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- All employees shall be instructed in the safety significance of the lockout procedure by a competent and designated individual of NCSG.
- Each new or transferred affected employee shall be instructed by a competent and designated individual of NCSG in the purpose and use of the lockout procedure.
- 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.
- All employees, contractors, visitors shall not attempt to operate any switch, valve, or other energy isolating device bearing a lock.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments due to the requirement of lockout procedure.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure that each worker involved in the application of a locking out device is the only worker equipped with the key or code to that device and only the company management representative will hold the duplicate key.
- Ensure that in a situation where a lock device is installed by a worker that the installing worker is aware of who holds the duplicate key and when and how that key will be applied.
- Ensure that when a situation exists where a lock device is installed that a lock out logbook be used to track the application and removal of the lock device during the entire process.
HEALTH, SAFETY & ENVIRONMENT

HAZARDOUS ENERGY ISOLATION CODE

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Written Requirements of Hazardous Energy Isolation (Lockout)

All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel or damage to property. This includes maintenance, servicing, testing, cleaning, repairs and defective machinery or equipment.

If it is not practicable to shut down machinery or equipment for maintenance, only the parts which are vital to the process may remain energized and the work must be performed by workers who are qualified to do the work, have been authorized by the employer to do the work, and have been provided with and follow written safe work procedures.

If the energy isolating device is under the exclusive and immediate control of the worker at all times while working on the machinery or equipment, or a tool, machine or piece of equipment which receives power through a readily disconnected supply, such as an electrical cord or quick release air or hydraulic line, is disconnected from its power supply and its connection point is kept under the immediate control of the worker at all times while work is being done, a lockout is not required.

NCSG shall ensure an effective lockout program through a written standardized code which shall be supplemented by site specific Standard Operating Procedures where applicable and posted. The format shall be consistent with a checklist format that is easily understood and followed by all employees, contractors, and visitors to NCSG areas of responsibility.

This format shall include and verify a sequence for access, de-energizing, lockout, clearance, release, and start-up. Stored energy shall also be considered in addition to conditions, which would not under normal operating circumstances consist of a hazardous condition, which now does exist due to the removal of guards during maintenance and servicing.

NCSG shall ensure the following is applied and included in the standardized forms for Lockout procedures:
- job objectives and equipment involved.
- detailing the energy sources for each machine and lockout procedures.
- lock and key identification and distribution.
- steps for shutting down and securing machinery.
- steps to verify lockout effectiveness.
6.2 Sequence of Lockout Procedure

1. Notify all affected employees that a lockout is required and the reason therefore.
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, and 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 as appropriate. Combination locks will not be used.
5. Attach a tag with the person responsible for the lockout's name, date, and reason for lockout.
6. 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.**
7. The equipment is now locked out.

6.3 Removal of Lock Out Devices

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. The energy isolating devices may be operated to restore energy to equipment.
3. The management member responsible for the entire activity shall ensure that all locks are removed in accordance to the NCSG procedure.
4. In the event a worker can not physically remove a lock that he/she has installed the Senior NCSG Management Representative on site can remove the lock using the duplicate key only after he has verified the location and safety of the worker in question and that the action and verification is so noted in the lock out logbook for that event. The verification must be witnessed by another NCSG employee.

6.4 Procedure Involving More Than One Person or A Second Working Shift

1. In the preceding steps, if more than one individual is required to lock out equipment or where a different shift of workers is required to access the locked out equipment, each new worker shall place his own personal lock on the energy isolating device(s).
2. Two designated individuals of a work crew, with the knowledge of the crew, may lock out equipment for the whole crew ensuring the following criteria is maintained:
   a) independently lockout the energy isolating device
   b) security keys for the energy isolating device with a lock or other positive sealing device as designated by NCSG
   c) complete sign and post a checklist that identifies the machinery or equipment components which are covered by the lockout procedure
3. The designated individuals shall not remove a crew lock until it has been verified that all individuals are clear.

6.5 Working On Equipment Which Must Be Running During Servicing or repair

1. In case where equipment must be operational for servicing and or where it is not possible to lock out equipment for service work, NCSG shall identify such equipment and implement the following:

- A detailed work procedure for tasks being performed around or including the use of that equipment.
- A detailed Hazard Assessment shall be conducted on the equipment prior to working with or around such equipment.
- Sign off for all involved

7.0 TRAINING REQUIREMENTS AND MATERIALS

In training for lockout procedure NCSG shall consider the following:

- Employees must understand what equipment tagout or lockout means, and what to do if they want to operate it.
- The authorized person must be trained in a written procedure and fully knowledgeable of hazardous energies specifically related to equipment.
- Employees reassigned to different equipment shall be retrained.
- Contractors working on site shall have a general understanding of lockout/tagout and follow NCSG procedures. In large and complex facilities, permits signed by designated supervisors shall be obtained before a lockout is begun. A signed permit is particularly important if maintenance work is being performed by an outside contractor who may be familiar with the particular piece of equipment being serviced, but who will not know about NCSG and site specific operation overall.
- NCSG orientation
- All training and/or retraining must be documented, signed and certified.

8.0 RESOURCES

- Alberta OH&S Code (second edition)
- BC OHS Regulation Part 10
- Manitoba WH&S Regulation part 16
- Saskatchewan OH&S Regulations Part X
- OSHA 1920
- OSHA 1926

May all be used to reference additional information pertaining to Hazardous Energy Isolation (Lockout) and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Hazardous Energy Isolation (Lockout) Code.
9.0 APPENDICIES

- Appendix A – Lockout Removal Form

10.0 SUPPORTING DOCUMENTS

- None
## Appendix A

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Unit No.</th>
<th>Unit Description</th>
<th>Lock Type</th>
<th>Lock No.</th>
<th>Employee Name</th>
<th>Supervisor</th>
<th>Client</th>
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<th>Employee Name</th>
<th>Supervisor</th>
<th>Client</th>
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</thead>
<tbody>
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<tr>
<td>I/O</td>
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</tbody>
</table>

### Employee is Present? | Reason for Removal? | Verification method that employee is off site:
- Yes
- No

### Manager is Present? | I/O and Supervisor have verified the equipment is safe to remove the lock and no personnel are in the hazard area.
- Yes
- No

<table>
<thead>
<tr>
<th>Manager Name and Signature:</th>
<th>Isolation Officer Name and Signature:</th>
<th>Supervisor Name and Signature:</th>
</tr>
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<tbody>
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### Logbook Updated? | Lock Destroyed? | Additional Notes:
- Yes
- No

- Yes
- No

Additional Notes:
Purpose
The purpose of this policy is to establish procedural guidelines as per applicable Occupational Health & Safety legislation for a work refusal. NC Services Group and its affiliated companies (NCSG) are committed to the protection of our employees, the public, the environment and our physical assets. NCSG will continue to maintain a safe work environment in order to prevent occupational injuries and illnesses. All employees are equally responsible for complying with the requirements of the applicable Occupational Health & Safety legislation.

Definition
“Imminent Danger” refers to any danger that you do not normally face in your job, or to any dangerous condition that you would not normally work under.

Policy
It is the policy of NCSG to resolve health and safety concerns before a work refusal occurs and provide a uniform reporting procedure.

Procedure
- Health and Safety Complaint
  In the event that a worker raises a health and safety concern or complaint to their Supervisor, the Supervisor will:
  - Investigate in the presence of the worker and establish with the worker whether a health & safety issue exists and if it is a complaint or work refusal.
  - If determined to be a safety complaint and the task is unsafe, the Supervisor shall undertake immediate correction action.

- Health and Safety Work Refusal
  All workers have the right to refuse work that they have reason to believe is unsafe. A worker may refuse to work or do particular work where he/she or another worker may be endangered by:
  - equipment, machine, device or things;
  - physical condition of the workplace;
IMMINENT DANGER PROCESS

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

Should there be a work refusal, the following procedure will apply:

- Stage 1
  Worker has reason to believe work or task is unsafe.
  - Stop the work and advise adjacent or affected workers of the reason.
  - Report it immediately to your Supervisor, the work refusal (preferably in writing) should outline the worker’s reason(s) for believing the work to be unsafe.
  - The worker shall remain in a safe place near his or her work area.
  - Supervisor shall forthwith investigate in the presence of the worker, a representative from the HS&E Department.
  - The Supervisor shall respond to the worker verbally (then in writing), outlining remediation timelines, if applicable. If there will not be a remediation plan, then the reasoning behind it must be written as well.
  - Should the issue be resolved and corrective action taken, if required, the worker shall return to work. If the issue is not resolved proceed to stage 2.

- Stage 2
  - Following the investigation, should the worker have reasonable grounds to believe that the work or task continues to be unsafe, they must report it immediately to the HS&E Lead.
  - Refused work may be offered to another worker providing it is offered in the presence of a representative of the HS&E. This worker shall also be advised of the other worker’s refusal and his or her reasons for the refusal.
  - If applicable, the refusal may be elevated to the regulatory agency by the Worker, the Supervisor or the HS&E Lead.
Disciplinary Action Prohibited

No person shall dismiss or take any other disciplinary action against a worker by reason of that worker acting in compliance with the applicable OH&S legislation.
REMEMBER!

- Keep the office floor clear
- Ensure Doorways / Access routes are clear
- Report any spills / water / floor damage as soon as possible
- Conduct work in a professional manner – Refrain from Horseplay
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed an Office Safety Code to identify the proper level of protection against a potential injury / damage to employees, contractors, and the public / property regarding general office environments and safety while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

Maintaining a safe work environment in the offices of NCSG is essential to enable employee's adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

There are no definitions for the Office Safety Code.

4.0 EXPECTATIONS

The Office Safety Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Office Safety Code will be reviewed at a minimum of every three years.

This Code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0  ROLES AND RESPONSIBILITIES

5.1  Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to injury in the office environment.

5.2  Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3  Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4  Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
- NCSG Management will notify any worker of any identified task, position, or workstation that has an existing Strain (MSI/RSI) hazard and the corrective actions implemented for that hazard.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Assessment

- NCSG shall ensure an Ergonomic assessment is conducted on all office positions in the company.
- The assessment shall include:
  - A complete analysis of the physical demands of each position,
  - A analysis of the forces required for repetitive activities
  - The duration of such activities
  - Work postures
  - Contact stresses
  - Characteristics of each position including
    - Working reaches
    - Working heights
    - Seating
    - Floor surfaces
    - Load considerations
    - Object handling
    - Tools used
    - Environmental conditions

- NCSG shall develop and implement a process for the identification and elimination of deficiencies noted in the Ergonomic Assessments for each position.
- All hazards identified during inspections will be communicated to affected worker.

6.2 Inspections

- NCSG shall ensure in conjunction with FLRA’s and Standard Operating Procedures that all office environments are assessed for hazards using a scheduled routine of inspections.
- Inspections shall include all levels of employees.
- Inspections shall be conducted during the course of normal operating hours to ensure potential hazards are identified as a result of normal operating procedures being observed.
- Inspections will include training, facilities and ergonomics.
- All hazards identified during inspections will be communicated to affected worker.
6.3 Office Prevention Practices

- All legislative controls shall be maintained regarding building codes and infrastructure of all NCSG buildings and work sites.
- All safety requirements pertaining to Fire Suppression systems, number of fire extinguishers, fire rated doors, electrical building codes shall be of a standard condition which meets or exceeds the legislative requirements of the applicable jurisdiction.
- NCSG shall ensure building emergency exits are clearly marked and accessible. These areas shall not be used for storage or be blocked.
- Walkways and aisles within the office shall be open, clear from obstruction, and unrestricted.
- To prevent slips on wet floor surfaces, facility entrances with smooth tile or concrete flooring shall be covered with an absorbent mat that has a non-skid backing.
- Use signs or cones to alert others of wet floor surfaces.
- Any wet areas found on floors shall be cleaned up immediately.
- Electrical cords, computers, communication and phone lines shall be secured to prevent tripping.
- Carpet and desk mats shall be secured to prevent tripping or falling.
- File drawers shall be immediately closed after use to ensure no “blind” tripping hazards are exposed.
- Only one drawer should be opened at a time to prevent the cabinet from tipping forward.
- Filing cabinets shall be loaded from the lower drawers first and heavy contents shall always be stored in as low a drawer as possible.
- When possible, file cabinets should be permanently secured to wall / floor area.
- Utilize ergonomically correct office set ups and techniques.

6.3 Personal Prevention Practices

- NCSG shall in consult with the worker at each location during the assessment and provide training and or communication verbally or with other training tools such as Signs and Warning Notices where Ergonomic hazards exist or where employees have indicated an danger of exposure to an Ergonomic hazard.
- NCSG employees shall use the provided office equipment and furniture in accordance with the manufacturer’s recommendations for the purpose it is intended. (e.g. chairs are not step stools, desks are not ladders)
- NCSG employees / contractors shall use proper lifting techniques.
- If required to move heavy or bulky items, NCSG employees / contractors shall use mechanical lifting devices and/or asking for assistance.
- NCSG employees / contractors shall avoid walking with items stacked in a manner that blocks the vision of the individual and obstructs the view of the path of travel.
- Stack items in such a manner that they are stable.
- In conjunction with FLRA’s and through the use of orientation tours, NCSG employees / contractors shall be aware of, and keep hands and fingers out of pinch points throughout the office, especially desk drawers, file cabinets and stacked materials.
- NCSG employees / contractors shall be made aware of stress and strain associated with the use of computer screens and poorly arranged workstations.
- NCSG shall in conjunction with the Health, Safety and Environment team develop an Ergonomics Process to assess workstations. Excessive reaching and poor posture techniques shall be assessed.
Office equipment such as chairs and desks that are broken or need repair and are a safety hazard shall be labeled as "Broken, Do Not Use" and removed from the area until they are repaired or replaced.

Smoke only in designated areas.

Extinguish smoking materials in a proper receptacle.

Report water overflows and leaks that can create wet floor hazards to the designated NCSG employee responsible for building/facility maintenance.

6.4 Focus Protection Practices

Falls account for a large majority of accidents in an office environment.

Falls generally result from untidiness in the working environment such as:
- leaving equipment and files lying on the floor,
- trailing cords such as telephone wires or electrical cables,
- worn or damaged floor coverings,
- stair treads and risers,
- split liquids and
- standing on chairs or boxes instead of using proper steps and ladders.

NCSG employees / contractors shall ensure appropriate and adequate footwear is worn in the office environment to meet all standards as detailed in FLRA’s and PPE – Footwear Protection code.

Lifting and Carrying of material shall be done in accordance with safe lifting practices and be detailed in the ergonomics process outlined by the Health, Safety and Environment team. It shall include but is not limited to the following:
- If the load is on the floor or low down always bend your legs and lift with the back straight.
- Do not attempt to lift or carry too much at a time.
- If moving heavy loads about for any distance, always use a trolley to avoid putting undue strain on the back.
- Do not attempt to carry more than you can comfortably manage.
- Always use the handrail and don’t carry so much that you are unable to do so.
- Do not place or leave any objects in passages or on stairs which could cause someone else who is carrying something to walk into or fall over them.

Doors and the direction of swing shall be identified if visibility is impaired at any entrances.

Always ensure that there is nobody following behind before releasing a swing door.

Pay special attention to any member of the public or child in the vicinity of a swing door as they may not be as aware of the potential danger as you are.

Items which present a falling hazard shall not be stored on top of high filing racks / cabinets.

Items shall not be placed on adjoining cubicle dividers in a manner that may cause the item to fall to the "blind" side of the wall and land in the adjoining cubicle.

Nothing should be stored on top of high filing racks or without adequate support at the ends.

Any office equipment which uses electrical cords shall be maintained in safe working condition and be checked in conjunction with the Safety Inspection.

Cleaning and maintenance of office equipment shall only be done by designated employees / contractors.

Prevention of fires shall be supplemented by including safe work procedures in the office environment which identifies "silent hours" procedures. These may include but are not limited to:
- Keep clothing, towels, etc. away from heaters including storage / baseboard / space heaters.
Switch off all electric appliances after use. Where possible remove all plugs from their sockets.

Keep all flammable liquids properly stored during and at the end of the shift/day.

- NCSG employees, contractors, and visitors shall be aware of the actions to be taken in the event of a discovery of a fire in the workplace.
- Emergency Response Plans shall be posted in conspicuous locations throughout the office environment.
- Instructions for Emergency Evacuation and Muster locations shall be displayed in every office or common use area.
- Horseplay/Rough-housing shall not be conducted in the workplace. Employees, contractors and visitors of NCSG shall ensure professional conduct is demonstrated at all times.

All prevention measures will be reviewed and evaluated annually for effectiveness.

### 7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG shall ensure training includes but is not limited to:
  - use of equipment
  - day-to-day conduct of work in the office environment.
  - specific training in the use of Video Display Units and other office electronics,
  - the ergonomics of office work and the correct way to lift and carry
- PPE Equipment specific training
  - Disposable Rubber or Latex gloves
  - Disposable Coveralls
- Fire Extinguisher familiarization training
- NCSG orientation

### 8.0 RESOURCES

- Alberta OH&S Code (second edition)
- BC OH&S Regulation Part 4
- Manitoba WS&H Regulations part 8

May all be used to reference additional information pertaining to office safety and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Office Safety Code.

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

### 9.0 APPENDICIES

- None
REMEMBER!

- LOOK UP... Keep a safe distance from powerlines – Know the “Limits”
- Use a signaller when moving equipment
- If in contact with overhead powerlines:
  * Stay in the vehicle
  * Wait for help
  * Don’t touch metal
- Know CPR / AED Training or know the location of the Designated First Aider
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) has developed an Overhead Hazards - Limits of Approach Code to identify the proper level of protection against a potential contact of overhead lines to employees, contractors, and the public while operating within NC Services Group areas of responsibility. This code will aid employees in minimizing the risk associated with operating around overhead lines.

2.0 SCOPE AND APPLICATION

The correct application of limiting approach areas and operating areas around overhead lines will enable employees to ensure adequate protection during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NC Services Group.

This Process applies, without exception, to NC Services Group and its member companies (NCSG).

3.0 DEFINITIONS

There are no definitions for the Overhead Hazards – Limits of Approach Code.

4.0 EXPECTATIONS

The Overhead Hazards - Limits of Approach Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to contact and unknown voltage are available to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Overhead Hazards - Limits of Approach Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / Federal legislation within the operational areas of responsibility of NCSG. Legislative changes shall be monitored by Corporate Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System are updated a revision record will be posted to all employees notifying them of the update.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required during the operation of any equipment when operating around or near overhead powerlines in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Do not use personal protective equipment that is unable to perform the function for which it is designed.
- NCSG employees shall not operate equipment around or near power lines, unless properly trained to do so.
- Follow the direction of the Supervisor in maintaining the appropriate safe clearance when working in the vicinity of an overhead power line.
- Tools that are used by NCSG employees, contractors to handle energized conductors must be designed and constructed to withstand the voltages and stresses to which they are exposed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments, which may be prone to unknown voltage.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required during the operation of any equipment when operating around or near overhead powerlines in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline that is required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Corporate Health, Safety and Environment team.
5.5 Corporate Health, Safety and Environment Team

It is the Corporate Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Prior to Commencement of Work

NCSG shall inform power line owners of the date, time, and type of work involved and if required receive permission before work is done or equipment is operated within 7.0 metres of an energized overhead power line or at distances less than the safe limit of approach. This will determine the voltage of the power line, establish the appropriate safe limit of approach distance and obtain the operators assistance in protecting workers involved. If possible, a request to de-energize and ground power lines or provide insulated barriers shall be performed.

NCSG shall have in place and implement written Standard Operating Procedures (SOPs) to assist workers recognize and control the hazards of contact with overhead power lines in the workplace. Field Level Risk Assessments shall be used in conjunction with NCSG SOPs prior to the commencement of each shift and as required, should the nature of the work change.

All NCSG employees and contractors shall know the location and voltage of all overhead power lines at the job site and shall be marked with signage as required to indicate safe limit of approach distances in compliance with legislation.

NCSG employees, contractors, visitors and general public shall avoid storing materials under or near overhead power lines.

6.2 During Operation Around Overhead Powerlines

- No worker shall approach or operate within 7 meters of a energized overhead powerline unless:
  - The worker is directed by a competent utility company employee, or the minimum clearances outlined in the OH&S regulations, safe limits of approach, are maintained between the worker or the equipment and the overhead power line.
  - A safe work permit may be required and when such, is prepared and applies to all work carried out in close proximity to any energized powerline.
  - When deemed necessary, a dedicated safety watch person shall be utilized to ensure there is no inadvertent contact with an energized overhead powerline.
  - NCSG vehicles will not transport any load, equipment or building greater than 4.15 meters in height underneath any overhead power lines during normal operations. However, when transporting loads, equipment or buildings that are greater than 4.15 metres in height on public roadways, the safe limits of approach distances apply and the NCSG Management representative on site shall conduct an assessment of the safe approach prior to the load being moved.

- If a load, equipment or building is being moved or operated in the area of energized overhead power lines, the supervisor or a designated worker shall appoint a competent worker whose sole responsibility is to observe the clearance between the power lines and the object within the safe limits of approach. The employee shall be responsible to warn others if the minimum distance is not maintained.
When mechanical equipment is being operated near overhead power lines, NCSG employees, contractors, visitors or general public shall not stand in a manner as to be on the ground and in contact with the equipment unless it is located so that the required clearance cannot be violated even at the maximum reach of the equipment.

When working near overhead power lines, the use of non-conductive wooden or fibreglass ladders shall be used. Aluminum ladders and metal scaffolds or frames are efficient conductors of electricity and shall be avoided.

6.3 Emergency Response Planning

NCSG shall ensure an Emergency Response Plan is established prior to any work beginning around overhead powerlines. NCSG Emergency Response Plans shall include but are not limited to identifying the following:

- Never touch an overhead line if it has been brought down by machinery or has fallen. Never assume lines are dead.
- When a machine is in contact with an overhead line, **DO NOT** allow anyone to come near or touch the machine. Stay away from the machine and summon outside assistance by referring to emergency contact numbers.
- Never touch a person who is in contact with a live power line.
- If you should be in a vehicle that is in contact with an overhead power line, **DO NOT LEAVE THE VEHICLE**. As long as you stay inside and avoid touching metal on the vehicle, you may avoid an electrical hazard. If you need to get out to summon help or because of fire, jump out without touching any wires or the machine, keep your feet together, and hop to safety.
- Be trained in cardiopulmonary resuscitation (CPR).

NCSG shall ensure all employees, contractors, visitors as applicable are made familiar with emergency response planning regarding overhead power lines prior to the commencement of work.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- First Aid / CPR / AED Training for designated personnel
- NCSG orientation

8.0 RESOURCES

- ATCO Electric – [www.atcoelectric.com](http://www.atcoelectric.com)
- Alberta FIRST CALL
- Alberta OHS Code Part 17
- Manitoba WS&H Regulations Part 25
- Saskatchewan OH&S Regulations Part 23
- BC OH&S Code Part 14
- OSHA 1910 & 1926

May all be used to reference additional information pertaining to overhead powerlines and limits of approach and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Overhead Hazards - Limits of Approach Code.

Please direct any questions regarding the Program to your HS&E Advisor.
9.0 APPENDICIES

- Appendix A – ATCO Minimum Requirements for Operating Near Overhead Lines
Appendix A

Minimum Requirements for Unqualified Workers and/or Equipment Operating near Overhead Power Lines

**Purpose:**
These minimum requirements are for your protection and safety. Contact with power lines is extremely dangerous and could result in death.

1) **Danger Zone (unknown voltage)** Equipment must NOT be operated within 7 m of any overhead power line without notifying ATCO Electric.

2) **Prohibited Area (voltage confirmed by ATCO Electric)**
   a) no unqualified worker or equivalent can enter the prohibited area
   b) ATCO Electric recommends all workers within the 7 m Danger Zone, but outside the Prohibited Area required a designated signaler who can communicate by radio or air horn with all workers and equipment

3) **NEVER ALLOW WORKERS OR EQUIPMENT TO ENTER THE PROHIBITED AREA!** If work cannot be done outside the Prohibited Area contact ATCO Electric for assistance.

4) Work near power lines must be done during daylight hours only.

5) ATCO Electric recommends installing a minimum of two 50.8 cm x 71 cm "Danger Overhead Line" signs when operating equipment near the lines. (These can be purchased through most safety supply companies.) The signs must be installed on both sides of the line — at a height of 1.8 m and a distance of 7 m from the line. (Refer to the diagrams above.)

6) On-site workers must have a copy of the crossing agreement and all on-site personnel must be knowledgeable of its requirements.
REMEMBER!

- Do not engage in abusive behavior
- Report others who engage in abusive behavior to yourself or others
- Understand there is **NO RISK** of retaliation to reporting abusive / violent behavior
- Consider other employee’s personal space and attitudes
- Do not be aggressive to other employees, contractors, visitors, clients
- Know the Dispute Resolution Representatives within your area
- Know how to contact the Employee Assistance Program personnel
- If you are unsure – **ASK YOUR SUPERVISOR!**

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) has developed a Workplace Violence Code to identify the potential physical assault or aggression, which may be:

- unsolicited and unwelcome conduct, comment, gesture or contact which causes offense or humiliation, and
- physical harm to any individual which creates fear or mistrust, or
- compromises and devalues the individual.

2.0 SCOPE AND APPLICATION

This proper level of protection against a potential physical assault or aggression to employees, contractors, and the public while operating within NCSG areas of responsibility is of paramount importance to NCSG. This code will aid employees in understanding and minimizing this risk. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG when the potential for physical assault or aggression may be present as presented by outside or inside the company.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Workplace Violence Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Personal Harassment

As defined by Human Rights, personal harassment includes:

- verbal abuse and threats;
- unwelcome remarks, jokes or innuendos were taunting about a person’s body, attire, age, marital status, ethnic or national origin, religion, etc.;
- displaying pornographic, racist or other offensive or derogatory pictures;
- practical jokes which caused awkwardness or embarrassment;
3.2 Sexual Harassment

As defined by Human Rights, sexual harassment being discrimination on the grounds of gender is a violation of Individual Rights Protection Act. Unwanted sexual advances, unwanted requests for sexual favors, and other unwanted verbal and physical conduct of a sexual nature constitute sexual harassment when:

- submission to such conduct is made either explicitly or implicitly, a term precondition of individuals employment
- submission to the rejection of such conduct by an individual affects that individuals employment

Sexual harassment can include such things as pinching, patting, rubbing or leering, dirty jokes, pictures or pornographic materials, comments or suggestions, innuendos, requests or demands of a sexual nature.

3.3 Violence

Violence means the threatened, attempted or actual conduct of a person that causes or is likely to cause physical injury.

3.4 Employee Assistance Program (EAP)

A company established program providing assistance and contact information to employees regarding a variety of areas including, but not limited to harassment, drug and alcohol dependency, family social issues, financial assistance, etc.

4.0 EXPECTATIONS

The Workplace Violence Code shall provide required and adequate guidelines to ensure proper training, risk assessment and Emergency Action Plans to eliminate, reduce, or minimize the possibility of Violence in the Workplace for all employees, contractors, visitors and general public within NCSG areas of responsibility. The Workplace Violence Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG. In the event that there is a variance in jurisdictions, NCSG shall require the Corporate Codes and Practices to conform to the higher or more stringent legislation that the company acts in.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Seek appropriate training and become familiar with the potential for violence in the workplace.
- Ensure that as an employee of NCSG, the employee shall not subject any other person to violence or harassment.
- Be responsive, through adequate training, to minimize the risk of exposure to potential workplace violence and assist NCSG in the prevention of Workplace Violence.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers are familiar with the company Workplace Violence Code and NCSG’s Prevention Program regarding violence in the workplace.
- Ensure access to the written code, policy and procedures are made available to all workers of NCSG.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.
- The employer must ensure that a worker reporting an injury or adverse symptom as a result of an incident of violence is advised to consult a physician of the worker’s choice for treatment or referral.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure the development of a code respecting violence in the workplace in accordance with provincial legislation as applicable.
- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Development of a Workplace Violence Prevention Program

NCSG shall develop a workplace violence prevention program, which is consistent with provincial legislation. This program shall include effective education and training identifying:

- roles and responsibilities
- educating staff about reporting procedure
- training of crisis intervention and dispute resolution persons
- training and educating those responsible to investigate incidents
- communicate with other agencies such as police, community and social services as required and applicable
- assist workers in awareness regarding rights and available Employee Assistance Programs
- increased awareness of applicable legislation and the Employer’s responsibility for policy and procedure
- The need for an Emergency Response Plan that shall address both a Lock – Out and a Lock – Down procedure for all areas of responsibility of NCSG.
- The employer must ensure, so far as is reasonably practicable, that no worker is subjected to violence in the workplace and the employer will take corrective action respecting any person under the employer’s direction who subjects a worker to
- When a risk of violence in the workplace is identified, an employer must inform a worker about the risk of violence in the workplace.

6.2 Risk Assessment and Hazard Identification

NCSG shall establish a risk assessment process, which is both generic and site-specific in identifying potential workplace violence. This assessment shall include identification and recognition of violence from outside the company as well as potential internal risks. A number of factors shall be considered including but not restricted to:

- workers, supervisors, and management
- sources of abuse
- work process and physical environment
- interaction with general public
- previous experience in that workplace, occupational experience in other workplaces, and the location and circumstances in which work will take place.
6.3 Prevention Practices / Disclosure

As detailed in the Emergency Response Plan (ERP) applicable to workplace violence, regular scheduled drills shall be conducted to ensure familiarization of all employees, contractors, visitors in NCSG areas of responsibility. Effective follow-up and debriefing of all conducted drills shall be communicated to all employees, contractors, and visitors as applicable to ensure improved and proficient application of ERP's. The policy will be posted in all high traffic office locations.

NCSG shall take every step possible to ensure that no information regarding a worker's complaint or involvement in a workplace violence situation is ever disclosed outside the HR management division or to any uninvolved party. Disclosure will be provided to enforcement law agencies where necessary under the provincial or federal legislation only.

6.4 Harassment

Every worker is entitled to work free of harassment; the employer must ensure, so far as is reasonably practicable, that no worker is subjected to harassment in the workplace; the employer will take corrective action respecting any person under the employer's direction who subjects a worker to harassment; the employer will not disclose the name of a complainant or an alleged harasser or the circumstances related to the complaint to any person except where disclosure is necessary to investigate the complaint or take corrective action with respect to the complaint, or required by law; the employer's harassment prevention policy is not intended to discourage or prevent the complainant from exercising any other legal rights pursuant to any other law.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Alternate Dispute Resolution Training for Applicable Employees
- Familiarization with NCSG Workplace Violence Prevention Program
- Contact information for Employee Assistance Programs
- NCSG orientation

8.0 RESOURCES

- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – VAH001 Violence and Harassment
- Alberta OH&S Code Part 27
- British Columbia OH&S Code Part 4
- Saskatchewan OH&S Regulation Part III

May all be used to reference additional information pertaining to workplace violence and control methods for minimizing potential exposure and risk.

Please direct any questions regarding the Code to the Lead HS&E Advisor.

9.0 APPENDICIES

- Appendix A – Company Questionnaire for Establishing Abuse Awareness
Appendix A

Sample Risk Assessment Questionnaire

1. (a) Have you experienced verbal abuse from an employee of this organization?
   Yes ☐ No ☐

   (b) If yes, did you report the incident(s)?
   Yes ☐ No ☐

   (c) If yes, did you report the incidents(s)?
   Verbally? ☐ In writing? ☐

   (d) What was the relationship of the abuser to you?
   ☐ Co-worker ☐ Client/Customer
   ☐ Member of the public ☐ Other (please specify)

   (e) Where did the abuse occur? (E.g. Human Resources, parking lot, locker room, Etc.)

   (f) When did the abuse occur? I.e. year, month, week or day

2. (a) Have you experienced a threat of physical violence from an employee of this organization?
   Yes ☐ No ☐

   (b) If yes, did you report the incident(s)?
   Yes ☐ No ☐

   (c) If yes, did you report the incidents(s)?
   Verbally? ☐ In writing? ☐

   (d) What was the relationship of the abuser to you?
   ☐ Co-worker ☐ Client/Customer
   ☐ Member of the public ☐ Other (please specify)

   (e) Where did the abuse occur? (e.g. Human Resources, parking lot, locker room, etc.)

   (f) When did the abuse occur? i.e. year, month, week or day

3. (a) Have you experienced a physical assault or attack from an employee of this organization?
   Yes ☐ No ☐

   (b) If yes, did you report the incident(s)?
   Yes ☐ No ☐
(c) If yes, did you report the incidents(s)?
   Verbally?  □ In writing? □

(d) What was the relationship of the abuser to you?
   □ Co-worker  □ Client/Customer
   □ Member of the public  □ Other (please specify)

(e) Where did the abuse occur? (e.g. Human Resources, parking lot, locker room, etc.)

(f) When did the abuse occur? i.e. year, month, week or day

4. Did you miss any time from work as a result of the violence or harassment?
   Yes □ No □
   If yes, please indicate the length of absence from work. days/wks/months

5. Do you:
   (a) Work alone or with a small number of co-workers?
      Yes □ No □

   (b) Work late at night or early in the morning?
      Yes □ No □

6. Are you concerned about your safety on the job?
   Yes □ No □
   What is your source of concern?

7. Do you believe that such a possibility represents a:
   □ High risk □ Medium risk □ Low risk

   The completion of this section is voluntary. Information gathered from this section will only be used for statistical analysis and to identify trends in workplace violence and harassment abuse. Complete individual confidentiality will be maintained.

   Male □    Female □

   Length of service
   □ 1 year   □ 1-3 years   □ 3-5 years   □ 5-10 years   □ more than 10 years

   Job classification:
1.0 PURPOSE

NC Services Group and its affiliated Companies (NCSG) has developed a Planned General Workplace Inspection Process to help prevent work-related injuries and illnesses. Inspections identify and record hazards for corrective actions to be determined and put forth to ensure a healthy and safety workplace. Inspections also ensure that existing health and safety standards, procedures and controls remain effective.

Planned General Workplace Inspections are a critical element in the overall Health, Safety and Environment Management System which requires regular examinations throughout NCSG from all levels of the company’s hierarchy.

2.0 SCOPE AND APPLICATION

NCSG has implemented a Planned General Workplace Inspection Process which examines the; who, what, when, where and how of the workplace. Substandard conditions and acts identified are recorded and an action plan developed to prevent reoccurrence.

This document establishes the expectation and standard method for conducting planned general workplace inspections throughout NCSG. It is designed to incorporate all NCSG sites, offices and facilities to identify health, safety and environment areas which require corrective actions.

Recognizing the focus of identifying hazards and correcting them in order to prevent workplace incidents, subjects this program to ongoing review and revisions. Necessary modifications will be made to this document as required to meet applicable legislation and standards.

3.0 DEFINITIONS

3.1 Finding

A HSE hazard; a substandard condition; a substandard practice; negative environmental impacts.

3.2 Hazard

A condition with the potential for human injury or illness, damage to property, damage to the environment, or any combination of these. Hazards can be classified as:

- Physical – such as inadequate lighting on stairs or slippery floors
- Chemical – such as insecticides or petroleum
- Biological – such as fungi or Infections
- Mechanical or electrical – such as bared electrical wires
- Psychological – such as violence and interpersonal conflict.

3.3 Project Site

A location which requires NCSG employees and sub-contractors to provide a service under a contract or service agreement.
3.4 Office Site

A fixed facility location which requires NCSG employees and sub-contractors to provide a service, including office, shop and warehouse environments.

3.5 Inspection Checklist

A document identifying the main items the inspection team is checking and includes information on the location, date and inspection team.

3.6 Planned Inspection

Are inspections that are a planned walkthrough or examination of a workplace, selected work area, or particular hazards, machinery, tools, equipment and work practices. Planned inspections must include an inspection of work processes and procedures.

3.7 Internal Responsibility System

The system of internal audit for occupational health, safety and quality that is shared by all parties in the workplace.

3.8 Inspection Team

Can include the safety advisor, supervisor, worker, and in some instances human resource personnel, OH&S committee members, external agencies such as governmental, emergency responders, suppliers, manufacturers.

4.0 EXPECTATIONS

Planned general inspections will take place on a regular basis by all levels of employees within NCSG.

- Executives will perform site inspections at least once per year.
- Branch Managers will perform site inspections at least twice per year.
- Site, Shop, and Department Managers will perform site inspections at least once each quarter.
- HS&E Advisors will perform site inspections at least once each month.
- Employees will perform site inspections as required.
- It is the responsibility of the individual to ensure the expectations are being met in order to identify areas which require corrective actions in an effort to maintain a healthy and safe workplace.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

- Participate in planned general workplace inspections when required.
5.2 **Supervisors**

- Ensure the Planned Workplace Inspection Program is scheduled and implemented in their areas;
- Provide Employees with equipment and resources in order to comply with the Program;
- Monitor Inspection Deficiency Reports to ensure they are compliant with the Program; and
- Take action to prevent accident and injury.

5.3 **HS&E Advisors**

- Educate Supervisors with respect to the Program;
- Provide assistance to Supervisors in applying the Program;
- Provide resolution of any questions of interpretation;
- Support supervisors in meeting their responsibilities;
- Participate as indicated on the Inspection Schedule.

5.4 **Inspection Team**

- Conduct regular inspections of their assigned areas and document all findings;
- Identify and categorize hazards;
- Ensure proper reporting towards ensuring correcting any workplace hazards or deficiencies;
- Undertake the necessary research and investigation to define the hazard; and
- Continually monitor the status of the inspection process and its ability to remain effective.

6.0 **METHOD**

6.1 **Identify Planned Inspection Schedule**

Annually, Regional Team Lead’s – HS&E in conjunction with the applicable Manager(s) will identify all locations that require inspection in the calendar year, based on the following minimum criteria:

- Project Sites shall be inspected once per week.
- Office Sites shall be inspected once per month.
- Records shall be kept of the history of the sites inspected as well as any corrective actions taken.

The Planned General Workplace Inspection schedule will include:

- Executives will perform site inspections at least once per year.
- Branch Managers will perform site inspections at least twice per year.
- Site, Shop and Department Managers will perform site inspections at least once each quarter.
- HS&E Advisors will perform site inspections at least once each month.
- Employees will perform site inspections as required.

**Note:** The intent of this requirement is to provide a fresh perspective and/or share area specific information and best practices.

6.2 **Perform Planned Inspections**
The inspection team should familiarize themselves with the Planned Workplace Inspection Program.

Review the inspection report from previous inspections with the inspection team prior to the inspection taking place.

Identify the appropriate Planned Workplace Inspection Form to be completed during the inspection. (i.e. project site or office site)

Assign an individual on the team to complete the appropriate form.

Visually inspect the site for hazards, physical, health, safety and environmental findings.

Review all pertinent documentation and conduct interviews as needed.

Document all findings on the Planned Inspection Form. These forms outline the minimum criteria for sites (i.e. project sites and office safety) as well as help to ensure consistent physical conditions.

Forward completed Planned Workplace Inspection records to the HS&E Administrator for filing and to be retained for three years.

6.3 Types of workplace hazards to look for in the workplace

- Safety hazards; e.g., inadequate machine guards, unsafe workplace conditions, unsafe work practices.
- Biological hazards caused by organisms such as viruses, bacteria, fungi and parasites.
- Chemical hazards caused by a solid, liquid, vapour, gas, dust, fume or mist.
- Ergonomic hazards caused by anatomical, physiological, and psychological demands on the worker, such as repetitive and forceful movements, vibration, temperature extremes, and awkward postures arising from improper work methods and improperly designed workstations, tools, and equipment.
- Physical hazards caused by noise, vibration, energy, weather, heat, cold, electricity, radiation and pressure

6.4 Reporting

Completed Planned Inspection records shall be forwarded to the Regional Team Lead HS&E.

- Those findings with a category “A” Hazard classification will have immediate arrangements made to manage the hazard to an acceptable level (awaiting final resolution, if applicable).
- When findings have been assigned a “B” or “C” hazard classification, priority will be given to have them corrected within 14 days.
- Findings classified as a “D” Hazard, will be corrected within 30 days.
- Any decision made to provide no corrective action shall be documented and is to include the name of the authorized employee.
- Local site considerations will be assessed and resolved by the Site Supervisor.

6.5 Classification

“A” Hazard
- A condition or practice likely to cause permanent disability, loss of life, extensive damage or negative environmental impact.
- Must be corrected immediately.

“B” Hazard
HEALTH, SAFETY & ENVIRONMENT

Planned General Workplace Inspection Process

- A condition or practice likely to cause temporary disability or disruption to property or environmental damage.
- Must be corrected within 14 days.

“C” Hazard
- A condition or practice likely to cause minor injury or damage.
- Must be corrected within 14 days.

“D” Hazard
- Housekeeping issues.
- Must be corrected within 30 days.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Planned General Workplace Inspection Training

8.0 RESOURCES

Please direct any questions that you may have regarding the Process to the Regional Team Lead HS&E.

9.0 APPENDICIES

- Appendix A – Project Site Inspection Form
- Appendix B – Office Inspection Form
- Appendix C – Planned Workplace Inspection Pocket Guide

10.0 REFERENCES

- Occupational Health and Safety Legislation
- Health, Safety and Environment Management System Standard
## Appendix A

### Planned Workplace Inspection

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</table>

**Hazard Class**

- A: Condition may result in an injury or death, or high probability of injury or death.
- B: Condition may result in injury or death, or high probability of injury or death.
- C: Condition may result in injury or death, or high probability of injury or death.
- D: Condition may result in injury or death, or high probability of injury or death.
- E: Condition may result in injury or death, or high probability of injury or death.
- F: Condition may result in injury or death, or high probability of injury or death.

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## Appendix B
<table>
<thead>
<tr>
<th>FLOORS</th>
<th>Are ladders/step stools safe and well maintained?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Are storage shelves overloaded or beyond their rated capacity?</td>
</tr>
<tr>
<td></td>
<td>Are large and heavy objects stored on lower shelves?</td>
</tr>
<tr>
<td>LIGHTING</td>
<td>Are passageways and work areas clear of obstructions?</td>
</tr>
<tr>
<td></td>
<td>Are lamp reflectors clean?</td>
</tr>
<tr>
<td></td>
<td>Are file drawers kept closed when not in use?</td>
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<td></td>
<td>Are bulbs missing?</td>
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<tr>
<td></td>
<td>Are filing stools or wastebaskets placed where they might be tripping hazards?</td>
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<td></td>
<td>Are any areas dark?</td>
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<tr>
<td></td>
<td>Are office accessories in secure places?</td>
</tr>
<tr>
<td></td>
<td>Are copier and other pieces of equipment in working order?</td>
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<tr>
<td></td>
<td>Are file cabinets loaded with the heaviest items in the bottom drawers?</td>
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<tr>
<td></td>
<td>Are extension cords used extensively?</td>
</tr>
<tr>
<td></td>
<td>Are counters clean &amp; safe?</td>
</tr>
<tr>
<td></td>
<td>Are electrical or telephone cords exposed in areas where employees walk?</td>
</tr>
</tbody>
</table>

**DANGEROUS SUBSTANCES**

- Are there any controlled substances (e.g. WHMIS controlled products)?
- If yes, are the products properly labelled?
- If yes, is there a corresponding material safety data sheet (MSDS) for each product?
- If yes, are workers trained in how to use these products safely?

**MATERIAL STORAGE**

- Are materials neatly and safely piled?
- Are stepladders or stools to get to materials on higher shelves?
- Are step stools safe and well maintained?
- Are any areas dark?

**COMMENTS:**

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<table>
<thead>
<tr>
<th>FLOORS</th>
<th>Are the following provided adequately?</th>
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<tbody>
<tr>
<td></td>
<td>- toilets</td>
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<td></td>
<td>- toilet paper</td>
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<tr>
<td></td>
<td>- soap</td>
</tr>
<tr>
<td>LIGHTING</td>
<td>- paper towels</td>
</tr>
<tr>
<td></td>
<td>DANGEROUS SUBSTANCES</td>
</tr>
</tbody>
</table>
|        | Are there any controlled substances (e.g. WHMIS controlled products)?
- If yes, are the products properly labelled?
- If yes, is there a corresponding material safety data sheet (MSDS) for each product?
- If yes, are workers trained in how to use these products safely?

**WASHROOMS**

- Are washrooms and food preparation areas clean?
## HEALTH, SAFETY & ENVIRONMENT

### Planned General Workplace Inspection Process

<table>
<thead>
<tr>
<th>MAIL ROOM</th>
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</thead>
<tbody>
<tr>
<td><strong>FLOORS</strong></td>
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<tr>
<td>Are there loose material, debris, worn carpeting?</td>
</tr>
<tr>
<td>Are the floors slippery, oily or wet?</td>
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<tr>
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<td>Are lamp reflectors clean?</td>
</tr>
<tr>
<td>Are bulbs missing?</td>
</tr>
<tr>
<td>Are any areas dark?</td>
</tr>
<tr>
<td><strong>EQUIPMENT</strong></td>
</tr>
<tr>
<td>Is the equipment in good working order?</td>
</tr>
<tr>
<td>Are sharp edges on cabinets or equipment?</td>
</tr>
<tr>
<td>Are extension cords used extensively?</td>
</tr>
<tr>
<td>Are electrical or telephone cords exposed in areas where employees walk?</td>
</tr>
<tr>
<td><strong>MATERIAL STORAGE</strong></td>
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<tr>
<td>Are materials neatly and safely piled?</td>
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**COMMENTS:**

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<tr>
<td><strong>EQUIPMENT</strong></td>
</tr>
<tr>
<td>Is the furniture safe?</td>
</tr>
<tr>
<td>- worn or badly designed chairs</td>
</tr>
<tr>
<td>- sharp edges on desks and cabinets</td>
</tr>
</tbody>
</table>
| - poor ergonomics (keyboard elevation, chair adjustment) | **COMMENTS:**

### OFFICES/WORKSTATIONS

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### HEALTH, SAFETY & ENVIRONMENT

**Planned General Workplace Inspection Process**

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#### ELECTRICAL CLOSET AND JANITORIAL CLOSET

<table>
<thead>
<tr>
<th>FLOORS</th>
<th>Are passageways and work areas clear of obstructions?</th>
<th>Is key available in case of emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL STORAGE</td>
<td>Are there any controlled substances (e.g. W/HMS controlled products)?</td>
<td>If yes, are the products properly labelled?</td>
</tr>
<tr>
<td>Are materials neatly and safely piled?</td>
<td>If yes, is there a corresponding material safety data sheet (MSDS) for each product?</td>
<td></td>
</tr>
<tr>
<td>Are there stepladders or stools to get to materials on higher shelves?</td>
<td>If yes, are workers trained in how to use these products safely?</td>
<td></td>
</tr>
<tr>
<td>Are storage shelves overloaded or beyond their rated capacity?</td>
<td>Are large and heavy objects stored on lower shelves?</td>
<td></td>
</tr>
</tbody>
</table>

**COMMENTS:**

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#### EMERGENCY EQUIPMENT

| Are fire control equipment regularly tested and certified? | Is emergency lighting in place and regularly tested? |
| Are fire control equipment appropriate for the type of fire it must control? | Are first aid kits available and stocked? |

**COMMENTS:**

---

#### LUNCH ROOM

<table>
<thead>
<tr>
<th>SANITATION</th>
<th>Are the floors slippery, oily or wet?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are food preparation areas clean?</td>
<td>Are lamp reflectors clean?</td>
</tr>
<tr>
<td>Is the safety notice board neat and prominently marked?</td>
<td>Are bulbs missing?</td>
</tr>
<tr>
<td>Is the general notice board current?</td>
<td>Are the electrical appliances in working order?</td>
</tr>
<tr>
<td>Is noise protection available?</td>
<td>Are extension cords used extensively?</td>
</tr>
<tr>
<td>Are there “NO SMOKING” signs displayed?</td>
<td>Are electrical cords exposed in areas where employees walk?</td>
</tr>
<tr>
<td>Is the Lunch room well ventilated with adequate lighting?</td>
<td>Are there any controlled substances (e.g. W/HMS controlled products)?</td>
</tr>
<tr>
<td>Is there a clear access/exit?</td>
<td>If yes, are the products properly labelled?</td>
</tr>
<tr>
<td>Is the Lunch room free of hazards (e.g. damaged electrical appliances, leads or overloaded powerpacks)?</td>
<td>If yes, is there a corresponding material safety data sheet (MSDS) for each product?</td>
</tr>
<tr>
<td>Does the Lunch room have adequate waste disposal facilities?</td>
<td>If yes, are workers trained in how to use these products safely?</td>
</tr>
</tbody>
</table>

**COMMENTS:**

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**EMERGENCY EQUIPMENT**

| Are fire control equipment regularly tested and certified? | Is emergency lighting in place and regularly tested? |
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**COMMENTS:**

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## HEALTH, SAFETY & ENVIRONMENT

### Planned General Workplace Inspection Process

<table>
<thead>
<tr>
<th>MULTI-PURPOSE ROOMS</th>
<th>MEETING ROOMS/BOARD ROOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Floors</strong></td>
<td></td>
</tr>
<tr>
<td>Are storage shelves overloaded or beyond their rated capacity?</td>
<td>Are there loose material, debris, worn carpeting?</td>
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</tr>
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<td>Are passageways and work areas clear of obstructions?</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td></td>
</tr>
<tr>
<td>Are lamp reflectors clean?</td>
<td>Are desk and file drawers kept closed when not in use?</td>
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<td>Are bulbs missing?</td>
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</tr>
<tr>
<td>Are any areas dark?</td>
<td>Are passageways and work areas clear of obstructions?</td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td></td>
</tr>
<tr>
<td>Are ladders/step stools safe and well maintained?</td>
<td>Are filing stools or wastebaskets placed where they might be tripping hazards?</td>
</tr>
<tr>
<td>Are copiers, TVs and other pieces of equipment in working order?</td>
<td>Are desk and file drawers kept closed when not in use?</td>
</tr>
<tr>
<td>Are extension cords used extensively?</td>
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<td>Are electrical or telephone cords exposed in areas where employees walk?</td>
<td>Are desk and file drawers kept closed when not in use?</td>
</tr>
<tr>
<td><strong>Material Storage</strong></td>
<td></td>
</tr>
<tr>
<td>Are materials neatly and safely piled?</td>
<td>Are desk and file drawers kept closed when not in use?</td>
</tr>
<tr>
<td>Are there step ladders or stools to get to materials on higher shelves?</td>
<td>Are desk and file drawers kept closed when not in use?</td>
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<tr>
<td><strong>Comments:</strong></td>
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### Air Handling System

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<tbody>
<tr>
<td>Does air exchange rate meet standard requirements?</td>
<td>Is humidity within standard range?</td>
</tr>
<tr>
<td>Is the system free of sources of contamination (asbestos, microorganisms, dust, fumes)?</td>
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</table>

**Comments:**

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### Other

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Planned General Workplace Inspection – Pocket Guide

Summary

In addition to the regulatory and due diligence requirements that NCSG must meet, an inspection is a proactive approach to creating safer, more environmentally friendly workplaces. Inspections contribute significantly to the prevention of accidents and incidents.

Inspections also provide the opportunity for employees to take an active interest and role in the safety of their workspace and that of others. Management’s involvement sends a powerful message and demonstrates commitment to the process.

The primary intent of any inspection process is to highlight and correct actual and potential health, safety and environmental hazards and concerns. This guide outlines the various health, safety and environmental aspects of our worksites. For specific guidance applicable to your situation, please consult with your applicable HS&E Advisor.

The guide is organized alphabetically and begins with a table of contents of what to expect within.
Planned General Workplace Inspection Process

Table of Contents

Procedure overview and Hazard Classification
Materials Handling Equipment
Records + Documentation
Materials Labeling (WHMIS)
Air Pollution Control (Power)
Motor Vehicles and Power Mobile Equipment
Aisleways and Passageways
Noise Exposure
Chemicals and Fuels
Offices, Housekeeping and Sanitation
Chemical Inventory
Personal Protective Equipment
Compressed Gases
Platforms / Scaffolding
Electrical Power Systems
Roadways
Emergency Preparedness
Stacking and Storage
Emergency Rescue Equipment
Stairs
Environmental Issues
Training
Ergonomic Factors
Valves and Mechanical Controls
Exit / Egress
Vehicle Operation
Fences / Gates
Ventilation and Extraction
Fire Protection
Warning Systems
First Aid Kits / Station / Equipment
Waste Storage / Disposal
Floors (Walking and Working Surfaces)
Additional / Other issues
Hand and Portable Tools

Planned Inspection Procedure Overview

1. Obtain appropriate Inspection Form
2. Review past inspections
3. Conduct inspection, reviewing documents, observing physical conditions, talking with employees
4. Document all issues on form;
5. Forward report to appropriate personnel
6. Perform corrective actions

Hazard Classification

“A” Hazard
- A condition or practice likely to cause permanent disability, loss of life, extensive damage or negative environmental impact.
- Must be corrected immediately.

“B” Hazard
- A condition or practice likely to cause temporary disability or disruptive property or environmental damage.
- Must be corrected within 14 days.

“C” Hazard
- A condition or practice likely to cause minor injury or damage.
- Must be corrected within 14 days.

“D” Hazard
- Housekeeping issues.
- Must be corrected within 30 days.
Aisleways and Passageways
- Clear and unobstructed – 35 inches
- Sufficient lighting
- Egress doorways served by an aisle not less than 43 inches; subsidiary aisles 35 inches

Chemicals and Fuels
- All containers are clearly marked to show the contents
- Adequate storage cabinets provided; fire resistant and vented outside / grounded
- Container corrosion prevention provided
- Proper signage as required – building code
- Means of exit/egress prescribed
- Storage heated by a means not constituting a source of ignition
- Tanks/drums adequately supported
- Tanks/drums grounding equipment available and in good condition; proper signage for grounding requirements
- Tanks/drums are properly contained
- Approved portable safety containers used as required (CSA certification affixed); appropriate product identification
- Materials separated to avoid incompatibility reactions (combustible chemicals and fuels stored separately)
- Non-arcing type fans in hazardous substance storage areas
- Minimized storage of flammable materials
- Tanks vented in accordance with applicable code
- Appropriate spill handling / clean-up materials available
- Appropriate personal protective equipment is indicated and available to handle the controlled products

Compressed Gases
- Appropriate ventilation in storage areas
- Inspected for dents, corrosions, test records
- Segregated by contents and legibly marked; “full” and “empty”
- Stored away from stairs, elevators, and egress routes
- Dispensing equipment, valves, lines, hoses
- Caps in place and hand tight
- Cylinders isolated and lines depressurized when not in use
- Legible WHMIS supplier or workplace labels
- Protection against rust/corrosion
- Stored upright and secured against falling over
- Stored away from heat sources
- Outdoor storage - supported on raised concrete or other non-combustible surface; protected from weather;
- Outdoor storage clearances per the National Fire Code
- Flashback arrestors on oxy/acetylene systems

Electrical Power Systems
- Good condition of wiring, insulation and fixtures
- Wiring is adequate and well-insulated
- Proper identification and signage for electrical hazards (especially related to high voltage equipment and systems, equipment containing PCBs).
- Properly rated and tested tools and protective equipment to perform maintenance on electrical equipment (electrical gloves, hot-sticks, grounding cables/straps)
- Adequate restraints to prevent accidental contact with high voltage electrical equipment (enclosures, fences)
- Tag and lockout equipment in accordance with safety code
Properly functioning switches, breakers and protective relaying for controlling electrical equipment  
Approved electrical equipment/devices installed and properly maintained in classified areas  
Well maintained bonding and grounding systems on fences, buildings and structures  
CSA labels, Class 1 Div 1/2 identification affixed  
Adequate work space to perform required repairs and maintenance on electrical equipment  
Ground fault interruption (GFI) provided where required  
Explosion proof extension cords and receptacles in required areas.  
Permit and inspection procedures completed for all modifications or additional to the electrical system and equipment  

Emergency Preparedness  
Ensure emergency plans are on site and up to date  
Are emergency contact lists available and current;  
Offices - Emergency evacuation procedures posted in conspicuous locations (conference rooms, kitchens, exits, etc.)  
Offices - Fire wardens are listed  
Route maps are available and current  
Site evacuation plan is available and current  
Emergency eye wash stations available; tepid water  
Eye wash bottles available in battery rooms; seals are intact, bottles have not expired  
Emergency showers are operational (if available)  
Emergency lighting operational  

Emergency Rescue Equipment  
Spill containment available and maintained  
Adequate equipment available and properly located  

Proper serviceable condition  
Rescue plans available for hazardous confined spaces and work heights over 6 meters  
Rescue equipment available and in good condition  
Employees are trained on rescue  

Environmental  
Adequate spill containment  
Yard weed control  
Properly stored sampling probes available  
Control of vapor emissions and hydrocarbon spills / releases  
Stain on buildings, in yard, or on tanks  
Waste storage facility: spill containment equipment, specific signage  
Chemical Spill Response Kits available and stocked according to inventory list  
Yard drainage system / erosion control  
Recycling; cans, rags, paper where possible  
Products are not stored near doorways  

Ergonomic Factors  
Controls sized to permit operation with clothing / equipment normally worn  
Design allows normal body positions when seated or standing  
Adequate illumination of work spaces  
Controls follow normal response patterns (down for off, etc.)  
Hand tools used permit normal body positions  
Limited weight and size of materials lifted or carried by people  
Lifting and twisting in combination not required in the work place  
Approaches to exits unobstructed and unimpeded  
Cleaned of snow / ice
Exit / Egress
- Open outward onto level floor
- Sufficient exits for prompt escape; adequate design for exit (buildings)
- Routes and exits clearly marked
- At least 36 inches wide or as prescribed
- Exits and exit signs adequately illuminated (building)
- No locks or fastenings restricting escape / all compressor station emergency/panic gates unlocked and painted as per engineering standards?
- Exit doors open in direction of travel when a maximum pressure of 20 lbs is applied

Fences / Gates
- Barbed wire in acceptable condition
- Fence and gates secure, stable
- Separation from ground acceptable

Fire Protection
- Extinguishers inspected monthly (tags attached)
- Fire doors, lids, and shutters in good repair and unobstructed
- Test alarms to ensure in good working condition
- Floor openings protected
- Portable extinguishers appropriate for type of materials and readily available
- Sprinkler master control valves accessible and locked open
- Fire equipment visibly marked
- Fire blankets available, properly marked and in good condition
- General condition of PPE
- Sprinkler heads have proper clearance from materials and furnishings [at least 18 inches]
- Fire doors, lids and shutters in good repair and unobstructed with fusible links intact

First Aid Kits / Station / Equipment
- Adequate materials and equipment available and conveniently located (First Aid Kit / Stretcher); checked monthly
- Electrical safety items included in high voltage areas and conditions
- Instructions to accident reporting posted
- Accident reports (logbook / records) are kept confidential
- First Aid Kit Contents List inside kit
- Kits and items are kept neat and sanitary
- Located as prescribed by legislation and organizational medical policy
- Workplace Injury Response Packages Available
- First Aid can be administered by appropriately trained employee; current list of 1stAiders is available

Floors (Walking and Working Surfaces)
- Clean, orderly, sanitary condition
- Free of slips, trip or fall hazards (protrusions, nails, cords, ice, etc.)
- Load limits posted on upper floors when required
- Drainage maintained
- Openings covered or barricaded
- Guarding of open floors, walkways, etc. proper

Hand and Portable Tools
- General condition of tools, electrical cords, air hoses
- Guards and safety devices serviceable
- Power tools equipped with constant pressure switches
- Hand tools free from burs and defects (check wiring)
HEALTH, SAFETY & ENVIRONMENT

Planned General Workplace Inspection Process

- Proper storage when not in use
- Electrical grounding or double insulation protected
- Tool retainers installed on pneumatic tools
- Adjustments correct on tool rests (pedestal grinders)
- Permanent power tools are "off" when not in use (i.e. pedestal grinders)
- Vibration should be reduced when possible
- Non-intrinsically safe tools not used where flammable vapors or gases are present
- Air pressure regulators upstream of feed to pneumatic tools
- Grinders, drill presses, etc. anchored

Hydraulic Power Lube Oil / Glycol Systems

- General condition; leaks dents, nicks and severe scratches of pressure lines and fittings
- Pressure regulated within power limits
- Tanks are product labeled
- System operated within manufacturer specifications
- Inspections recorded
- Remote shut off available

Illumination

- Adequate illumination during periods of occupancy
- Illumination level sufficient for detail or work performed
- Lighting fixtures clean and operational
- Emergency lighting system operational and shining on egress points

Labeling, Signs and Tags

- Hazard warning, directional and informational signs and tags used where there are immediate dangers, potential hazards, or there is a need for general instructions

- Tags affixed to all defective equipment to prevent use
- Color coding or labeling for piping systems used to indicate system contents and flow directions (per WHMIS); labels are legible; color coding consistent throughout site
- Blue color coding used for general information, signs and tags
- Green color coding used to indicate safety instructions and first aid equipment
- Red color coding used to indicate immediate danger, flammable/explosive materials and fire protection
- Orange color coding used to indicate areas under modification, hazardous parts when guards removed

Ladders

- Doors blocked open, locked, or guarded if in front of ladder
- 3 foot extension above roof if used for access to roof (or platform)
- Metal ladders not used in electrical areas (fiberglass or wood only)
- Of sufficient height for work to be done
- Unpainted and free of grease and oil
- Properly positioned, tied in at top
- Supported in place against window openings
- Defective ladders have danger / repair tags affixed
- Safety feet in serviceable condition
- CSA approval is clear / affixed

Lifting Gear / Equipment

- General condition, damage, cleanliness, lubrication, servicing
- Fitted with overhead guards
- Safe access (steps or platforms) to cab/seat/platform
- Hoist motor brakes operational
Control permit full, unrestricted operation by operators wearing appropriate clothing and equipment
• Hoist chain/rope free of kinks and twists
• All locally manufactured lifting equipment has an engineer stamp
• Slings and lifting equipment are free from defect and load ratings are clear
• Monthly inspections are complete and recorded in log book
• Legibly labeled as to capacity and load testing
• Controls operational
• Limit stops operational
• Cable/rope in good repair
• Hooks not deformed or damaged and safety latches intact
• Annual certification of overhead hoist systems
• All lifts are recorded in log book; critical lifts are recorded on proper sheet

Lock-Out Systems
• Lockouts provided for all power systems individual powered equipment
• Lockout Tag board in use to track Lockout Tags
• Lockouts permit multiple lockout
• Lockout system provides means to reduce system/equipment to a zero energy state, (i.e. steam, air, electrical, hydraulic, etc.)
• Lockout tags have employee's name, signature, date, time and reason for lockout

Machine Tools and Guarding
• Proper general condition, evidence of damage, cleaning and lubrication; manuals available
• Fixed guards operative and not altered
• Clear plate covering wheel of pedestal grinders
• Emergency stop buttons operational, correctly positioned, labeled, and color coded

• Guards provided for rotating parts, chips or particles, sparks, kickbacks, etc.
• Isolation and lockout provided for servicing, set-up, lubrication, etc.
• Operating controls guarded against inadvertent actuation
• Pinch points, in running nip points, and points of operation guarded
• Automatic and operator guards properly adjusted
• Operating controls locked and key removed when not in use

Materials Handling Equipment
• Dock boards provided
• Pallets and skids of correct type and in good repair
• Lifting equipment properly stored
• Barrel transport dolly available
• Containers in good repair
• Rows to visually inspect container are adequate
• Chains, slings, and ropes adequate for loads and in good repair
• Inspection records available

Materials Labeling (including WHMIS)
• Standard labels affixed to all containers of all substances in storage and in use, including workplace labels on decanted product
• Labels legible, visible and complete
• Standard labels affixed to vehicles transporting hazardous materials, meeting legislated requirements where prescribed
• Operational placards/decals on emergency controls
• (on/off, open/close, etc.)
• Personnel transporting and accepting dangerous goods carry valid TDG certificate
HEALTH, SAFETY & ENVIRONMENT

Planned General Workplace Inspection Process

Motor Vehicles and Powered Mobile Equipment
- All vehicles equipped with seat belts
- Brakes, lights, warning devices operative
- Equipment and tools secured
- Load sizes and weight limits controlled
- Personnel transported in safe manner
- Provincial vehicle laws and regulations followed
- Regularly inspected and maintained
- Overhead Guards / rollover protective equipment where required
- Equipped with Fire Extinguishers
- Condition of tires i.e. inflated, wear
- Designed areas for recharging batteries i.e. ventilation
- Planned hazards
- Danger zone identified where required (heavy equipment)
- Back up alarms (if applicable)
- Motor vehicles are parked properly (proper location, forks down on forklift, etc.)
- Forklift pre-use checklist completed regularly
- Forklift load charts and capacity data plate in place and legible
- Working alone contact number in vehicle cabs
- Road vehicles equipped with First Responders Kits
- Keys not left in unattended vehicles
- Areas for fueling and servicing of vehicles shall be at least 100 m from a watercourse, lake or wetland

Noise Exposure
- Hazardous noise areas identified and marked
- Ear protection provided when sound levels exceed standard

Offices, Housekeeping and Sanitation
- Drawers are closed when not in use
- Computers and valuables are locked to prevent theft
- Work space is kept clear of trash and other recyclable materials
- Adequate and sufficient lighting (see illumination)
- Elevators have rated capacity and annual inspection certificate posted
- Emergency instructions available in elevator or office areas
- Elevator foyer clean and unobstructed
- Washrooms are clean and sanitary
- Potable water is supplied for drinking and washing
- If unfit to drink - signs are posted
- Lunchrooms are clean and orderly (counters, sinks, microwave, fridge, etc.)
- Waste, debris and scrap material regularly disposed

Personal Protective Equipment
- Maintenance of PPE - cleaning supplies
- Inspection records available (harnesses, gloves, SCBA)
- Availability / Locations suitable
- Adequate type of PPE for hazards
- Respirators, harnesses, etc. are inspected prior to use and properly stored

Platforms / Scaffolding
- Working platforms at least 24 inches wide or as prescribed
- Proper flooring; non-skid
- Safe access to moveable platforms
- Equipped with standard guard rail if over 10 feet above floor (top and intermediate)
- No accumulation of tools or materials
- Condition of casters and equipped with locking device
- 4 inch toe board provided along all sides or as prescribed
- Access gates self closing and locking
- Sound, rigid, footing for scaffolds
- No altering or moving of scaffolds in use
- Condition of jacks and leveling screws
- Tied off when required (height is greater than 3 times the width)
- Condition of scaffolds (cracks, dented)
- Employees tied off
- Engineered when higher than 3 times the width

**Roadways**
- Surfaces in good repair
- Maintenance for seasonal weather extremes (i.e. snow, rain, heavy usage)
- Standard signs and marks
- Sufficient width and vertical clearance
- Rail sidings in good repair

**Stacking and Storage**
- Aisle ways and access paths clear and unobstructed
- All stacks stable and secure against sliding / collapsing
- Storage area / barrel dock
- Small or irregular shaped items properly blocked, inter-linked, with appropriate limitations in height of storage
- Proper drainage in storage area
- Minimum distance of 18” between sprinkler head deflectors and stored items

**Stairs**
- Provided where there is regular traffic between levels
- Angled between 30 degrees to 50 degrees or as prescribed
- Open risers if less than 9 inch tread depth or as prescribed
- Long flights connected by rest platforms as prescribed
- At least 22 inches wide or as prescribed
- Steps uniform in height and tread depth
- Outdoor stairs have grating type treads
- Handrails provided on open sides (when greater than 4 risers)
- Stairways adequately lighted
- Clean and unobstructed
- Handrails on at least one side if closed

**Valves and Mechanical Controls**
- Labeled and colour coded
- Valves in yard are locked
- Readily accessible
- Operational
- Manual controls locked out on power actuated valves

**Ventilation and Extraction**
- Adequate means provided; hoods exhausted
- Enclosures provide continuous inward air flow
- Ductwork made on non-combustible material
- Air inlets and openings arranged to minimize escape of contaminants
- Separators provided if air recalculated
**Warning Systems**
- Fire / emergency alarm systems operational
- Overpressure device on pressure vessels
- Hazard warning systems on appropriate vehicles and equipment
- Warning signs and devices for railway sidings available
- Over temperature warning systems on fired pressure vessels, hazardous material storage, powered equipment
- Scrubber tank full switch warning system operational

**Waste Storage / Disposal**
- Adequate number of appropriate refuse containers
- Storage facilities for wastes
- Chemical spill absorbent available in work areas
- Waste identified as per company requirements
- Separate containers provided for oily rags, smoking materials, dusts, scrap, chemical wastes, etc.
- Anti-static devices fitted as necessary
- Waste and new products segregated
- Sawdust is swept at frequent intervals and deposited in safe containers for combustible materials
- Oil and grease separators (if applicable)
- Neutralization and equalization tanks
- Alarm systems
- Warning signs
- Containment for hazardous product storage
TABLE OF CONTENTS

SAFE WORK PRACTICES - General

1. Office Safety
2. Housekeeping & Sanitation
3. Stepladders
4. Portable Extension Ladders
5. Use of flammables & cleaning solvents
6. Pressure Washer Operation
# Safe Work Practices

**OFFICE SAFETY**

**Task Global:**

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Management will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Management will review Client and/or NSCI incident and near-miss reporting procedures |
| Swivel chairs | - Tipping | - Do not slump back in swivel chairs |
| Climbing | - Falling | - Ensure firm footing and use a SAFE stepping apparatus. |
| Movement | - Slips, trips and falls | - Walk; do not run, in corridors or on stairs and always use handrails.  
- Wear proper foot ware. |
| Entryways | - Struck by or against | - Never stand in front of closed doors; they may be opened suddenly. |
| Congestion | - Injury | - Never crowd or push on stairways, hallways or at entrances. |

**PURPOSE:** To establish safe work practices that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practices for office safety.
Safe Work Practices

Task Global: OFFICE SAFETY

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

<table>
<thead>
<tr>
<th>Inattention</th>
<th>- Slips, trips and falls</th>
<th>- Only read material at your desk, not while walking around.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housekeeping</td>
<td>- Tripping</td>
<td>- Ensure telephone cords, office machine wires; wastebaskets, etc. are not left underfoot posing possible tripping hazards.</td>
</tr>
<tr>
<td>Doors and drawers</td>
<td>- Pinch points</td>
<td>- Use handles when closing doors and drawers on desks and filing cabinets. Keep these closed when not in use.</td>
</tr>
<tr>
<td>Office furniture</td>
<td>- Pinch points - Injury</td>
<td>- Ensure office furniture does not have sharp edges, splinters, loose castors or bolts.</td>
</tr>
<tr>
<td>Office machines</td>
<td>- Injury</td>
<td>- Ensure office machines are solidly placed and stable and properly ventilated. Do not adjust or clean power drive machines while in use.</td>
</tr>
<tr>
<td>Sharp Objects</td>
<td>- Personal injury</td>
<td>- Proper storage, use carefully. - Use Kevlar gloves when cutting with an open blade.</td>
</tr>
<tr>
<td>Electrical</td>
<td>- Personal Injury</td>
<td>- Do not attempt ANY electrical repairs. Call qualified personnel.</td>
</tr>
</tbody>
</table>

Note:

Report all work incurred injuries and illnesses immediately to management.

Know and have the Emergency Response plans in your area.

Approved By: ____________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
### Safe Work Practices

**Task Global:**  
**OFFICE SAFETY**  

**FINAL**  

**Reference:** General

**Applicable Trade/Craft:**  
**ALL TRADES AND CRAFTS**  

**Origin Date:** 21-06-07  
**Revised:** 24-Jan-08

<table>
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<tr>
<th>Employee Name (Print)</th>
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Safe Work Practices

HOUSEKEEPING AND SANITATION

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for housekeeping and sanitation.

<table>
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<tr>
<th>Known Recurring Hazards</th>
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| Unaware of job-site rules and regulations. | - Personal Injury  
|                         | - Equipment damage         | - Employees attend Client and/or NCS New Hire Orientation  
|                         |                             | - Supervisors conduct a thorough review of permit procedures/requirements with employees  
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|                         |                             | - Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
|                                         | - Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
## Housekeeping - Personal Injury
- Slip, trips & falls
  - Tools and materials shall not be left where they will create a hazard for others
  - Special attention should be given to: the stairwells, removal of slipping and tripping hazards and ready access to all work areas.
  - Electrical panels, emergency doors and equipment areas should always be unobstructed

## Environmental - Environmental contamination
- Personal Injury/Public
  - Procedures must be in place for the safe disposal of dangerous chemicals, toxic residues and other contaminated waste (including their containers). Chemical Waste must not be dumped into the sewage systems.
- Public image

---

**Note:**

The standard of housekeeping in any industrial setting is normally an indication of the degree of effort applied to planning and organization.

Planning for good housekeeping must include specific procedures for the arrival, storage and disposal of materials. Good housekeeping results in the maximum use of all company resources in terms of cost benefit, work schedules being maintained, accident prevention and health protection.

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**Approved By:**
Ron Sims Vice-President Corporate Affairs

---

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for stepladders.

<table>
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<tr>
<th>Known Recurring Hazards</th>
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| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| Slipping, falling | - Injury | - Footwear must be in good condition and have clean soles prior to climbing.  
- 3 point contact |
| Ladder set up in passageways, doorways & driveways. | - Ladder position could be compromised. | - Put barricades/flagging in place. |
| Slips, trips & falls | - Personal injury | - No work is to be done from the top two steps of a stepladder |
| Slips, trips & falls | - Personal injury | - The stepladder is only to be used in the fully opened position with the spreader bars locked. |
| Falling equipment | - Personal injury | - Tops of the stepladders are not to be used as a support for scaffolds. |
| Slips, trips & falls | - Personal injury | - Don’t overreach while on the ladder, keep belt between the uprights. Climb |
Safe Work Practices

Task Global: STEPLADDERS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

| down and move the ladder over to a new position. |

Note:

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

Stepladders are to be used only on clean and even surfaces.

Only CSA Standard ladders will be used. No wooden ladders.

Approved By: ______________________________
Ron Sims Vice-President Corporate Affairs

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## Safe Work Practices

**Task Global:**

STEPLADDERS

**Reference:** General

**Applicable Trade/Craft:**

ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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</tbody>
</table>
PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for portable and extension ladders.

<table>
<thead>
<tr>
<th>Known Reoccurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury&lt;br&gt;- Equipment damage</td>
<td>- Employees attend Client and/or NCS New Hire Orientation&lt;br&gt;- Supervisors will review applicable Safe Work Practice documents with employees</td>
</tr>
<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
</tr>
<tr>
<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries&lt;br&gt;- Lack of adequate controls post-incident</td>
<td>- Supervisors will review Client and/or NSC incident and near-miss reporting procedures</td>
</tr>
<tr>
<td>Slipping, falling</td>
<td>- Injury</td>
<td>- 3 point contact&lt;br&gt;- Make sure footwear is in good condition and the soles are clean.</td>
</tr>
<tr>
<td>Ladder set up in passageways, doorways, driveways</td>
<td>- Ladder position could be compromised</td>
<td>- Put barricades/flagging in place.</td>
</tr>
<tr>
<td>Arm fatigue or disorientation when looking up while working</td>
<td>- Dizziness</td>
<td>- Rest frequently&lt;br&gt;- Drape arms over a rung with head on another rung if dizziness occurs.&lt;br&gt;- Climb down slowly.</td>
</tr>
<tr>
<td>Slips, trips &amp; falls</td>
<td>- Personal injury</td>
<td>- Inspect ladder&lt;br&gt;- 3 point contact&lt;br&gt;- Proper foot ware</td>
</tr>
</tbody>
</table>
### PORTABLE AND EXTENSION LADDERS

**Slips, trips & falls - Personal injury**
- Don’t overreach while on the ladder. Keep the belt between the uprights, move the ladder to a safer and more convenient position.

- Always face the ladder when using it. Grip it firmly and use the three-point contact method when moving up or down the ladder. Do not carry material on the ladder.

- When in position, the ladder should protrude one (1) meter or three (3) feet above the intended landing point.
  - Tied off and employee should be supported until ladder is tied off.

**Electrocution - Death or serious injury**
- Keep all ladders away from electrical sources.

### Note:

Ladders can be used safely if they are given the respect they deserve.

Before using any ladder, inspect and make sure that is in good condition and is the right ladder for the job to be done.

Only CSA Standard ladders will be used. No wooden ladders.

---

**Approved By:**

Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
## Safe Work Practices

**USE OF CLEANING SOLVENTS AND FLAMMABLES**

**FINAL**

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To establish safe work practices that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practices for cleaning solvents and flammables.

<table>
<thead>
<tr>
<th>Known Repeating Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury</td>
<td>- Employees attend Client and/or NCS New Hire Orientation</td>
</tr>
<tr>
<td></td>
<td>- Equipment damage</td>
<td>- Supervisors conduct a through review of permit procedures/requirements with employees</td>
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<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
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<td>- Inadequate treatment for injuries</td>
<td>- Supervisors will review Client and/or NSC incident and near-miss reporting procedures</td>
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<tr>
<td></td>
<td>- Lack of adequate controls post-incident</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>- Environmental contamination to personal/public injury</td>
<td>- Check toxic hazards of all solvents before use. (MSDS)</td>
</tr>
<tr>
<td>Housekeeping</td>
<td></td>
<td>- Where solvents are controlled products, ensure all employees using them, or in the vicinity of their use, or storage, are trained and certified in the Workplace Hazardous Materials Information System. Ensure all WHMIS requirements are met</td>
</tr>
<tr>
<td>Environmental</td>
<td>- Personal/Public injury</td>
<td>- When flammable liquids are used, make sure that no hot work is permitted</td>
</tr>
<tr>
<td>Explosion</td>
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</tbody>
</table>
## USE OF CLEANING SOLVENTS AND FLAMMABLES

**Task Global:**

| Note: | The foreman/supervisor must be aware of all solvents/flammables that are used on the job, and be sure that all workers who use these materials have been instructed in both their proper use and any hazards they may pose. |

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

<table>
<thead>
<tr>
<th>in the area.</th>
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<tbody>
<tr>
<td>- Store flammables and solvents in special storage areas.</td>
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<tr>
<td>- Provide adequate ventilation where all solvents and flammables are being used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>- Unaware of job-site rules and policies.</th>
</tr>
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<tbody>
<tr>
<td>- Personal Injury</td>
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<tr>
<td>- Wear proper PPE as per MSDS specifications</td>
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<table>
<thead>
<tr>
<th>- Environmental Explosion</th>
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<tbody>
<tr>
<td>- Personal/Public injury</td>
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<tr>
<td>- Ensure proper containers are used for transportation, storage, and field use of solvents/flammables</td>
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<tr>
<td>- Use workplace labels</td>
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<thead>
<tr>
<th>- Explosion</th>
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<tbody>
<tr>
<td>- Personal/Public injury</td>
</tr>
<tr>
<td>- No aerosol containers in vehicle cab/equipment cab unless in an approved container</td>
</tr>
</tbody>
</table>

**Approved By:**

Ron Sims Vice-President Corporate Affairs

*All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.*
### Safe Work Practices

**USE OF CLEANING SOLVENTS AND FLAMMABLES**

**FINAL**

Reference: General

**ALL TRADES AND CRAFTS**

Origin Date: 21-06-07

Revised: 24-Jan-08

<table>
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<th>Employee Name (Print)</th>
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</table>
**Safe Work Practices**

**OPERATING PRESSURE WASHERS**  
**Number:** SWP013

**FINAL**  
**Reference:** POWER & MANUAL TOOLS

**Applicable Trade/Craft:** LABOURER

**Origin Date:** 26-06-07  
**Revised:** 24-Jan-08

**PURPOSE:** To ensure all pressure washing activities are conducted in a manner that minimizes risk to people, equipment, production and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practice for the safe operation of pressure washing equipment in wash bays.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| High heat/steam and pressure, chemical soaps and degreasers | - Scalding/burns, injection wounds, lacerations, heat exhaustion, rash/irritation | - Maintain control of wash wand, use pressure control to regulate wand pressure. Test wand in an open area and never point nozzle at yourself or other personnel, wear proper protective equipment, inspect all equipment prior to operation, use adequate ventilation, take breaks as needed, avoid direct skin contact with soaps and degreasers |
| Poor visibility/slips, trips, falls, slippery/Icy conditions | - Fractures, contusions, lacerations, slips, trips, falls | - Clean mono-goggles as needed, ensure proper footing, clean and/or re-clean walking area, standing/stepping surfaces of equipment during pressure washing |
| Falling lumps/material | - Crushing injuries, fractures | - Do not stand underneath frozen/hanging material when |
Safe Work Practices

Task Global: OPERATING PRESSURE WASHERS

Reference: POWER & MANUAL TOOLS

Applicable Trade/Craft: LABOURER

Origin Date: 26-06-07
Revised: 24-Jan-08

<table>
<thead>
<tr>
<th>moving parts</th>
<th>contusions, lacerations</th>
<th>steaming.</th>
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</thead>
<tbody>
<tr>
<td>Working from elevated platforms</td>
<td>Fractures, contusions, lacerations</td>
<td>Work from approved platforms or equipment landings, only trained personnel shall operate man-lifts</td>
</tr>
</tbody>
</table>

Note: The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the

Note:

1) Perform a pre-use inspection on pressure washer to ensure all equipment is in good working order prior to operation.
2) Lock and tag-out equipment to be washed.
3) Ensure equipment to be washed is chocked and any raised components are blocked or adequately secured against movement.
4) Never attempt to clean boots or raingear with pressure washer while you are wearing them.
5) Use bay doors in wash bay to help reduce steam and heat in work area.
6) In colder temperatures be aware water can freeze rapidly on tracks, landings and platforms. Check your footing and remove ice build up as needed.
7) When pressure washing is completed, turn off heat and allow pressure washer to continue to run for 10 minutes. This allows time for the boiler to adequately cool before shutdown.

Approved By: _________________________________
Ron Sims Vice-President Corporate Affairs

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Safe Work Practices

Task Global: MAN BASKETS

FINAL

Applicable ALL TRADES AND CRAFTS

Reference: Operations

Origin Date: 21-Jun-07
Revised: 04-Apr-11

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes NC Services Group (NCSG) general practices for the use of man baskets.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSG New Hire Orientation  
- Supervisors conduct a through review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice or Safe Job Procedure documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points, emergency assembly areas and contact numbers with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCSG incident and near-miss reporting procedures  
- Man baskets must be of an engineer’s design, certified, meet the requirements of CSA Z-150-98 (5.4.7.2.1) and be capable of supporting its own weight and at least five times the rated load of the platform  
- Man baskets must be visual inspected before each use for cracks or deterioration  
- Be equipped with a second means of support that is attached from a fixed point on the basket to a point above the hook/block, and has a safety factor of at least 10 to 1 bolt type w/ keeper screw or wired to prevent roll out. A steel cable of at least ¾” must be used with no more than 1 ft. slack. NO SYNTHETIC SLINGS ALLOWED.  
- Be fixed with sufficient numbers of fixed supports for lanyards and be clearly identified |
Any and all repairs or alterations must be logged and be of original design and approved by a professional engineer.
- All necessary paperwork will accompany the basket and must be available before use.
- Be downloaded to half (50%) of its rated capacity when used to lift personnel.
- Be equipped with an Anti-Two Block device.
- Hooks to have functioning safety latch.
- If safety devices are inoperative then the man basket shall not be used.
- Hoist lines that are able to withstand at least ten times the maximum load.
- Boom that is equipped with fail-safe device system and devices to prevent the boom from free-falling or unintentional lowering or retracting.
- Have secondary line and rigging removed, or set in such a way that it will not tangle or endanger workers on the platform, and prevent the safe operation of the crane.
- Use only winches with power down capabilities for suspending personnel platforms.
- Workers using a suspended man basket must use a safety harness with a lanyard (maximum 5') and secured to a fixed/marked point inside the basket.
- Tools and equipment in the basket must be kept to a minimum.
- The number of personnel in the basket is restricted to the allowable number of personnel the basket is designed for and must never be exceeded.
- The man basket shall be inspected and tested before use, after alterations are performed, and at least once every 12 months by a qualified person.
- Tests and Inspections shall be documented and signed by the person who made the inspection and test and include the date and
MAN BASKETS

FINAL

ALL TRADES AND CRAFTS

- observations of the test and inspection.
- Repairs and maintenance of man basket and safety devices will be performed by a qualified person.

Notes:

Trial Lift

Each time a crane is set up to hoist personnel a Trial Lift is required by law. The trial lift must be made in accordance to CSA Z150-98, Section 5.4.7.2.4. This trial lift needs to be repeated if the crane is set up/configured from the original position, or if there is a change in the original lifting plan. A trial run will consist of the operator:

1) Connecting a suitable test weight (to simulate the work load of the basket) to the basket.
2) Lift the basket by means of the secondary support 1 m off the ground to verify integrity of the platform and the secondary support. Repeat this procedure for the primary support.
3) Lifting the basket (with test weight) to maximum radius and hold for five minutes.

NOTE: The purpose of the test lift is to ensure the integrity of the crane, ground stability, and, avoid any unforeseen obstacles.

AB OH&S – Suspended man baskets Part 23 / Section 350
CSA Z 150-98 Personal Lifting from Suspended Basket 5.4.7.1
Note:

Verbiage in this section is pursuant to Alberta Provincial OH&S Regulations and Code as well as the applicable Canadian Federal Regulations and Codes, it is the responsibility of NC Services Group Management and Supervision to be in compliance to regulations and code pursuant to the regulatory body(s) having jurisdiction at the work site.

The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the form and make that document available in the immediate work area.
PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes NC Services Group (NCSG) procedures for machinery in motion.

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<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
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</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSG New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct daily toolbox meetings  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice or Safe Job Procedures documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points, emergency assembly areas and contact numbers with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCSG incident and near-miss reporting procedures |
| Weather | - Personal injury  
- Equipment  
- Environment | - Employees will initiate and follow NCS procedures prior to commencing job duties. |

Do not perform any mechanical repair or servicing on machinery while it is in motion, and keep all equipment guards in place while machine is in operation.
Safe Work Practices

Task Global: MACHINERY IN MOTION

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: Maintenance

Number: SWP026

Origin Date: 25-May-07
Revised: 12-Apr-11

- No major work shall be done above moving machinery. When working close to moving machinery other than shop tools, a temporary guard should be provided between the machine and the workers.
- There is a “Lock-Out” procedure to prevent accidental start-up of equipment during repair. Check with your supervisor for identification of such equipment and always double-check the permit and lockout.
- The operation of any machine is prohibited except by experienced workers and approved or designated supervisors.
- Employees must not wear necklaces, bracelets, dangling sleeves or loose clothing while operating or working close to moving machinery. Hair must be worn in such manner that it does not constitute a hazard around moving machinery.
- Tool rests on emery wheels should be adjusted to within 1/8″ of wheel and above the centreline of the wheel.
- Controls will be in place if required, i.e.; flagging, barricading area off.

Note:

Verbiage in this section is pursuant to Alberta Provincial OH&S Regulations and Code as well as the applicable Canadian Federal Regulations and Codes, it is the responsibility of NC Services Group Management and Supervision to be in compliance to regulations and code pursuant to the regulatory body(s) having jurisdiction at the work site.

The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the form and make that document available in the immediate work area.
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SAFE WORK PRACTICES- POWER & MANUAL TOOLS

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2. Use of Chainsaws
3. Use of Portable Grinders
4. Use of Portable Arc Welders
5. Welding, Cutting & Burning
6. Use of Propane
7. Use of Tiger Torches
8. Space Heaters
**Safe Work Practices**

**DEFECTIVE TOOLS**

**FINAL**

**Reference:** POWER & MANUAL TOOLS

**Number:** SWP006

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To establish safe work practices that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practices for handling of defective tools.

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<th>Required Controls</th>
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<td>- Personal Injury</td>
<td>- Employees attend Client and/or NCS New Hire Orientation</td>
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<td>- Equipment damage</td>
<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
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<td>Unaware of emergency procedures</td>
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<td>- Lack of adequate controls post-incident</td>
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<tr>
<td>Unaware of tagging tools out of service</td>
<td>- Personal injury</td>
<td>- Inspect all tools for signs of deterioration or inoperative/missing guards</td>
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<td>- Inspect for insufficient grounding</td>
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</tbody>
</table>
Safe Work Practices

Task Global: DEFECTIVE TOOLS

FINAL

Reference: POWER & MANUAL TOOLS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Placing Tags:

Clearly print your name, the time, date and reason for taking tool out of service. Tool damage/inoperable to be reported to your supervisor immediately. The tag is not to be removed until it has been deemed safe for use by a qualified technician. The qualified technician should remove the tag upon final testing.

Approved By: ____________________________
Ron Sims Vice-President of Corporate Affairs

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ORIGIN DATE: 21-06-07
REVISED: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for the use of chainsaws.

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<td>- Equipment damage</td>
<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
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<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
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<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries</td>
<td>- Supervisors will review Client and/or NSC incident and near-miss reporting procedures</td>
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<td>- Lack of adequate controls post-incident</td>
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<tr>
<td>Unaware of proper procedure</td>
<td>- Personal injury</td>
<td>- The proper PPE is to be worn as set out by the manufacturer and O H &amp; S Legislation</td>
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<td>- Review proper methods of starting, holding, carrying or storage and use of the saw as directed by the manufacturer</td>
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<td>- Do a safety check to ensure that the chain brake is functioning properly and will adequately stop</td>
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<td>- The chain saw must not be used for cutting above shoulder height.</td>
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<td>- When carrying/transporting a chain saw the bar guard must be in place, the chain bar must be toward the back and the motor must be shut off</td>
</tr>
<tr>
<td>Explosion Unaware of proper procedure</td>
<td>- Personal injury</td>
<td>- Fuelling must be done in a well-ventilated area and not while the saw is either running or hot. Always use an approved safety container with workplace label (along with proper spout or funnel for pouring) must be used for fuel.</td>
</tr>
</tbody>
</table>
Safe Work Practices

Task Global: USE OF CHAINSAWS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: POWER & MANUAL TOOLS

Origin Date: 21-06-07
Revised: 24-Jan-08

Number: SWP007

Note:

Chainsaws will comply with CSA Standards Z62.1-M-77. Workers must be trained in the safe use of a chain saw before using it.

Approved By: ____________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Work Practices

Task Global: USE OF CHAINSAWS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: POWER & MANUAL TOOLS

Origin Date: 21-06-07
Revised: 24-Jan-08

Employee Name (Print) | Signature | Date

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### Safe Work Practices

**Task Global:**

**USE OF GRINDERS**

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** POWER & MANUAL TOOLS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To establish safe work practices that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practices for grinders.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| - Unaware of proper procedures | - Personal injury | - Check/replace the tool rest for the correct distance from the abrasive wheel, maximum 1/8” or 3 mm.  
- The grinding wheel rpm must match the shaft rotating speed according to the manufacturer’s recommendation and test for vibration before grinding  
- Bench grinders are designed for peripheral grinding. Grind only on the flat of the wheel.  
- Stand to one side of the grinding wheel when it is first started.  
- Grinder is only to be used for jobs which it is designed for. |
| Working Alone | - Personal injury | - Check to ensure there are no flammable materials close to where you are grinding. |
Safe Work Practices

Task Global: USE OF GRINDERS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: POWER & MANUAL TOOLS

Origin Date: 21-06-07
Revised: 24-Jan-08

Number: SWP008

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

Approved face shield along with eye protection is required when using a grinder.

OH&S 375(1) part25 - 3

Approved By: ________________________________
Ron Sims Vice-President Corporate Affairs

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## Safe Work Practices

**Task Global:**

**USE OF GRINDERS**

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** POWER & MANUAL TOOLS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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<th>Employee Name (Print)</th>
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</table>
Safe Work Practices

Task Global: WELDING, CUTTING AND BURNING

FINAL

Reference: POWER & MANUAL TOOLS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. practices for welding, cutting and burning.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| Unauthorized start-up or movement of equipment | - Personal injury  
- Equipment damage | - Lockout equipment as per Lockout Procedure prior to performing work  
- Secure components against unexpected movement |
| Welding flash and burns | - Personal injury | - Conduct an FLRA prior to initiating task  
- Wear appropriate PPE as outlines in OH&S, as well as long sleeves (leathers if required)  
- Helpers will wear appropriate face-shields in addition to basic PPE requirements when in close proximity of welding activities |
## Safe Work Practices

**Task Global:**

**WELDING, CUTTING AND BURNING**

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** POWER & MANUAL TOOLS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

<table>
<thead>
<tr>
<th>Flying debris</th>
<th>- Personal injury</th>
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<tbody>
<tr>
<td></td>
<td>- Set up welding screens when needed to protect other workers</td>
</tr>
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<td></td>
<td>- Hearing protection is required for gouging activities for all personnel in immediate vicinity</td>
</tr>
<tr>
<td></td>
<td>- Block and/or secure all tooling prior to welding or cutting activities</td>
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<tr>
<td></td>
<td>- Wear safety eyewear and face-shields when necessary</td>
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<td>- Barricade work area as required to prevent unauthorized entry and protect adjacent workers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fire and/or explosion</th>
<th>- Personal injury</th>
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<tr>
<td></td>
<td>- Obtain burn permits where required</td>
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<td></td>
<td>- Ensure all welding service vehicles are inspected and in compliance with OH&amp;S Part 10 – 172 and NCS standards</td>
</tr>
<tr>
<td></td>
<td>- Ensure all compressed gas cylinders and equipment are inspected and stored in compliance with OH&amp;S Part 10 – 171 and NCS standards</td>
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<td>- Fire extinguishers will be maintained in the immediate vicinity of all welding, cutting and burning activities</td>
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<td>- Ensure adequate spark containment i.e. burn blankets, and shields are in place as required</td>
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<td>- Conduct FLRA prior to working to identify any combustible material and flammable vapours in the work area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inadequate/improper use of PPE</th>
<th>- Personal injury</th>
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<tbody>
<tr>
<td></td>
<td>- Minimum PPE requirements; hardhats, safety eyewear, FR coveralls, safety boots and</td>
</tr>
</tbody>
</table>
## Safe Work Practices

### Task Global:

**WELDING, CUTTING AND BURNING**

**Reference:** POWER & MANUAL TOOLS

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

<table>
<thead>
<tr>
<th>Hazardous fumes</th>
<th>Personal injury</th>
<th>- Conduct FLRA to determine the need for additional PPE and utilize as required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welding or cutting lines, drums, tanks, etc that have been in service</td>
<td>Personal injury</td>
<td>Equipment damage</td>
</tr>
<tr>
<td>Confined space</td>
<td>Personal Injury</td>
<td>- Proper permits, precautions and procedures are in place</td>
</tr>
<tr>
<td>Working overhead</td>
<td>Personal Injury</td>
<td>- Follow Confined Space Procedures</td>
</tr>
<tr>
<td>Cutting and welding near cylinders</td>
<td>Equipment damage</td>
<td>Explosive materials</td>
</tr>
<tr>
<td>Opening cylinder valves</td>
<td>Personal injury</td>
<td>- Move all cylinders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Open slowly</td>
</tr>
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<td></td>
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<td>- The wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use</td>
</tr>
</tbody>
</table>

- Always ensure that adequate ventilation or respirators are supplied

- Proper gas tests and safety lookout

- Use fire resistant materials (blankets, tarps) to control or contain slag and sparks
Safe Work Practices

WELDING, CUTTING AND BURNING

ALL TRADES AND CRAFTS

Note:

References to OH&S legislation in this document are specific to the Province of Alberta. Work outside Alberta, shall be conducted in accordance with applicable Federal, Provincial and Municipal legislation specific to the region in question.

The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the form and make that document available in the immediate work area.

Approved By: 

Ron Sims Vice-President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Work Practices

Task Global: WELDING, CUTTING AND BURNING

FINAL

Reference: POWER & MANUAL TOOLS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Employee Name (Print) | Signature | Date
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Safe Work Practices

PORTABLE ARC WELDERS

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised:

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for the use of PORTABLE ARC WELDERS.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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<tbody>
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Note:

Process:

1. Be sure the machine is firmly attached to the transporting unit.
2. Check all fluid levels, water, oil, and gas to be sure they are at acceptable levels for operation.
3. Turn machine OFF for refuelling.
4. When fuelling, leave a space for expansion. Gasoline expands as the outside temperature rises causing seepage and creating the potential for a fire.
5. Be sure that radiator and gas caps are in the proper working order and securely attached.
6. Do a “walk around” to check for damage and obvious leaks.
7. Only qualified mechanics or technicians should make any repairs.
8. Make sure all cables are wound securely when transporting.
9. Ensure the side covers are kept closed to protect the machine from any damage from external objects and outside weather, as well as to protect the operator and others from the moving parts of the machine.
10. Ensure proper ventilation and equipment is in place if the machine needs to be operated in an enclosed environment.

Approved By: __________________________
Ron Sims Vice-President Corporate Affairs

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## Safe Work Practices

**Task Global:** PORTABLE ARC WELDERS

**Number:** SWP031

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:**

<table>
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<tr>
<th>Employee Name (Print)</th>
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</table>
Safe Work Practices

Task Global: USE OF PROPANE

FINAL

Applicable ALL TRADES AND CRAFTS

Reference: General

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. practices for the storage, transportation and use of propane.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>Personal Injury - Equipment damage</td>
<td>Employees attend Client and/or NCS New Hire Orientation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supervisors will review applicable Safe Work Practice documents with employees</td>
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<tr>
<td>Unaware of emergency procedures</td>
<td>Personal injury</td>
<td>Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
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<td>Unaware of incident reporting procedures</td>
<td>Inadequate treatment for injuries - Lack of adequate controls post-incident</td>
<td>Supervisors will review Client and/or NSC incident and near-miss reporting procedures</td>
</tr>
<tr>
<td>Explosion</td>
<td>Pubic/Personal injury</td>
<td>Ensure WHMIS and TDG labels are attached and visible.</td>
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<td>Cylinders are transported and secured in an upright position in a ventilated area</td>
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<td>Cylinders are not to be stored in buildings, or carried in closed canopies, vehicles, tool vans.</td>
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<td>Regulator to be installed on cylinder prior to use.</td>
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<td>When checking for leaks use soapy water solution.</td>
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<tr>
<td>- Explosion</td>
<td>Pubic/Personal injury</td>
<td>When not in use cylinder to be secured and stored in upright position, valve closed and regulator removed.</td>
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<tr>
<td></td>
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<td>Cylinder is not to be used if shoulder label/stamp is not legible.</td>
</tr>
</tbody>
</table>
Safe Work Practices

Task Global: USE OF PROPANE

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

- Ensure cylinders in storage or transit must be equipped with valve cap or collar and regulator removed.
- Cylinder not to be painted over in any fashion
- Tanks are not to be heated to increase flow.

Note:

Except in an emergency, any movement or repositioning of tanks shall be performed by a competent worker.

All trucks, cranes or equipment used to handle propane tanks must be equipped with a fire extinguisher appropriate for the size and type of propane tank being used.

All installations and use of this product or setting up of equipment at the site must be aware of the safe work practice.

Approved By: ______________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Work Practices

USE OF TIGER TORCHES

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. practices for the use of tiger torches

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| Explosion | - Personal Injury | - Ensure that proper ventilation is in place and that there is no chance of a build up of gas in the area  
- Fire extinguisher must be present  
- Fuel lines are to have regulators  
- Torches are not to be used for heating work areas, thawing of lines, locks or equipment  
- Ensure that the propane bottles are properly shut off  
- Hose and regulators removed and stored in appropriate storage area |
Safe Work Practices

Task Global: USE OF TIGER TORCHES

Reference: POWER & MANUAL TOOLS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 26-06-07
Revised: 24-Jan-08

Approved By: __________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Work Practices

Task Global: USE OF TIGER TORCHES

FINAL

Reference: POWER & MANUAL TOOLS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 26-06-07
Revised: 24-Jan-08

Employee Name (Print)       Signature       Date
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Safe Work Practices

Task Global: USE OF SPACE HEATERS

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 26-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. practices for the use of space heaters.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
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</table>
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- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| Explosion | - Personal Injury | - Ensure that proper ventilation is in place and that there is no chance of a build up of gas in the area  
- Fire extinguisher must be present  
- Fuelling of the heater must not take place when the heater is running or is hot  
- Use funnel and/or proper spout |
| Unaware of job-site rules and regulations. | - Personal/Public Injury | - Operate as per manufacturer’s specifications |
| Unaware of proper procedures | - Personal/Public Injury | - Must be secured against over turning during transportation |
Safe Work Practices

USE OF SPACE HEATERS

FINAL

ALL TRADES AND CRAFTS

Number: SWP012
Reference: General
Origin Date: 26-06-07
Revised: 24-Jan-08

Approved By: ____________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Task Global: USE OF SPACE HEATERS

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 26-06-07
Revised: 24-Jan-08

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<th>Employee Name (Print)</th>
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2. Proper Hoisting & Rigging Practices
3. Leaving Crane Unattended
4. Man baskets
5. Working Near Power lines
6. Lift Evaluation Criteria
7. Conventional cold weather operation
8. Hydraulic cold weather operation
9. Machinery in motion
10. Rigging up or down in a confined space
11. Working with wire rope & attaching clamps, clamping
12. Contamination of clutches & brakes
13. Two or more cranes working in a congested area
SAFE WORK PRACTICES

OPERATOR’S RESPONSIBILITIES

NUMBER: SWP033

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 24-Jan-08

Operator’s Responsibilities

The crane operator must:

- Have proof of certification on their person (i.e. Red Seal or Apprenticeship Card.)
- Be competent on the equipment they are expected to operate.
- Be able to operate the crane in a safe and efficient manner with due consideration to the Health and Safety of themselves and others.
- Be courteous and professional when dealing with clientele and other employees.
- Ensure the crane is maintained and inspected for deficiencies as per manufacturer’s requirements and any deficiencies found are recorded in the Log Book and reported for repair. Annual Structural Certification and CVI must be current and available.
- Ensure all monitoring and limiting devices are operational as per manufacturer’s specifications.
- Assemble setup, rig and operate the crane in accordance with manufacturer’s specifications, company policies and procedures and government regulations. Cranes must be setup on full outriggers at all times **unless there is no practicable way to do otherwise**. Outriggers must be pinned on all Liebherr AT cranes whenever the boom is out of the cradle.
- Ensure adequate support for the crane outriggers and tracks.
- Maintain the Crane Log Book as required by Law. They must be familiar with all recent entries in the log book.
- Maintain the NCSI white log book. (Apprentices)
- Confirm load and rigging weights.
- Select appropriate boom, jib and crane configuration to meet the lift requirements and determine the net lifting capacity and percentage of gross capacity of the crane.
- Have the ability to accurately reference the operator’s manual and utilize the information correctly.
- Understand the limitations of the machine in the configuration used.
- Understand and properly use the information in the Crane Load Charts specific to the crane being used.
- Ensure that the site is adequately prepared for the crane.
- Ensure that all hazards have been identified and either eliminated or controlled.
- Complete an FLRA and Lift Calculation sheet as required by OH&S and/or company policy.
OPERATOR’S RESPONSIBILITIES

ALL TRADES AND CRAFTS

- Inform site supervision of any dangerous conditions occurring before or during hoisting operations.
- Report all Incidents, Near Misses and Environmental issues promptly as explained in company policy.
- Ensure that a competent rigger has been assigned and that they have documentation to show record of formalized training as a rigger as per OH&S and ANSI-A10.42-2000.
- Ensure that all loads are properly rigged in accordance with NCS Fundamentals of Rigging, NCS engineered lift plans and appropriate government regulations.
- Ensure that cranes working within 7 meters of an energized power source have a permit obtained from the service provider as per Alberta Legislation.
- Ensure that a competent signal person is used and that they are clearly identified with a high visibility arm band and that signals are given in a clear and concise manner. Emergency stop signal must be taken from anyone.
- Ensure that no load is moved unless the signals are clearly understood. Approved radios must be used if signalman cannot maintain visual contact with both the load and the operator or if visibility makes it difficult for the operator to understand the signals. No relaying of signals is allowed.
- Ensure that boom deflection is accounted for and the load does not drift. Personnel must not be allowed to stand near the load during tensioning and initial hoisting. The load block must be centered over the center of gravity of the load with the load line plumb during all hoisting procedures. **Never allow anyone to get between a moving load and a stationary object!**
- Be able to safely move the crane on site with or without a suspended load as per manufacturer’s specifications and company policy.
- Shut down and secure the crane as per company procedures.
- Assess weather conditions and their effects on crane operation as per manufacturer’s specifications and company policies.
- Participate in pre-lift meeting with all personnel involved in the lift.
- Cease operations and refuse to continue if there is imminent danger or if there are substandard conditions or the lift becomes non compliant with this standard.
- Ensure that swinging loads over workers or occupied buildings or live process units must only be done if there is no other way and personnel in the area have been warned of the danger, (as per OH&S part 6 section 69(2) a and b)
- Check with site personnel upon arrival to report that the crane is on site and to coordinate hoisting procedures with client personnel.
- Check with site personnel prior to leaving site to ensure that the job is completed and to inform them that the operator and crane are leaving site.
SAFE WORK PRACTICES

OPERATOR’S RESPONSIBILITIES

ALL TRADES AND CRAFTS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 24-Jan-08

Approved By: Ron Sims Vice President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Services Inc. Corporate Office in Edmonton, Alberta.
Safe Work Procedure

Task Global: PROPER HOISTING & RIGGING PRACTICES

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: CRANE/HOIST

Origin Date: 25-05-07
Revised: 24-Jan-08

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. procedures for Proper Hoisting & Rigging Practices.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Operator will attend daily toolbox meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |
| Weather | - Personal injury  
- Equipment  
- Environment | - Employees will initiate and follow NCS procedures and manufacturer’s specification prior to commencing job duties. |
| Bad Signals from Rigger | - Personal injury  
- Equipment | - The rigger must be deemed competent or under the direction of someone who is deemed competent. |
PROPER HOISTING & RIGGING PRACTICES

Prior to Hoisting

1. Determine the weight of the load prior to a lift to ensure the crane operates within its capabilities.
2. Select the proper slings and **NEVER** exceed the working load limits.
3. Inspect each chain or sling for cuts, nicks, bent links, bent hooks, etc., before each use. If in doubt, don't use it.
4. Use slings of proper reach. Never shorten a line by twisting or knotting. With chain slings, never use bolts or nuts to shorten length.
5. Ensure that safety latches on hooks are in good working condition.
6. Never permit anyone to ride the lifting hook or the load.
7. Make sure all personnel stand clear from the load being lifted.
8. Make sure (when appropriate) that a tagline is used to control the load.
9. Ensure that the signaler is properly identified and understands techniques of proper signaling.

IMPORTANT PROCEDURE

Operators, prior to making the actual lift, need to familiarize themselves with the crane they are operating. This should be done by moving the boom up and down, swing both left and right, and traveling the block up and down. During this familiarization process the operator should take note of how the crane is responding, and if the crane is prepared for the job at hand.

NOTE: When there is a change of operators during a lift process, where practicable, the load should be disconnected from the crane, and the new operator follows the above procedure to orientate, and familiarize himself, to the crane prior to making any lifts.

Hoisting

1. Estimate the centre of gravity, or point of balance. The lifting hook should be positioned immediately above the estimated centre of gravity.
2. Make sure the hoist or crane block/headache ball is directly over the load.
3. Never work under a suspended load, unless it is properly supported.
4. Never leave a hoist or crane unattended when a load is suspended in the air.
Landing the Load

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

Proper Rigging Practices

Riggers require knowledge and skill of the task at hand and total awareness of what is going on around them. Rigging is a total team effort and requires co-ordination and constant communication with all team members at all times.

1. Riggers must be knowledgeable about working with hoisting equipment and proper rigging techniques.

2. Only experienced riggers are to assume the responsibility of giving hand signals to the operator. All Riggers must know the hand signals so they are aware of what directions are being given.

3. When selecting rigging for a lift the Rigger must know the safe working capacities of the items being used (i.e. Slings, shackles, spreader bars) and must have the knowledge to select the proper rigging for the lift.

4. Rigging must be visually inspected by competent, qualified personnel for damage or flaws before every lift.

5. Riggers must understand the capabilities of the crane being used prior to any lift-taking place.

6. Rigging crew and the crane operator need to discuss/know all aspects of the lift prior to lifting.

7. It is the responsibility of each Rigger to review the lift area and make all members of the team aware of any obstructions or hazards in the lift area.

8. Only one member of the crew is to act as the signal person, and the crane operator is to recognize signals only from that one person. The signal person must be careful not to order a move until each member of the crew gives an “all ready” or “all clear” signal.

9. Each rigger must be sure he is in the clear before giving an “all ready” to the signal person. Once the sling/choker is in position the Rigger (if possible) should let go of the sling/choker before giving the “all ready” signal.
PROPER HOISTING & RIGGING PRACTICES

10. If the sling/choker must be held in position, make sure hands are clear of all pinch points and an open hand position is used. Hands should be far enough away so there are no possibility of a glove being caught and pulling a hand into a pinch point, (NOTE: frayed cables should never be used).

11. Watch out for the roll or swing of a load. Since it is almost impossible to position a hook exactly over the centre of a load there will almost always be a swing or roll. Anticipate the direction of the swing or roll and work away from it.

12. Never stand between material, equipment, or any stationary object and the load swing. Stay away from stacked material that may be knocked over by a swinging load.

13. Never stand under a load, and keep out from under the boom as much as possible.

14. Check the placement where the load is to be set. Remove unnecessary blocks or other objects that might fly up or interfere with the load being set.

15. When lowering or setting the load, be sure feet and all other parts of the body are out from under. Set the load down easily and slowly so that if it rolls on the blocking, it will be a slow shift that allows time to clear any pinch points.

16. Identify the designated signalman by the use of a distinctive vest, armlets, etc.

17. Use tag lines to control the loads.

Approved By: __________________________
Ron Sims Vice-President Corporate Affairs

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Safe Work Practices

LEAVING CRANES UNATTENDED

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for leaving cranes unattended.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
<tbody>
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<td>- Employees attend Client and/or NCS New Hire Orientation</td>
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<td>- Equipment damage</td>
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<td>- Supervisors will conduct weekly safety meetings</td>
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<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
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<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries</td>
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<td>- Lack of adequate controls post-incident</td>
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<tr>
<td>Unauthorized access to equipment</td>
<td>- Personal injury</td>
<td>- When cranes are left unattended, the cabs will be locked against unauthorized access</td>
</tr>
<tr>
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<td>- Equipment/Property damage</td>
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<tr>
<td>- Equipment failure</td>
<td>- Personal injury</td>
<td>- When cranes are left unattended, the booms will be scoped in whenever reasonably practical to do so.</td>
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<td>- Equipment/Property damage</td>
<td>- If the crane boom has a luffer attached, the luffer tip will be lowered to the ground where reasonably practical, in an area that would allow the luffer to fully collapse without causing injury or damage.</td>
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<td>- When a crane must be left with the boom extended, the boom will be positioned in a</td>
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Safe Work Practices

Task Global: LEAVING CRANES UNATTENDED

Number: SWP016

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 24-Jan-08

| manner that will not create potential for injury to people or damage to property if the boom collapsed and the boom will be lowered 5-10 degrees from the maximum raised angle. |

Notes:
The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the Northern Crane Services Inc. FLRA form and make that document available in the immediate work area.

Approved By: 

Ron Sims Vice-President of Corporate Affairs

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Task Global: LEAVING CRANES UNATTENDED

FINAL

Reference: CRANE/HOIST

All Trades and Crafts

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Safe Work Practices

Task Global: MAN BASKETS

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for the use of man baskets.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures  
- Man baskets must be of an engineer’s design, certified, meet the requirements of CSA Z-150-98 (5.4.7.2.1) and be capable of supporting its own weight and at least five times the rated load of the platform  
- Man-baskets must be visually inspected before each use for cracks or deterioration  
- Be equipped with a second means of support that is attached from a fixed point on the basket to a point above the hook/block, and has a safety factor of at least 10 to 1 bolt type w/ keeper screw or wired to prevent roll out. A steel cable of at least ¾” must be used with no more than 1 ft. slack. **NO SYNTHETIC SLINGS ALLOWED.**  
- Be fixed with sufficient numbers of fixed supports for lanyards and be clearly identified. |
## Task Global: MAN BASKETS

### Final

**Reference:** CRANE/HOIST

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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<td>-</td>
<td>Any and all repairs or alterations must be logged and be of original design and approved by a professional engineer.</td>
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<td>All necessary paperwork will accompany the basket and must be available before use.</td>
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<td>-</td>
<td>Be downloaded to half (50%) of its rated capacity when used to lift personnel.</td>
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<td>Be equipped with an Anti-Two Block device.</td>
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<td>Hooks to have functioning safety latch.</td>
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<td>Hoist lines that are able to withstand at least ten times the maximum load</td>
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<td>Boom that is equipped with fail-safe device system and devices to prevent the boom from free-falling or unintentional lowering or retracting.</td>
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<td>Have secondary line and rigging removed, or set in such a way that it will not tangle or endanger workers on the platform, and prevent the safe operation of the crane.</td>
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<td>Use only winches with power down capabilities for suspending personnel platforms.</td>
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<td>-</td>
<td>Workers using a suspended man basket must use a safety harness with a lanyard (maximum 5’) and secured to a fixed/marked point inside the basket.</td>
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<td>Tools and equipment in the basket must be kept to a minimum.</td>
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<td>-</td>
<td>The number of personnel in the basket is restricted to the allowable number of personnel the basket is designed for.</td>
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</table>
Safe Work Practices

Task Global: MAN BASKETS

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRades and CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Notes:

**Trial Lift**

Each time a crane is set up to hoist personnel a **Trial Lift is required by law**. The trial lift must be made in accordance to CSA Z150-98, Section 5.4.7.2.4. This trial lift needs to be repeated if the crane is set up/configured from the original position, or if there is a change in the original lifting plan. A trial run will consist of the operator:

1) Connecting a suitable test weight (to simulate the work load of the basket) to the basket.
2) Lift the basket by means of the secondary support 1 m off the ground to verify integrity of the platform and the secondary support. Repeat this procedure for the primary support.
3) Lifting the basket (with test weight) to maximum radius and hold for five minutes.

**NOTE:** The purpose of the test lift is to ensure the integrity of the crane, ground stability, and, avoid any unforeseen obstacles.

AB OH&S – Suspended man baskets Part 23 / Section 350
CSA Z 150-98 Personal Lifting from Suspended Basket 5.4.7.1

Approved By: ________________________________
Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

Task Global: MAN BASKETS

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Employee Name (Print)  Signature  Date
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**Safe Work Practices**

**Task Global:** WORKING NEAR POWER LINES

**Number:** SWP014

**FINAL**

**Reference:** CRANE/HOIST

**Applicable Trade/Craft:** CRANE OPERATOR

**Origin Date:** 26-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To ensure all work being carried out within close proximity to power lines is conducted in a manner that minimizes risk to people, equipment, production and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practice for the safe execution of work near power lines.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
|                         | - Equipment damage             | - Employees attend Client and/or NCS New Hire Orientation  
|                         |                                | - Supervisors conduct a thorough review of permit procedures/requirements with employees  
|                         |                                | - Supervisors will review applicable Safe Work Practice documents with employees       |
| Unaware of emergency procedures | - Personal injury              | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
|                                       | - Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures |
| Electrocutions            | - Personal injury  
|                         | - Death                        | - Equipment must not be operated within 7m of any overhead power line without notifying the service provider.  
|                         |                                | - Obey site specific requirements                                                      |
Safe Work Practices

Task Global: WORKING NEAR POWER LINES

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: CRANE OPERATOR

Origin Date: 26-06-07
Revised: 24-Jan-08

Note: The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the North Crane Services Inc. JHA form and make that document available in the immediate work area.

Note:

Follow all requirement outlined by the service provider on the next page.

Should your crane/machine come in contact with a power line:

1. Stay in the cab until there is assurance the power has been disconnected.

2. If that is not possible:
   - DO NOT STEP from the crane to the ground. This will result in electrocution.
   - JUMP CLEAR of the cab keeping BOTH FEET TOGETHER.
   - RABBIT HOP or SHUFFLE out of the energized zone.

3. Keep ground personnel away from the machine. Warn any personnel in the vicinity to STAY AWAY, and not to enter the energy zone or touch the crane, load, or any other component within close proximity of the machine.
Safe Work Practices

WORKING NEAR POWER LINES

Number: SWP014

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft

CRANE OPERATOR

Origin Date: 26-06-07

Revised: 24-Jan-08

Purpose: These minimum requirements are for your protection and safety. Contact with power lines is extremely dangerous and could result in death.

1) **Danger Zone** (unknown voltage) Equipment must NOT be operated within 7 m of any overhead power line without notifying ATCO Electric.

2) **Prohibited Area** (voltage confirmed by ATCO Electric)
   a) No unqualified worker or equipment can enter the Prohibited Area.
   b) ATCO Electric recommends all work within the 7 m Danger Zone, but outside the Prohibited Area require a designated signaler who can communicate by radio or air horn with all workers and equipment.

3) **NEVER ALLOW WORKERS OR EQUIPMENT TO ENTER THE PROHIBITED AREA!**
   If work cannot be done outside the Prohibited Area contact ATCO Electric for assistance.

4) Work near power lines must be done during daylight hours only.

5) ATCO Electric recommends installing a minimum of two 50.8 cm x 71 cm "Danger Overhead Line" signs when operating equipment near the lines. (These can be purchased through most safety supply companies.) The signs must be installed on both sides of the line — at a height of 1.8 m and a distance of 7 m from the line. (Refer to the diagrams above.)

6) On-site workers must have a copy of the crossing agreement and all on-site personnel must be knowledgeable of its requirements.

Any violation could lead to sanctions under the OH&S Act and Regulation

**IF YOU ACCIDENTALLY CONTACT AN OVERHEAD POWER LINE**

— STAY CLEAR AND CALL ATCO ELECTRIC

1-800-468-5506

ATCO Electric
Safe Work Practices

Task Global: WORKING NEAR POWER LINES

FINAL

Applicable Trade/Craft: CRANE OPERATOR

Number: SWP014

Reference: CRANE/HOIST

Origin Date: 26-06-07
Revised: 24-Jan-08

Approved By: ________________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Services Inc. Corporate Office in Edmonton, Alberta
Task Global: WORKING NEAR POWER LINES

Number: SWP014

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: CRANE OPERATOR

Origin Date: 26-06-07

Revised: 24-Jan-08

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</table>
Safe Work Procedure

Task Global: LIFT EVALUATION CRITERIA

FINAL

Applicable Trade/Craft: ALL Trades and Crafts

Origin Date: 25-05-07
Revised: 24-Jan-08

Reference: CRANE/HOIST

Number: SWP015

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. procedures for a Lift Evaluation Criteria

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Operator will attend daily toolbox meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |
| Weather | - Personal injury  
- Equipment  
- Environment | - Employees will initiate and follow NCS procedures and manufacture’s specification prior to commencing job duties. |
| Bad Signals from Rigger | - Personal injury  
- Equipment | - The rigger must be deemed competent or under the direction of someone who is deemed competent. |
Safe Work Procedure

Task Global: LIFT EVALUATION CRITERIA

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Note:

There are three categories of lifts: Standard, Non-Standard, and Critical. Operators will use the guidelines below to determine the definition of the lift they are performing.

Critical Lifts require Engineered Lifts requiring an Engineered Lift Plan. Check prior to lift to confirm if an Engineered Lift plan is required. A Lift Evaluation Form MUST BE completed prior to the lift.

Non-Standard Lifts will be completed after consultation of a Northern Crane Service Crane Supervisor. NOTE: STANDARD LIFT is any lift that is not categorized as a Non-Standard or Critical Lift.

<table>
<thead>
<tr>
<th>NON-STANDARD LIFT - Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any lift involving two or more cranes where all the cranes involved are lifting at 85%, or less, of the respective crane chart.</td>
</tr>
<tr>
<td>• All lifts where ground conditions are questionable.</td>
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<tr>
<td>• All lifts where the weight of the object is not known.</td>
</tr>
<tr>
<td>• All lifts that are in close proximity to power lines.</td>
</tr>
<tr>
<td>• All Lifts involving a Man Basket.</td>
</tr>
<tr>
<td>• All Lifts being made over people or building(s)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CRITICAL LIFT - Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>“ENGINEERING LIFT STUDY” Lifts involving two or more cranes, where any of the cranes involved will be lifting above 85% of capacity of the respective crane chart.</td>
</tr>
<tr>
<td>• All lifts exceeding 85% of rated chart capacity of the crane.</td>
</tr>
</tbody>
</table>

NOTE: STANDARD LIFT is any lift that is not categorized as a Non-Standard or Critical Lift.
Safe Work Procedure

Task Global: LIFT EVALUATION CRITERIA

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 25-05-07
Revised: 24-Jan-08

NOTE:

• Lift Evaluation forms are to be used for the highest percentage of capacity for Standard Crane Lifts and all Non-Standard Lifts.

• Personnel involved in a non-standard lift will be in communication with a Northern Crane Service Crane Supervisor, Manager, or Safety Representative to discuss the lift, the hazards present, and the procedures to be taken to minimize the hazards prior to the lift.

• All personnel (operators, riggers, supervisors, etc.) involved in the non-standard lift will be informed of the lift and the procedures to be followed in a Pre-Lift meeting.

• The Hazard assessment will determine if a lift study, prepared and stamped by a professional Engineer, is required.

CAUTION

Different job sites have their own rules and definitions regarding Lift Criteria and procedures. Be aware of what a particular job site requires for Lift Controls. O H & S bare minimum or our own which ever is greater.

Approved By: _______________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Services Inc. Corporate Office in Edmonton, Alberta.
## Safe Work Procedure

**Task Global:**

**LIFT EVALUATION CRITERIA**

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** CRANE/HOIST

**Origin Date:** 25-05-07  
**Revised:** 24-Jan-08

<table>
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<th>Employee Name (Print)</th>
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</table>
PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices recommended for low temperature operation of conventional cranes.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |
| Weather | - Personal Injury  
- Equipment damage | - -35 or < degrees Celsius-No derating of machine or change from normal operation.  
- -35c to -45 degree Celsius-No duty cycle operation. Lift operations must be done slowly with no dynamic or shock loading of any structural component.  
- -45 degree Celsius + - Operation not recommended |
Safe Work Practices

Task Global: CONVENTIONAL CRANE OPERATION IN COLD WEATHER CONDITIONS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Number: SWP018

Reference: CRANE/HOIST

Origin Date: 21-06-07

Revised: 24-Jan-08

Notes:

A Safe Work Plan should be prepared for lifts exceeding the limits shown in the chart. This would ensure that the operator and others involved were aware of these guidelines.

Lifts in the excess of the limits shown in the chart can be made if consideration is given to properly warmed up and avoid impact or shock loads to the crane structure and ropes.

As per manufacturers specifications

Approved By: ____________________________
Ron Sims Vice-President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
CONVENTIONAL CRANE OPERATION IN COLD WEATHER CONDITIONS

ALL TRADES AND CRAFTS

Employee Name (Print)   Signature   Date
Safe Work Practices

Task Global: HYDRAULIC CRANE OPERATION IN COLD WEATHER CONDITIONS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Number: SWP019

Reference: CRANE/HOIST

FINAL

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for operation of hydraulic cranes in cold weather conditions.

Known Recurring Hazards | Potential Risk | Required Controls |
--- | --- | --- |
Unaware of job-site rules and regulations. | - Personal Injury | - Employees attend Client and/or NCS New Hire Orientation |
 | - Equipment damage | - Supervisors will review applicable Safe Work Practice documents with employees |
Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
Unaware of incident reporting procedures | - Inadequate treatment for injuries | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |
 | - Lack of adequate controls post-incident |

Notes: The chart showing a percentage capacity reduction for cranes being operated in ambient temperatures below -20 degrees cesium is a guideline for general crane use only.

It is intended to reflect the effect of low temperatures on the impact loading capability of the steel and performance of hydraulic systems. The tensile strength of steel actually increases as the temperature drops. It is the impact capability of toughness that decreases.

The hydraulics must be warmed up thoroughly, the load must be picked up gradually and smoothly, and the crane must not be walked with the load suspended. Any operation that could shock the crane must be minimized or avoided.

As per manufacturer specifications.
Safe Work Practices

Task Global: HYDRAULIC CRANE OPERATION IN COLD WEATHER CONDITIONS

FINAL

Number: SWP019

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

A Safe Work Plan should be prepared for lifts exceeding the limits shown in the chart. This would ensure that the operator and others involved were aware of these guidelines.

COLD WEATHER REDUCTION IN LIFTING CAPABILITIES FOR HYDRAULIC CRANES

<table>
<thead>
<tr>
<th>TEMPERATURE IN CELSIUS</th>
<th>PERCENTAGE OF CHART REDUCTION</th>
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<tbody>
<tr>
<td>-18c</td>
<td>0</td>
</tr>
<tr>
<td>-19c</td>
<td>2%</td>
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<tr>
<td>-20c</td>
<td>4%</td>
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<td>-21c</td>
<td>6%</td>
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<td>-22c</td>
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<td>44%</td>
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<tr>
<td>-41c</td>
<td>EMERGENCY ONLY</td>
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Approved By:
Ron Sims Vice-President of Corporate Affairs

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Task Global: HYDRAULIC CRANE OPERATION IN COLD WEATHER CONDITIONS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Number: SWP019

Reference: CRANE/HOIST

Origin Date: 21-06-07
Revised: 24-Jan-08
Safe Work Procedure

Task Global: MACHINERY IN MOTION

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: CRANE/HOIST

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. procedures for machinery in motion.

<table>
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<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury</td>
<td>- Employees attend Client and/or NCS New Hire Orientation</td>
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<td></td>
<td>- Equipment damage</td>
<td>- Supervisors conduct a thorough review of permit procedures/requirements with employees</td>
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<tr>
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<td></td>
<td>- Supervisors will conduct daily toolbox meetings</td>
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<tr>
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<td></td>
<td>- Supervisors will conduct weekly safety meetings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
</tr>
<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
</tr>
<tr>
<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries</td>
<td>- Supervisors will review Client and/or NCS incident and near-miss reporting procedures</td>
</tr>
<tr>
<td></td>
<td>- Lack of adequate controls post-incident</td>
<td></td>
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<tr>
<td>Weather</td>
<td>- Personal injury</td>
<td>- Employees will initiate and follow NCS procedures prior to commencing job duties.</td>
</tr>
<tr>
<td></td>
<td>- Equipment</td>
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</tr>
<tr>
<td></td>
<td>- Environment</td>
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</tbody>
</table>

Do not perform any mechanical repair or servicing on machinery while it is in motion, and keep all equipment guards in place while machine is in operation.
Safe Work Procedure

Task Global: MACHINERY IN MOTION

FINAL

Number: SWP026

Reference: CRANE/ HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 25-05-07

Revised: 24-Jan-08

1. No major work shall be done above moving machinery. When working close to moving machinery other than shop tools, a temporary guard should be provided between the machine and the workers.

2. There is a “Lock-Out” procedure to prevent accidental start-up of equipment during repair. Check with your supervisor for identification of such equipment and always double-check the permit and lockout.

3. The operation of any machine is prohibited except by experienced workers and approved or designated supervisors.

4. Employees must not wear necklaces, bracelets, dangling sleeves or loose clothing while operating or working close to moving machinery. Hair must be worn in such manner that it does not constitute a hazard around moving machinery.

5. Tool rests on emery wheels should be adjusted to within 1/8” of wheel and above the centreline of the wheel.

6. Controls will be in place if required, i.e.; flagging, barricading area off.

Approved By: Ron Sims Vice-President Corporate Affairs

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Safe Work Procedure

Task Global: MACHINERY IN MOTION

FINAL

Reference: CRANE/HOIST

ALL TRADES AND CRAFTS

Origin Date: 25-05-07

Revised: 24-Jan-08

Employee Name (Print) | Signature | Date

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### Safe Work Practices

**Task Global:** RIGGING UP OR DOWN IN A CONFINED SPACE

**Reference:** CRANE/HOIST

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07  
**Revised:** 24-Jan-08

**PURPOSE:** To establish safe work practices that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general practices for rigging up or down in a confined space.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
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| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |

### Rigging Up/Down In Tight Or Confined Space

Lifts done under restricted movement or “tight” conditions will follow these procedures.

1. A Pre-job meeting will be conducted prior to any work/rigging being performed.

2. The Pre-meeting will consist of the following:

   a) A description of the job to be performed.
   b) A review/assignment of the roles and responsibilities of those involved.
   c) A review/examination of the equipment to be used.
   d) A review of any safety regulations/requirements involved in the work.
   e) A review of emergency procedures/cautions.
   f) A “verbal walkthrough” of the steps and procedures of the task at hand.
   g) An observation/review of the hazards present in completing the task.
   h) Address any questions/concerns that anyone may have regarding the task.
3. The Supervisor will ensure that all procedures, responsibilities, requirements are in place and have been communicated to everyone before performing job.

Any deviation from agreed and accepted plan of action will require a new Pre-job meeting and all the above steps shall be followed.

NOTE: Supervisor will ensure that a strong emphasis is placed on performing the task in the safest possible manner. It should be emphasized that time should not be a factor in completing the task, but that measures and procedures are observed and followed even if it takes extra time to ensure this. Take the time to review, observe, and communicate to all involved to ensure they are aware of what is happening and what is expected of them.

Approved By: ______________________

Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

Task Global: RIGGING UP OR DOWN IN A CONFINED SPACE

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: CRANE/HOIST

Origin Date: 21-06-07
Revised: 24-Jan-08

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Safe Work Practices

Task Global: WORKING WITH WIRE ROPE AND ATTACHING CABLE CLIPS AND CLAMPS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: CRANE/ HOIST

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for working with wire rope.

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Working With Wire Rope

Wire rope must be inspected daily to determine whether it should be replaced. Replacement may vary according to Federal or Local Codes and in accordance to the type of rope being used. Specific information on the care, inspection and replacement may be obtained from the manufacturer or distributor.

Wire rope should be replaced when any of the following conditions exist:

1. In running ropes, six broken wires in one lay or three broken wires in one strand in one lay.
2. On an outside wire, where more than one-third the original diameter is worn.
3. Evidence of heat damage from any cause.
4. Reductions from nominal diameter of more than:
   - 1/32 inch for diameters 3/8 to ½ inch
   - 3/64 inch for diameters 9/16 to ¾ inch
   - 1/16 inch for diameters 7/8 to 1-1/8 inches
   - 3/32 inch for diameters 1-1/4 to 1-1/2 inches

5. In standing ropes, more than two broken wires in one lay in sections between end connections or more than one broken wire at an end connection.

6. Kinking, crushing, bird caging, cuts, abrasions, sharp bends or any other damage that results in distortion of the rope structure.

7. Rust or corrosion

   **NEVER use your hands to guide wire rope onto drums!**

Improper wire rope connections may fail under load. They must be installed properly and inspected daily.

1. Wedge sockets should be installed so the loaded side of the wire rope is in a straight line with the edge of the socket and not bent by the wedge.

2. U-bolt clamps should be installed so the u-bolt is on the unloaded side and the saddle is on the loaded side.

**Attaching Cable Clips and Clamping Wire Rope**

**General Steps**

1. Wire the thimble to the rope at the desired point, then bend the rope around the thimble and secure temporarily by wiring the rope members together.

2. First attach the clip farthest from the thimble and tighten **(be sure the base of the saddle rests upon the live end of the rope and the "U" bolts on the short end.)** All clips must be attached in this manner.

3. The clip nearest the thimble goes on next. Do not tighten yet. If one or more additional clips are to be attached, place them at an equal distance apart between the clips already attached.
4. Before tightening, place some stress on the rope to take up the slack and equalize the tension on both sides of the clip. (Do not apply too much stress or the clip attached in step 2 will not hold.) Tighten all clips.

<table>
<thead>
<tr>
<th>Diameter of Rope (Millimetres)</th>
<th>Number of Clips</th>
<th>Spacing between Torque (Newton-meters)</th>
<th>Torque (Newton-meters)</th>
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Approved By: Ron Sims Vice-President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Services Inc. Corporate Office in Edmonton, Alberta.
Safe Work Practices

Task Global: WORKING WITH WIRE ROPE AND ATTACHING CABLE CLIPS AND CLAMPS

FINAL

Number: SWP028

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Employee Name (Print)  Signature  Date

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Safe Work Practices

Task Global: CONTAMINATION OF CLUTCHES AND BRAKES

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for contamination of clutches and brakes.

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Friction Type cranes pose some unique problems during operations. There are times when a contaminate (oil, grease, water, etc) may come into contact with a brake or clutch. When a contaminate does come into contact with a clutch or brake, the coefficient of the friction surface may be drastically reduced, and the integrity of the component may be compromised.

Traditionally, for a variety of reasons, an operator experiencing a contaminated brake or clutch would use some type of cleaning solvent and “burn” the brake or clutch clean. While this procedure is effective, there are certain risks and hazards that remain, which may cause the procedure to fail. This procedure may not always get at the root of the problem, and should only be used as a temporary procedure as contamination may re-occur.

All operators of Friction type cranes need to follow the following proper procedure to ensure that when a brake or clutch is contaminated, the problem is resolved and the operator is sure that the capability and functioning of the brake or clutch meets manufacturer’s specifications.
When an operator notices/suspects that a brake or clutch is contaminated, he must:

1. Secure the crane (and load if applicable) in a safe and secure manner.
2. Inform site personnel that a brake or clutch is contaminated and that the crane needs to be taken out of service.
3. Inform Northern Crane Services maintenance personnel of the problem.
4. Wait for Northern Crane Services personnel, or other designated maintenance personnel to be dispatched to examine the contaminated brake and/or clutch.
5. Cooperate and assist with Northern Crane Services maintenance personnel and/or other designated maintenance personnel to examine/clean/repair the contaminated component and ensure reliability and function to manufacturer’s specifications.

Once the crane is determined to be operational by Northern Crane Services maintenance personnel and/or other designate maintenance personnel, the operator will:

6. Perform a test to ensure that the brake and/or clutch is functioning to manufacturer’s specifications.
7. A log book entry will be made by maintenance personnel listing what actions were taken to correct the deficiency.
8. Inform site personnel that the crane is safe and ready to resume operations.

Approved By: _______________________________
Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

Task Global: CONTAMINATION OF CLUTCHES AND BRAKES

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Employee Name (Print) | Signature | Date

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Safe Work Practices

Task Global: TWO OR MORE CRANES WORKING IN A CONGESTED AREA

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for two or more cranes working in a congested area.

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An employer must ensure that procedures are developed to prevent collisions if two (2) or more lifting devices are in use and there is the potential for a collision between them, their loads, or component parts.

AB OH&S Code Part 6 Preventing Collisions
Safe Work Practices

Task Global: TWO OR MORE CRANES WORKING IN A CONGESTED AREA

Number: SWP030

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

There are times when more than one crane will be working in a specific and defined area. When this occurs there is a potential for booms, loads, or other components of cranes to come into contact with each other.

If the situation can not be controlled or made safe by moving a crane(s) out of the area, or shutting down and/or repositioning a crane(s) then there is a need to further evaluate the situation, determine the potential hazard(s), and implement specific controls that will prevent cranes from coming into contact with each other.

Solutions may be as simple as restricting the movement of a crane(s) within a specific working area to more complex solutions that require cooperation and coordination from all parties involved.

EVALUATION

Certain questions need to be addressed prior to establishing the controls required to prevent an incident. As these questions are answered, the information needs to be plotted to visually see where the conflict arises between cranes.

FLRA - Plot Plan/Sketch (PP/S)

A Field Level Risk Assessment must be conducted and the development of a plot plan/sketch of the specific area needs to be drawn and the following information needs to be determined and placed on the plot plan/sketch.

1. How many cranes are involved in the evaluation of this situation?
2. What is the working area of each crane?
3. What is the swing area of each crane?
4. Is there a potential for booms, loads, or other crane components to come into contact with each other?
5. Do the cranes have to work simultaneously?
6. Are cranes under the direction of one individual/company/client/jurisdiction/trade or multiple users?
7. How long will the situation prevail? (is one crane only in the area for a short period of time?)

Once the FLRA - PP/S is developed all personnel involved with crane operations will be given a copy of it. All controls will be followed until either the hazard for collision is eliminated, or that there is a change to the FLRA - PP/S, which will require a new FLRA and PP/S.
Safe Work Practices

Task Global: TWO OR MORE CRANES WORKING IN A CONGESTED AREA

Number: SWP030

FINAL

Reference: CRANE/HOIST

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

CONTROL

Short Period of Time

If the situation is created due to a crane moving into the area for a short period of time (one lift, unload a truck, etc.) the person in control of the area will be informed, and will then inform all personnel involved in crane operations to:

1. ensure that no crane operations will commence without authority.
2. other crane activity will cease, be scaled back, or be determined not to interfere with the lift, to allow the short time lift to be completed safely.
3. any movement of any crane in the area will be under the direction of one designated person until the potential for collision is eliminated.
4. allow the short time crane to complete its lift and to vacate the area

Restricted Working Area

The following are controls that will be used to reduce or eliminate the potential of a collision.

1. Restrict the movement (swing area) of each crane to prevent any cross over from the working area of one crane with the working area of any other cranes. When this method is chosen, the following procedures need to be followed:
   a) all personnel involved with crane operations in the area will be informed as to the process of control that will be used.
   b) a visual means of marking the restricted working area of each crane will be made, and all personnel involved with crane operations will be made aware of it.
   c) At the beginning of each shift all personnel involved with crane operations will be reminded of the restricted working area.
   d) this process will be in place until such time that the hazard of collision between cranes is eliminated.
Overlapping Swing Areas

When there is a situation that crane swing areas will be compromised then other controls will need to be put into place.

1. Plot plan/sketch developed.
2. One designated person to control/coordinate all movement of all cranes in the designated area.
3. Where practical, the designated person in control of all crane movements in an area, and all crane operators involved in crane operations within the designated areas will use:
   a) hand signals when and where applicable and can be used safely and efficiently.
   b) radios with a dedicated frequency to communicate with each other.
   c) an air horn signal system with standard/defined/ signals.
4. All crane operations will be coordinated through the designated person responsible for crane operations within the specific area.

It is important that when an operator finds himself in a situation where there is a potential for a collision between cranes the above measure are followed. No movement of a crane should be taken unless the operator is confident and knows that the operation may be done in a safe and secure manner.

Approved By: __________  Ron Sims Vice-President of Corporate Affairs

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**Safe Work Practices**

**Task Global:**

**TWO OR MORE CRANES WORKING IN A CONGESTED AREA**

**Number:** SWP030

**Reference:** CRANE/HOIST

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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3. Map Reading
4. TDG
5. Bulkhead & cab protectors
6. Tire Chains
7. Pre-Trip & Post Trip Inspection
The truck driver must:

- Have proof of certification on their person (i.e. Class 1, TDG, CSTS, etc.)
- Be competent on the equipment they are expected to operate.
- Be able to operate the truck in a safe and efficient manner.
- Be courteous and professional when dealing with clientele and other employees or when traveling on public or private roads.
- Ensure the truck is maintained and inspected for deficiencies as per manufacturer’s requirements and any deficiencies found are recorded in the Log Book and reported for repair. Annual CVI must be current and available. “Hours of Service” reports must be filled out and kept for a minimum of six months in accordance with Alberta regulation AR 290/89.
- Maintain equipment cleanliness. (interior and exterior)
- Ensure bills of lading for all loads.
- Ensure all monitoring, safety and limiting devices are operational as per manufacturer’s and DOT specifications.
- Operate the truck in accordance with manufacturer’s specifications, company policies and procedures and government regulations.
- Maintain the Daily Log and Vehicle Inspection report as required by DOT. Daily log does not have to be filled out if the unit stays within 160 km of base and returns home at night for an 8 hour break. They must also fill out the NCS Log book. They must be familiar with all recent entries in the log book.
- Must not exceed DOT requirements for hours worked in a shift/cycle.
- Confirm load weights.
- Ensure proper placement of loads on trailers to conform to DOT requirements.
- Ensure that all loads are properly secured for transport in accordance with NCS policies and procedures, and appropriate government regulations.
- Be able to hook up and un-hook trailers, jeeps and boosters according to manufacturers specifications and applicable laws and regulations.
- Ensure that the site is adequately prepared for the truck/trailer.
- Ensure that all hazards have been identified and either eliminated or controlled.
TRUCK DRIVER RESPONSIBILITIES

ALL TRADES AND CRAFTS

• Complete an FLRA for road/highway transfer as required by DOT and/or company policy.
• Inform site supervision of any dangerous conditions occurring before or during operations.
• Report all incidents, accidents and near misses promptly as explained in company policy.
• Ensure that a competent spotter is used and that signals are given in a clear and concise manner. Emergency stop signal must be taken from anyone.
• Ensure that no load is moved unless the signals are clearly understood.
• Never allow anyone to get between a moving truck and a stationary object!
• Be able to safely move the truck/trailer on site as per site and company policies.
• Shut down and secure the truck as per company procedures.
• Assess weather conditions and their effects on highway or site travel.
• Cease operations and refuse to continue if there is imminent danger or if there are substandard conditions.

Approved By: 
Ron Sims Vice-President of Corporate Affairs

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PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for load securement.

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| Unaware of job-site rules and regulations. | - Personal/Public Injury  
- Equipment damage | - All cargo must be secured on a commercial vehicle. Several methods are permitted for securing cargo:  
- A bulkhead, sideboards and end gate if they:  
- Are securely attached to the vehicle.  
- Have no opening large enough to permit any part of the cargo to pass through.  
- By straps, webbing, chains or other similar tie downs. |
| Unaware of job-site rules and regulations | - Personal/Public Injury  
- Equipment damage | - To determine the method of securing a load by tie-downs, the driver must satisfy two (2) requirements:  
- The cargo must be secured by not less than the minimum number of tie downs.  
- The (aggregate) “Safe Working Load” of the tie downs must not be less than the weight of the cargo secured. |
## Safe Work Practices

**Task Global:**

LOAD SECUREMENT

**FINAL**

**Applicable Trade/Craft:**

ALL TRADES AND CRAFTS

**Reference:** TRANSPORTATION

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

| Unaware of job-site rules and regulations | - Personal/Public Injury  
- Equipment damage | - Tiered Articles - Commodities carried on flat deck trailers and arranged in lifts, layers or tiers require;  
- The top tier to be secured by the necessary number of tie downs as determined by the load length.  
- The contents of other lifts, layers, or tiers must be secured in a safe and stable manner |
|-----------------------------------|----------------------------------|----------------------------------------------------------------------------------|
| Unaware of job-site rules and regulations | - Personal/Public Injury  
- Equipment damage | - Drums or barrels, loaded on end, must be contained by sides, sideboards, or side stakes and be blocked or tied down with devices adequate to prevent the load from shifting.  
Empty drums or barrels may be transported without tying them down inside the sides and gate. If metal drums or barrels are stacked on end, on other metal drums or barrels, then they must be separated by dunnage. |
| Unaware of job-site rules and regulations | - Personal/Public Injury  
- Equipment damage | - Loads consisting of several articles require additional tie downs to insure each article is secured by:  
- Direct contact.  
- Dunnage that is secured by the tie-downs (including the top most portion of the load) in a matter that safely holds internal articles of the load without causing external articles to crush or break up.  
- If the cargo cannot be secured in a bulkhead, sideboards and end-gate or by tie-down straps, a combination of the methods may be used. In all cases, the sum of the “Safe Working Load” of the tie-downs cannot be less than the weight of the articles being secured. |
NOTES:

Every jurisdiction throughout Canada has regulations regarding load securement. These regulations indicate it is an offence to operate any vehicle unless its cargo is adequately secured in a manner that will not allow it to escape or fall from the vehicle and, by shifting, or swaying, affect the operation of the vehicle.

Generally, regulations specify the number and maximum allowable distance between adjacent tie downs, the minimum tie down strength, covers for loose cargo, dunnage between specific types of cargo and the securement of cargo.

Approved By:
Ron Sims Vice-President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Services Inc. Corporate Office in Edmonton, Alberta.
Safe Work Practices

Task Global: LOAD SECUREMENT  
Number: SWP020

FINAL  
Reference: TRANSPORTATION

Applicable Trade/Craft: ALL TRADES AND CRAFTS  
Origin Date: 21-06-07  
Revised: 24-Jan-08

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<th>Employee Name (Print)</th>
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Safe Work Practices

Task Global: MAP READING

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: TRANSPORTATION

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for use of map reading.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a through review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
MAP READING

Any parcel of land in Manitoba, Saskatchewan, Alberta or the Peace River Block of British Columbia can be located by its legal land description. Legal land descriptions are based on the township System (TS). Townships are divided into 36 one-mile square sections. The system uses a simple grid network to divide the prairies into equal sized parcels of land. The term “Township” is also used to describe the six-mile square formed by the intersection of a range and a township.

Under this system, Land is described as being west of the 1st to the 6th meridian. The 1st Meridian runs north South through Winnipeg. The 4th Meridian is the Alberta-Saskatchewan border. The 5th Meridian is in the center Of Alberta and the 6th Meridian is east of the Alberta-British Columbia border.

Referring to the map on the following page as an example, the location is described as 1-87-18-w4; 1 is the section number, 87 is the township number, 18 is the range number, W4 means west of the forth (4th) meridian.

Each section of land (one square mile) is divided into sixteen squares, called survey pins. For example, the northeast quarter of a section includes survey pins 9, 10, 15 and 16. The system in Alberta consists of Townships starting at the Alberta-United States border. The first 6 miles are township 1, progressing northward to Township 126 at the Alberta- NorthWest Territories border. Range numbers increase going west from each meridian. As per the above example, the 87th Township north of Alberta-USA border and the 18th Range west of the 4th Meridian.

The term township also describes the six by six mile square formed by the intersection of ranges and townships. Townships are divided into 36 sections, each section measuring one by one mile. Sections can then be divided into quarters (NE, NW, SE, SW), or into 16 legal subdivisions (LSDs), as indicated.

Example: Starting at Township 39-0 or 390, as you travel north the Township numbers increase at each one-mile increment (391, 392, 393, 394, 395, etc) to Township 400 (the 40th Township line).

Example: Starting at Range Road 3-0 or 30 or 300, as you travel west the Range Roads numbers increase at each one (1) mile increment (3-1, 3-2, 3-3, 3-4, 3-5.) to Range Road 4-0 (the forth Range Road).

Township and Range Road signs may appear different from County to County or a Municipal District, but all are based on the same system.
MAP READING

ALL TRADES AND CRAFTS

TOWNSHIPS - are numbered from South to North 1-126

Ranges - are numbered westward from each Meridian

ALBERTA

Legal Subdivision

Quarter Section – SW-1-87-18-W4

Origin Date: 21-06-07
Revised: 24-Jan-08

Reference: TRANSPORTATION

Number: SWP021
Safe Work Practices

Task Global: MAP READING

FINAL

Reference: TRANSPORTATION

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Approved By: ________________________________
Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

Task Global: MAP READING

FINAL

Reference: TRANSPORTATION

Applicable

ALL TRADES AND CRAFTS

Trade/Craft

Origin Date: 21-06-07

Revised: 24-Jan-08

Employee Name (Print) | Signature | Date

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Safe Work Practices

Task Global: TRANSPORTATION OF DANGEROUS GOODS

Number: SWP023

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Reference: TRANSPORTATION

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for Transportation of Dangerous Goods.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
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</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident  
- Improper documentation of TDG  
- Environment | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures  
- All TDG are to be documented and stored or transported with proper MSDS paperwork. |

In Keeping with the requirements of the Transportation of Dangerous Goods Act and Regulations, where a regulated dangerous goods commodity is involved, the following order of notifications must be followed:

- Local authorities.
- Employer.
- Owner of the shipment.
- Owner of the property and/or vehicle if not the owner.
## Safe Work Practices

**TRANSPORTATION OF DANGEROUS GOODS**

### FINAL

**ALL TRADES AND CRAFTS**

<table>
<thead>
<tr>
<th>Class and Division</th>
<th>Quantities or Levels</th>
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<tbody>
<tr>
<td>1</td>
<td>All</td>
</tr>
<tr>
<td>2.1</td>
<td>At least 100 liters*</td>
</tr>
<tr>
<td>2.2</td>
<td>At least 100 liters*</td>
</tr>
<tr>
<td>2.3</td>
<td>All</td>
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<tr>
<td>2.4</td>
<td>All</td>
</tr>
<tr>
<td>3</td>
<td>At least 200 liters</td>
</tr>
<tr>
<td>4</td>
<td>At least 25 Kilograms</td>
</tr>
<tr>
<td>5.1</td>
<td>At least 50 kilograms or 50 Liters</td>
</tr>
<tr>
<td>5.2</td>
<td>At least 1 kilogram or 1 liter</td>
</tr>
<tr>
<td>6.1</td>
<td>At least 5 kilograms or 5 liters</td>
</tr>
<tr>
<td>6.2</td>
<td>All</td>
</tr>
<tr>
<td>7</td>
<td>Any discharge or a radiation level exceeding 10 mSv/h at the package surface and 200 uSv/h at 1 meter from the package surface.</td>
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<tr>
<td>8</td>
<td>At least 5 kilograms or 5 liters</td>
</tr>
<tr>
<td>9.1</td>
<td>At least 50 kilograms</td>
</tr>
<tr>
<td>9.2</td>
<td>At least 1 kilogram</td>
</tr>
<tr>
<td>9.3</td>
<td>At least 5 kilograms or 5 liters</td>
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</tbody>
</table>

(*) Container capacity.

### Approved By:

Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

BULKHEADS & CAB PROTECTORS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: TRANSPORTATION

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for use of bulkheads & cab protectors.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury - Equipment damage</td>
<td>- Employees attend Client and/or NCSI New Hire Orientation - Supervisors will review applicable Safe Work Practice documents with employees</td>
</tr>
<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
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<tr>
<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries - Lack of adequate controls post-incident</td>
<td>- Supervisors will review Client and/or NCS incident and near-miss reporting procedures</td>
</tr>
</tbody>
</table>

A bulkhead or cab protector is required between the driver or sleeper and the load. In order to insure the driver is protected from shifting cargo, due to emergency breaking or other avoidance maneuvers; the following guidelines are to be used in determining the strength, height, and width of the bulkhead or cab protector.

All Northern Crane Services trucks will be fitted with bulkheads and/or cab protectors that have recognized and/or approved certification and will be designed as outlined in the following information:

1. **Strength**

   The strength of the bulkhead or cab protectors must:
   - Be capable of with standing a stationary load equal to not less than 50% of the payload.
   - Be able to resist penetration by any item of cargo that contacts it.
   - Not have an opening large enough to permit an item of cargo to pass through it.
If the bulkhead or cab protector is more than 1.8 meters (5.9 ft.) in height, then the structure must withstand a static force equal to 40% of the payload weight.

In the case of a "B" train combination vehicle, only the payload of the first trailer or semi-trailer will be considered.

2. **Height**

   Since drivers normally occupy a space within 120 cm (47 in.) of the cab floor, the height of the bulkhead or cab protector may be used, as long as it is higher than the cargo. A bulkhead or cab protector is not required to be as high as the top of the cargo if the cargo height extends beyond 120 cm (47 in.) from the cab floor.

3. **Width**

   A bulkhead mounted on a trailer or semi-trailer should be the full width of the vehicle, typically 2.6 meters (8.5 ft.). A cab protector mounted on a highway tractor or truck need only be as wide as the vehicle cab.

---

**Approved By:**

[Signature]

Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

Task Global:

BULKHEADS & CAB PROTECTORS

FINAL

Reference: TRANSPORTATION

Applicable Trade/Craft:

ALL TRADES AND CRAFTS

Number: SWP025

Origin Date: 21-06-07

Revised: 24-Jan-08

Employee Name (Print)    Signature    Date
Safe Work Practices

Task Global: TIRE CHAINS

FINAL

Reference: TRANSPORTATION

Applicable Trade/Craft: ALL TRADES AND CRAFTS

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for use of Tire Chains.

<table>
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- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |

Tire chains are required where a combination of road, weather and terrain conditions affect traction. This often occurs in muddy and/or icy road conditions and can be more severe where grades are encountered. Whenever possible, these conditions will be anticipated during project planning.

As these conditions can occur unexpectedly, drivers are required to insure their vehicle is equipped with adequate tire chains that are in good repair. Before leaving on an assignment tire chains must be inspected to insure they are in good repair and the chain repair kit is fully stocked. The kit should include appropriate tools and a sufficient amount of cross chains, spare links, quick links, clevises, etc. After the tire chains are used they must be inspected for wear and damage. The tire chain must be repaired before the next assignment.
Safe Work Practices

Task Global: TIRE CHAINS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Safe Work Practices

There are different types of chains for the various conditions that may be encountered:

- “Single” tire chains are primarily used on steering axle tires and/or trailer tires.
- “Triple” tire chains are used on dual wheels, primarily for drive axle applications.
- “Trygg” tire chains are made of heavier chain and are designed for use on frozen ground and ice.
- “V-bar” tire chains are made of lighter material (not as heavy as the “Trygg” type). This type of tire chain is used in muddy conditions.

The type and construction of tire chains, to be used is determined by vehicle tire size and the conditions that will be encountered.

Personal Protective Equipment When Working With Tire Chains

When installing or removing tire chains there is a potential for injury to the feet, hands, head or eyes. The following personal protective equipment is recommended when working with tire chains:

- CSA approved steel toe boots (prevents foot injury if a tire chain is dropped).
- Leather gloves (prevents cuts from sharp edges of worn tire chains).
- Hardhat (prevents injury when working under the vehicle).
- Safety glasses (prevents injury from a tarp strap slipping off a tire chain and/or debris falling while working under a vehicle).
- Coveralls or rain suit (keeps a person clean and dry).

Installing Tire Chains

Always install tire chains before conditions become too severe. In other words, “if you are unsure about chaining up, chain up”.

An experienced driver will have already developed an effective method for handling tire chains. The following information is to be used as a guideline in safely installing tire chains.

- Park in an area where visibility is good. Curves and hills restrict the vehicle from being seen by other traffic. Look for stable, flat ground with good visibility to the front and rear of the vehicle.
- Engage the parking brakes, activate the four way flashers and/or beacon lights and block the wheels.

- Position a tire chain beside each wheel that will be “chained up”; ensure the chain is spread out and the grip side (“Trygg” or “V-bar”) of the cross chains are facing the ground, the rail with the “boomer” is closest to the outer tire and the tire chain is not tangled.
Safe Work Practices

Task Global: TIRE CHAINS

FINAL

Reference: TRANSPORTATION

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Dual wheels

1. With two hands positioned shoulder width apart, pick up the tire chain at the mid point of the center rail so it folds in half, lengthwise.
2. Drape the tire chain over the outside tire.
3. Flip the other half of the tire chain over the inside tire; the grip side of the cross chains will be facing up and the “boomer” will be on the outside of the tire.
4. Center the tire chain on the wheel and ensure it is draped over the wheels with the chain tails for each rail hanging evenly.
5. Starting with the center rail, attach the “C” hook to a chain tail link, as tight as possible, then do the same with the inside rail.
6. Next, insert the “boomer” of the outside rail through the chain tail link that will hold the outside rail tight then tighten the “boomer” and secure it with a clevis.
7. Using tarp straps as required, secure any loose tail chains.

Note: Where the tire chains are equipped with “cam” and/or “D-lock” tightening devises, the inside and outside rails are secures as tight as possible with a “T” or “L” bar.

Note: When only one set of tire chains is used on the drive axels it is recommended that the differential lock is engaged, to prevent driveline damage. However, with the differential lock engaged it is important to remember vehicle control is affected when negotiating curves and/or turning corners.

Single wheels

1. As with triple tire chains (dual wheel application), with two hands positioned shoulder width apart, pick up the tire chain by the inside rail and drape it over the tire; the grip side of the cross chains must be facing up and the rail with the “boomer” must be on the outside of the tire.
2. Center the tire chain on the wheel and ensure it is draped over the wheels with the chain tails for each rail hanging evenly.
3. Attach the “C” hook to the chain tail link of the inside rail, as tight as possible.
4. Next, insert the “boomer” of the outside rail through the chain tail link that will hold the outside rail tight then tighten the “boomer” and secure it with a clevis.
5. Using tarp straps as required, secure and loose chain tails.

Note: When using a steering axle tire chain, install it on the wheel opposite the steering wheel pump and hoses, usually the right side of the vehicle.

After all the tire chains have been installed and tightened, drive slowly for approximately 200 meters (650 feet). Listen for the sound of the tire chains “flapping” (may be to loose) or hitting the fenders (extra links in tail chain not secured).
Safe Work Practices

Task Global: TIRE CHAINS

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: TRANSPORTATION

Origin Date: 21-06-07
Revised: 24-Jan-08

Number: SWP024

- Stop and make the necessary adjustments.
- Slowly drive another 200 meters to ensure no other adjustments are required.
- After all adjustments are made and the tire chains are tight, continued travel can occur.

Note: Do not drive more than 50km/h with tire chains installed. Always listen for loose tire chains. If a loose tire chain is detected, stop and make the required adjustment, repair or replace the tire chain. Loose or broken tire chains can create extensive damage to the vehicle.

Removing Tire Chains

Again, an experienced driver will have already developed an effective method for handling the tire chains. The following information is to be used as a guideline in safely removing the chains:
- Park in an area where visibility is good. Hills and curves restrict the vehicle from being seen by other traffic. Look for stable, flat ground with good visibility to the front and rear of the vehicle.
- Engage the parking brakes, activate the four way flashers and/or beacon lights and block the wheels.
- Where the tire chains are equipped with “cam” and/or “D-lock” tightening devises, loosen them and remove the tarp straps.
- Detach the “C” hooks from the center and inside rails, remove the chains from the tire and pull them off to the side.
- Move the vehicle ahead and/or forward as necessary (approximately 2 meters or 6 feet).
- Pick up the tire chains and hang them in a neat and organized manner, by the center rail, on the chain rack.

Remember: Store the tire chains in the order that they will be used; the first chain to be put on the tire should be the first chain off the rack.

Remember: Tire chains must be inspected on a regular basis and after each use.

Note: When hanging or storing tire chains, ensure they are secure and will not swing or drag; a loose tire chain can damage a tire or rip the chain rack off the vehicle.

JACK KNIFE

There are two ways a combination tractor-trailer vehicle can jack-knife.

1. Tractor jack knife: Tractor drive wheels “locked up” or spinning.
2. Trailer Jack-knife: Trailer wheels “locked up” and sliding.

A jack-knife occurs in one of two situations; during wheel “lock up” or during drive-wheel over acceleration.
Wheel Lock-Up

In a trailer jack-knife; the wheels “lock up” and start to slide when the wheels experience reduced traction on the roadway. At this point the “locked” up wheels tend to lead the vehicle.

Lock up prevention:
1. Ensure all vehicle brakes are properly adjusted to minimize the possibility of one set of wheels “locking up”.
2. Avoid applying enough braking pressure to “lock” the wheels;
3. If you do, release the brakes to restore traction to the wheels.

Remember: The sliding or “locked up” wheels will always attempt to take the lead. In a combination unit, if the trailer wheels are “locked up” the rear of the trailer will come forward to take the lead.

Over-Acceleration Spin

This occurs when too much power has been applied to the driver wheels and they begin to spin excessively. The rear of the power unit will begin to “spin out” and slide either right or left. This will cause the front of the power unit to come back, toward the trailer, and cause a tractor jackknife.

Over-acceleration spin protection:

Do not apply too much power to the drive wheels. If you do mistakenly apply too much power, simply reduce the power to the drive wheels by taking your foot off the accelerator.

Remember: You must reduce the power BEFORE the angle between the tractor and trailer reaches 15 degrees.

Approved By: ____________________________
Ron Sims Vice-President of Corporate Affairs

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Safe Work Practices

PRE-TRIP & POST-TRIP INSPECTION

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general practices for use of Pre-Trip & Post-Trip Inspection.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury</td>
<td>- Employees attend Client and/or NCSI New Hire Orientation</td>
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<td>- Equipment damage</td>
<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
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<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
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<tr>
<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries</td>
<td>- Supervisors will review Client and/or NCS incident and near-miss reporting procedures</td>
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<td>- Lack of adequate controls post-incident</td>
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Pre-Trip and Post-Trip Inspections are an important component in avoiding roadside breakdown situations. Road “breakdowns” are time consuming, costly and a source of bad publicity. In the event of a mechanical failure enroute, it is important to accurately determine, whenever possible, the nature of the problem. Once the problem has been identified contact dispatch and/or the maintenance department. The problem will be further assessed and a course of action will be determined as quickly as possible.

Ensure the vehicle is parked wherever it will not become a hazard to other traffic. Warning devices must be set out if the vehicle is in a position to create a hazard. All repairs and purchases must be approved beforehand.

All drivers of Northern Crane Service trucks and cranes are responsible for completing vehicle inspections in accordance with, and as a minimum standard, Alberta Regulation AR 118/89 requirements and the National Safety Code (NSC) guidelines. In addition, they are responsible to
ensure the vehicle they are operating is safe, well maintained and does not pose a hazard to themselves and/or the general motoring public.

Frequent inspections are an integral part of the overall Health and Safety Program. Equipment inspections are to be completed prior to, at regular intervals (once every 8 hours) during and at the end of a job and/or operation of the equipment.

Defects are to be recorded on the Northern Crane Service “Request For Maintenance/Repair” form, as well as an indication that the observed defects will and/or will not affect the safe operation of the vehicle. All inspection forms must be submitted to the company on a daily base or as soon as practical.

Do not operate a vehicle with a defect(s) that would put it “out of service” as per the “CVSA-Out of Service” criteria. If in doubt, contact the company maintenance department before proceeding.

As part of vehicle maintenance, drivers are responsible to maintain a clean vehicle, especially the interior. The outside of the vehicle is to be washed whenever possible, depending on time and job conditions. Truck washing facilities need to be arranged with the local dispatcher.

A “professional” driver knows his or her vehicle better than anyone. Therefore, it is important to ensure the vehicle is operated properly at all times. Major problems can be avoided by early detection and can often be less expensive to repair.

- **Listen** for unusual or abnormal sounds; they could be an indication of a potential problem. Report them promptly and accurately; describe the sound(s) to maintenance personnel.
- **Smell** for unusual odors (i.e.: burning insulation, rubber or wood, scorched fabric, hot oil and other abnormal smells).
- **Feel** changes in the vehicle that effect steering, shifting, braking or other handling functions. If the vehicle does not respond in the usual manner promptly report the problem.
- **Observe** all equipment components carefully during routine inspections. Defects in lights, wiring, cables, tires, airlines, coupling devises, landing gear, brakes, suspension, etc. must be corrected.

Drivers are responsible for the care of any equipment they may be working with. Trucks and trailers are to be greased at least once every week, more often in dusty or muddy conditions. All lubrication and “on road” repairs must be recorded on the vehicle inspection form.
Safe Work Practices

Task Global: PRE-TRIP & POST-TRIP INSPECTION

FINAL

Reference: TRANSPORTATION

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 24-Jan-08

JACK KNIFE

There are two ways a combination tractor-trailer vehicle can jack-knife.

1. Tractor jack knife: Tractor drive wheels “locked up” or spinning.
2. Trailer Jack-knife: Trailer wheels “locked up” and sliding.

A jack-knife occurs in one of two situations; during wheel “lock up” or during drive-wheel over acceleration.

Wheel Lock-Up

In a trailer jack-knife; the wheels “lock up” and start to slide when the wheels experience reduced traction on the roadway. At this point the “locked” up wheels tend to lead the vehicle.

Lock up prevention:

1. Ensure all vehicle brakes are properly adjusted to minimize the possibility of one set of wheels “locking up”.
2. Avoid applying enough braking pressure to “lock” the wheels;
3. If you do, release the brakes to restore traction to the wheels.

Remember: The sliding or “locked up” wheels will always attempt to take the lead. In a combination unit, if the trailer wheels are “locked up” the rear of the trailer will come forward to take the lead.

Over-Acceleration Spin

This occurs when too much power has been applied to the driver wheels and they begin to spin excessively. The rear of the power unit will begin to “spin out” and slide either right or left. This will cause the front of the power unit to come back, toward the trailer, and cause a tractor jackknife.

Over-acceleration spin protection:

Do not apply too much power to the drive wheels. If you do mistakenly apply too much power, simply reduce the power to the drive wheels by taking your foot off the accelerator.

Remember: You must reduce the power BEFORE the angle between the tractor and trailer reaches 15 degrees.
Safe Work Practices

PRE-TRIP & POST-TRIP INSPECTION

FINAL

ALL TRADES AND CRAFTS

Number: SWP022
Reference: TRANSPORTATION
Origin Date: 21-06-07
Revised: 24-Jan-08

Approved By: Ron Sims Vice-President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Services Inc. Corporate Office in Edmonton, Alberta.
<table>
<thead>
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<th>Employee Name (Print)</th>
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SAFE WORK PRACTICES

WINTER DRIVING

Due to the extreme driving conditions that personnel will be operating equipment and vehicles during the winter season it is important to ensure that all workers are aware of proper practices and responsibilities to help protect the worker from injuries that are associated with winter driving. The following is a list of practices that all personnel should review before commencing winter driving:

- Ensure that you have a valid operator’s license.
- Know and understand traffic laws and regulations for areas of travel.
- Drive defensively.
- Ensure fuel tank is full when possible.
- Back in only when practical.
- Ensure the vehicle you are driving is equipped with an emergency road kit which includes (but is not limited to) blankets, flares, flashlights, ice scraper.
- Ensure all equipment/vehicles windows, lights, and mirrors have been cleared of snow and ice.
- Avoid using cruise control on icy roads.
- Accelerate and brake gently and slowly to reduce skidding or spinouts.
- Ensure that winter clothing does not restrict movement, hearing, or vision.
- Familiarize yourself with the installation of snow chains if they are available for your vehicle.
- Monitor weather reports before leaving and while driving.
- Have cell phone available for use in case of emergency but otherwise do not use cell phone while driving.

WORKING ON OR AROUND MOVING EQUIPMENT

Personnel operating or working on and/or around moving equipment must ensure the area is safe by:

- Securing the equipment from movement when it is parked and/or left unattended.
- Shutting off the engine before any maintenance work is performed.
- Checking for hazards, prior to moving the equipment, by completing a “walk-around” inspection.
- Always being alert and staying clear of the equipment when it is in motion.
- Never being positioned in front of or behind moving equipment.
- Always being aware of other personnel working around the equipment.
- Never parking on a hill without blocking the wheels.
- Not allowing passengers on moving equipment or trailers.
- Allowing only authorized personnel to operate the equipment.
CELL PHONE USAGE

A cell phone is essential in our industry for communication; however a cell phone can present a risk to workers if used improperly while operating vehicles and equipment. The following is a list of responsibilities that a worker must ensure is adhered to when using a cell phone while operating vehicles and equipment:

- Make driving your first priority.
- Let voicemail pick up all incoming calls, if possible.
- Utilize a hands-free device with cell phone if calls need to be made while driving.
- Try not to engage in emotional or stressful conversations, this can take too much of your attention from driving.
- Ensure that you are aware of all of the functions of your wireless phone, particularly speed dial and redial.
- Do not take notes or look up phone numbers while driving, pull over to the side of the road if this needs to be done.
- Absolutely no text messaging while driving.
- Ensure cell phone is turned off or not on the person while refueling.

USE OF CLEANING MATERIALS, SOLVENTS AND FLAMMABLES

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

All personnel are responsible for being aware of all cleaning materials, solvents and/or flammables used on the job and ensure they have been instructed in their proper use and any hazards they may pose.

The following instructions and/or rules apply whenever cleaning materials, solvents or flammables are being used:

- Whenever practical, use nonflammable solvents for general cleaning.
- When flammable liquids are used, make sure no hot work is permitted in the area.
- Store flammables and solvents in designated storage areas.
- Check the toxic hazards of all cleaning materials, before using them, by referring to the MSDS information.
- Provide adequate ventilation in areas where solvents and flammables are being used.
- Avoid splashing or spraying solvents or flammables; use goggles or a face shield to protect the face and eyes.
- Use rubber gloves to protect the hands.
- Wear protective garments to prevent contamination of clothing.
- Where a breathing hazard exists, use the appropriate respiratory protection.
- Never leave solvents in open containers; return them to storage drums or tanks.
- Ensure proper containers are used for transportation, storage and field use of solvents and flammables.
- Cleaning materials, solvents or flammables that are controlled products require all personnel who are “working with” and/or are “in close proximity to” the materials to
be trained and certified in the Workplace Hazardous Materials Information System (WHMIS).

- Ensure all WHMIS requirements are met.

**DEFECTIVE TOOLS**

Defective tools can cause serious and painful injuries. If a tool is defective in any way, **do not use it**. Ensure defective tools are repaired.

Equipment repair requires the use of tools. To prevent personal injury, it is important to inspect the tools before using them. Any tools that do not meet manufacture specifications must be removed from service. Tools must also be equipped as per legislated requirements and company policies. Some examples of tools that are not in compliance with this policy are:

- Chisels and/or wedges with mushroomed heads.
- Split or cracked handles.
- Chipped or broken drill bits.
- Wrenches with worn out jaws.
- Tools that are not complete, such as grinders without handles, guards, and files without handles.

Air, gasoline or electrically powered tools require skill and complete attention, on the part of the user, even when they are in good condition. Watch for conditions such as:

- Guards that are broken and/or rendered inoperative.
- Double insulated tools insufficiently and/or improperly grounding, due to damage.
- No ground wire on plug and/or cords of standard tools.
- The power switch is not in good working order.
- Tool blade is cracked.
- An incorrect grinding wheel is being used.

**GRINDING**

Severe injury may occur if adequate personal protective equipment is not worn and the grinding equipment is not properly maintained.

- Adjust the tool rest for the correct distance from the abrasive wheel, maximum 1/8” (3mm).
- Replace the abrasive wheel when adjustment of the tool rest cannot provide 1/8” (3mm) clearance.
- If the abrasive wheel has been abused (ground to an angle or grooved), reface the wheel with the appropriate surfacing tool.
- Wear eye protection (goggles or a face shield) at all times, when grinding.
- **Do not** operate a grinding wheel at peripheral speeds exceeding the manufacturer’s recommendation. Before a grinding wheel is installed, the maximum approved speed (stamped on the wheel bladder) should be checked and compared to the shaft rotation speed of the machine to ensure the safe peripheral speed is not exceeded.
The flanges supporting the grinding wheel should be a maximum of 1/3 the diameter of the wheel and must fit the shaft rotating speed, according to the manufacturer's recommendation.

**Do not** grind on the side of the wheel. Bench grinders are designed for peripheral grinding.

**Do not** stand directly in front of the grinding wheel when it is first started.

**USE OF COMPRRESSED AIR**

Air powered tools, if not treated with respect and used properly, can cause serious injury.

- Compressed air must not be used to blow debris or dirt from clothing.
- Before disconnecting the hose or changing tools, ensure the air pressure has been turned off and the line pressure relieved.
- All hose connectors must be “quick disconnect - pressure release type” and equipped with a safety chain and/or cable.
- Hoses must be checked, on a regular basis, for cuts, bulges or other damage.
- Ensure defective hoses are repaired or replaced.
- An appropriate pressure regulator and pressure relief device must be in the system to ensure that correct, desired pressures are maintained.
- Appropriate air supply hoses must be used for the tool and/or equipment being operated.
- Wear personal protective equipment (i.e.: eye protection, face shields, etc.) and ensure other personnel in the area are made aware of the hazard(s) and/or have restricted access to the hazard area.

**USE OF LADDERS**

Any project involving a ladder can be completed safely when the ladder is inspected and used for the purpose it was designed.

- Before using any ladder, make sure it is in good condition and is the correct ladder for the job.
- When setting up the ladder, secure the base and “walk” the ladder into place.
- Before climbing a ladder, make sure it is secured against movement.
- When in position, the ladder should protrude three feet (3 ft.) and/or one meter (1 m.) above the intended resting point.
- **Do not** work from the top two rungs of a ladder.
- **Do not** overreach while on a ladder. It is easier and safer to climb down and reposition the ladder.
- Always face the ladder when using it. Maintain a firm grip and use “three-point contact” when moving up or down.
- The minimum overlap on an extension ladder should be three feet (3 ft.) and/or one meter (1 m.) unless the manufacturer specifies otherwise.
- When using metal and/or wood ladders, maintain a safe distance from electrical sources.
- The recommended safe angle for a ladder to be set is one foot (1 ft.) horizontal to every four feet (4 ft.) vertical.
SAFE WORK PRACTICES

- When a stepladder is in an open position, the incline of the front step section shall be one foot (1 ft.) horizontal to six feet (6 ft.) vertical.
- Stepladders are only to be used in the fully open position, with the spreader bars locked.
- Only CSA-approved ladders are to be used.
- Damaged ladders are to be placed “out of service” and repaired or discarded as soon as possible.

HANDLING PROPANE VESSELS

Since propane is heavier than air and invisible, special precautions are necessary when handling this material and related equipment.

- All installations and use of propane equipment must comply with applicable regulatory requirements.
- Suppliers delivering the product, or setting up equipment at any company-operated location, must be oriented to safe work practices.
- Nylon slings must be used, in a “choker” fashion, when lifting propane tanks.
- **Do not** use the “lifting lugs”, provided on propane tanks, to move the tank. Use nylon slings, wrapped around the shell of the tank.
- Other than the main tank valve, all other tank valves and/or regulators must be removed from the tank, prior to moving it.
- All trucks, cranes and/or any equipment used to move propane tanks must be equipped with a fire extinguisher appropriate for the size and type of the tank being handled.
- Crane hooks shall be equipped with a “safety latch”.
- Except in an emergency situation, only a competent person will be permitted to move and/or reposition a propane tank.
- Propane cylinders must be secured in an upright position, at all times.
- **Do not** hook up and use any propane tank without, first, installing a proper regulator.
- **Do not** heat propane tanks to increase the flow.

USE OF TIGER TORCHES

Tiger torches, although valuable to a job-site, can be very dangerous when used incorrectly.

- Tiger torches are only to be used for preheating piping, etc. prior to welding.
- When a tiger torch is used, an adequate fire extinguisher must be present.
- Tiger torches are not to be used for heating work areas, thawing frozen lines and/or equipment, etc.
- Ensure the propane tank is completely shut off when the tiger torch is not being used.
- Fuel lines must have regulators.
- The propane tank must be secured and in an upright position.
WORKING IN THE WASH BAY

This safe work practice is to ensure all wash bay washing activities are conducted in a manner that minimizes risk to people, equipment, production and the environment. The following is a list of recommended practices for working in the wash bay facilities and using the equipment:

- Conduct a hazard assessment before commencing work.
- Perform a pre-use inspection on pressure washer and fire hose to ensure all equipment is in good working order prior to operation.
- Ensure equipment to be washed is chocked or has the brakes engaged and any raised components are blocked or adequately secured against movement.
- Never attempt to clean boots or rain suit with pressure washer while you are wearing them.
- Use bay doors in wash bay to help reduce steam and heat in work area.
- In colder temperatures be aware water can freeze rapidly on tracks, tires, landings and platforms. Check your footing and remove ice build up as needed.
- When pressure washing is completed, turn off heat and allow pressure washer to continue to run for 10 minutes. This allows time for the boiler to adequately cool before shutdown.
- When using the fire hose and pressure washer you should start from a safe distance away when you start spraying, once you have started you may move as needed being aware of possible spray back.
- Before washing underneath a hood of a truck make sure you consult the shop foreman to explain certain parts that should not be washed.
- When washing trailers it is recommended the trailer be in the lowest possible position to wash the deck.
- Trailer should be in the highest possible position to wash frame and components.

CHARGING AND HANDLING BATTERIES

Workers may be asked to handle, service, or charge equipment batteries at some time during the course of work. Batteries should be handled carefully because they contain sulphuric acid that is extremely harmful to a worker. The following is a list of responsibilities that should be practiced by all workers:

- The area where batteries are being charged must be clear of all flammable liquids and any sources of ignition and be properly ventilated.
- Splash proof goggles, a rubber apron and rubber gloves must be worn when handling batteries and battery acid.
- An eye wash station and fire extinguisher must be available in the immediate area.
- Ensure the charger is off before attaching or removing any clamp connections.
- When charging battery attach the clamps to the battery in proper polarity.
- Inspect batteries for defective cables, loose connections, corrosion, cracked cases or covers, and deformed or loose terminal posts.
- Replace worn or unserviceable parts.
SAFE WORK PRACTICES

- Use proper size wrench to tighten cable clamp nuts.
- Remove corrosion from terminal posts.
- Utilize a cable puller to remove a cable clamp from the battery terminal.
- Use a tapered brush to clean the battery terminals and cable clamps.
- To clean the battery, use a baking soda solution.
- Always carry battery with battery carrier.
- Ensure cells of battery are not filled above level in indicator.

REFUELING EQUIPMENT

The refueling of equipment is a task that is done daily by personnel and may be hazardous if not carried out properly. The purpose of this safe work practice is to help protect workers from injuries that can occur from refueling operations. The following list of responsibilities should be carried out by all personnel:

- Be aware and understand regulations.
- Ensure that refueling area is well ventilated.
- Always make sure that equipment is shutoff before you begin refueling.
- There must be no smoking or open flames in the vicinity or refueling area.
- Avoid spillage of fuel on equipment, ground, or body.
- Do not use cell phone while refueling and make sure it is turned off.
“THREE-POINT” CONTACT

Many injuries occur as a result of moving up and/or down from heights, including entering or exiting equipment and working with ladders. Understanding and incorporating the concept of “three-point contact” in mounting and dismounting procedures is crucial to reducing the potential for injury. The concept applies regardless of the quality or condition of the access facility. All personnel are required to be aware of and apply this important procedure.

Several fundamental factors are connected with this concept. Three points of contact are necessary to maintain stability while getting on or off equipment and/or working with a ladder. To do this a person must maintain contact, at all times, with one hand and two feet or two hands and one foot. A triangle of contact points is formed. That triangular shape will change in form during the mounting or dismounting process.

It is important to remember two factors:

- When the triangle is incomplete the person is in a potentially unstable position that could lead to a fall.
- During the mounting or dismounting procedures, stability is at a maximum when the center of the triangle formed by the person and the center of mass of the person, as they move, are close together. Otherwise, stability will be reduced.

This means the access facility should be positioned to minimize the necessity for lateral movement, especially while a person is proceeding from one step to another. The greater the lateral movement the more likely the person will be in an unstable position. This is because the center of gravity will probably be located so that the persons weight is not distributed evenly to each of the three points of contact.

To eliminate potential for injury, personnel are encouraged to practice balanced “three-point” contact when mounting and/or dismounting equipment or ladders. In addition, this concept will be taken into consideration when retrofitting or designing equipment.
WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

The purpose of WHMIS is to provide information to personnel regarding the hazards of controlled products used in the workplace. Any person who “works with” and/or “in close proximity to” WHMIS controlled products must be informed. Information is provided using the following methods:

- A “label” displayed on each package or container of a controlled product in the workplace.
- A “Material Safety Data Sheet” (MSDS) available for every controlled product used and/or stored in the workplace.
- An “Education Program” for all personnel, including the information necessary to understand and use labels and/or MSDS’s.

RESPONSIBILITIES

Supplier: must classify and label their products and provide MSDS’s.

Employer: required to ensure labels are in place, complete and current MSDS are available and personnel are sufficiently trained to understand the labels and MSDS’s; provide MSDS’s and labels for controlled products that may be manufactured at the workplace.

Employee: use the information to protect themselves, as well as fellow employees, from injury or illness that may be caused by controlled products in the workplace.

Controlled products that are transported and/or warehoused by the company are classified under the Transportation of Dangerous Goods Act. MSDS’s or labels are not required, in addition to Dangerous Good placards. However, sample containers may require labeling.

Controlled products that are purchased as a “consumer commodity” and used in the workplace require proper labeling and an MSDS from the original manufacturer.

HAZARD INFORMATION: LABELS

Supplier

- Must develop or obtain supplier labels for all controlled products.
- Must apply labels to the container of controlled product before it is sold.
- Must revise the label and apply the revised label to all subsequent sales of controlled product if new information becomes available.
SAFE WORK PRACTICES

Employer

- Must ensure all containers of controlled products entering the workplace are labeled.
- Must apply supplier labels to inner containers on multi-container shipments.
- Must obtain a supplier label and apply it to a controlled product when a container has arrived at the workplace without a supplier label.
- Must ensure that no person removes, alters or defaces a required label, and if so, to replace it as soon as possible with either a supplier label or workplace label.
- Must advise personnel as to the relevance of other means of labeling, such as color-coding, placards, etc.
- Must develop and apply workplace labels as required.
- Must ensure personnel can understand the information on the label and are aware of the need to review the applicable MSDS.

Employee

- Must ensure they can understand the information on the label and are aware of the need to review the applicable MSDS.
- Must report to a supervisor where labels are unreadable or have been removed, altered or defaced.
- Must follow employer's direction to avoid removing, altering or defacing labels.

HAZARD INFORMATION: MATERIAL SAFETY DATA SHEET (MSDS)

Supplier

- Must develop or obtain a Material Safety Data Sheet for each controlled product imported or sold for use in a workplace.
- Must ensure the information is current and was prepared not more than 3 years previous to sale or importation.
- Must provide a copy to the purchaser on or before date of sale.
- Must make MSDS's available in English and French (as required).

Employer

- Must ensure a copy of a MSDS is obtained on or before the date of receiving the controlled product at the workplace.
- Must ensure a copy of the MSDS is readily available, at the workplace, before any personnel use the controlled product.
- Must update MSDS’s every 3 years or within 90 days of receipt of new information.
- Must ensure workers are aware of the MSDS location and can understand the information and significance of the MSDS.

Employee

- Must refer to or be familiar with the applicable MSDS before using a controlled product.
Know the location of MSDS information at your work site.

WORKING AROUND HYDROGEN SULPHIDE

This practice is to ensure employees of TRANS TECH CONTRACTING INC., when required, have the necessary skills in order that they may quickly assess and control a situation, minimize and/or eliminate risk to life, health, and to notify the appropriate authorities.

TECH CONTRACTING INC., in conjunction with its clients, government and safety groups, manufacturers and suppliers, unions, and other appropriate organizations, will provide employee training, as required, to ensure the necessary skills, aptitudes, attitudes, and competencies to minimize or eliminate all injuries to personnel and protect the assets of the company.

- Hydrogen Sulphide (H2S) is usually found in a form of gas. This gas regularly occurs in geological formations, organic material, and also chemically produced. The main locations that H2S is commonly found in are drilling and well operations, trucking and pipeline operations, petro-chemical facilities, plant sites, pulp mills, sewers, mines, vessels, tanks, landfills, and swamps. The locations listed are not the only places that H2S can be found, but these are the locations that employees of Trans Tech would most likely encounter it.

- Employees will be provided training by an approved training agency meeting the standards for a certificate in H2S Training and Rescue as established by ENFORM, CAPP, CAODC, PSAC, SEPAC, AEUB, Alberta Human Resources and Employment, Workplace Health and Safety, Work Safe BC, and the National Energy Board.

- The “8 Hour Exposure Limit” for H2S is 10 ppm – this the time weighted average for 8 hours. This limit must never be exceeded, especially without respiratory equipment.

- The “Ceiling Limit” for H2S is 15 ppm – this should NEVER be exceeded. A worker must not be exposed to this concentration at any time without proper respiratory equipment.

- A code of practice governing the storage, handling, use and disposal of H2S is needed when:
  - H2S is a pure substance in an amount exceeding 10 kg, or
  - H2S is a mixture in which the amount of H2S is more than 10 kg and at a concentration of 0.1 percent or more by weight.

NOTE: TRANS TECH CONTRACTING INC. currently has no direct involvement with H2S as stated above; therefore a code of practice is not required at this time.
TRANSPORTATION of DANGEROUS GOODS (TDG)

The purpose of the TDG regulations is to provide information and establish written procedures for personnel who handle, offer for transport or transport dangerous goods commodities.

This policy applies to all personnel who, through their normal duties, handle, offer for transport or transport dangerous goods. No person representing TRANS TECH CONTRACTING INC. shall handle, offer for transport or transport dangerous goods unless they have completed the required training and testing and received a valid “Certificate of Training”, issued by the company.

Where applicable, all “new hire” personnel are required to be trained and tested prior to handling, offering for transport or transporting dangerous goods.

The only exception to this policy will be where a person is involved in an “on-the-job” training program and in direct (at arms length) supervision of another person who has a valid “Certificate of Training”.

Training and testing, for company personnel, will be provided by a designated person “in-house” or by an “outside agency”, approved by management.

The “Certificate of Training” will be considered valid when it has been:

- Dated (issue and expiry dates).
- Signed by the company-designated person and the trainee.
- Indicates the areas and class(es) and/or division(s) where the person has received training.
- A copy has been placed in the persons employment file.

The “Certificate of Training” must be renewed three (3) years after the issue date.

DOCUMENTATION

All shipments of dangerous goods commodities must be accompanied by a shipping document and the document must contain specific information. Although the shipper must prepare the shipping document, as per regulatory requirements, in several situations and/or locations a shipper representative is not available. In these situations, the company has advised the customer that the driver will prepare the document on behalf of the shipper. For this reason, and as an added service to the customer, it is extremely important that the shipping document is prepared properly.

The shipping document must include:

- A document identification number that is legibly and indelibly printed on the document.
- The date.
- The shippers signature, where applicable (driver may be required to sign on behalf of the shipper).
- The name and address of the shipper and receiver.
- The name of the carrier.
A description of the dangerous goods, in the following order:

- The proper shipping name of the product.
- The primary and subsidiary class of the dangerous goods; subsidiary classification must be in brackets.
- The Product Identification Number (PIN); shipments in bulk (more than 450 L) require the PIN to be displayed on the placards also.
- The Packing Group (Roman numerals – I or II or III)

- The number of packages, where applicable, and the total weight or volume of each class of dangerous goods.
- Any special handling instructions.
- A 24-hour emergency telephone number.
- An indication of the type and number of placards required.

After the cargo unit is unloaded the shipping document must indicate “Residue – Last Contained”, unless the cargo unit has been cleaned and/or purged of all hazardous residues.

During the transportation of a dangerous goods commodity, a copy of the shipping document must be available and readily accessible in the event of an emergency. Where the power unit is attached to and/or part of the cargo unit:

- When the driver is in the vehicle, either within the drivers reach or in a pocket of the driver door.
- When the driver is not in the vehicle, either on the driver seat or in a pocket of the driver door.

In situations where the power unit is detached from the cargo unit, the shipping document must accompany the load. It can be left with a person supervising the parking area or in a waterproof container on the outside of the cargo unit.

The shipper, carrier and receiver must retain a copy of each shipping document for a minimum of two (2) years.

A worker must not handle, offer for transport, or transport dangerous goods in a means of containment that is not designed, constructed, filled, closed, secured, and maintained so that there is no accidental release of the dangers goods that would endanger public safety under normal conditions of transportation. Containers that carry dangerous goods must also be loaded and secured so as to prevent the accidental release of the dangerous goods under normal conditions of transport.

**MATERIAL HANDLING**

**TRANS TECH CONTRACTING INC.** primarily handles and/or transports the following commodities:

- Oilfield-related equipment and materials.
- Forestry industry equipment and materials.
- Mining industry equipment and materials
Heavy equipment and/or over-dimensional cargo.

Although these are, presently, the only commodities handled and/or transported by the company, other materials may be handled and/or transported from time-to-time. When transporting or handling unfamiliar materials, personnel are required to determine whether or not they are regulated dangerous goods. If so, then the regulatory requirements must be adhered to. In addition, always consult with the Material Safety Data Sheet before handling any new material.

Drivers are responsible to ensure they adhere to the load securement and axle weight regulations applicable to the jurisdiction(s) they are operating in.

LOAD SECUREMENT

Every jurisdiction throughout Canada has regulations regarding load securement. These regulations indicate it is an offense to operate any vehicle unless its cargo is adequately secured in a manner that will not allow it to escape or fall from the vehicle and, by shifting or swaying, affect the operation of the vehicle.

Generally, regulations specify the number and maximum allowable distance between adjacent tie-downs, the minimum tie-down strength, covers for loose cargo, dunnage between specific types of cargo and the securement of cargo. In addition, many jurisdictions require a bulkhead or cab protector between the operator and/or sleeping compartment and the cargo.

BULKHEADS and CAB PROTECTORS

A bulkhead or cab protector is required between the driver or sleeper and the load. In order to ensure the operator is protected from shifting cargo, due to emergency braking or other avoidance maneuvers, the following guidelines are to be used in determining the strength, height and width of the bulkhead or cab protector.

All TRANS TECH CONTRACTING INC. equipment will be fitted with bulkheads and/or cab protectors that have recognized and/or approved certification and will be designed as outlined in the following information:

Strength

The strength of the bulkhead or cab protector is dependent on the payload the vehicle is carrying. Bulkheads or cab protectors must:

- Be capable of withstanding a stationary load equal to not less than 50% of the payload.
- Be able to resist penetration by any item of cargo that contacts it.
- Not have an opening large enough to permit an item of cargo to pass through it.

If the bulkhead or cab protector is more than 1.8 meters (5.9 ft.) in height, then the structure must withstand a static force equal to 40% of the payload weight.
In the case of a “B” train combination vehicle, only the payload on the first trailer or semi-trailer will be considered.

**Height**

Since drivers normally occupy a space within 120 cm (47 in.) of the cab floor, the height of the bulkhead or cab protector must not be less than 120 cm (47 in.) above the cab floor. Where the cargo does not extend to that height, a lower cab protector may be used, as long as it is higher than the cargo. A bulkhead or cab protector is not required to be as high as the top of the cargo if the cargo height extends beyond 120 cm (47 in.) from the cab floor.

**Width**

A bulkhead mounted on a trailer or semi-trailer should be the full width of the vehicle, typically 2.6 meters (8.5 ft.). A cab protector mounted on a highway tractor or truck need only be as wide as the vehicle cab.

**SECURING THE LOAD**

All cargo must be secured on a commercial vehicle. Several methods are permitted for securing cargo:

- A bulkhead, sideboards and end-gate if they:
  - Are securely attached to the vehicle.
  - Have no opening large enough to permit any part of the cargo to pass through.
- By straps, chains, webbing or other similar tie-downs.

To determine the method of securing a load by tie-downs, the driver must satisfy two (2) requirements:

- The cargo must be secured by not less than the minimum number of tie-downs.
- The (aggregate) “Safe Working Load” of the tie-downs must not be less than the weight of the cargo secured.

**Tiered Articles**

Commodities carried on flat deck trailers and arranged in lifts, layers or tiers require:

- The top tier to be secured by the necessary number of tie-downs as determined by the load length.
- The contents of other lifts, layers or tiers must be secured in a safe and stable manner.

**Bagged Commodities**

Cement, fertilizer and many other products are packaged in bags then stacked on pallets for shipment. Interlocking the bags on the pallets and wedging the pallets on the cargo deck is not sufficient. The bags must be secured by tie-downs and dunnage (corner-boards). If damage to the cargo may occur, sideboards may be used as an alternative load securement method.
Drums

Drums or barrels, loaded on end, must be contained by sides, sideboards or side-stakes and be blocked or tied down with devices adequate to prevent the load from shifting. Empty drums or barrels may be transported without tying them down inside the sides and gate. If metal drums or barrels are stacked on end, on other metal drums or barrels, then they must be separated by dunnage.

OTHER LOAD SECUREMENT CONDITIONS

Loads consisting of several articles require additional tie-downs to ensure each article is secured by:

- Direct contact.
- Dunnage that is secured by the tie-downs (including the top most portion of the load) in a manner that safely holds internal articles of the load without causing external articles to crush or break up.

If the cargo cannot be secured by a bulkhead, sideboards and end-gate or by tie-down straps, a combination of the methods may be used. In all cases, the sum of the “Safe Working Load” of the tie-downs cannot be less than the weight of the article(s) being secured.

TIE-DOWN INFORMATION

Three (3) terms are generally applied to the tie-down assemblies.

Ultimate Tensile Strength (Ultimate Strength, Breaking Strength)

- Refers to the minimum load at which brand new chain, wire rope, strapping, etc. may fail.

The “Ultimate Tensile Strength” of wire rope (cable) is equal to the load required to break the wire rope.

Proof Strength (Proof Test Load, Proof Load)

- In order to ensure no defects in material or manufacture have occurred, the manufacturer tests the tie-down to a predetermined load; with chain, the “Proof Strength” is typically 50% of the “Ultimate Tensile Strength”.

Safe Working Load (Working Load Limit, Safe Working Load Limit)

- The maximum load, as warranted by the manufacturer or by a professional engineer, that the tie-down is repeatedly capable of withstanding with complete safety throughout its normal service life.
  - or
- Where the manufacturer or professional engineer has not designated the “Safe Working Load”, a value equal to 25% of the “Ultimate Tensile Strength” of the tie-down, as supplied by the tie-down manufacturer.
TIE-DOWN STRENGTHS

The cargo secured by the tie-downs cannot exceed the sum of the “Safe Working Load” of the tie-downs.

- Unless the tie-down assembly (including the clevis hooks and load binders) are directly marked or identified by a permanently attached tag, they shall be considered to be the lowest grade for their size.
- Tie-down assemblies must be protected against abrasion.
- Tie-down assemblies must not be used if worn beyond a wear limitation embossed by the manufacturer and to the extent that they become unsafe.
TIE-DOWN INSPECTION

Chains, load binders attachments and anchor points must be maintained in good condition. The following conditions are **not** acceptable for load securement:

- Chain containing cracked welds or links.
- Chain containing bent, twisted, stretched or collapsed links.
- Chain links weakened by gouges, nicks or pits.
- Chain incorrectly repaired.
- Chain links obviously worn or showing other visible evidence of loss of strength.
- Knots in any part of the chain, wire rope or webbing.
- Spread or disturbed grab-hooks.
- Cuts, nicks or splits in nylon webbing.
- Wire rope with missing strands or wraps.
- An anchor point that is weakened or shows loss of strength due to cracks, breaks or distortion.
- Split lumber used as dunnage to prevent movement or distribute the cargo.
- Crushable cargo secured by tie-downs and not protected by dunnage.

NUMBER OF TIE-DOWNS

The minimum number of tie-downs required can be determined from the following table:

<table>
<thead>
<tr>
<th>LENGTH of LOAD along LONGITUDINAL AXIS of VEHICLE</th>
<th>MINIMUM NUMBER of TIE-DOWNS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 meters and less</td>
<td>2</td>
</tr>
<tr>
<td>More than 2.5 meters, not more than 7.5 meters</td>
<td>3</td>
</tr>
<tr>
<td>More than 7.5 meters, not more than 10.0 meters</td>
<td>4</td>
</tr>
<tr>
<td>More than 10.0 meters, not more than 12.5 meters</td>
<td>5</td>
</tr>
<tr>
<td>More than 12.5 meters, not more than 15.0 meters</td>
<td>6</td>
</tr>
</tbody>
</table>

The following are exceptions to the above table:

- Articles less than 2.5 meters (8 feet) in length, less than 1.5 meters in height and butted against another substantial article or bulkhead, require only one tie-down.
- As a general guide, use two (2) tie-downs for the first 2.5 meters (8 feet) of a load and one (1) tie-down for every 2.5 meters (8 feet) thereafter.
CHAIN

The “Safe Working Load” for each type of chain varies with each manufacturer. The following may be used as a guideline to determine adequacy of tie-downs.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>APPLICATION</th>
<th>TRADE SIZE</th>
<th>WORKING LOAD LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Grade 80&quot; or &quot;Alloy Chain&quot;</td>
<td>Overhead lifting, slinging, load binding, Flail Chains, choker chains, skidder chains. USE NO OTHER CHAIN FOR OVERHEAD LIFTING.</td>
<td>7 1/4</td>
<td>1660 Kilograms 3650 Pounds</td>
</tr>
<tr>
<td>Identified by “A”, “8”, “80” or “800” on links</td>
<td></td>
<td>10 3/8</td>
<td>2980 Kilograms 6550 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 1/2</td>
<td>5180 Kilograms 11400 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 5/8</td>
<td>8590 Kilograms 18900 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 3/4</td>
<td>11890 Kilograms 26150 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22 7/8</td>
<td>15700 Kilograms 34550 Pounds</td>
</tr>
<tr>
<td>&quot;Grade 70&quot; or &quot;Transport Chain&quot;</td>
<td>Trucking, railways, logging, towing, construction, farming, load binding, deck lashing, security chains, heavy-duty tie-down applications.</td>
<td>7 1/4</td>
<td>1410 Kilograms 3100 Pounds</td>
</tr>
<tr>
<td>Identified by “7”, “70” or “700” on links</td>
<td></td>
<td>8 5/16</td>
<td>2020 Kilograms 4450 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 3/8</td>
<td>2820 Kilograms 6200 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 7/16</td>
<td>3960 Kilograms 8750 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 1/2</td>
<td>4890 Kilograms 10750 Pounds</td>
</tr>
<tr>
<td>&quot;Grade 50&quot; or &quot;High Test Chain&quot;</td>
<td>Railway tie-down chains, load bindings, cargo lashings, logging and farm operations, towing and moving jobs, in oil fields, industry and for trucking.</td>
<td>7 1/4</td>
<td>1330 Kilograms 2200 Pounds</td>
</tr>
<tr>
<td>Identified by “4” or “5” on links</td>
<td></td>
<td>8 5/16</td>
<td>1930 Kilograms 3200 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 3/8</td>
<td>2430 Kilograms 4000 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 7/16</td>
<td>2858 Kilograms 6300 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 1/2</td>
<td>4670 Kilograms 7700 Pounds</td>
</tr>
<tr>
<td>&quot;Grade 30 – Short Link&quot; or “BBB”</td>
<td>Tow chains, pocket wheels, railway brake chains, sugar cane slings, bundling chains, etc.</td>
<td>7 1/4</td>
<td>601 Kilograms 1325 Pounds</td>
</tr>
<tr>
<td>Identified by “3B” or &quot;BBB&quot;</td>
<td></td>
<td>8 5/16</td>
<td>884 Kilograms 1950 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 3/8</td>
<td>1247 Kilograms 2750 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 1/2</td>
<td>2154 Kilograms 4750 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 5/8</td>
<td>3288 Kilograms 7250 Pounds</td>
</tr>
<tr>
<td>&quot;Grade 30 – Regular Line&quot; or &quot;Proof Coil&quot;</td>
<td>Boom chains, barrier chains, decoration, pipeline hanging, tailgate guardrail, tow chains.</td>
<td>7 1/4</td>
<td>567 Kilograms 1250 Pounds</td>
</tr>
<tr>
<td>Identified by “3” or &quot;PC&quot; on links</td>
<td></td>
<td>8 5/16</td>
<td>850 Kilograms 1875 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 3/8</td>
<td>1190 Kilograms 2625 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 1/2</td>
<td>2041 Kilograms 4500 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16 5/8</td>
<td>3084 Kilograms 6800 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 3/4</td>
<td>4309 Kilograms 9500 Pounds</td>
</tr>
<tr>
<td>&quot;Loading – Decking Chain&quot;</td>
<td>Light duty tie-down applications.</td>
<td>7 1/4</td>
<td>612 Kilograms 1350 Pounds</td>
</tr>
<tr>
<td>Identified with &quot;DL&quot; or “3L” on links</td>
<td></td>
<td>8 5/16</td>
<td>862 Kilograms 1960 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 3/8</td>
<td>1202 Kilograms 2650 Pounds</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 1/2</td>
<td>2086 Kilograms 4600 Pounds</td>
</tr>
</tbody>
</table>
CHAIN CONNECTOR LINKS

- “Pear Shaped Missing Links” and “Double Clevis Links” are compatible with “Grade 30 – Short Link” (“BBB”) chains and lower grades of chain.
- “Quick Connectors” are not suitable for any heavy-duty operation.
- “Chain Hooks” are generally compatible with the chain of the same size and grade (i.e.: 7 mm Alloy Grab Hooks are compatible with 7 mm Alloy Chain).
- “Slip Hooks” are generally slightly weaker than the chain of the same size and grade.

LOAD BINDERS (“BOOMERS”)

Standard load binders are generally compatible with “Grade 50 – High Test Chain”. In cases where the manufacturer has embossed the “Safe Working Load” on the load binder, it will be considered an acceptable rating when assessing the assembly.

- A load binder handle must be locked in place by rope, wire or chain or a locking mechanism to prevent the handle from accidentally releasing; utilizing the free end of the chain is not acceptable in certain jurisdictions.
- The driver must be able to tighten the tie-downs; except if steel fiber or synthetic strapping is used, in which case it must be taut when in use.

WEBBING

- Nylon webbing straps are acceptable for securing loads such as lumber, building material and other non-abrasive type cargo.
- The nylon webbing may utilize winch-tightening devices mounted on the side of the vehicle, in fixed positions or an adjustable installation where the winches are mounted on a slide track and/or bar. Other available tightening systems are also acceptable.
- The manufacturer must permanently mark, on the straps, the “Safe Working Load” limit of the nylon webbing straps.
- The strength of nylon webbing is dependent on its external dimensions and internal construction. The manufacturer rating is the only safe method of determining the capacity; as a guideline, use 530 kg / cm of width.
- Care must be taken to ensure the nylon webbing is protected from abrasive surfaces or sharp edges by using suitable protectors.
- A twist in the nylon webbing is recommended to prevent the wind vibration from loosening the straps.
- A hook end or other metal fitting, permanently attached to the webbing, must be used when attaching the webbing to a structural part of the vehicle body.

WIRE ROPE (CABLE)

Although the use of wire rope (cable) is acceptable for load securement purposes, most manufacturers do not label or otherwise identify the “Safe Working Load” of their product. The following table should be used in determining the adequacy of unmarked cable tie-downs:

<table>
<thead>
<tr>
<th>WIRE ROPE DIAMETER</th>
<th>SAFE WORKING LOAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REVISION – November 2009
To protect wire rope (cable) from damage, the following precautions are required:

- Use dunnage or special brackets to protect the wire rope where it contacts sharp edges of the cargo; also protects the cargo from damage by the wire rope.
- Thimbles are to be used when attaching hooks, chains, clevises or similar devices to the wire rope.
- If “saddle” and “U-bolt” cable clamps are used, the “U-bolt” must bear against the dead or free end.
- At least two (2) “saddle” and “U-bolt” clamps are to be used for wire rope sizes up to and including 11 mm.
- At least three (3) saddle and “U-bolt” clamps must be used on 13 mm wire rope.
- Where a winch-type device is used:
  - the winch must be specifically designed for use with wire rope,
  - or
  - the wire rope must be protected against cutting and be anchored securely to the drum, if the winch is designed for webbing.

**ATTACHING CABLE CLIPS AND CLAMPING WIRE ROPE**

- Wire the thimble to the rope at the desired point, then bend the rope round the thimble and temporarily secure it by wiring the rope members together.
- First, attach the clip farthest from the thimble and tighten (be sure the base of the “saddle” rests on the live end of the rope and the “U-bolts” on the short end). All clips must be attached in this matter.
- The clip nearest the thimble goes on next. Do not tighten yet. If one or more additional clips are to be attached, place them at an equal distance apart between the clips already attached.
- Before tightening, place some stress on the rope to take up the slack and to equalize the tension on both sides of the clip. Do not apply too much stress or the clip attached first will not hold. Tighten all clips.
- The “U-Bolt” of all clips must be on the dead end of the wire rope.

### DIA/ROPE | NUMBER of CLIPS | SPACING BETWEEN CLIPS (Center to Center) (millimeters) | TORQUE (Newton-meters)
--- | --- | --- | ---
6 | 2 | 38 | 20
8 | 2 | 51 | 40
10 | 2 | 57 | 65
11 | 2 | 64 | 90
LOAD DIMENSIONS

In addition to ensuring the cargo does not create a hazard by leaving the vehicle, the dimensions of the cargo can also present a hazard if not identified and/or adequately marked. Following is a quick reference guide to ensure over dimensional cargo is adequately marked.

ALBERTA

<table>
<thead>
<tr>
<th>CARGO DIMENSION</th>
<th>REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(More than)</td>
<td></td>
</tr>
<tr>
<td>8 ft. 6 in. (2.6m)</td>
<td>Flags by day / Lights at night, on extremities of load</td>
</tr>
<tr>
<td>10 ft. (3.05m)</td>
<td>Flags / Lights and WIDE LOAD SIGN to the front-most part of the vehicle and to the rear-most part of the vehicle and/or load</td>
</tr>
<tr>
<td>11 ft. (3.35m)</td>
<td>Flags / Lights and WIDE LOAD SIGN and One rotating BEACON or Two amber flashing lights</td>
</tr>
<tr>
<td>12 ft. 6 in. (3.85m)</td>
<td>Flags / Lights and WIDE LOAD SIGN and One rotating BEACON and ONE ESCORT VEHICLE (No movement after 1500hr Friday, Sunday or Stat Holidays)</td>
</tr>
<tr>
<td>14 ft. 6 in. (4.45m)</td>
<td>Flags / Lights and WIDE LOAD SIGN and One rotating BEACON and TWO ESCORT VEHICLES (except on 4 lane highway) (No movement after 1500hr Friday, Sunday or Stat Holidays) (RESTRICTED TO DAYLIGHT HOURS ONLY)</td>
</tr>
<tr>
<td>18 ft. (5.5m)</td>
<td>MUST CONTACT OVERLOAD CONTROL IN RED DEER</td>
</tr>
</tbody>
</table>

PROCEDURE FOR OBTAINING PERMITS

Management will obtain the necessary information, from the customer, about the cargo. This information should include details, such as:

- Description of the cargo.
- The weight (in kg).
- The dimensions (height, width, length).
- The proposed route of travel.
- Owner of the cargo.

Management will determine the equipment to be used and identify information regarding the power unit, including:
Management will contact Alberta Transportation - Central Permit Office (Red Deer, Alberta) at 1-800-662-7138 and with this information, obtain the proper permit and approval of proposed route and/or alternate route, as required.

The Central Permit Office will issue a permit number. Management must then ask the Permit Office to fax the permit to 1-780-451-1172.

After the permit has been received from the Central Permit Office, management must then contact the Municipal District in which the cargo will be traveling. Permission to transport, as well as a permit number, must be obtained from the Municipal District, where required.

Management will then contact the driver and/or supervisor of the equipment designated to transport the cargo and provide them the necessary information, including:

- Permit numbers.
- Routing.
- Any other pertinent information, as required.
OFFICE SAFETY

Although health and safety-related risks to office personnel might appear minimal, many people are seriously injured while performing routine duties. The following information will provide guidance to office personnel in reducing and/or eliminating the possibility of injury.

Offices are similar to other work environments in that they may present potential health and safety hazards. Most hazards can be minimized and/or eliminated by designing jobs and workplaces properly, as well as taking into consideration the differences among task(s) and individuals. Inadequate environmental conditions such as noise, temperature, and humidity, may cause temporary discomfort. Environmental pollutants such as chemical vapors released from new carpeting and furniture may also create discomfort.

RESPONSIBILITIES

Management will be responsible for:

- Providing training for all office staff, in:
  - Emergency procedures.
  - Electrical safety.
  - Office ergonomics.

- Ensure office equipment is in safe working condition
- Provide proper and adequate storage for office supplies.

Office staff will be responsible for:

- Immediately reporting all safety concerns.
- Not attempting to repair any office equipment or systems.
- Maintain a neat and sanitary office environment.

NOISE HAZARDS

Noise is simply defined as unwanted sound. Classifying a sound as noise is primarily dependant on individual preferences. The most common effects of noise include interference with speech communication, annoyance and distraction from mental activities.

Daily office activities can interfere with communication (i.e.: difficultly talking on the telephone when other people are talking nearby). Annoying noise can decrease performance or increase errors in some task situations. Noise can be detrimental to performance where a task(s) that requires a great deal of mental concentration is involved.

Indications are that unexpected or unpredictable noise can have more of an effect than continuous or periodic noise. A sudden noise, such as when a heavy object is dropped, can be distracting and temporarily interrupt activities.

NOISE REDUCTION
SAFE WORK PRACTICES

Although many unexpected noises cannot be controlled in the office environment, office staff are required to adhere to the following practices, wherever practical, to eliminate and/or reduce the level of noise and its effects:

- Select the quietest equipment possible; given a choice between two or more products, sound levels should be included as a consideration during purchase and use.
- Regularly maintain equipment, such as lubrication and tightening loose parts, to reduce noise.
- Position loud equipment in areas where its effects are less detrimental (i.e.: impact printers are to be positioned away from areas where people use the telephone).
- Use of barrier walls or dividers to isolate noise sources; use of buffers or acoustically treated materials can absorb noise that might otherwise travel further.
- Use of rubber pads to insulate vibrating equipment to reduce noise.
- Enclose equipment, such as printers, with acoustical covers or housings.
- Schedule noisy tasks at times when it will have less effect on other tasks in the office.

ELECTRICAL SAFETY

All electrical office equipment must be designed and used in accordance with regulatory (i.e.: CSA, UL approved) requirements. Office staff is required to adhere to the following procedures in eliminating and/or reducing electrical hazards:

- Electrical cords are to be examined on a routine basis for fraying and exposed wiring; particular attention should be paid to connections behind furniture. File cabinets and bookcases that are pushed tightly against electric outlets can severely bend the cord, at the plug.
- Extension cords will only be used in situations where fixed wiring is not feasible.
- Extension cords will be kept in good repair and free from defects in the insulation.
- Extension cords will not be kinked, knotted, abraded or cut.
- Extension cords will be placed so as not to present a tripping or slipping hazard.
- Extension cords will not be placed through doorways where doors can be closed, thereby damaging the cord.
- All extension cords shall be equipped with a grounding prong.
- Ensure computer equipment, typewriters and other electrical office equipment is solidly placed.
- Position telephone cords, electrical office equipment wires, etc. where they will not present a tripping hazard.

HOUSEKEEPING

Good housekeeping is an important element of accident prevention in offices. Poor housekeeping leads to fires, personal injuries or unhealthy working conditions.
SAFE WORK PRACTICES

- Passageways and/or aisles in office areas must be clearly defined, as well as free and clear of obstructions; proper layout, spacing and arrangement of equipment and/or furniture are essential.
- Chairs, files, bookcases and desks must be replaced or repaired if they become damaged; damaged chairs can be especially hazardous.
- Regularly check office furniture for sharp edges, splinters and loose casters or bolts.
- Open only one file drawer, desk drawers, etc. at a time and keep them closed when not in use.
- Filing cabinet drawers must always be kept closed when not in use.
- Use the handles of filing cabinets, desk drawers, etc. when closing them.
- Heavy files must be placed in the bottom file drawers.
- Materials stored within supply rooms must be neatly stacked and easily reached.
- When using a stepladder to access upper levels, ensure the ladder has a firm, stable footing.
- Care should be taken to stack materials so they will not topple over; under no circumstances will materials be stacked within 18 inches of ceiling fire sprinkler heads or fire extinguishing equipment.
- Materials must not be stored in a manner that would cause a person to trip or hinder emergency evacuation.

COMPUTER WORK STATIONS and/or VIDEO DISPLAY TERMINALS (VDT’s)

The company has identified characteristics common to computer workstations where, when improper habits are practiced, the risk of musculoskeletal injury is increased. These include neck, shoulders, back, arms, hands and occasionally the legs. Factors considered in reducing injuries include:

- Design of the workstation.
- Nature of the task.
- Repetitiveness of the job.
- Degree of posture constraints.
- Work pace.
- Work/rest schedules.
- Personal attributes of individual workers.

The key to comfort is maintaining the body in a relaxed, natural position. The ideal work position is to have the arms relaxed and hanging from the shoulders. Where a keyboard is used, the arms are to be bent at right angles to the elbow, the hands held in a straight line with the forearms and the elbows positioned close to the body. The head is to be aligned with the body and held slightly forward.

The top of the display screen must be at and/or just slightly below eye level. This allows the eyes to view the screen at a comfortable level, without having to tilt the head or move the back muscles.

Controlling glare can be accomplished by placing the display screen parallel to direct sources of light such as windows and overhead lights. Where sources of glare cannot be removed, the use of glare filters is required. In addition, it is important to frequently clean the screen with an approved product.
The work surface height must fit the task. Place the surface at a height where the work can be performed with the arms low and close to the body, in relation to the task. If the workstation height is too high, the shoulders and/or upper arms have to be lifted to compensate, leading to potential pain and cramps at the neck and shoulders. If the workstation height is too low, the back will be bowed, leading to backache. Generally, the work should be done at approximately elbow height, whether in a sitting or standing position. An adjustable workstation will be provided, as required, to allow for changing the station to meet the needs.

Alternating computer and non-computer based tasks throughout the workday will reduce stress and fatigue. Tasks, where concentrated work at a computer terminal is unavoidable, require a short break (5 - 10 minutes) be taken at least once each hour.

Additional measures that will aid in reducing discomfort while working with computers include:

- Changing positions; stand or stretch whenever fatigue starts to occur.
- Using a soft touch on the keyboard and relaxing the shoulders, hands and fingers.
- Using a document holder, positioned approximately the same height and distance as the display screen.
- Resting the eyes by occasionally looking off into the distance.

LIGHTING

Different tasks require different levels of lighting. Areas where intricate work is performed require greater illumination. Lighting needs vary throughout the day and with each person. Adjustable lighting that provides adequate illumination, without increasing general lighting, is required.

For a person who requires and/or prefers additional light, task lamps are recommended for supplementing general office light levels. Task lamps that are controlled by the individual can accommodate personal preferences and allow for various levels of light.

AIR QUALITY

Indoor air quality is important in the work environment. Heating, air conditioning and ventilation systems designed for the work environment will be provided to accommodate employee comfort. The design of these systems will take into consideration:

- Changing floor plans to accommodate potential for a future increase in employees.
- Impact any renovations, such as installation of new carpet, modular office partitions, painting, etc. may have on the work environment.

CHAIRS

Workstation seating is an important comfort factor. An ergonomically designed chair, equipped with four adjustments (seat pan tilt, backrest angle, seat height and backrest
height) will be provided. In general, chairs with easily adjustable dimensions allow for flexibility in supporting a person’s preferred sitting posture.

The chair must be comfortable and adjusted to provide support for the person’s back, the seat pan at a height that allows the thighs to remain horizontal and feet flat on the floor.

Armrests on chairs will be provided, except where the armrest may interfere with the task. Use of armrests is effective in reducing arm discomfort. Armrests will be sufficiently short and low enough to allow employees to position themselves close enough to their work surfaces, especially for tasks that require fixed arm postures above the work surface.

**GENERAL OFFICE SAFETY**

- Be careful with swivel chairs; before leaning back, gradually test your weight against the chair tension.
- Walk; do not run in corridors or on stairs. Use the handrail when walking on stairways.
- Do not stand and talk in front of closed doors; they may open suddenly.
- Do not push or crowd at entrances or on stairways.
- Read mail and/or other documents at a desk; not while walking around.
- Position wastebaskets and other floor items where they will not present a tripping hazard.
- Handle sharp objects (letter openers, etc.) carefully and properly store them when not in use.
- Know the emergency procedures and alarms for the facility.
REMEMBER!

- Wear appropriate PPE – Goggles & Faceshield / Neoprene Gloves / Apron
- Ensure adequate ventilation
- Know the MSDS location and Emergency Eye Wash Station Location
- Wash after possible contact with soap & water
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Battery Charging and Servicing Code to identify the proper level of protection against a potential injury to employees, contractors, and the public while operating within NCSG areas of responsibility. This code will aid employees in minimizing the risk of exposure and incident occurrence when dealing with batteries.

2.0 SCOPE AND APPLICATION

The application of correct procedures to charge, service and maintain battery condition will enable employees to ensure adequate protection from activities which may involve hazards to individuals or property. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

There are no definitions for the Battery Charging and Servicing Code.

4.0 EXPECTATIONS

The Battery Charging and Servicing Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to employees, contractors, visitors and property when involved with batteries. The Battery Charging and Servicing Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment when required to operate, service or maintain acid batteries in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Inspect servicing equipment to be used for batteries and ensure equipment is serviceable,
- Not use personal protective equipment or servicing equipment for batteries that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to acid exposure, back injury, and pinch points.

5.2 Workers

In addition to 5.1, it is the worker's responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code during battery operation and servicing in accordance with the training and instruction received.
- Ensure, appropriate PPE as specified for use with battery operation and servicing is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Maintain Proper Battery Condition

NCSG employees shall perform proper battery terminal checks as part of a pre-shift inspection for any equipment as applicable to company Standard Operating Procedures.

NCSG shall ensure operators are responsible to have confirmed on a scheduled routine:
- Have NCSG Fleet Maintenance check battery for sufficient voltage as recommended by manufacturer’s specification
- Have the charging system and belts inspected.
- If necessary, replace or have make to have replaced, the battery and
- Make or have to make system repairs.

6.2 Safe Operating Procedures in Proximity to Batteries

- Never create a spark or allow a bare light bulb near a battery; they give off a certain amount of gas which is explosive.
- Always disconnect the battery ground (-) cable at the battery before working on the fuel or electrical systems.
- If possible, loosen the filler caps or cover when charging the battery from an external source (this does not apply to sealed or maintenance-free batteries).
- Do not charge at an excessive rate or the battery could burst.
- Always wear safety glasses and faceshield, neoprene gloves, and apron as applicable when cleaning the battery to prevent the caustic deposits from entering eyes, or coming in contact with clothing.
- Vent caps should be tight and level. Placing a damp cloth over vent caps when charging may act as a flame arrester
- Use proper lifting techniques when moving batteries. Batteries are small, but heavy and awkward to lift.

6.3 Hazard Prevention Practices.

- Remove wrist watches, which might make electrical contact and create sparks.
- Wash your hands immediately after completing the job.
- Clean up all acid spills and flush clothing with a water and baking soda solution.
- Smoking or open flames should never be present in a battery area, and ventilation is important.
- Store batteries in a cool, dry place. Storage temperature should be between 80°F and 32°F.
- Don't make live connection directly to the battery. Explosive gases can be set off by a match, incorrect connection of battery cables, and careless use of tools around the battery.
6.4 Emergency Response Procedures

- If acid does enter the eye, immediately flood with running water for at least 30 minutes. See a doctor as soon as possible.
- If acid contacts the skin, wash the affected area immediately with plenty of water.
- Avoid chemical burns by not rubbing eyes or skin while working with the battery.
- Be familiar with the location and content of applicable MSDS Sheets.

7.0 TRAINING REQUIREMENTS AND MATERIALS

NCSG shall ensure proper training is provided to employees who are designated responsible to service / maintain batteries
- Recognition of types of batteries (lead-acid, sealed, maintenance-free, etc)
- PPE Equipment specific training
  o Disposable / Reusable Rubber gloves
  o Disposable Coveralls / Aprons
  o Eye / Face Protection to prevent lead-acid / vapors from coming in contact with eye membrane
- NCSG orientation

8.0 RESOURCES

- Alberta OH&S Code Part 36
- Saskatchewan OH&S Regulations Part VI
- Manitoba OH&S Regulations Part 4
- Ontario Fire Protection and Prevention Act, Part 3
- OSHA 1926

May all be used to reference additional information pertaining to Battery Maintenance and Servicing and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Battery Charging and Servicing Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None

10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
- NCSG Code – Personal Protective Equipment – Respiratory Protection
REMEMBER!

- Be WHMIS trained BEFORE starting work
- Know where the MSDS Sheets are located
- READ and UNDERSTAND the hazards of a controlled product BEFORE using
- Know where the Emergency Response PPE is located
- READ and UNDERSTAND the emergency actions of a controlled product BEFORE using
- Understand the hazards and controls for the hazards in your area
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Chemical and Biological Hazards Code to ensure employees and contractors are familiar with and adequately trained in the identification of Hazardous Materials and Substances while operating within NCSG areas of responsibility. This code will aid employees in minimizing the potential risk of exposure to harmful substances.

2.0 SCOPE AND APPLICATION

The correct identification of chemical and biological hazards and the instruction on exposure limits will enable employees to ensure adequate protection. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG when the potential for injury or illness relating to chemical and biological hazards is present.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Chemical and Biological Hazards Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Biological Hazard

A naturally occurring substance that can cause harm. Sources of biological hazards include bacteria, viruses, insects, plants, birds, animals, and humans.

3.2 Chemical Hazard

The release of toxic agents into the atmosphere and environment that can cause harm. Sources of chemical hazards include flammables and combustibles, fumes and dusts.

3.3 Exposure Limit

Extent to which a person may be safely exposed to a hazardous substance without endangering their health.
4.0 EXPECTATIONS

The Chemical and Biological Hazards Code shall provide required and adequate guidelines to ensure knowledge of potential hazards are available to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Chemical and Biological Hazards Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and be aware of chemical and biological hazards that an employee may be in proximity to during the work shift.
- Be aware of and knowledgeable in the use of any personal protective equipment which may be required for the protection against chemical and biological hazards.
- Be responsive, through adequate training, to minimize the risk of exposure to potential chemical and biological hazards.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident, injury or illness to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident, injury or illness to the worker, employees, contractors, or general public within the area.
- Provide, in accordance with NCSG programs, any corrective action or discipline required to ensure compliance with this code and document said action appropriately.
5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Hazards

Chemical and Biological hazards exist in daily NCSG operations. These hazards may be in the form of a Solid, Gas, Liquid, Vapour, Fume, Virus or Bacteria. It is important to understand how a hazard can enter your body and affect your body in order to prevent contact and exposure. It is necessary to assess the hazards related, implementing controls and develop site specific practices.

6.1.1 Routes of Entry

Chemical and biological hazards can enter the body in one of the following ways:

- Inhalation – By breathing in the hazard
- Ingestion – By eating or swallowing the hazard
- Injection – By injecting the hazard into the body
- Absorption – By absorbing the hazard through the skin

6.1.2 Effects on Health

Chemical and biological hazards have the potential to cause adverse health affects. Effects from hazardous substances range from an eye irritation to chronic lung disease and possibly death. They can cause skin irritation through skin contact, asthma after developing an allergy to substances, losing consciousness after being exposed to toxic fumes or vapours, contracting cancer, or infection from bacteria, viruses and other micro-organisms.

The affect that a hazard will have on an individual will depend on:

- the chemical composition of the hazard;
- the physical form of the hazard (dust, vapour, liquid, etc.);
- the route of entry by which the hazard gets into the body. (Some chemicals can enter the body in more than one way. Different health effects can occur depending on the route of entry);
- the particular tissues and organs in which the hazard collects or localizes;
- the frequency, concentration, and length of exposure; and
- the worker’s individual response to the hazard, which can vary a great deal from person to person.
6.2 Exposure

Exposure to hazardous substances must not exceed the 8 hour exposure limit or 15 minute ceiling exposure limit set out by Provincial / State / Federal occupational health and safety regulations.

The Material Safety Data Sheet must be referenced for every chemical substance used, handled and/or stored. A Field Level Risk Assessment must also be conducted prior to commencing work to determine these hazards and allow controls to be put in place.

6.3 Decontamination

When contact or overexposure with a harmful substance occurs, means of decontamination must be available to employees. This includes, but is not limited to:
- Showers;
- Eye wash stations;
- Neutralizing agents.

Contamination to clothing, materials, equipment and the environment must be addressed immediately. When there is a risk for contamination a site specific practice must be developed and communicated to all affected employees.

6.4 Prevention and Control

Prevention of exposure to chemical and biological hazards starts with assessing the area for the types of hazards and the related health risks.

Having established that a health risk exists, control measures need to be selected that eliminate or reduce exposure to acceptable levels. Those measures need to reduce exposure to below the levels where people can be harmed.

Controls may include:
- Eliminating the hazard by removing the substance;
- Substituting the substance for a less harmful one;
- Containing the substance;
- Properly storing and labeling the substance;
- Ventilating the substance;
- Training employees;
- Developing practices or procedures;
- Providing MSDS’s on products and chemicals;
- Personal Protective Equipment

Employers must ensure that the control measures are used and remain effective through regular monitoring and maintenance. Local exhaust ventilation systems, fume cupboards, etc. need to be tested regularly to ensure they continue to work effectively.

All NCSG workers who have the potential to be exposed to chemical or biological hazards at a worksite shall be trained to the emergency response plan and procedures for chemical or biological hazards at that work site.
6.5 Monitoring

An effective way to ensure controls remain effective and in place is to do an inspection of your workplace, noting all chemicals used and the positions of workers, equipment, ventilation, storage areas, etc.

Air monitoring can also tell you what the types of chemicals and what the levels of chemicals are in the workplace. In some cases, monitoring individuals’ exposure and health surveillance techniques will be required.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- PPE Equipment specific training
  - Dust Respirator / PAPR
  - Disposable Rubber or Latex gloves
  - Disposable Coveralls
  - Eye / Face Protection to prevent aerosols from coming in contact with eye membrane
- Workplace Hazardous Materials Information Systems
- Site specific practices
- NCSG Orientation

8.0 RESOURCES

- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – CH007 – WHMIS Information for Workers
- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – CH008 – WHMIS Information for Employers
- Alberta OH&S Code

May all be used to reference additional information pertaining to WHMIS and control methods for minimizing potential exposure and risk.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Routes of Entry Diagram

10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
- NCSG Code – Personal Protective Equipment – Respiratory Protection
- NCSG Code – WHMIS
- NCSG Code – Flammable and Combustible Materials – Handling and Storage
Appendix A

INHALATION
Gases, vapours, dusts and aerosols

INGESTION
Dusts and liquids

Trachea (windpipe)

Nasal passages

Oesophagus (gullet) to stomach

Bronchus

Bronchioles

SKIN ABSORPTION
Spillage of dusts and liquids

Abreoli (air sacs) in lung

NASAL PASSAGES
Nickel and chromium compounds

LUNGS
Ammonia, nitrogen oxides, sulphur dioxide, asbestos and coal dusts

LIVER
Chlorinated hydrocarbons, ethylene chlorohydrin and dioxane

BLADDER
Auramine, benzidine and 2-naphthylamine

SEIN
Detergents, chlorinated hydrocarbons, mineral acids and lubricating mineral oils

BRAIN
Lead, mercury and their compounds

LUNGS AND SKIN
Toluene diisocyanate

KIDNEYS
Mercury compounds and chlorinated hydrocarbons

NERVES
Mercury, cadmium and their compounds

BONE MARROW
Benzene
REMEMBER!

- Layer your clothing
- Check wind speed / direction
- Use the correct PPE (gloves, helmet liners, toques, Insulated Safety Shoes, etc)
- Take frequent WARM UP breaks in cold, extreme and very extreme conditions
- WATCH YOUR BUDDY!!
- Seize work when flesh exposed to -35 °C!
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Cold Related Stress Code to identify the proper level of protection that will assist all employees in performing their tasks effectively and efficiently when operating in a cold climate environment. This code will aid employees in minimizing the risks of exposure and assist in the knowledge of safe work practices.

2.0 SCOPE AND APPLICATION

The guidelines and recommendations are provided to increase awareness of correct control measures to be used by NCSG employees, contractors where there may be potential exposure to equipment, environment and/or conditions of a cold nature. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

The following definitions are specific to Cold Related Stress Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Hypothermia

Hypothermia is a serious medical condition in which the body’s core temperature falls below normal, usually due to prolonged exposure to cold and wet conditions. This condition may also be mistakenly referred to as “EXPOSURE”.

3.2 Frostnip

Symptoms of frostnip begin with pain and redness and progresses toward frostbite with increased pain, pale skin, tingling and numbness. Hands and feet are the most common areas affected by frostnip and frostbite; however, any unprotected skin is susceptible.
3.3 Frostbite

The upper layers of the skin begin to crystallize and become brittle. Frostbite will occur if human skin is unprotected from cold temperatures. The frozen extremity may appear completely white or may be mottled with blue and white patches. Depending on the temperature and degree of wind chill, frostbite can occur in less than 5 minutes.

3.4 Wind Chill

Wind Chill can create more challenges to employees when working outside in extremely cold conditions. As the temperature decreases and the wind speed increases, the wind chill indices increase, thus creating a higher potential for frostbite. High wind chill values can cause rapid freezing of human flesh and often damage to human flesh only takes minutes. Therefore, avoid working outside when high wind chills are present, unless adequate protection to the skin can be provided.

3.5 Dehydration

An abnormal depletion of body fluids. This can occur during cold climate working conditions when an individual perspires due to exertion / additional clothing without replenishing the required fluids in the body.

4.0 EXPECTATIONS

The Cold Related Stress Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to working and exposure in a cold environment which all employees, contractors, visitors and general public within NCSG may become in contact with. The Cold Related Stress Code will be reviewed at a minimum of every three years.

This Code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure when working in a cold related climate / condition.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Immediately inform the Supervisor of any change in climate or weather conditions which may adversely affect the safety of employees, contractors, or general public within the area.
- Ensure that a “buddy system” monitoring process is exercised if required to minimize the risk of exposure to employees during the course of work activities.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure, appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.
- Ensure if required due to climate / weather conditions that adequate work / rest periods are monitored and maintained to ensure the safety of all employees, contractors, visitors within NCSG areas of operation or active worksites.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
• Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

• Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
• Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Adequate / Appropriate Clothing

Risk of hypothermia and frostbite may be minimized by the proper use of clothing designed to work in cold climate conditions. Dress in layers for maximum heat retention and temperature adjustability. Wear clothing that is designed for cold weather and layering (don’t just layer a bunch of t-shirts). Use a toque or hard hat liner to prevent significant losses of body heat.

Always have the appropriate cold weather clothing available – weather changes are frequent and often unexpected. Keep cold weather clothing as dry as possible. If extra clothing must be stored outside, use a dry-bag or a plastic bag lined backpack.

The clothing that you wear when working hard in cold weather is important to select carefully. Clothing that does not dissipate heat and vapor can cause you to get wet from the inside-out and when you slow down, you are likely to get quite cold. Recommended types of clothing and their beneficial properties are outlined in the Appendices.

6.2 Recognition of Frostnip / Frostbite / Hypothermia

Exposed extremities of the body will normally become affected first. The fingers, toes, nose, cheeks, ear tips usually feel cold and can begin with pain and redness and progresses toward frostbite with increased pain, pale skin, tingling and numbness. The frozen extremity may appear completely white or may be mottled with blue and white patches.

A drop in the body’s core temperature may result in the initial stages of hypothermia starting. Shivering is the body’s way of warning that it needs to be warmed-up. If addressed and corrected early through warm-up breaks and adequate clothing, hypothermia may be averted, however, if left to continue through moderate and severe stages of the condition, unconsciousness and death may occur.

6.3 Prevention Practices

Job safety analysis, task analysis, and field level risk assessment shall be used to determine the level of PPE that may be required to minimize exposure. Consideration shall be taken by all levels of employees regarding:
• length of exposure,
• type of work,
• wind speed factors,
• equipment worked on / with,
• and warm-up break periods to be used.

The established PPE and schedules relating to cold related stress factors shall be considered the minimum acceptable level for NCSG employees, contractors, visitors and general public, while at the work site. Conditions shall be monitored regularly to ensure any changes are identified and compensated for as required.

The Wind Chill index shall be consulted as required to ensure that employee safety is maintained during adverse conditions. Copies of the Wind Chill Index shall be available to all levels of employees to assist in the monitoring of any climate changes.

6.4 Application of Wind Chill Index

The wind chill factor is a rate of cooling based on the combined effects of wind and low temperature. It will indicate how fast a human body will cool under certain combinations of wind and temperature. The real hazard with wind chill is that heat will be drawn away from your skin faster than the body can replace it. This may lead to frostbite or worse.

Company Standard Operating Procedures will further define additional levels of PPE requirements and warm – up schedules in conjunction with understanding the Wind chill index. The Wind Chill index shall be used as a minimum guideline and all employees are responsible to use additional caution and monitoring skills to identify changes in climate work environments.

6.4.1 Temperature Guidelines

Low Wind Chill Factors: 0 to -10 Degrees Celsius

• Conditions are slightly uncomfortable for outdoor activity. Dress Warmly. Winter clothing is recommended, including hat, gloves and dry insulating under clothing.

Moderate Wind Chill Factors: -10 to -25 Degrees Celsius

• Cold on exposed skin. Conditions can be comfortable for outdoor activity on sunny days. Hat, gloves and layered dry insulating clothing is a necessity. Risk of hypothermia over prolonged periods.

Cold Wind Chill Factors: -25 to -45 Degrees Celsius

• Important to keep active. Cover all skin. Take frequent warm up breaks. Frostbite is possible on exposed skin over short periods of time so check frequently. Risk of hypothermia over prolonged periods.

Extreme Wind Chill Factors: -45 to -59 Degrees Celsius

Very uncomfortable. Outdoor activity should be limited to short periods. Cover all exposed skin. Dress in layers. Limit outdoor activities to short periods. Exposed skin freezes in minutes. Serious risk of hypothermia over prolonged periods.

Very Extreme Cold Wind Chill Factors: -60 Degrees and Colder
• Outdoor conditions are hazardous. Exposed skin will freeze in 2 minutes. Stay indoors.

In addition to the Wind Chill Index, assessment of the following must be considered when determining warm-up breaks and PPE Selection:

• individual workers activities,
• physical condition,
• age,
• weight,
• fitness level
• fatigue
• a worker’s use of medication(s)
• consumption of alcohol or use of nicotine

7.0 TRAINING REQUIREMENTS AND MATERIALS

• PPE Equipment specific training
  o Cold Climate / Outer Garment material
  o Layering and Selection of Correct
• NCSG Orientation
• First Aid – Hypothermia Recognition / Treatment

8.0 RESOURCES

• Alberta OH&S Code Part 2
• BC OH&S Code Part 4
• Saskatchewan OH&S Regulation Part III
• Manitoba OH&S Regulations Part 4
• Ontario OH&S Act Reg. 854, Part IV
• Ontario Weather Page
• Alberta Employment and Immigration – Workplace Health & Safety Bulletins – MG021
  General Safety

May all be used to reference additional information pertaining to Cold Related Stress and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Cold Related Stress Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

• Appendix A – Sample of Articles of Clothing
• Appendix B – Threshold Limit Values Wind Chill Chart
• Appendix C – Threshold Limit Values work/warm up schedule for four hour shift
• Appendix D – Signs & Symptoms of Hypothermia
### Appendix A

<table>
<thead>
<tr>
<th>Article of Clothing</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polypropylene long underwear bottoms</td>
<td>A good foundation for many types of weather. Wear with shorts and gaiters for a good versatile set-up.</td>
</tr>
<tr>
<td>Long shorts, etc.</td>
<td>Any breathable pant configuration will help you keep warm but manage for heat and water vapor.</td>
</tr>
<tr>
<td>Long sleeve polypropylene shirt</td>
<td>A great foundation. Breathes very well and does not retain moisture.</td>
</tr>
<tr>
<td>Light fleece vest</td>
<td>Helps keep the core temperature up without impeding movement. Fleece breathes very well unless it is of the Wind stopper variety.</td>
</tr>
<tr>
<td>Windbreaker</td>
<td>Can be put on when a breeze or wind makes your polypropylene and fleece ineffective. Wind breakers with pit zips can be great for heat management.</td>
</tr>
<tr>
<td>Warm fleece jacket or sweater</td>
<td>For when it gets colder or your other clothing gets wet.</td>
</tr>
<tr>
<td>Rain gear (pants and jacket)</td>
<td>For the really wet days.</td>
</tr>
<tr>
<td>Toque / Helmut Liner</td>
<td>A great heat saver that can be easily removed and stored elsewhere on your body until needed.</td>
</tr>
</tbody>
</table>
### Wind Chill Chart

<table>
<thead>
<tr>
<th>Wind km/h</th>
<th>Velocity mph</th>
<th>Ambient Temperature (°C)</th>
<th>Equivalent Chill Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calm</td>
<td></td>
<td>4</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>5</td>
<td>-3</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>10</td>
<td>-8</td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>15</td>
<td>-12</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>20</td>
<td>-16</td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>25</td>
<td>-20</td>
</tr>
<tr>
<td></td>
<td>48</td>
<td>30</td>
<td>-24</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>35</td>
<td>-28</td>
</tr>
<tr>
<td></td>
<td>64</td>
<td>40</td>
<td>-32</td>
</tr>
</tbody>
</table>

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

- **Little danger** in less than one hour exposure of dry skin
- **DANGER** – Exposed flesh freezes within one minute
- **GREAT DANGER** – Flesh may freeze within 30 seconds

Maximum danger of false sense of security.
## COLD STRESS CODE

### Appendix C

#### Threshold Limit Values Work/Warm-Up Schedule for Four-Hour Shift*

<table>
<thead>
<tr>
<th>Air Temperature Sunny Sky</th>
<th>No Noticeable Wind</th>
<th>5 mph Wind</th>
<th>10 mph Wind</th>
<th>15 mph Wind</th>
<th>20 mph Wind</th>
</tr>
</thead>
<tbody>
<tr>
<td>°C (approx)</td>
<td>°F (approx)</td>
<td>Max. Work Period</td>
<td>No. of Breaks</td>
<td>Max. Work Period</td>
<td>No. of Breaks</td>
</tr>
<tr>
<td>-26°C to -28°C</td>
<td>-15°C to -19°C</td>
<td>(Norm breaks) 1</td>
<td>75 min.</td>
<td>2</td>
<td>55 min.</td>
</tr>
<tr>
<td>-29°C to -31°C</td>
<td>-20°C to -24°C</td>
<td>(Norm breaks) 1</td>
<td>75 min.</td>
<td>2</td>
<td>55 min.</td>
</tr>
<tr>
<td>-32°C to -34°C</td>
<td>-25°C to -29°C</td>
<td>75 min.</td>
<td>2</td>
<td>55 min.</td>
<td>3</td>
</tr>
<tr>
<td>-35°C to -37°C</td>
<td>-30°C to -34°C</td>
<td>55 min.</td>
<td>3</td>
<td>40 min.</td>
<td>4</td>
</tr>
<tr>
<td>-38°C to -39°C</td>
<td>-35°C to -39°C</td>
<td>40 min.</td>
<td>4</td>
<td>30 min.</td>
<td>5</td>
</tr>
<tr>
<td>-40°C to -42°C</td>
<td>-40°C to -44°C</td>
<td>30 min.</td>
<td>5</td>
<td>Non-emergency work should cease</td>
<td></td>
</tr>
<tr>
<td>-43°C to below</td>
<td>-45°C &amp; below</td>
<td>Non-emergency work should cease</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D

**Signs and Symptoms of Hypothermia:**

**Mild hypothermia (98 - 90° F)**
- Shivering
- Lack of coordination, stumbling, fumbling hands
- Slurred speech
- Memory loss
- Pale, cold skin

**Moderate hypothermia (90 - 86° F)**
- Shivering stops
- Unable to walk or stand
- Confused and irrational

**Severe hypothermia (86 - 78° F)**
- Severe muscle stiffness
- Very sleepy or unconscious
- Ice cold skin
- Death
REMEMBER!

- Cylinders must never be dragged, pushed, or pulled across the floor.
- Transport cylinders weighing more than a total of 40 pounds (18.2 kg) shall be on a hand or motorized truck and be secured to prevent them from falling.
- Keep the cylinders clean and protect them from damage.
- Do not drop cylinders or allow them to strike each other violently.
- Do not tamper with safety devices in valves or on cylinders.
- Consult the supplier of the gas when in doubt about the proper handling of a compressed gas cylinder or its contents.
- Always consider cylinders to be full and handle them with corresponding care.
- Securely support compressed gas cylinders at all times. Cylinders must not be left “free-standing” at anytime, e.g., cylinders unloaded from truck to loading dock must be secured until placed on a hand truck for delivery within the building.
- Never place cylinders where they might become part of an electrical circuit.
- Do not re-paint cylinders.
- Never use a flame to detect flammable gas leaks. Only use soapy water.
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Compressed Gas Cylinder Code to provide general guidance for the protection against a potential injury / damage to employees, contractors, and the public / property in the use, handling, transport and storage of compressed gases while operating within the areas of responsibility of NCSG.

2.0 SCOPE AND APPLICATION

The correct storage of compressed gas cylinders is essential in maintaining a safe work environment. Compressed gas cylinders are typically stored under pressure in metal cylinders, which are designed and constructed to withstand high pressure. Improper handling and use of compressed gas cylinders can result in devastating consequences. The understanding of proper procedures will enable employees to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Compressed Gas Cylinder Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.
3.1 Compressed Gas (Non liquefied)

A gas, other than a gas in solution, which under the charging pressure is entirely gaseous at a temperature of 70°F.

3.2 Cylinder

A portable compressed gas container, fabricated to Transport Canada (TC) or the “Rules for the Construction of Unfired Pressure Vessels,” Section VIII, ASME *Boiler & Pressure Vessel Code*.

3.3 Flammable Gas

A gas that is flammable in a mixture of 13 percent or less (by volume) with air, or the flammable range with air is wider than 12 percent regardless of the lower limit, at atmospheric temperature and pressure.

3.4 Handling

The moving, connecting, or disconnecting a compressed or liquefied gas cylinder.

3.5 Inside Diameter (I.D.)

Inside cylinder diameter.

3.6 Liquefied Gas

A gas, which under charging pressure, is partially liquid at a temperature of 20°C (70°F).

3.7 Non-flammable Gas

A gas that does not meet the definition of a flammable gas.

3.8 Outside Diameter (O.D.)

Outside cylinder diameter.

3.9 Oxidizing Gas

A gas that can support and accelerate combustion of other materials.

3.10 Safety Relief Device

A device intended to prevent rupture on a cylinder under certain conditions of exposure.

3.11 Standard Cubic Foot (SCF)

One cubic foot of gas at 70°F (21°C) and 14.7 psi (an absolute pressure of 101 kilopascals [kPa]).

3.12 Storage

An inventory of compressed or liquefied gases in containers that are not in the process of being examined, serviced, refilled, loaded, or unloaded.
3.13 Toxic Gas

A gas having a health hazard rating of 3 or 4 defined in NFPA 704, *Standard System for the Identification of the Fire Hazards of Materials*.

3.14 Use

The consumption of a compressed or liquefied gas in a non recoverable manner.

3.15 User

An individual, group, or organization who utilizes the compressed or liquefied gas in a non recoverable manner.

3.16 Valve Protection Device

A device attached to the neck ring or body of the cylinder for the purpose of protecting the cylinder valve from being struck or damaged from impact resulting from a fall or an object striking the cylinder.

3.17 Valve Protective Cap

A rigid, removable cover provided for compressed gas container valve protection.

4.0 EXPECTATIONS

The Compressed Gas Cylinder Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Compressed Gas Cylinder Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments, which may be prone to injury from compressed gas cylinders.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Ensure that workers are adequately and competently trained in the use, handling and storage of compressed gas cylinders.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Work in conjunction with NCSG Operations to ensure that all newly purchased compressed gas cylinders; equipment and supplies comply with current safety regulations in accordance with the applicable legislative direction.
- Amend and maintain this code within the defined review period.
6.0 METHOD

6.1 Types of Gas Cylinders

- NCSG worksites may have a variety of gases contained in compressed gas cylinders. These gas cylinders fall into the following categories:
  - Flammable
  - Toxic and Poison
  - Liquid
  - Inert

6.2 Inspection

- Compressed gas cylinders shall be visually inspected daily for leaks, cracks, etc. or prior to use at the beginning of each shift.
- This visual inspection will include but is not limited to:
  - the cylinder,
  - adequate marking identifying legibly either the chemical or trade name of the gas
  - safety relief devices,
  - valves,
  - fittings,
  - protection caps and stems.
- If a cylinder is thought to be defective, it shall be tagged out and returned to the supplier for replacement.
- Under no circumstances will NCSG employees / contractors attempt to repair defective cylinders.
- Gauges shall be checked to ensure that the gas under pressure is not left in hoses when operations are completed.
- NCSG shall ensure that all compressed gas cylinders shall be pressure tested in accordance with the manufacturer’s specification or current legislation and that the results of testing and the date of the test shall affixed to the cylinder for confirmation.

6.3 Marking

- For the purpose of identifying the gas content, compressed gas cylinders shall be legibly marked with either the chemical or trade name of the gas.
- NCSG shall ensure such marking shall be by means of stencilling, stamping, or labelling, and shall not be easily removed.
- Whenever practical, the marking shall be on the shoulder of the cylinder for easy identification.

6.4 Transportation

- NCSG shall ensure the transporting of gas cylinders is completed in a careful and appropriate manner utilizing all precautions as necessary. These considerations and precautions shall include but are not limited to the following:
- Motor vehicle transport of cylinders:
  - Motor vehicle transport of cylinders shall only be done with vehicles equipped with racks or other means of securing the cylinders.
  - Cylinders containing liquefied hydrogen or toxic gases shall be transported in open body vehicles.
  - NCSG vehicles shall not be used to transport cylinders without an adequate valve protection device in place on all cylinders.
**HEALTH, SAFETY & ENVIRONMENT**

**COMPRESSED GAS CYLINDERS CODE**

- Flammable gas and oxidizer cylinders:
  - Shall not be transported together, or with poisons or corrosives.
  - Of oxygen and acetylene cylinders may be transported together if:
    I. The cylinders are transported in the rear truck bed below the cab level
    II. A roll bar is installed over the rear truck bed to prevent the cylinders; from falling out of the truck bed in the event of the vehicle overturning.

- Hand truck (dolly) transport of cylinders:
  - Shall be used for the transfer of compressed gas cylinders from loading / storage area to shop
  - Shall ensure the cylinder is secured in a manner that will prevent tipping or falling

- General cylinder transport precautions:
  - Cylinders have the valve protection cover in place while being transported
  - Cylinders are not to be rolled or lifted by the valve or valve cap for moving
  - Cylinders that are dropped during transit will be taken out of service and returned to the supplier for inspection
  - Cylinders will be securely supported at all times during transport

- Smoking is prohibited during loading, unloading, and hand transportation of flammable gas cylinders

### 6.5 Storage

- The storage of compressed gas cylinders requires some basic precautions and guidelines as detailed in Appendix A, B, and C.
  - General cylinder storage precautions
  - Specific gas cylinder storage guidelines
  - Cylinder storage room guidelines

### 7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG employees / contractors who use and handle compressed gas cylinders shall be trained before any work is to be conducted on the work site.
- NCSG employees / contractors shall be trained in the safe use, inspection, handling, and storage of compressed gas cylinders.
- Refresher training shall be provided through regular scheduled programming as detailed by the Health, Safety, and Environment Team.
- PPE Equipment specific training
  - General Purpose Non-Slip Work Gloves
  - Disposable Coveralls
  - Eye / Face Protection to prevent accidental discharge material from coming in contact with eye membrane
- NCSG orientation

### 8.0 RESOURCES

- Alberta OH&S Code Part 10
- BC OHS Regulations Part 5
- Saskatchewan OH&S Regulations Part XIX
- Manitoba OH&S Regulations Part 27
- OSHA 1926
May all be used to reference additional information pertaining to compressed gas cylinders and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Compressed Gas Cylinder Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – General Cylinder Storage Precautions
- Appendix B – Specific Gas Cylinder Storage Guidelines
- Appendix C – Cylinder Storage Room Guidelines
- Appendix D – Safe Handling Guidelines

10.0 SUPPORTING DOCUMENTS

- None
Appendix A

NCSG General Cylinder Storage Precautions include:

- Cylinders shall be secured in an upright position in a safe, dry, well ventilated location, prepared and designated for that purpose.
- Cylinders shall not be kept in unventilated enclosures such as lockers.
- Cylinders shall be stored in a separate location away from flammable substances, such as oil and volatile liquids or near sources of heat, such as radiators or furnaces.
- Cylinders shall not be stored near elevators, gangways, stairwells, or other places where they can easily be knocked down or damaged.
- Cylinders shall be stored on a level fire retardant floor.
- Cylinders that are stored in the open shall be protected from contact with the ground and against weather extremes.
- Cylinder storage and receiving shall be planned so that cylinders are used in the order that they are received from the supplier.
- Empty and full cylinders shall be stored separately, with empty cylinders being plainly identified to avoid confusion.
- Empty cylinders shall be grouped together in a manner that items that have held the same contents are identified appropriately.
Appendix B

Specific Gas Cylinder Storage

This Appendix includes additional precautions and guidelines for oxygen, hydrogen, and acetylene and liquefied fuel gas cylinders.

**Oxygen**
- Cylinders shall not be stored where reasonable practicable, within 6 metres of highly combustible materials, oil, grease, wood shavings, or cylinders containing flammable gases.
- If a requirement exists to be closer than 6 metres, cylinders shall be separated by a divider with a fire resistance rating of at least 30 minutes.

**Hydrogen**
- Cylinder storage locations shall have a permanent placard as follows: "HYDROGEN-FLAMMABLE GAS-NO SMOKING-NO OPEN FLAMES," or equivalent (see Hazard Communication Signage Code).

**Acetylene and liquefied fuel gas**
- Cylinders shall be stored with the valve end up.
- If storage is within 30.5 metres of each other and not protected by automatic sprinklers, the total capacity of acetylene cylinders stored and used inside the building should be limited as detailed in applicable legislative regulations.
- Acetylene storage areas shall be well ventilated and open flames shall be prohibited.
- Acetylene storage rooms shall not be stored with other compressed gases not specified within this code.
Appendix C

Cylinder Storage Room Guidelines:

- Storage rooms for cylinders containing flammable gases shall be well ventilated to prevent the accumulation of explosive concentrations of gas.
- No ignition sources shall be permitted within 30 metres.
- "No Smoking" shall be marked as identified in the Hazard Communication Signage Code and shall be prohibited within 30 metres.
- All permanent wiring located in conduit and be in accordance with NFPA and applicable legislative regulations.
- Electric lights (portable and fixed) shall be equipped with guards to prevent breakage.
- Electric switches shall be located outside the room.
Appendix D

Compressed Gas Cylinders Safe Handling Guidelines

- Do not remove or change the marks and numbers stamped on the cylinders.
- Cylinders must never be dragged, pushed, or pulled across the floor.
- Transport cylinders weighing more than a total of 40 pounds (18.2 kg) shall be on a hand or motorized truck and be secured to prevent them from falling.
- Keep the cylinders clean and protect them from damage.
- Do not lift compressed gas cylinders with an electromagnet. Where cylinders must be handled by a crane or derrick, as on construction jobs, carry them in a cradle or suitable platform and take extreme care that they are not dropped or bumped. Do not use slings.
- Do not drop cylinders or allow them to strike each other violently.
- Do not use cylinders for rollers, supports, or any purpose other than to contain gas.
- Do not tamper with safety devices in valves or on cylinders.
- Consult the supplier of the gas when in doubt about the proper handling of a compressed gas cylinder or its contents.
- Clearly write EMPTY in chalk or non permanent marker on empty cylinders that are to be returned to the vendor.
- Close cylinder valves and replace valve protection caps, if the cylinder is designed to accept a cap.
- Load cylinders to be transported to allow as little movement as possible. Secure them to prevent violent contact or upsetting.
- Always consider cylinders to be full and handle them with corresponding care.
- Securely support compressed gas cylinders at all times. Cylinders must not be left "free-standing" at anytime, e.g., cylinders unloaded from truck to loading dock must be secured until placed on a hand truck for delivery within the building.
- Compressed gas cylinders shall never be subjected to a temperature above 125°F.
- Never place cylinders where they might become part of an electrical circuit.
- Do not re-paint cylinders.
- Never use a flame to detect flammable gas leaks. Only use soapy water.
REMEMBER!

- Wear appropriate PPE – Footwear / Non Conductive Gloves / Headgear
- Use caution in wet or damp environments
- Always check electrical cords / plugs for damage PRIOR to use
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed an Electrical Safety Code to identify the proper level of protection against a potential injury / damage to employees, contractors, and the public / property regarding the potential exposure to while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The variety of potential hazards relating to electrical incidents include unsafe conditions, unsafe acts, unsafe electric equipment and installations, presence of damaged insulation, improper grounding, loose connections, defective parts, ground faults in equipment, or energized parts left unguarded. Electrical accidents may occur in environments containing flammable vapours, liquids, or gases; areas containing a corrosive atmosphere and wet and damp locations. Failure to de-energize electrical equipment when it is being repaired or inspected, the intentional removal of grounding pins from electrical cords, the use of defective and unsafe electrically powered tools, or the use of tools or equipment to close to energized parts all contribute to electrical hazards.

Many of these issues are addressed in individual Company Codes and are stipulated in Company Standard Operating Procedures, which are to be read in support of this code. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Electrical Safety Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Classified Location / Hazardous Locations

Locations that are classified based on the presence and properties of flammable vapors, liquids or gases, combustible dust or fibres which may be present and the likelihood that a combustible or flammable concentration or quantity is present.
NCSG shall in case where electrical equipment is to be installed in what are deemed Hazardous locals conduct an assessment of the hazards present and ensure the necessary precautions are implemented prior to the installation of the electrical equipment. NCSG shall ensure where there is a gas, dust, vapour or mist that will present a hazard that the electrical equipment installed will not present an additional hazard and shall be rated for use in that environment.

3.2 Electrical Hazards / Shock / Flash Protection

Any risk of electrical shock that is not reduced to a safe level by the electrical installation.

In accordance with the National Building Code, NCSG shall ensure that all operating electrical equipment shall be kept in safe and proper working conditions and maintained in accordance with the manufactures published standard.

In accordance with the National Building Code NCSG shall ensure that all electrical equipment such as switchboards, control panels, panel boards, industrial control panels, meter sockets, enclosures and motor control devices shall be designed, installed and serviced with provisions to protect employees from electrical shocks or arc flashes.

3.3 Exposed

Part of any electrical circuit that is capable of being inadvertently touched or having an unsafe approach distance for an individual.

3.4 Flammable Storage / materials / Combustible Gases

In accordance with the National Building Code and Fire Code, NCSG shall ensure that no flammable materials shall be located or stored in close proximity to electrical equipment. The minimal distance between flammable materials and an electrical device or equipment shall be 3 meters.

In accordance with the National Building Code NCSG shall ensure that no combustible Gases are located or stored near any electrical devices where there is a potential for static electric shock or arcing from the equipment to the combustible gas.

3.5 Accessibility for Maintenance

In accordance with the National Building Code NCSG shall ensure that all installed electrical equipment in all NCSG worksites shall be located to ensure that passage ways, working spaces, storage areas are not limited or obstructed by those devices. NCSG shall also ensure that all electrical equipment is installed in such a manner as to facilitate maintenance of that equipment in such a manner that does not put any worker at risk.

3.6 Effective Grounding

A conducting connection, whether intentional or accidental, between an electrical circuit or equipment and the earth, or to some conducting body that serves in place of the earth. All grounding connections shall be of permanent and continuous nature and shall have the capacity to conduct the suitable level of amperage safely.
3.7 Illumination / Ventilation

NCSG shall ensure that all electrical equipment will be illuminated in such a manner as to facilitate maintenance work on the equipment in a safe manner.

NCSG shall ensure that adequate ventilation is maintained around any electrical equipment and or device where the must be a specific ambient temperature or other environmental operating conditions. An example of such a condition is the ambient temperatures for location and operations of computer servers or other information technology devices.

3.8 Ground-Fault Circuit-Interrupter (GFCI)

A device whose function is to monitor the amount of current flowing from the hot wire to the neutral wire and if there is any imbalance, to trip (interrupt) the electric circuit if the current exceeds some predetermined value that is less than that required to trigger the fuse or circuit breaker.

3.9 Qualified Person

Those persons who are permitted to work on or near exposed energized parts and are trained in electrical safe work practices.

3.10 Wet Location

Installations underground or in concrete slabs or masonry in direct contact with the earth, and locations subject to saturation with water or other liquids; such as vehicle washing areas, vehicle service areas, and locations unprotected and exposed to weather

4.0 EXPECTATIONS

The Electrical Safety Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Electrical Safety Code shall be read in conjunction with NCSG codes which apply to specific areas of responsibility. The Electrical Safety Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees
It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to electrical hazards outlined in the Electrical Safety code.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Treat deenergized parts or equipment as though they are live.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.
HEALTH, SAFETY & ENVIRONMENT

ELECTRICAL SAFETY CODE

6.0 METHOD

6.1 Identification of Hazardous Locations

- Portable electric equipment and flexible cords used in highly conductive work locations, or in job locations where employees are likely to contact water or conductive liquids, shall be approved by the manufacturer for those locations.
- NCSG shall use Company Standard Operating Procedures and FLRA’s to establish hazardous locations that employees, contractors, visitors and the general public shall be made aware of include, wet locations and locations where combustible or flammable atmospheres are present.
- Employees / contractors shall not plug or unplug energized equipment with wet hands.
- Energized plug and receptacle connections shall be handled only with protective equipment if the condition could provide a conductive path to the employee's hand (if, for example, a cord connector is wet from being immersed in water).
- NCSG shall ensure that where the use of GFCI protection is required for some equipment/locations, it shall be made available and be used.
- For combustible/flammable atmospheres, all electric equipment and wiring systems in classified locations must meet The Canadian Electric Code requirements for that particular classification and jurisdiction. See Appendix A for definitions of Classified Locations.

6.2 Portable Electric Equipment

- All portable electric equipment will be handled in such a manner that will not damage or reduce service life.
- Flexible cords connected to equipment may not be used for raising or lowering equipment and will not be used if damage to the outer insulation is present.
- Additionally, to ensure the safety of employees, periodic and pre-use visual inspections of the cords are required and unauthorized alterations of the grounding protection are not authorized. (See Power Tools Code)
- Prior to each shift, a visual inspection will be performed for external defects and for possible internal damage. See Power Tools Code)
- Attachment or adapter (cheater) plugs and receptacles shall not be used or altered which would prevent proper continuity of the equipment grounding conductor.
- In addition, these devices may not be altered to allow the grounding pin of the equipment's plug to be bypassed; thereby removing the grounding pins desired safety function.

6.3 Safety Related Work Practices

- Company Standard Operating Procedures, FLRA’s and JSA’s shall be used to determine the potential of and the prevention of electric shock or other injuries resulting from either direct or indirect electrical contacts.
- Company Standard Operating Procedures, FLRA’s and JSA’s shall be consistent with the nature and extent of the associated electrical hazards.
- Utilize the Hazardous Energy Issolation Code when applicable.

6.4 Emergency Response

- To reduce the probability of fire from an electrical component or in an electrical installation NCSG shall employ fire stopped partitions, floors, hollow spaces, firewalls and limited ventilation or air conditioning where applicable under the National Building Code.
• In accordance with the National Building Code, NCSG shall ensure that all electrical equipment shall be installed and guarded so that adequate provisions for the safety of persons and property is in place.

6.5 Personal Protective Equipment

Employees working in areas where there are potential electrical hazards shall be provided with and use protective equipment that is appropriate for the work to be performed. Workers shall not wear conductive apparel unless the item(s) have been rendered non-conductive by covering, wrapping or other effective means.

Examples of Personal Protective Equipment (PPE) which might be needed for protection against electric shock include, but are not limited to:
• Nonconductive hard-hats, gloves, and foot protection or insulating mats,
• Portable Ladders shall have nonconductive side rails
• Eye and face protection whenever there is danger from electric arcs or flashes,
• Insulated tools or handling equipment,
• Protective shields and barriers to protect against electrical shock and burn.
• Additionally, alternative solutions to protect employees from the hazards of electric shock may be implemented as identified through Company Standard Operating Procedures as applicable, including insulation and the guarding of live parts.

6.6 Labels, Signs, and Markings

Barricades, safety signs, safety symbols, or accident prevention tags (see below) shall be used where necessary to warn and protect employees, contractors, visitors and the general public from contact with electrical hazards.

Electrical equipment shall not be used unless the manufacturer's name, trademark, or other descriptive marking is placed on the equipment. Other markings shall be provided giving voltage, current, or wattage. The marking shall be of sufficient durability to withstand the environment involved.

7.0 TRAINING REQUIREMENTS AND MATERIALS

• NCSG shall ensure that designated and competent employees are responsible to ensure that employees / contractors have received the training necessary to safely perform the tasks and duties assigned.
• Employees shall be trained in specific hazards associated with their potential exposure. This training may include but is not limited to:
  o isolation of energy,
  o hazard identification,
  o premises wiring,
  o connection to supply,
  o generation, transmission,
  o distribution installations,
clearance distances, and
emergency procedures.

- Qualified Persons shall, at a minimum, be trained in and be familiar with:
  - The skills and techniques necessary to distinguish exposed live (energized) parts from other parts of electric equipment.
  - The skills and techniques necessary to determine the nominal voltage of exposed live (energized) parts.
  - The clearance distances specified in Appendix A and the corresponding voltage to which the qualified person will be exposed.
- PPE Equipment specific training – Non Conductive PPE
- NCSG orientation

8.0 RESOURCES

- National Building Code
- National Fire Code
- NFPA 70E
- OSHA 1920
- OSHA 1926
- Alberta OH&S Code Part 40
- British Columbia OH&S Code Part 19
- Saskatchewan OH&S Regulations Part XXX
- Manitoba OH&S Regulations Part 38
- CSA C22.1-06 Canadian Electric Code, Part 1, Safety Standard For Electrical Installations

NCSG understands that there may be questions and concerns regarding the Electrical Safety Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Classifications of Location

10.0 SUPPORTING DOCUMENTS

- None
Classified Locations

Class I Locations

Locations which flammable gases or vapours are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures. Class I locations include the following:

Class I, Division 1:
Those locations in which hazardous concentrations of flammable gases or vapours may exist under normal operating conditions; or in which hazardous concentrations of such gases and vapours may exist frequently because of repair or maintenance operations or because of leakage; or in which breakdown or faulty operation of equipment or processes might release hazardous concentrations of flammable gases or vapours, and might also cause simultaneous failure of electric equipment. Those locations in which volatile flammable liquids or flammable gases are handled, processed, or used, but in which the hazardous liquids, vapours, or gases will normally be confined within closed containers or closed systems from which they can escape only in case of accidental rupture or breakdown of such containers or systems, or in case of abnormal operation of equipment.

Class II Locations

Locations which are hazardous because of the presence of combustible dusts. Class II locations include the following:

Class II, Division 1:
Those locations in which combustible dust is or may be in suspension in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures; or where mechanical failure or abnormal operation of machinery or equipment might cause such explosive or ignitable mixtures to be produced, and might also provide a source of ignition through simultaneous failure of electric equipment, operation of protection devices, or from other causes; or in which combustible dusts of an electrically conductive nature may be present.

Class II, Division 2:
Those locations in which combustible dust will not normally be in suspension in the air in quantities sufficient to produce explosive or ignitable mixtures, and dust accumulations are normally insufficient to interfere with the normal operation of electrical equipment or other apparatus.

Class III Locations

Locations that are hazardous because of the presence of easily ignitable fibres or flyings but where such fibres or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures. Class III locations include the following:

Class III, Division 1:
Those locations in which easily ignitable fibres or materials producing combustible flyings are handled, manufactured, or used.

Class III, Division 2:
Those locations in which easily ignitable fibres are stored or handled, except in the manufacture process.
REMEMBER!

- The machine guard must prevent hands, arms, or any other part of the employee's body from making contact with dangerous moving parts.
- Ensure guards are not easily tampered with.
- Check for possible falling objects which may strike moving parts of machine.
- Ensure machine guard DOES NOT create a new hazard.
- Lockout machine if maintenance is required.
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed an Equipment Guarding Code to identify the proper level of protection against a potential injury / damage to employees, contractors and the public / property while working near machines with hazardous moving parts.

2.0 SCOPE AND APPLICATION

There are a wide variety of mechanical motions and actions on machines, which may present hazards to NCSG employees, contractors, visitors and the general public. These can include movement of rotating members, reciprocating arms, moving belts, meshing gears, cutting teeth, and any part that may impact or shear. This code shall provide guidelines for safeguarding and recognizing mechanical hazards due to dangerous moving parts. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Equipment Guarding Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Electrical Guard

Electronic means of protection provided to protect employees from electrical components or accidental equipment start-up.

3.2 Guard

An enclosure designed to protect employees from rotating or moving mechanical parts. All Guards designed for use with NCSG equipment shall be designed based on the location of openings and the estimated reach distance to the hazard being controlled in accordance to CSA Standard Z432-94, Safeguarding of Machinery or the applicable ASME Standard.
3.3 Kickback Device

Any device that protects the operator from equipment throwing the work back towards the operator.

3.4 Portable

Hand-held operated.

3.5 Shield

An enclosure or barrier designed to protect employees from processes involving the possibility of disintegrating machine parts or parts being ground upon, pressed, or struck.

3.6 Point of Operation

A point where work is performed on the material.

3.7 Power transmission components

Parts of the mechanical system that transmits energy to the part of a machine performing the work

4.0 EXPECTATIONS

The Equipment Guarding Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Equipment Guarding Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:
- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments, which may be prone to injury due to failure of equipment guarding.
5.2  Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3  Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4  Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5  Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0  METHOD

6.1  Identification of Equipment Guarding Hazard Environment

- A requirement for equipment guarding can be identified in the following types of equipment. The list is not exhaustive and NCSG employees / contractors shall endeavour to continually be familiar with any new equipment and guarding applications which may be introduced to the work site.
  - Concrete Circular Saws
  - Woodworking Machines (Circular, Radial, Mitre saw)
  - Power Presses (Drill Presses)
  - Metal Working Machines
  - Abrasive Wheel Machines (Grinders)
HEALTH, SAFETY & ENVIRONMENT

EQUIPMENT GUARDING CODE

- Pulleys (on machinery, equipment)
- Sprockets (on machinery, equipment)
- Chains (on machinery, equipment)
- Machinery Belts
- Flywheels (on machinery, equipment)
- Hand and Portable Power Tools
- All classes of mechanized field equipment.
- Any employee who is exposed to mechanical hazards due to a machine's moving parts, including machine operators and maintenance and equipment repair personnel.

6.2 Recognizing Where Equipment Guarding Hazards Occur

- In conjunction with FLRA's and Company Standard Operating Procedures, NCSG shall identify areas that require machine guarding. These may include but are not limited to:
  - Point of Operation – Examples of the point of operation may be seen as cutting, shaping, boring, or forming of stock
  - Power Transmission Components – Examples of the Power transmission component may be seen as flywheels, pulleys, belts, connecting rods, couplings, cams, spindles, chains, crank, and gears
  - Other Moving Parts – may include but are not limited to parts which move while the machine is in operation (e.g. reciprocating, rotating, and transverse moving parts, as well as feed mechanisms and auxiliary parts of the machine.)
  - No operator shall start any guarded equipment without first ensuring that starting the equipment shall not endanger themselves or any other worker.

6.2.1 Contact with Tools, Equipment and Machinery

- NCSG shall ensure where contact between moving parts of machinery, electrically energized equipment or part of the work process and a worker's clothing, jewelry or hair is likely, workers must:
  - wear clothing that fits closely to the body,
  - not wear bracelets, rings, dangling neckwear, a wristwatch or similar articles, and
  - have head and facial hair that is short or confined and cannot be snagged or caught.

6.3 Machine Guard Requirements

- NCSG shall designate a competent employee / contractor to ensure that all manufacturer’s guards and barrier devices are in place and in safe working condition prior to the use of any equipment.
- Guards are barriers which prevent access to dangerous areas.
- The four general types of guards which may be seen in the workplace are:
  - Fixed
    - the guard is a permanent part of the machine
    - Is not dependent upon moving parts to perform its intended function.
  - Interlocked
    - When they are opened or removed, automatically shuts off or disengages the machine.
  - Adjustable
    - Allow flexibility in accommodating various sizes of stock.
  - Self Adjusting
    - protect the operator by placing a barrier between the danger area and the operator
    - allow a large enough opening to admit stock
    - After the stock is removed, the guard returns to its rest position.
• Appendix C provides illustrations of the types of guards.
• NCSG shall ensure through formal / informal inspections that equipment guarding is maintained in a safe working condition.
• Equipment guarding shall protect employees, contractors, visitors, and the general public by ensuring that the following is achieved. This list includes but is not limited to:
  o Prevent contact of the employee with moving parts
  o If required in accordance with the manufacturer’s specifications, shall be secured to the machine
  o Prevent and protect equipment and personnel from falling objects
  o Through the use of JSA’s, FLRA’s ensure that the guard does not create new hazards
  o Ensure that the guard does not interfere with job performance
  o Allow for safe lubrication and maintenance as required of the machine.
• Required safeguards shall remain in place and un-tampered with.
• In conjunction with Company Standard Operating Procedures, NCSG shall provide required checklists to ensure equipment guarding applications are achieved. Appendix A provides recommended items to be included in these lists.
• NCSG forbids the removal of any safety guard device in any manner other than that which the guard is designed.

6.4 Machinery Maintenance and Repair
• Where reasonably practicable, machine design shall permit lubrication and adjustment without removal of guards.
• If machine guards must be removed, the maintenance and repair shall ensure the lockout procedure required in accordance with the Hazardous Energy Isolation code is adhered to.
• NCSG shall ensure that if required for any mechanical power presses, safety blocks are used as an additional safeguard in conjunction with any lockout procedures being used.
• Equipment blade changes or adjustments shall be performed only when the power source has been disconnected to comply with the lockout, tagout codes.
• Equipment in which guards cannot be installed shall be removed from service. This includes older equipment which never had factory-installed guards.
• All bearings shall be lubricated and any debris removed from surfaces to prevent fires.
• All adjustments shall be made by an employee / contractor who are trained and knowledgeable about the particular piece of equipment being adjusted.

6.5 Label, Signs, and Marking Requirements
• NCSG shall ensure that equipment labels for guarding are legible and adequately fixed to ensure employees, contractors, visitors, and general public are aware of the hazards of the equipment. Appendix B presents some specific examples of label requirements for machine guarding.

7.0 TRAINING REQUIREMENTS AND MATERIALS
• NCSG shall provide site specific training for equipment in conjunction with JSA’s and Task Hazard Analysis which includes but is not limited to:
  o discussion on where hazards occur,
  o machine guarding requirements,
  o machinery maintenance and repair requirements,
  o Label, signs, and marking requirements for machines with hazardous moving parts.
NCSG shall provide visitors to a work site an orientation, which includes, but is not limited to the identification of equipment guarding labelling for any area that the visitor may be in proximity to during the visit.

Employee training shall include, but not be limited to the following instructions and hands-on training:
- Description and identification of the hazard associated with the machine
- The guards, how they provide protection, and the hazard for which they are intended
- Precautions to take when machine is unguarded during maintenance and repair
- What to do and who to contact if a guard is damaged, missing, or defective
- Review of the Standard Operating Procedures for the specific machines to be used by the employee

PPE Equipment specific training for equipment used
NCSG orientation

8.0 RESOURCES

- Alberta OH&S Code Part 25
- Alberta OH&S Code Part 22
- BC OH&S Regulation Part 12
- Manitoba OH&S Regulation Part 16
- Saskatchewan OH&S Regulations Part X
- CSA Z432-94 – Safeguarding of Machinery
- OSHA 1920
- OSHA 1926

NCSG understands that there may be questions and concerns regarding the Equipment Guarding Code. Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Minimum Machine Guarding Checklist Criteria
- Appendix B – Selected Machine Guarding Labelling Requirements
- Appendix C – Illustrations of Types of Guards

10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
- NCSG Code – Personal Protective Equipment – Respiratory Protection
- NCSG Code – Hazardous Energy Isolation
Appendix A

Minimum Machine Guarding Checklist Criteria
Requirements for All Safeguards

Yes No

☐ ☐ Do the safeguards prevent workers’ hands, arms, and other body parts from making contact with dangerous moving parts?

☐ ☐ Are the safeguards firmly secured and not easily removed?

☐ ☐ Do the safeguards ensure that no objects will fall into the moving parts?

☐ ☐ Do the safeguards permit safe, comfortable, and relatively easy operation of the machine?

☐ ☐ Does the manufacture allow the machine to be serviced without removing the safeguard?

☐ ☐ Is there a system for shutting down the machinery before safeguards are removed?

☐ ☐ Can improvements be made to the existing safeguards?

Mechanical Hazards

The point of operation:

☐ ☐ Is there a point-of-operation safeguard provided for the machine?

☐ ☐ Does it keep the operator’s hands, fingers, and body out of the danger area?

☐ ☐ Is there evidence that the safeguards have been tampered with or removed?

☐ ☐ Could you suggest a more practical, effective safeguard?

☐ ☐ Could changes be made on the machine to eliminate the point-of-operation hazard entirely?

Power transmission apparatus

☐ ☐ Are there any unguarded gears, sprockets, pulleys, or flywheels on the apparatus?

☐ ☐ Are there any exposed belts or chain drives?
Are there any exposed setscrews, key ways, or collars?

Are starting and stopping controls within easy reach of the operator?

If there is more than one operator, are separate controls provided?

Other moving parts: Insert Equipment Specific parts as identified through NCSG Standard Operating Procedures

Non-Mechanical Hazards

Yes No

Have appropriate measures been taken to safeguard workers against noise hazards?

Are safeguards provided for including auxiliary parts?

Have special guards, enclosures, or Personal Protective Equipment (PPE) been provided, where necessary, to protect workers from exposure to harmful substances used in machine operation?

Electrical Hazards

Is the machine installed in accordance with National Fire Protection Association and National Electrical Code requirements?

Are there loose conduit fittings?

Is the machine properly guarded?

Is the power supply correctly fused and protected?

Do workers occasionally receive minor shocks while operating any of the machines?

Training

Do operators and maintenance workers have the necessary training in using the safeguards and why?

Have operators and maintenance workers been trained in locating safeguards, how they provide protection, and what hazards they protect against?
Have operators and maintenance workers been trained in the circumstances in which guards can be removed?

Have workers been trained in the procedures to follow if they notice damaged, missing, or inadequate guards?

**Protective Equipment and Proper Clothing**

- Is Personal Protective Equipment (PPE) required?
- If PPE is required, is it appropriate for the job, in good condition, kept clean and sanitary, and stored carefully when not in use?
- Is the operator dressed safely for the job (that is, no loose-fitting clothing or jewellery)?

**Machinery Maintenance and Repair**

- Have maintenance workers received up-to-date instruction on the machinery they service?
- Do maintenance workers lock out the machine from its power sources before beginning repairs?
- Where several maintenance persons work on the same machine, are multiple lockout devices used?
- Do maintenance persons use appropriate and safe equipment in their repair work?
- Is the maintenance equipment itself properly guarded?

**Other Items to Check**

- Are emergency stop buttons, wires, or bars provided?
- Are the emergency stops clearly marked and painted red?
- Are there warning labels or markings to show hazardous areas?
- Are the warning labels or markings appropriately identified by yellow, yellow and black, or orange color?
Appendix B

Selected Machine Guarding Labelling Requirements

Appropriate labels shall be placed on all machines (old and new) requiring machine guarding when the machine is not in operation or while it is being serviced. If labels have been painted over, defaced, or removed they shall be replaced.

Woodworking Machinery Requirements

Radial Saws-
The direction of the saw rotation shall be conspicuously marked on the hood. In addition, a permanent label at least 1-1/2 inches by 3/4 inch must be affixed to the rear of the guard at about the level of the arbour. The label must read as follows:

DANGER: DO NOT RIP OR PLOUGH FROM THIS END

Mechanical Power Presses- Presence Sensing Device Initiation (PSDI) Prior to the initial use of any mechanical press in the PSDI mode, certification as applicable to legislative regulation are required. A label shall be affixed to the press as part of each installation certification/validation and the most recent recertification/revalidation. The label must indicate:

- The press serial number
- The minimum safety distance
- The fulfillment of design certification/validation
- The employer's signed certification
- The identification of the OSHA-recognized third party validation organization and its signed validation
- The date the certification/validation and recertification/revalidation are issued

Portable Power Tool Guards

The phrase, "CAUTION. BE SURE THAT GUARD IS IN PLACE BEFORE USE," or similar wording must be clearly visible on or near the guard or starting control point.

Jacks - Loading and Marking

The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, stencilling, or other suitable means. Jacks which are out of order shall be tagged accordingly and removed from service.
Appendix C

- **Figure 1** provides an example of a fixed guard.
- **Figures 2** and **3** provide examples of adjustable guards.
- **Figures 4** and **5** shows examples of a self-adjusting guard.
REMEMBER!

- Inspect your equipment PRIOR to use
- Ensure you are TRAINED
- Ensure fall protection is in place
- Verify the Fall Protection Plan for the work site is current
- Know the Emergency Response Plan for an incident of a fall
- Use the correct PPE harness and lanyards / belts for the job
- If you are unsure – ASK your SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Fall Protection Code to identify the proper level of protection against a potential injury occurring to employees, contractors, and the public while operating within NCSG areas of responsibility. This code does not include rescue personnel involved in training or in providing emergency rescue services using equipment or practices other than those described in the occupational health and safety code sections pertaining to fall protection.

2.0 SCOPE AND APPLICATION

The correct identification of applicable safety equipment and the use of that equipment will enable employees to be adequately protected from activities involving hazards due to fall from a height described as hazardous within this code. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

The following definitions are specific to Fall Protection Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Anchor

A secure point of attachment for a lifeline or lanyard.

3.2 Fall Arrest System

A system that will stop a worker’s fall before the worker hits the surface below.
3.3 Fall Protection System

Is identified as:
• a fall restraint system,
• a fall arrest system, or
• work procedures that are acceptable to minimize the risk of injury to a worker from a fall.

3.4 Fall Restraint System

A system to prevent a worker from falling from a work position, or from traveling to an unguarded edge from which the worker could fall.

3.5 Full Body Harness

A body support device consisting of connecting straps designed to distribute the force resulting from a fall over at the least the thigh, shoulders, and pelvis, with provision for attaching a lanyard, a lifeline or other components.

3.6 Lanyard

A flexible line of webbing, or synthetic or wire rope, it is used to secure a safety belt or full body harness to a lifeline or anchor.

3.7 Lifeline

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

3.8 Personal Fall Protection System

A worker's fall restraint system or fall arrest system composed of:
• a safety belt or full body harness, and
• a lanyard, lifeline and any other connecting equipment. Individual to the worker that is used to secure the worker to an individual point of anchorage or to a horizontal lifeline system.

3.9 Safety Belt

Means a body support device consisting of a strap with the means for securing it about the waist and attaching it to other components

4.0 EXPECTATIONS

The Fall Protection Code shall provide required and adequate guidelines to ensure knowledge of potential hazards resulting from a fall to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Fall Protection Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.
Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of hazards relating to a fall from a height that is considered hazardous.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure, appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Identify a Hazardous Height (Fall Distance)

For the purpose of this code:

Work Area is defined as a hazardous height if:

- A worker who is working at a height of 6 feet or more, or
- There is an unusual possibility of injury if a worker falls less than 6 feet.
- There is no separation or designation for a sloped roof. A fall protection system shall be used in all cases that a hazardous height is established.

6.2 Fall Protection Plan

NCSG shall develop a code, and if applicable standard operating procedures to ensure a fall protection plan for a worksite if a worker at the work site may fall 6 feet or more, and workers are not protected by guardrails.

NCSG Fall Protection Plan shall include and specify:

- the fall hazards at the work site,
- the fall protection system to be used at the work site,
- the Standard Operating Procedures as detailed for the specific worksite, which shall be used to assemble, maintain, inspect, use and disassemble the fall protection system, and
- the Emergency Response Plan and rescue procedures to be used if a worker falls, is suspended by a personal fall arrest system or safety net and needs to be rescued.

NCSG shall ensure a fall protection plan is made readily available at a worksite before the risk of falling begins and shall ensure all employees, contractors, visitors who may be affected are aware of the plan.

NCSG shall ensure that the equipment used in the fall protection system is:

- A certified full body harness with adequate attachment points and a compatible lanyard with a shock absorber or similar device. The lanyard shall be attached to a suitable anchor point or lifeline at all times.
- Inspected by a competent worker as required by the manufacturer at the start of each shift or workday.
- Kept free from substances and conditions that could cause deterioration of the materials that compose the equipment.
- Is suitable for the conditions in which the lifeline is to be used, having regard to factors including strength, abrasion resistance, extensibility and chemical stability.
HEALTH, SAFETY & ENVIRONMENT

FALL PROTECTION CODE

- Made of wire rope or synthetic material, is free of imperfections, knots and splices, other than end terminations, is protected by padding where the lifeline passes over sharp edges, is protected from heat, flame or abrasive or corrosive materials during use and is maintained to manufacturer's recommendations.
- Where a snap hook is used as an integral component of a personal fall arrest system, connecting linkage, fall arresting device, full body harness or lifeline, an employer or contractor shall ensure that the snap hook is self locking and is approved and maintained.
- Fastened to a secure anchor point that has a breaking strength of at least 22.2 kilonewtons (5000 lbs) in any direction, and is not used to suspend any platform or other load.
- The fall protection equipment must be re-certified as per the specifications set forth by the manufacturer.
- In the event of a fall the fall protection equipment must be removed from active service until it is re-certified.
- Where a defect or unsafe condition that may create a hazard to a worker is identified in a safety belt, connecting linkage, fall arresting device, full body harness or lifeline, steps are taken immediately to protect the health and safety of any worker who may be at risk until the defect is repaired or the unsafe condition is corrected and as soon as is reasonably practicable the defect is repaired or the unsafe condition is corrected.
- In situations where a guardrail can not be used NCSG workers can be adequately protected in one of four ways:
  - Using a travel restraint system
  - A fall restriction system
  - A fall arrest system
  - A safety net

7.0 TRAINING REQUIREMENTS AND MATERIALS

All workers who are required to use fall protection are required to complete a fall protection-training course and maintain competency through on-going training

- Fall Protection Coursing / Certification
- NCSG orientation

Equipment used in a fall arrest system must be compatible with each other, be sufficient to support the falling force, and meet CSA certification.

8.0 RESOURCES

- CSA Standards pertaining to Fall Protection Equipment and Standards:
  - Z259.1-95
  - Z259.10-06
  - Z259.11-05
  - Z259.11-M92
  - Z259.16-04
- Alberta OH&S Code (second edition)
- British Columbia OH&S Code (third edition)
- Ontario OH&S Regulations 213 Section 26.1(2)
May all be used to reference additional information pertaining to fall protection and control methods for minimizing potential exposure and risk due to falls from hazardous heights.

NCSG understands that there may be questions and concerns regarding the Fall Protection Code.

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Full Body Harness Types
Appendix A

Full Body Harness Types
All full body harnesses must meet the CSA Standard Z259.10 or the ANSI Standard Z359.1-1992.

Functions of Full Body Harnesses

- To securely hold the worker’s body during a free fall, deceleration and final arrest.
- To distribute forces to those parts of the body able to absorb those forces without significant injury.
- To keep the body in an upright position or near upright position after the fall and until the worker is rescued.
- To allow workers to do their work without restricting their movement.

Classes of Full Body Harnesses

Group A – Fall Arresting
- Group A harnesses have one D-ring attachment for fall arrest affixed to both shoulder straps at the back

Group E – Confined Space Entry (raising and lowering)
- Group E harnesses have a sliding D-ring on each shoulder strap

Group P – Work Positioning
- Group P harnesses have D-rings mounted at waist level
Safety Belts
All safety belts must meet the CSA standard Z259.1-95 (1999);

Safety Belts and Lanyards are acceptable. Safety Belts are prohibited from use in a fall arrest system due to the possibility of worker death or injury resulting from:
- The worker falling out of the belt.
- Abdominal injuries.

Safety belts are restricted to use as part of travel restraint and fall restrict systems.

Travel Restraint Systems
- Prevent workers from reaching an edge from which they could fall.
- Have no fall arrest capabilities.

Fall Restrict Systems
- Often used in conjunction with a work positioning system.
- Have no fall arrest capabilities.

Lanyards
Only lanyards approved to the CSA Standard Z259.1-95 (R1999), Safety Belts and Lanyards are to be used. Whenever possible, a lanyard used for fall arrest should be equipped with a shock absorber. All shock absorbers must be approved to the CSA Standard Z259.11-M92 (R1998).

Self-Retracting Devices (SRD)
All SRD’s must meet the CSA Standard Z259.2.2-98. A SRD is a fall arrest device that performs a tethering function while allowing vertical movement to the maximum working length of the device.
To minimize free fall distance when using an SRD, the device must be anchored above the worker’s location.

A Typical SRD
HEALTH, SAFETY & ENVIRONMENT

FATIGUE MANAGEMENT CODE

REMEMBER!

- Ensure you get sufficient rest before and after work
- Recognize fatigue at work in you and other employees
- Know the company policy for rest periods during travel
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Fatigue Management Code to identify the proper level of protection against a potential injury to employees, contractors, and the public when the level of fatigue to an individual may be in question.

2.0 SCOPE AND APPLICATION

The adequate understanding of the effects of fatigue on employees and contractors is essential in maintaining a safe work environment to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

The following definitions are specific to Fatigue Management Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Stressors

An agent, condition, or other stimulus that causes stress to an individual.

3.2 Fatigue

A state of being tired.

4.0 EXPECTATIONS

The Fatigue Management Code shall provide required and adequate guidelines to ensure knowledge of potential hazards which may be experienced due to excessive fatigue by employees, contractors, visitors and general public within NCSG areas of responsibility. The Fatigue Management Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

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HEALTH, SAFETY & ENVIRONMENT

FATIGUE MANAGEMENT CODE

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Inform NCSG of any personal fatigue related conditions which may affect reasonable work conditions from being completed.
- Attempt where reasonably practicable to ensure adequate periods of rest are received during normal working conditions.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to fatigue related stressors.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Ensure “Hazard Assessment” properly evaluates fatigue for each job task, proper tasks and institutes effective control measures.
- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Never operate any motor vehicle and / or heavy equipment while excessively fatigued.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Monitor through appropriate record keeping and systems, that workers are where reasonably practicable ensuring adequate periods of rest are received during normal working conditions.
- Ensure that an adequate and appropriate period of rest commensurate to the work being done is provided during the work process to enable employees not become excessively fatigued.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

13/09/2011
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Establish in conjunction with appropriate NCSG Departments, a recordkeeping and monitoring process to ensure hours of work and operation do not exceed legislative standards.
- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Historical Understanding of Potential Risk of Fatigue at Work

Slow reaction to work conditions, failure to respond, poor logic and judgement, damage to property, and an increase in risk taking which may result in injury are potential results of fatigue in the work place. NCSG shall ensure as reasonably practicable that these conditions are not contributed to through increased pressures to complete a project or task.

6.2 Identifying Factors

Long hours of work, extended consecutive days of work, and inadequate hours of rest are all stressors which contribute to fatigue. Time of day may also be a factor when an individual’s circadian rhythm is considered.

The required use of specific PPE (e.g. full face respirators, additional outer protective clothing) are also factors which may increase an individual’s fatigue.

6.3 Prevention Practices

- NCSG shall ensure all legislative controls are adhered to regarding driver hours of rest.
- Adequate rest periods as detailed in Heat and Cold Stress Codes shall be incorporated to prevent increased fatigue due to work activity.
- NCSG shall ensure employee education regarding travel, road, and weather conditions being part of the “work day” are emphasized.
- NCSG shall actively pursue an employee awareness program which educates employees and contractors of the hazards involved in work related fatigue.
- Company Standard Operating Procedures in conjunction with FLRA’s shall detail if a requirement to stay overnight during road travel is an administrative control method available to employees due to site specific work conditions without penalty

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Defensive Driving Course
- NCSG orientation
- Fatigue and Stress Orientation factors

13/09/2011
8.0 RESOURCES

- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – ERG015-1 Fatigue and Safety at the Workplace
- Alberta Employment and Immigration – Workplace Health & SafetyBulletins – ERG015 Fatigue, Extended Work Hours, and Safety in the Workplace
- Canadian Council of Motor Transportation Administrators – Commercial Vehicle Drivers Hours of Service Regulations Application Guide
- Alberta OH&S Code (second edition)
- British Columbia OH&S Code (third edition)
- Ontario OH&S Reg. 213/91, Part 4, 386 - 388

May all be used to reference additional information pertaining to fatigue management and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Fatigue Management Code.

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

9.0 APPENDIXES

- None

13/09/2011
REMEMBER!

- Visually inspect tools before use
- Use the RIGHT TOOL for the RIGHT JOB
- DO NOT use defective tools
- Wear proper Eye Protection
- Use the correct PPE (gloves, goggles, etc)
- Tag unserviceable tools for repair
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Hand Tools Code to identify the proper use and application of hand tools to prevent potential injury to employees, contractors, and the public / property while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct use of hand tools and the correct selection of hand tools is identified to enable employees adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

There are no definitions for the Hand Tools Code.

4.0 EXPECTATIONS

The Hand Tools Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to employees, contractors, visitors and general public within NCSG areas of responsibility. The Hand Tools Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Use hand tools as directed by the manufacturer’s recommendation
- Use the tool appropriate for the task
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to injury due to misuse of hand tools.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Maintain in good working condition, hand tools which are provided to the worker

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Ensure hand tools are maintained in a serviceable condition for the task as recommended by the manufacturer’s recommendation.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.
- Establish a maintenance schedule to ensure hand tools are checked for serviceable condition on a timely basis.

6.0 METHOD

6.1 Inspection of Tools Prior to Use

- NCSG employees, contractors shall inspect all hand tools prior to start of shift or each use.
- Damaged or poorly maintained hand tools are not to be used until repaired
- Tools shall be clean at the beginning of the shift and end of shift
- Any tool that is identified during inspection or use that is defective shall be removed from service, tagged with the deficiency and not used until repaired or replaced.

6.2 Use of Hand Tools

- All NCSG employees, contractors, visitors shall wear safety glasses with side shields or other equivalent eye protection or other PPE as identified by the manufacturer’s recommendation or Company Standard Operating Procedures when using hand tools.
- All employees, contractors while using hand tools shall:
  - Ensure the correct tool is used for the correct job. (i.e. Flat Blade screwdrivers are NOT chisels or pry bars),
  - Be trained in the proper use of the hand tool to be used,
  - Be familiar with the manufacturer’s recommendations for use and shall have access to applicable documentation,
  - Not modify, alter, block off or remove any guard or safety device of a hand tool from the original condition,
  - Be stored in a manner that will protect the tool from damage and deterioration,
  - Not operate a hand tool in a manner that creates a striking / contact hazard to other employees,
  - Call out and make other employees, contractors with hand tools aware when passing by,
  - Be sure you have secure footing and grip,
  - Never leave tools unattended or discarded in a manner that may enable the tool to be fallen onto or be lost,
  - Not use extensions or “cheaters” on tools for leverage. Use a larger tool.
  - Be cautious of posture and stance while sharpening hand tools, and
  - Ensure frequent rests are taken to minimize fatigue, muscle strain, joint strain and exhaustion.
6.3 Prevention Practices

NCSG shall ensure a preventative maintenance schedule that will;
- Keep cutting tools sharp,
- Identify loose, splintered, or cracked tool handles,
- Identify bent wrenches,
- Identify and remove / replace mushroomed heads on hand tools,
- Prevent greasy and dirty tool accumulation

7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG shall ensure that training is provided for employees who will utilize hand tools prior to first use and refresher training as required if unsafe behavior is observed / reported. Additional training may be required as a result of incident investigations / near miss reporting.
- NCSG training shall include, but not be limited to:
  - How to select the proper tool for the job,
  - How to use these tools properly,
  - Procedures for inspection of tools,
  - Procedures for storage of tools,
  - Procedures for repair of faulty tools, and
  - The importance of planning jobs ahead so that the correct tools are available.
- PPE Equipment specific training
  - Eye / Face Protection to prevent chips, debris from coming in contact with eye membrane
- NCSG orientation

8.0 RESOURCES

- Alberta OH&S Act Section 2
- BC OH&S Code Part 3
- Manitoba OH&S Regulations Part 16
- Saskatchewan OH&S Regulation Part III
- Ontario OH&S Reg. 851, Part 1
- Ontario OH&S Reg. Reg. 213/91, Section 93, 94, 187, 192, 195, 275, 298
- OSHA 1920

May all be used to reference additional information pertaining to hand tool use and control methods for minimizing potential exposure to risk.

NCSG understands that there may be questions and concerns regarding the Hand Tools Code.

Please direct any questions regarding this Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None
10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
REMEMBER!

- Keep work area free of garbage / food waste
- Visually inspect area frequently to identify waste droppings or signs of infestation
- Use the correct PPE (gloves, masks, goggles, disposable coveralls)
- Bag and seal rodent / bi products appropriately
- Wash after possible contact prior to eating / drinking with soap & water
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Hantavirus Protection Code to identify the proper level of protection against a potential Hantavirus infection to employees, contractors, and the public while operating within NCSG areas of responsibility. This code will aid employees in minimizing the exposure to Hantavirus and assisting in the prevention of Hantavirus infections.

2.0 SCOPE AND APPLICATION

The guidelines and recommendations are provided to increase awareness of correct control measures to be used by NCSG employees, contractors where there may be a presence of rodents or rodent droppings within the workplace. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG when the potential for Hantavirus infection is present.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Hantavirus Protection Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Hantavirus

A virus that is found in the urine, saliva, or droppings of infected deer mice and some other wild rodents.

3.2 Hantavirus Pulmonary Syndrome (HPS)

A rare but serious lung disease as a result of exposure to Hantavirus.
3.3 HEPA Filter
A high-efficiency particulate air filter.

3.4 PAPR
Powered air-purifying respirator.

3.5 Deer Mouse
A small, white-footed mouse with sharply bicolor tail, white beneath and dark above; ears usually shorter than hind foot, prominent and leaflike; upperparts bright fulvous or brownish, intermixed with dusky; under parts and feet white. External measurements average: total length, 170 mm; tail, 81 mm; hind foot, 20 mm; ear, 18 (12-20) mm. Weight, 15-32 g.

4.0 EXPECTATIONS
The Hantavirus Protection Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to Hantavirus are available to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Hantavirus Protection Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Corporate Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES
5.1 Employees
It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it.
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to Hantavirus.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Historical Understanding of Potential Risk of Exposure

Hantavirus infection is caused by a virus that is found in some rodents. The principal carrier is the deer mouse or white-footed mouse which is commonly found in Western Canada and Upper Mid West States. This does not preclude the possibility of other rodents being able to carry the virus and as such all rodents should be treated as potential carriers.

If the virus is contracted by humans, it can cause severe illness, HPS and – even death.
The Hantavirus is shed in their saliva, urine and droppings. The virus is usually spread to humans when particles of infected saliva, urine or feces are inhaled. Inhalation may occur through direct contact with the rodent, or from breathing airborne dust particles that are generated when rodent excreta is disturbed. The virus can be spread if infected materials contact broken skin or the membrane lining of the eyelids and eyeball.

Caution must also be observed if:
- a rodent bites you;
- if you touch something that has been contaminated with rodent urine, droppings or saliva, and then touch your nose or mouth; or
- if you eat or drink food or water contaminated by rodents.

6.2 Identification of Environment for Potential Risk of Exposure to Hantavirus

Job safety analysis, task analysis, and field level risk assessment shall be used to determine the level of eye, face and respiratory protection required in the completion of any and all tasks while ensuring compliance with regulatory legislation. The established eye and face protection shall be considered the minimum acceptable level for NCSG employees, contractors, visitors and general public, while at the work site.

Most rodents are found in rural and semi-rural areas, however, many are highly adaptable and can be found in homes as well as commercial and industrial building.

Possible environments may include conditions for Hantavirus Exposure:
- sweeping out barns, shops and other out buildings;
- using compressed air and dry sweeping to clean up waste in workplace;
- entering a barn / out building infested with mice;
- occupying previously vacant dwellings;
- disturbing rodent-infested areas;
- living in or cleaning dwellings with a sizable indoor rodent population;
- locations where rodents may feed or find shelter include:

**Outside**
- rubbish piles (i.e. woodpiles);
- infrequently used equipment;
- garbage;
- weeds and long grass.

**Inside**
- food storage containers and areas around containers;
- garbage storage areas;
- nooks and crannies.

6.3 Prevention Practices

The most important method of prevention is to minimize contact with rodents by controlling them around the work site.
Prevention strategies include:

(1) Regular inspections for rodents to determine if active rodent control is required.
(2) Sanitation: reduce the number of locations inside the workplace and in the immediate vicinity where rodents may feed or find shelter. Clean up trash, open stores of papers or other areas that may serve as nesting sites for rodents.
(3) Eliminate potential food sources or store food in rodent-proof containers with a tight fitting lid.

**Key to Prevention** is to Rodent proof by:

Closing openings where rodents gain entry and establish runways. Mice can gain entry through a hole as small as ¼ inch in diameter. Proofing materials include steel wool, fine mesh screens, mortar and sheet metal, etc.

- Placing metal flashing around the base of buildings in which people work if rodents may be able to get in.
- Using gravel or raised (30 cm) cement foundations in new construction of sheds, out-building or wood piles to discourage rodent burrowing.
- Cut grass, brush and shrubbery within 30 metres of buildings.

Rodent population reduction can be achieved by trapping or poisoning with rodenticides.

Rodenticides are hazardous to humans and non-target species, and should be handled by individuals knowledgeable in their safe use.

Kill traps minimize the risk of handling.

### 6.4 Protection Practices

Company Standard Operating Procedures will further define additional levels of Eye, Face, and Respiratory Protection required in accordance to legislation and risk assessment analysis for each task.

#### 6.4.1 Work Procedures

Safe work procedures will allow employers to minimize worker exposure to Hantavirus, and should be tailored to the specific work circumstances. In all cases for which specific safe work procedures are developed, have a qualified person assess the work situation and evaluate the risk.

Assessment of the individual workers activities rather than just the occupation is important in the determination of exposure risk.

Following are the minimum NCSG Code requirements when dealing with a potential Hantavirus Exposure environment.
6.4.1.1 Handling Rodents:

When handling rodents or traps containing rodents, workers shall wear:

- Rubber or plastic disposable gloves.
- Disposable coveralls made of material that will resist the penetration of dust particles, with a snug fit at the wrist and ankles.
- Eye or face protection to prevent aerosols from coming in contact with the mucous membranes of the eye.
- Traps contaminated by rodent urine or feces or in which a rodent was captured should be disinfected with a commercial disinfectant or bleach solution.
- Dead rodents should be soaked in a disinfectant solution, double-bagged along with all cleaning materials, labeled and then buried, burned or discarded in an appropriate waste disposal system.
- Decontaminate and remove personal protective equipment and clothing in accordance with the Decontamination Procedure outlined in this code.

6.4.1.2 Clean up of infested areas:

Workers who are involved in the clean up of areas where rodents or rodent droppings are present shall also take the following precautions:

- Clear all unnecessary workers from the area.
- Ventilate the area by opening windows and doors, if possible.
- Put on disposable rubber or plastic gloves before starting clean up.
- Wear a NIOSH approved respirator with a HEPA filter.
- If the area has a heavy rodent infestation, the worker should also wear coveralls (disposable, if possible), rubber boots or disposable shoe covers and protective goggles.
- Don’t stir up dust by sweeping up or vacuuming up dry droppings, urine or nesting materials.
- Thoroughly wet contaminated areas with detergent or liquid to deactivate the virus. Most general purpose disinfectants and household detergents are effective; however a solution prepared by mixing 3 tablespoons of household bleach in 1 gallon of water may be used in place of a commercial disinfectant. When using the chlorine mixture, avoid spilling the mixture on clothing or other items that may be damaged.
- Once everything is wet, take up the contaminated materials with a damp towel, and mop or sponge the area with disinfectant.
- Dispose of dead rodents as indicated under Handling Rodents.
- Dispose of all contaminated materials in double plastic bags. Seal the bags and label them to identify the contents. Do not puncture the bags. Bags of waste may be disposed of by burying them in a hole that is at least two feet deep or by incinerating them. Contaminated material may also be disposed of with regular garbage as long as the amount of material can be safely treated by being soaked in a disinfectant solution and the material is in double plastic bags.
- Wipe or mop surfaces with a solution of disinfectant and detergent.
- Decontaminate and remove personal protective equipment and clothing as outlined under the Decontamination Procedure.
6.4.1.3 Decontamination procedures:

After any activity involving the handling of contaminated or potentially contaminated material, and before leaving the immediate work area, the following procedures should be applied.

Note: Do not remove respiratory protective equipment until other decontamination steps are complete.

(1) Remove coveralls at the perimeter of the work area and place them in a disposal bag. Collapse the bag and temporarily seal it.
(2) Move away from the clean-up or contaminated work area to a location where there are no other workers – preferably outdoors – leaving eye and respiratory protection in place.
(3) Wet wipe exposed reusable respirator surfaces, eyewear, and rubber footwear with a disinfectant solution.
(4) Rinse the outside of gloves in the disinfectant solution. Remove gloves and place them in a plastic bag for disposal.
(5) Place disposable respirators in a plastic bag. Permanently seal the bag and label it. For reusable respirators, tape shut the inlet opening of the respirator cartridges to prevent the release of dusts (cartridges may be reused until breathing becomes difficult), or discard the cartridges. Clean and disinfect the respirator body. Store the respirator in a cool, clean location free from contamination.
(6) Remove eyewear. Clean and disinfect it before storing it, or discard it.
(7) Wash exposed skin surfaces thoroughly with soap.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- PPE Equipment specific training
  - Dust Respirator / PAPR
  - Disposable Rubber or Latex gloves
  - Disposable Coveralls
  - Eye / Face Protection to prevent aerosols from coming in contact with eye membrane
- NCSG orientation
- Recognition of symptoms of the illness
- Recognition of a need to seek medical attention as soon as possible if symptoms appear
- Rodent Specific Identification

8.0 RESOURCES

- Canadian Centre for Occupational Health and Safety
- Alberta Employment and Immigration – Workplace Health & Safety Bulletins
- Worker’s Compensation Board – British Columbia
- Alberta OH&S Code Part 2
- BC OH&S Code Part 5
- Saskatchewan OH&S Regulations Part XXI
- OSHA 1920
- Ontario OH&S Reg. 851, Part 1
- NCSG Code – Personal Protective Equipment - Eye and Face Protection
• NCSG Code – Personal Protective Equipment – Respiratory Protection

May all be used to reference additional information pertaining to Hantavirus and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Hantavirus Protection Code.

Please direct any questions regarding this Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

• Appendix A - Sample Photo of Deer Mouse

10.0 SUPPORTING DOCUMENTS

• None
HEALTH, SAFETY & ENVIRONMENT

HANTAVIRUS CODE

11/24/2011
1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Hearing Conservation Code to outline the requirements and methodology used to protect the hearing of employees. The program includes a strategy to identify noise hazard areas, and implement measures to protect all employees who have the potential to develop occupational noise-induced hearing loss.

2.0 SCOPE AND APPLICATION

This Code of Practice applies to all workers on company and customer facilities where exposure to high noise levels exists. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

3.1 Decibel (dB)

A measurement of sound pressure where 0dB is defined as being the faintest sound that a person with normal hearing can hear. This measurement scale is logarithmic. For example, an increase from 10 to 13 dB means that the sound pressure has doubled.

3.2 Decibel A Scale (dBA)

A measurement of sound pressure that has been modified to take into account that the ear is not equally sensitive to all frequencies

3.3 Hazardous Noise

Hazardous noise is the level at which the noise levels dictated by regulation are exceeded. Hazardous noise is at a level that can cause temporary or permanent hearing damage. Workers in a hazardous noise area would be overexposed unless hearing protections is used.

3.4 Impact Noise

A noise of short duration where the sound pressure level rises very rapidly to a peak and decays to a background level. (i.e. a nail gun or hammer hitting wood.)

3.5 Noise Reduction Rating (NRR)

A single number representing the attenuation value for a given hearing protection device.

3.6 Noise

Unwanted sound that causes harm, either by causing hearing loss, or stress, or interferes with communication.
HEALTH, SAFETY & ENVIRONMENT
HEARING CONSERVATION CODE

3.7 Sound Energy

The amount of energy transmitted to the ear by noise.

3.8 Sound Pressure

The fluctuations in air pressure caused by noise. The louder the noise, the greater the changes in air pressure. These fluctuations cause the eardrum to vibrate.

4.0 EXPECTATIONS

The Code applies to all workers that work in an environment exposed to noise at 85 dB or more. This does not apply to those who work in an office setting more than 90% of the time. This Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

NCSG shall retain records of all Audiometric Testing for:
1. Annual testing results
2. As long as the worker is with NCSG
3. Education and training purposes with the individual employee

All records shall be retained in a confidential manner in accordance with the current privacy legislation.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Read and understand this Code;
- Report any instances where you have been exposed to loud noise or situations where loud noise exists;
- Attend annual hearing test appointments;
- Wear hearing protection as required; and
- Inspect and replace hearing protection as required.

...
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Manage employees and contractors Personal Protective Equipment (PPE) compliance;
- Inspect and maintain "High Noise" Warning signs;
- Assist HS&E when conducting noise surveys;
- Provide PPE to employees; and
- Provide training to employees regarding the hearing conservation program.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Administer the program;
- Conduct or arrange noise surveys;
- Determine high noise areas;
- Provide recommendations to reduce or eliminate noise; and
- Facilitate audiometric testing
- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Monitoring Worker Exposure

Three types of instrumentation can be used to measure noise exposure:

- Sound level meter
- Personal noise dosimeter (PND); and
- Integrating sound level meters (ISLM).
The sound level meter is the basic measuring tool for noise. The sound level meter only measures sound at the moment the measurement was taken at a particular location. It is a good tool to determine what noise levels are produced by equipment or while completing tasks.

PNDs or ISLMs are used once a baseline sound survey has been completed. PNDs are worn by the worker under the direction of the person conducting the survey. They measure the sound a worker is exposed to throughout the day. The use of an ISLM allows short term surveys to ascertain the noise levels associated with specific tasks. The HS&E advisor is responsible to ensure that all noise surveys are carried out in accordance with recognized standards by competent personnel. Contact your HS&E Advisor for assistance on such tasks.

All occupations and some workplaces require noise monitoring to be completed to determine if there is a noise hazard exists. An area or location is considered a noise hazard if sound levels are regularly at, or above, 85 dBA. The HS&E advisor or a competent person approved by the HS&E advisor must complete all noise monitoring. Noise surveys must be completed if there are any equipment changes, or other factors that can increase or decrease noise exposure.

**TABLE 1: EQUIVALENT NOISE EXPOSURES**

<table>
<thead>
<tr>
<th>Duration per 24 hour period (hours)</th>
<th>Maximum Permissible Exposure Durations for Noise without Hearing Protection (Continuous or Intermittent Noise) * (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>85</td>
</tr>
<tr>
<td>8</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>1/2</td>
<td>110</td>
</tr>
<tr>
<td>1/4</td>
<td>115</td>
</tr>
<tr>
<td>None</td>
<td>&gt;115</td>
</tr>
</tbody>
</table>

* Based on a 5 dB exchange rate

**TABLE 2: IMPACT NOISE**

<table>
<thead>
<tr>
<th>Sound Level (dB)</th>
<th>Maximum Number of Impacts/ 8 hour Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;140</td>
<td>0</td>
</tr>
<tr>
<td>140</td>
<td>100</td>
</tr>
<tr>
<td>130</td>
<td>1,000</td>
</tr>
<tr>
<td>120</td>
<td>10,000</td>
</tr>
</tbody>
</table>
6.2 Warning Signs

Once the sound survey has been completed, warning signs are required to be posted where the noise levels exceed 80 dBA. All signs must depict a graphic symbol and written warning about the hazard and instructing workers to use hearing protection.

Any alteration or modification to any existing worksite will require a re-assessment of the noise levels in that area resulting from any changes to the operation. NCSG shall install or make all necessary changes to reduce the amount of noise exposure to workers where ever possible.

6.3 Audiometric Testing

All staff exposed to hazardous noise levels are required to have their hearing tested biannually, except for those in BC who must be tested annually, if they are exposed to noise levels that exceed the Provincial / State / Federal occupational exposure limits. Testing results will be recorded and maintained on file.

In the Province of Manitoba all audiometric testing shall be conducted on a frequency of 70 days after the worker is exposed to the noise and every year after that where exposure continues.

6.4 Noise Control Methods

There are three forms of noise control options available to the company in order to reduce worker exposure to noise. The control options are engineering, administrative, and the use of personal protective equipment.

6.4.1 Engineering Controls

Engineering controls are the most effective way, but most expensive way of controlling excessive noise in the workplace. Examples include but are not limited to:

- Substitution – replacing noisy equipment with more quite versions
- Modification – add or remove parts to make equipment more quiet
- Isolate – covering noisy equipment or moving it to another area reduce noise output, absorbing, the noise before it spreads and changing the frequency of the noise.
- Maintenance – Ensure all equipment including noise control equipment is working as intended

6.4.2 Administrative Controls

Administrative controls are the next best way to control noise at the workplace, if noise cannot be reduced by engineering controls. Example of administrative controls for noise abatement include, purchasing equipment that uses sound deadening technology, reducing exposure time to a noisy area, rotating workers, performing noisy operations when the least amount of employees are present.

6.4.3 Personal Protective Equipment

If engineering controls or administrative methods cannot reduce noise exposure, personal protective equipment and related training must be provided.
6.4.4 Selection, Use and Maintenance of Hearing Protectors

Hearing protected must be Class A hearing protection that will provide a NRR of at least 28 or Grade 4 (CSA) sound attenuation. All workers are to be trained on the proper way to use hearing protection. Refer to the PPE Code of Practice for more information or contact the HS&E advisor to ensure proper selection of hearing protection.

6.5 Audiometric Testing

All workers exposed to noise that exceeds the Provincial / State / Federal standards must be have their hearing tested within 6 months of being hired. Hearing testing must be completed every two years to monitor hearing function, except in BC which requires annual testing. Hearing testing is performed and interpreted by a certified audiometric technician or audiologist.

6.5.1 Annual Program Review

The noise management program will be reviewed annually to ensure its’ effectiveness. The annual assessment will review training program effectiveness, the need for further noise monitoring, and noise control. The most important assessment will consist of a review of the audiometric test results to identify trends among individuals within certain occupations.

7.0 TRAINING REQUIREMENTS AND MATERIALS

All noise-exposed workers and their immediate supervisors must have training in the following:
- New Hire Orientation
- Safety Briefing
- Hearing Conservation provided by HS&E.
- Individual counseling will be completed at the review of the audiometric testing by a designate of HS&E Sr. Management.

8.0 RESOURCES

British Columbia – BC OHS Regulations part 7, Sec 7.9
BC OHS Guidelines Part 7, Sec 7.9
Manitoba – Manitoba WS&H Regulation Part 12, sec 12.4(2)(c)
North West Territory - Section 30 to 31 General Safety Regulations (R.R.N.W.T. 1990, c. S-1)
Ontario - Section 139, Industrial Establishments, Occupational Health and Safety Act
Saskatchewan – Sask OHS Regulations part VII, Sec 110
Sask OHS Regulations Part VIII, Sec 111(3)
Yukon Territory - Section 4, Noise Control, Occupational Health Regulation, (O.I.C 1986/184)

May all be used to reference additional information pertaining to Hearing conservation and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Hearing Conservation Code.
Please direct any questions regarding the Program to the Lead HS&E Advisors.

9.0 APPENDICIES

- Appendix A – Hearing Conservation Education
- Appendix B – Audiometry
- Appendix C – Purchasing Requirements
Appendix A

Hearing Conservation Education

The following groups of employees shall receive training related to Hearing Conservation:
- Those identified by Health Safety and Environment during noise surveys and Supervisors
- Employees who are required to enter high noise areas.

Training will be delivered through a standard education package offered by the HS&E and when an employee is given the results of his or her annual audiogram.

The content of the training packages is as follows:

**Education Package:**
- Description of NACG Hearing Conservation Code
- The hazards of noise
- How hearing loss occurs
- The purpose and limitations of audiometric testing
- The purpose and limitations of hearing protectors
- The proper way to wear hearing protectors
- Characteristics of noise in employee's specific working environment and how such noise could affect hearing

**Individual Counseling During Communication of Audiogram Results:**
- The importance of wearing hearing protectors
- How they should be worn.
- The results of the employee's audiogram and how that relates to the maintenance of the employee's hearing

Training requirements specified in this section applies to individuals performing specific functions within the program.

**Noise measurement**
- Employees taking noise measurements shall be trained in the appropriate methods to assess noise source levels and noise exposures according to CSA Z107.56-94 Procedures for the Measurement of Occupational Noise Exposure.

**Hearing Protection Use and Care**
- Employees monitoring hearing protection shall understand the appropriate requirements of CSA Z94.2-02 Hearing Protection Devices - Performance, Selection, Care, and Use.

**Noise Elimination/Reduction**
- Employees/engineers participating in noise engineering solutions shall receive appropriate training on basic noise control engineering principles (reference documents include IAPA's Noise Control: A guide for Employers and Employees; Current edition of the ACGIH Noise and Hearing Conservation Manual).

**Purchasing**
- Persons purchasing materials, equipment and services involving potential for noise; as well as purchasing protective devices or consulting services shall be made aware of the requirements of the HPP standard and relevant engineering standards.
Appendix B

Audiometry

Classification of Audiograms:
Each baseline audiogram will be classified into one of three categories. These categories are:

1. Normal (N)
2. Early Loss Index (ELI)
3. Abnormal (AB)

A brief explanation of each of these categories is given below.

1. Normal (N):
   Where threshold data does not exceed 25 dBA hearing threshold level (HTL).

2. Early Loss Index (ELI):
   The presence of a 15 dBA notch at 3000, 4000, and/or 6000 Hz when comparing the
   threshold to neighbouring frequencies. The deepest part of the notch should display a
   threshold of 30 dBA HTL or greater.

3. Abnormal (AB):
   a. Where thresholds exceed 25 dBA at 500, 1000, or 2000 Hz.
   b. The difference between better and poorer ear exceeds an average of 15 dBA at 500,
      1000, 2000 Hz or exceeds an average of 30 dBA at 3000, 4000, and 6000 Hz.
   c. A loss of at least 30 dBA when compared to the preceding frequency. The loss can
      be any frequency above 2000 Hz.
   d. 30 dBA HTL or greater bilaterally from 3000 to 8000 Hz with no evidence of a notch.

Classification of Threshold Shifts:
The results of periodic audiometric tests will be used according to a specified protocol for the
purpose of detecting changes in hearing (threshold shifts).

Once a baseline audiogram has been done, subsequent audiograms will be compared to this
"baseline audiogram". The purpose of this comparison is to determine whether a shift in hearing
has occurred.

Each time comparisons are made to the baseline; the comparisons will be classified as either:

   o NO SHIFT (NS)
   o ABNORMAL SHIFT (ABS):
     ▪ Where two consecutive frequencies from 1000 Hz to 6000 Hz shift 15 dBA or more
       when compared to the baseline test (or the new reporting baseline).

Once the classifications have been done, the baseline will be adjusted as appropriate:

   o Where there is a confirmed ABS, the first of the two shifts will become the new reporting
     baseline.
   o When an audiogram shows an average improvement of at least 10 dBA in 500, 1000,
     and 2000 Hz, or an average improvement of at least 10 dBA at 300, 4000, and 6000 Hz,
     in either ear, when compared to the existing baseline on at least two successive tests,
     then the best audiogram (or the first periodic test showing the improvement) will become
     the new Baseline.
Purchasing Requirements for Hearing Protective Devices

- As per CSA Z94.2-02, manufactures need to provide the required information as detailed in the first section of this appendix and preference shall be given to manufactures that can provide additional information as detailed in the latter section of this appendix.

Required Information

- The smallest unit in which the hearing protector is sold or dispensed shall include, either on the package or as an insert, the following information:
  - the attenuation Grade and/or Class of the hearing protection device (see Table 2);
  - a warning that full attenuation will not be achieved unless the hearing protection device is properly fitted; and
  - contact details such as telephone number or an Internet Web address for additional information.

Recommended Additional Information

- The following information regarding the construction, performance, and use of the hearing protectors shall be provided by the manufacturer as part of the hearing protection device packaging where practicable, or shall be readily available upon request by the user:
  a. instructions on the selection care and use of the hearing protector.
  b. mean sound attenuation in dBA at one-third octave bands centered at 125, 250, 500, 1000, 2000, 4000 and 8000 Hz (for each subject, attenuation shall be computed at each frequency by averaging the subject’s trials and the mean for the panel of subjects is the average of each of the individual subject’s multi-trial averages);
  c. standard deviation in dBA at each of the frequencies specified in item (b);
  d. for earmuffs, a measurement of the force exerted against the side of the head;
  e. physical performance test requirements that the hearing protection device satisfies;
  f. the identity of the test laboratory where each of the performance characteristics were determined;
  g. the model(s) of hardhat(s) tested in combination with earmuffs;
  h. a warning for devices containing metallic components that such devices may increase electrical hazards;
  i. a warning that users of hardhats combined with earmuffs must refer to CSA Standard Z94.1; and
  j. details of any maintenance requirements and a list of the replacement spare parts that are available.
HEALTH, SAFETY & ENVIRONMENT

HEAT STRESS CODE

REMEMBER!

- Hydrate with Fluids (Water)
- Check wind speed / direction
- Use the correct PPE (gloves, Wide Brim helmet, Sunscreen, etc)
- Take frequent Rest Breaks in hot climate conditions
- WATCH YOUR BUDDY!!!
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Heat Related Stress Code to identify the proper level of protection that will assist all employees in performing their tasks effectively and efficiently when operating in a hot climate environment. This code will aid employees in minimizing the risks of exposure and assist in the knowledge of safe work practices.

2.0 SCOPE AND APPLICATION

The guidelines and recommendations are provided to increase awareness of correct control measures to be used by NCSG employees, contractors where there may be potential exposure to equipment, environment and / or conditions of a hot or temperate nature. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

The following definitions are specific to Heat Related Stress Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Acclimatization

A process of physiological adaptation that occurs when exposure to heat takes place over an extended period, Acclimatization may take weeks, although significant adaptation occurs within a few days. In recent history, acclimatization occurs in exposures of at least 2 continuous hours (i.e. 5 of the last 7 days). Once acclimatization is achieved, working in the heat results in increased production of a more dilute sweat and less of an increase in heart rate and body temperature.
3.2 **Heat Cramps**

Heat cramps are muscle pains or spasms – usually in the abdomen, arms, or legs – that may occur in association with strenuous activity. People who sweat a lot during strenuous activity are prone to heat cramps. This sweating depletes the body’s salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion. If you have heart problems or are on a low-sodium diet, seek medical attention for heat cramps.

3.3 **Heat Exhaustion**

Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are elderly people, those with high blood pressure, and those working or exercising in a hot environment.

3.4 **Heat Stroke**

Heat stroke is the most serious heat-related illness. It occurs when the body becomes unable to control its temperature: the body’s temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

3.5 **Humidex**

Humidex is a calculated value that combines temperature and humidity information into one number. This single number tries to describe how hot and humid weather feels to the average person. It is therefore a better measure of how stifling the air feels than either temperature or humidity alone.

3.6 **Dehydration**

An abnormal depletion of body fluids. This can occur during hot climate working conditions when an individual perspires due to exertion / additional clothing without replenishing the required fluids in the body.

3.7 **Wet Bulb Globe Temperature (WBGT)**

This method uses a portable device called a heat stress monitor to measure heat stress on a worker. WBGT takes into account air temperature, humidity, radiant heating from the sun or other sources, and air movement. Air temperature is measured using a normal thermometer called a dry bulb thermometer. A black metal ball or “globe” that absorbs heat and has a thermometer inside it measures radiant heat. The “wet bulb” portion of the heat stress monitor measures the effect of evaporation and air movement. It consists of a regular thermometer bulb wrapped in a wick moistened with water.

3.8 **Heat Rash (prickly heat)**

Tingling and burning of the skin, red itchy rash. Sweat glands plugged due to prolonged exposure of skin to heat, humidity or sweat.
4.0 EXPECTATIONS

The Heat Related Stress Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to working and exposure in a hot environment, which all employees, contractors, visitors and general public within NCSG may come in contact with. The Heat Related Stress Code will be reviewed at a minimum of every three years.

This Code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure when working in a heat related climate / condition.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Immediately inform the Supervisor of any change in climate or weather conditions, which may adversely affect the safety of employees, contractors, or general public within the area.
- Ensure that a “buddy system” monitoring process is exercised if required to minimize the risk of exposure to employees during the course of work activities.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
• Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
• Provide an adequate supply of cool water to workers exposed to extreme heat.
• Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.
• Ensure if required due to climate / weather conditions that adequate work / rest periods are monitored and maintained to ensure the safety of all employees, contractors, visitors within NCSG areas of operation or active worksites.

5.4 Management

In addition to 5.1, it is the management responsibility to:

• Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
• Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

• Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
• Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Adequate / Appropriate Clothing

Risk of heat cramps, exhaustion and ultimately stroke may be minimized by the proper use of clothing designed to work in heat climate conditions and hydration. Wear clothing that is designed for hot weather and clothing, which provides adequate ventilation. Use of a hat / helmet with a brim and protection from the sun is crucial in the reduction of possible exposure to ultraviolet (UV) radiation. Additional application of sun protection creams / lotions may also reduce the risk of UV exposure.

Heat stress is unlikely for a person wearing the appropriate clothing, performing light to moderate physical activity, and with the sun being the only heat source. Always have the appropriate hot weather clothing and PPE available – weather changes are frequent and often unexpected.

The clothing that you wear when working hard in hot weather is important to select carefully. Clothing that enables ventilation of perspiration will reduce the collection of moisture from the inside out. This will enable the adequate cooling of the body to continue working. Recommended types of clothing and their beneficial properties are outlined in the Appendices.
6.2 Recognition of Heat Rash / Cramps / Exhaustion / Stroke / Cold Stress

All employees who work or supervise work in hot conditions shall be trained to recognize the symptoms of these problems. Heat stress happens when hot working conditions have the potential to harm a worker. This harm is of two types:

- Non life threatening – includes conditions such as dehydration and heat exhaustion
- Life threatening – heat stroke

Appendix A summarizes heat exposure problems, including their treatment and prevention.

An increase in the internal body temperature rising to dangerously high levels may cause heat stroke of an individual to occur. This is in part due to not sweating enough to cool the body. If addressed and corrected early proper rest breaks and adequate clothing, heat cramps, exhaustion and stroke may be averted, however, if left to continue, unconsciousness and death may occur.

If an employee exposed to extreme heat conditions shows signs of or reports symptoms of heat stress, the worker must be removed from further exposure and receive treatment by an appropriate first aid attendant or physician.

6.3 Prevention Practices

Job safety analysis, task analysis, and field level risk assessment shall be used to determine the level of PPE that may be required to minimize exposure. Consideration shall be taken by all levels of employees regarding:

- length of exposure,
- type of work,
- air temperature,
- radiant heat (equipment worked on / with, sun exposure, etc)
- air (wind) speed
- clothing worn
- and rest break periods to be used.

The established PPE and schedules relating to heat related stress factors shall be considered the minimum acceptable level for NCSG employees, contractors, visitors and general public, while at the work site. Conditions shall be monitored regularly to ensure any changes are identified and compensated for as required. Appendix E provides clear control methods to reduce or eliminate the potential escalation of heat related stress symptoms.

The Humidex chart shall be consulted as required to ensure that employee safety is maintained during adverse conditions. Copies of the Humidex chart shall be available to all levels of employees to assist in the monitoring of any climate changes.

6.4 Application of WBGT

Wet Bulb Globe Temperature (WBGT) TLV’s shall be used to determine applicable Work / Rest Periods for NCSG work sites. Utilizing a WBGT Monitor will determine the overall temperature and appropriate work/rest schedule (see Appendix B). Monitors will only be used by trained and qualified employees and contractors.
A variety of factors must be considered when applying TLV’s and in doing so, supervisors shall always consider these limits as minimum standards. Hydration is a crucial control method in combating heat related stressors. NCSG shall ensure adequate fluids are available at all worksites.

Company Standard Operating Procedures will further define additional levels of PPE requirements and rest break schedules in conjunction with understanding the work/rest schedule and conditions. All employees are responsible to use additional caution and monitoring skills to identify changes in climate work environments.

WBGT Method will be used for situations related to extreme temperatures where work may need to be stopped.

6.5 Application of Humidex

The Humidex combines temperature and humidity readings into one number as a way of indicating how your body perceives the combination of temperature and moisture in the air. It is expressed as a value not as an actual temperature or degree, because it is an interpretation of how people might feel.

Humidex may not always be appropriate to use as an indication of when work should be stopped. Heat-related illnesses depend on many other workplace factors such as wind speed or air movement, workload, radiant heat sources and a person's physical condition. Under certain workplace conditions, the humidex may serve as an indicator of discomfort resulting from occupational exposure to heat.

Once the Humidex has been determined, reference Appendix D for work/rest schedules.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- PPE Equipment specific training
  - Hot Climate applicable clothing
- NCSG orientation
- First Aid – Heat Related Stress symptoms / Treatment

8.0 RESOURCES

- St John Ambulance
- BC OHS Regulations Part 7, Sec 7.38
- Environment Canada
- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – MG022 General Safety

May all be used to reference additional information pertaining to Heat Related Stress and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Heat Related Stress Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.
9.0 APPENDICIES

- Appendix A – Symptom Escalation Chart / Prevention / Treatments
- Appendix B – WBGT – TLV’s
- Appendix C – Environment Canada Humidex
- Appendix D – Humidex Response Plan
- Appendix E – Control Methods for Heat Related Stress Factors
## Appendix A

### Symptom Escalation Chart / Prevention / Treatments

<table>
<thead>
<tr>
<th>Problem and Symptoms</th>
<th>Treatment</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heat rash (prickly heat)</strong></td>
<td>thorough drying</td>
<td>calamine lotion</td>
</tr>
<tr>
<td></td>
<td>cool showers</td>
<td>keep the skin as dry as possible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>rest in a cool place</td>
</tr>
<tr>
<td></td>
<td></td>
<td>shower often</td>
</tr>
<tr>
<td></td>
<td></td>
<td>change clothes frequently</td>
</tr>
<tr>
<td></td>
<td></td>
<td>keep skin clean</td>
</tr>
<tr>
<td><strong>Heat cramps</strong></td>
<td>massage the muscle(s)</td>
<td>warm up muscles before heavy work</td>
</tr>
<tr>
<td></td>
<td>eat salt-containing foods (unless to be avoided for medical reasons)</td>
<td>take rest breaks</td>
</tr>
<tr>
<td><strong>Fainting</strong></td>
<td>lie down in a cool place</td>
<td>drink plenty of fluids at regular intervals</td>
</tr>
<tr>
<td></td>
<td>drink cool fluids to lower body temperature</td>
<td></td>
</tr>
<tr>
<td></td>
<td>see a doctor if fainting recurs</td>
<td></td>
</tr>
<tr>
<td><strong>Heat exhaustion</strong></td>
<td>lie down with knees raised</td>
<td>take four to seven days to adjust (acclimatize) to the heat</td>
</tr>
<tr>
<td></td>
<td>drink cool, not cold, fluids</td>
<td>drink plenty of fluids at regular intervals</td>
</tr>
<tr>
<td></td>
<td>contact a doctor if condition does not improve quickly</td>
<td>take rest breaks in a cool place</td>
</tr>
<tr>
<td><strong>Heat stroke</strong></td>
<td>This is a medical emergency</td>
<td>take four to seven days to adjust (acclimatize) to the heat</td>
</tr>
<tr>
<td></td>
<td>Person must be taken to hospital as quickly as possible</td>
<td>drink plenty of fluids at regular intervals</td>
</tr>
<tr>
<td></td>
<td>move worker to a cool or shaded area, remove clothing, wrap in wet sheet, pour on chilled water and fan vigorously. Avoid overcooling. Treat for shock once temperature is lowered</td>
<td>take rest breaks in a cool place</td>
</tr>
<tr>
<td></td>
<td>wear clothing appropriate for the conditions</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B

WBGT Table of Threshold Limit Values
Source - American Conference of Government Industrial Hygienists (ACGIH)

The monitor uses these measurements to calculate the WBGT temperature.

For outdoor workplaces with direct sunlight, the calculation is:
WBGT = 70% of the wet bulb temperature
+ 20% of the black globe reading
+ 10% of the air temperature

For workplaces without direct sunlight, the calculation is:
WBGT = 70% of the wet bulb temperature
+ 30% of the black globe reading

<table>
<thead>
<tr>
<th>Work / Rest Schedule</th>
<th>Acclimatized</th>
<th>Not Acclimatized</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Light</td>
<td>Moderate</td>
</tr>
<tr>
<td>100% of Work</td>
<td>29.5</td>
<td>27.5</td>
</tr>
<tr>
<td>75% work / 25% Rest</td>
<td>30.5</td>
<td>28.5</td>
</tr>
<tr>
<td>50% Work / 50% Rest</td>
<td>31.5</td>
<td>29.5</td>
</tr>
<tr>
<td>25% Work / 75 Rest</td>
<td>32.5</td>
<td>31</td>
</tr>
</tbody>
</table>

Notes:

Table assumes 8-hour workdays in a 5-day workweek with conventional breaks.

The TLVs assume that workers exposed to these conditions are adequately hydrated, are not taking any medication, are wearing lightweight clothing, and are in generally good health.
Determining Humidex from Temperature and Relative Humidity Readings

**Legend**
- **Humidex Range:**
  - Less than 29
  - 30 - 39
  - 40 - 45
  - Above 45
  - Above 54

- **Degree of Comfort:**
  - No discomfort
  - Some discomfort
  - Great discomfort; avoid exertion
  - Dangerous
  - Heat Stroke imminent

**Source:** Environment Canada
<table>
<thead>
<tr>
<th>Humidex Reading</th>
<th>Moderate physical work, unacclimatized worker or heavy physical work, acclimatized worker</th>
<th>Moderate physical work, acclimatized worker or light physical work, unacclimatized worker</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>45+</td>
<td>50+</td>
<td></td>
<td>Stop work until the Humidex is 44°C or less</td>
</tr>
<tr>
<td>42 - 44</td>
<td>47 - 49</td>
<td></td>
<td>If feasible, provide 45 minutes of relief per hour in addition to the provisions listed below</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If a 75% relief period is not feasible then stop work until the Humidex in 42°C or less.</td>
</tr>
<tr>
<td>40 - 41</td>
<td>45 - 46</td>
<td></td>
<td>Provide 30 minutes of relief per hour in addition to the provisions listed below</td>
</tr>
<tr>
<td>38 - 39</td>
<td>43 - 44</td>
<td></td>
<td>Provide 15 minutes relief per hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Provide adequate cool (10-15°C) water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>At least 1 cup of water every 20 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Workers with symptoms should seek medical attention</td>
</tr>
<tr>
<td>34 - 37</td>
<td>40 - 42</td>
<td></td>
<td>Post heat Stress Warning notice</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Notify workers that they need to drink extra water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ensure workers are trained to recognize symptoms</td>
</tr>
<tr>
<td>30 - 33</td>
<td>36 - 39</td>
<td></td>
<td>Post Heat Stress Alert notice</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Encourage workers to drink extra water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Start recording hourly temperature and relative humidity</td>
</tr>
<tr>
<td>25 - 29</td>
<td>32 - 35</td>
<td></td>
<td>Supply water to workers on an “as needed” basis</td>
</tr>
</tbody>
</table>
**Appendix E**

<table>
<thead>
<tr>
<th>What to do</th>
<th>How to do it</th>
</tr>
</thead>
</table>
| **Lower the temperature**  | Air conditioning  
Ventilation – a good ventilation system can remove hot air from a work area or building.  
If possible, open windows and doors to allow air to circulate. |
| **Lower the humidity**     | Ventilation – a good ventilation system can remove humid air. If the work process allows it, try to capture as much of the humidity at its source with air evacuation units.  
Dehumidifiers – these can remove moisture from the air. Where possible, wear clothing that allows sweat to evaporate easily. |
| **Reduce worker exposure to radiant heat** | Provide workers with shade from the sun or move the work to a shaded location.  
Shield workers from any hot process or relocate equipment that gives off heat.  
Use blinds, curtains, or reflective coatings on windows to reduce direct sunlight.  
In buildings such as prefabricated metal ones, insulate the walls and ceiling.  
Rotate workers into tasks and areas that expose them too less radiant heat. |
| **Increase air speed or move air** | Increase air speed without creating an uncomfortable draught. Use fans or air blowers to circulate air.  
Increase the number of air changes per hour. This also helps to remove hot air and humidity. |
| **Control physical activity** | Have workers do less physically intense activities.  
If possible to choose a time of day to carry out physical tasks:  
do them in the early morning or once it is cooler in the evening. Avoid intense physical activity during the hottest period of the industrial process or day.  
Use additional workers for the job.  
Select physically fit workers capable of doing the work under hot conditions.  
Rotate workers to less demanding activities / Reduce the pace of work.  
Implement a schedule of work and rest intervals. Provide cooled rest areas. |
| **Wear appropriate clothing** | If possible, wear loose-fitting clothing that is light in weight.  
Try to wear clothing made of fabrics that wick sweat away from the skin and allows the sweat to evaporate.  
Aluminized reflective clothing near sources of radiant heat such as hot furnaces.  
Insulated or cooled clothing such as cooling vests may be necessary.  
Sunglasses and sunscreen may be needed to reduce sun exposure. |
HEALTH, SAFETY & ENVIRONMENT
HYDROGEN SULPHIDE (H2S) CODE

REMEMBER!

- Know the signs of H2S Exposure
- Always wear your monitor
- Always test your monitor prior to the start of shift
- Know the Emergency Response Plan for your worksite
- If you are unsure – ASK your SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Hydrogen Sulphide (H2S) Code to identify the proper level of protection against potential injury / damage to employees, contractors, and the public / property relating to working in a potential H2S environment.

2.0 SCOPE AND APPLICATION

The understanding of risks, recognition and immediate action to be taken in the event of an H2S exposure is essential in maintaining a safe work environment. The application of this action in the correct manner shall enable employees / contractors to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

The following definitions are specific to Hydrogen Sulphide (H2S) Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Hydrogen Sulphide

A colorless inflammable gas having the characteristic odor of bad eggs, and found in many mineral springs. It is produced by the action of acid on metallic sulphide, and is an important chemical reagent.

3.2 Sulphurated Hydrogen

See – Hydrogen Sulphide
4.0 EXPECTATIONS

The Hydrogen Sulphide (H2S) Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Hydrogen Sulphide (H2S) Code will be reviewed at a minimum of every three years.

This Code shall supplement, but not supersede any regulatory Provincial / State /Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

The expectation of NCSG Health, Safety and Environment Team is for all employees, contractors, visitors and general public to respect the Immediate Danger to Life and Health (IDLH) that H2S exposure presents. Error and misjudgment will cost someone their life.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as indicated in accordance with the training and instruction received to prevent injury due to H2S exposure.
- Inspect personal protective equipment before using it,
- Be familiar with the Confined Space code and be read in conjunction with the H2S Code as applicable,
- Be aware of the location of H2S Emergency Response equipment,
- Take IMMEDIATE and appropriate action when H2S is suspected or detected.
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to H2S exposure.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Maintain current certification of H2S Emergency Response training in accordance with local legislative / company policy and procedure.
5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Know the workers the supervisor is responsible for well enough to notice any changes in attitude or physical/mental condition that may be due to H2S exposure.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Ensure that employees who may be exposed to H2S gas are provided adequate training through the Health, Safety, and Environment Team to be able to recognize its lethal effects.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Property Recognition of Hydrogen Sulphide

NCSG employees shall be familiar with the properties of H2S. Appendix A outlines the properties in detail.

6.2 Effects upon Exposure of Hydrogen Sulphide

NCSG employees shall be familiar with the effects on the body H2S. Appendix B outlines the properties in detail.
HEALTH, SAFETY & ENVIRONMENT
HYDROGEN SULPHIDE (H2S) CODE

6.3 Monitoring and Prevention Practices

6.3.1 Continuous Monitors

In larger plants, a system is used where potentially hazardous areas are sampled by strategically located sensors. An alarm system is activated by any sensor and will give warning when the H2S concentration rises above preset limits for the area sampled.

NCSG shall ensure in conjunction with Company Standard Operating Procedures that all areas of responsibility shall be assessed for the requirement of monitor equipment.

6.3.2 Personal Monitors

Battery worn H2S monitors shall be carried or worn by individual employees, contractors, visitors to indicate the concentration of H2S to which they are being exposed as applicable to the FLRA’s, JSA’s and Company Standard Operating Procedures.

6.3.3 Portable Monitors

NCSG shall ensure that all employees, contractors, visitors on site have been orientated as applicable to the dangers of H2S exposure and are trained prior to access being given to a site which may have a potential of H2S exposure.

6.4 Protection Practices

NCSG shall ensure a written code of practice is in place that addresses the requirement to have respiratory equipment on site and have employees, contractors, and as applicable visitors trained in its use. (See PPE Code- Respiratory Protection Code)

Regular hazard assessments of H2S related sites will identify and prevent potential exposure.

6.5 Special Considerations

If the work shift is more than 8 hours, the OEL for H2S shall be adjusted in accordance with the applicable legislative regulations and schedules.

NCSG shall ensure that applicable barriers, signage and access control are in place as applicable to a site which may have an H2S exposure potential.

6.6 Emergency Response Procedures

NCSG shall ensure that Emergency Response Procedures are established in conjunction with Client Site Procedures, Company Standard Operating Procedures and are made available to all employees, contractors, and visitors on site.

All NCSG employees, contractors who through regular tasks and duties may be exposed to H2S shall have a competent working knowledge of artificial respiration.

All NCSG supervisors who, through regular tasks and duties may have workers who are exposed to H2S, shall have a competent working knowledge of artificial respiration and be trained in CPR (Cardiopulmonary Resuscitation).
7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG shall ensure regular practice and training in emergency rescue response as applicable by legislative regulations is provided to employees / contractors who may be exposed to H2S.
- First Aid Training as required (established by level of employee)
- PPE Equipment specific training
  - SCBA Respirator / PAPR
- NCSG orientation
- Recognition of symptoms of the illness of H2S exposure
- Recognition of a need to seek medical attention as soon as possible if symptoms appear
- Instruction in the use, care and limitations of the assigned personal monitor, as applicable

8.0 RESOURCES

- Alberta OH&S Code Part 4
- Alberta OH&S Code Part 18
- Alberta OH&S Code Schedule 1
- BC OH&S Code Part 5
- BC OH&S Code Part 8
- Saskatchewan OH&S Code Part XXI
- Manitoba OH&S Regulations Part 36
- Ontario OH&S Reg. 855
- Ontario OH&S Reg. 213/91

May all be used to reference additional information pertaining to H2S exposure and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Hydrogen Sulphide (H2S) Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – H2S Properties
- Appendix B – H2S Effects
## Appendix A

### Properties of H2S

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
</tbody>
</table>
| Odour                        | Very offensive, commonly referred to as odour of rotten eggs at low concentration
|                              | 1.188 at 25°C                                                                               |
| Vapour Density               | 1.189 (Air = 1.0) H2S in its pure form is heavier than air                                   |
| Explosive Limits             | 4.3 to 46.0 percent by volume in air                                                          |
| Auto Ignition Temperature    | 260°C                                                                                       |
| Flammability                 | Forms explosive mixture with air or oxygen                                                   |
| Water Solubility             | 2.9 percent (2.9 g/100 ml water at 20°C                                                       |
### EFFECTS OF H2S

<table>
<thead>
<tr>
<th>Concentration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ppm</td>
<td>Can be smelled.</td>
</tr>
<tr>
<td>10 ppm</td>
<td>Alberta Occupational Exposure Limit (OEL). Allowable for 8 hours of exposure.</td>
</tr>
<tr>
<td>15 ppm</td>
<td>Alberta Ceiling OEL. An unprotected worker may not be exposed above this concentration.</td>
</tr>
<tr>
<td>100-200 ppm</td>
<td>Severe nose, throat and lung irritation. Ability to smell odour completely disappears (150 ppm)</td>
</tr>
<tr>
<td>500 ppm</td>
<td>Severe lung irritation. Headaches, dizziness, staggering, collapse.</td>
</tr>
<tr>
<td>500-1000 ppm</td>
<td>Respiratory paralysis. Irregular heart beat, collapse or death.</td>
</tr>
</tbody>
</table>
1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed an Inclement Weather Code to identify the proper level of protection against a potential injury / damage to employees, contractors, and the public / property regarding adverse weather conditions and possible disruption to operations within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct recognition and understanding of weather conditions shall be detailed in order that adequate protection from potential injury / property damage during operational environments is maintained. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Inclement Weather Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Cumulonimbus Cloud

Known as thunderstorm clouds. High winds will flatten the top of the cloud into an anvil-like shape. Cumulonimbus clouds are associated with heavy rain, snow, hail, lightning, and tornadoes. The anvil usually points in the direction the storm is moving.

4.0 EXPECTATIONS

The Inclement Weather Code shall provide required and adequate guidelines to ensure knowledge of potential hazards are recognized prior to the requirement to implement Emergency Response Plans and available to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Inclement Weather Code will be reviewed at a minimum of every three years.
This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Be familiar with and recognize changes in weather patterns that may affect NCSG operations.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to damage or injury due to inclement weather conditions.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Monitor and review weather conditions as applicable to ensure a safe work environment in the areas of responsibility of NCSG.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.
6.0 METHOD

6.1 Tornado

- A tornado is nature’s most violent form of storm activity.
- It can produce upwardly spiralling winds of between 120 to 450 km per hour
- Can cause devastating damage along a path 50 to 300 meters in width.
- The forward motion of the tornado funnel may be quite erratic as it zigzags along a southwest to north easterly direction (usually) at a forward speed of 50 to 70 km per hour.
- Tornadoes occur in many parts of Canada and USA between the months of May and September.

6.2 Lightning

- Development of storm clouds in area (20-30 km range)
- If you feel static electricity around your body, you may be in danger of being struck by lightning.
- Use of 30/30 Rule.
- Stop all work and find shelter if lighting is present in area.

6.2.1 30/30 Rule

- If the time between lightning and thunder is 30 seconds or less, go to a safer location.
- Wait at least 30 minutes after hearing the last thunder before leaving the safer location.

6.3 Flood

- Excessive water on roads (above the wheels rim)
- Washed out areas due to speed of water
- Increase in depth to dugouts, low lying areas
- Electrical hazards due to connections being under water

6.4 Wildfire

- Forest or grassland fires can begin without warning
- Wind can cause sudden and severe changes in direction and magnitude
- It can spread up to seven kilometers per hour.

6.5 Blizzard

- Blizzards are the most threatening of winter storms
- A typical blizzard will last longer than six hours, combining falling, blowing and drifting snow with wind speeds over 40 km per hour (25 miles), reduce visibility, produce low temperatures and a snowfall of more than 10 centimetres.

6.6 Report and Response Procedures

- In conjunction with NCSG and Client Emergency Response Plans and Provincial / State disaster response systems, upon identification of a potential change in weather conditions that may develop into severe weather, any operations / worksite activity that may be at risk shall be halted.
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- Equipment, employees, contractors, visitors and general public within the work site shall be directed to applicable safe locations as determined by the ERP.
- Supervisors / Management shall assist ERP teams to ensure all persons are accounted for.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG orientation

8.0 RESOURCES

- Environment Canada – Weather Office - www.weatheroffice.gc.ca/warnings
- Alberta Emergency Management Agency - www.aema.alberta.ca/ps_emergency_public_warning_system.cfm#Potential_uses
- Alberta OH&S Act Section 2
- Alberta OH&S Code Part 2
- BC OH&S Code Part 17
- BC OH&S Code Part 4
- Saskatchewan OH&S Regulations Part VI
- Manitoba OH&S Regulations Part 4
- Ontario OH&S Act Reg. 854, Part IV

May all be used to reference additional information pertaining to inclement weather and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Inclement Weather Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Tornado Information Sheet
- Appendix B – Blizzard Information Sheet
- Appendix C – Lightning Information Sheet

11.0 SUPPORTING DOCUMENTS

- None
What Does a Tornado Look Like?
- A tornado is recognizable by a funnel cloud hanging from the base of a dark, ominous looking storm cloud. The sound has been described as a tremendous roar which sounds like an express train or jet aircraft (only louder).
- Clouds may be green or yellow tinged.
- In a thunderstorm approaching from a westerly direction, the most likely place for a funnel cloud to appear is near the left-hand side (southern flank) of an approaching curtain of heavy rain and hail.
- There is usually a noticeable lowering of a portion of the cloud that contains a large, swirling, turbulent mass from which the funnel will hang.

Watches and Warnings
- A severe thunderstorm is the driving force behind a tornado.
- Hot, humid weather combined with a cold front could be a sign that a tornado is brewing, and a funnel cloud hanging from a dark cloud may be visible before the tornado actually occurs.
- A tornado may be accompanied by lightning, high winds, and hail.
- The weather office issues warnings and radio and television repeat weather watches and warnings.

A Watch is an advisory only.
- Nothing may happen but a watch could develop into a warning. Stay alert! Listen to your radio.

A Warning means that the event is imminent.
- Take precautions and listen to your radio.

Tornado Watches and Warnings
The word tornado will be used in three different weather announcements.

1. If there is a severe thunderstorm warning, it may include the phrase "Remember some severe thunderstorms can produce a tornado." This is really the same as a tornado watch. It does not mean that there will be a tornado; it means that a tornado could develop. Stay alert and listen to the radio.

2. A Tornado Watch means that all the conditions that make a tornado are present. It does not mean that a tornado will occur. It is a “watch” only. Listen to your radio for half-hour updates.

3. A Tornado Warning means that a tornado has touched down. If the warning is for the area where you live, take precautions immediately and listen to your radio for constant updates.

When Environment Canada or the National Weather Center has reliable evidence that a tornado has been detected or is imminent, a Tornado Warning is issued for a specific area through the media or through Emergency Public Warning System.
Appendix B

Vehicle Emergency Kit
NCSG vehicles shall be equipped with supplies which could be useful in an emergency and shall include but not be limited to:

- Blanket
- Booster cables
- Extra clothing and footwear
- Fire extinguisher (rated A-B-C)
- First aid kit with first aid manual
- Flashlight and batteries
- Maps
- Matches and a “survival” candle in a tin can (to warm hands, heat a drink or use as an emergency light)
- Non-perishable high energy foods (raisins, granola bars, etc).
- Sand
- Shovel
- Solar, wind-up or battery radio
- Tool kit
- Water (bottled)
- Warning light or reflectors

In addition to the above listed items, NACG vehicles which travel in remote / isolated areas shall also include at minimum:

- Sand
- Facial Tissue
- Sleeping bag for each passenger
- Pocket knife
- Extra food and water supplies
- Change of clothing along with extra socks, hats, mittens, boots and coats

During the Blizzard

- If roads are in poor condition and travel is not recommended, stay where you are until the situation changes.
- If you must travel, take a cellular phone with you or advise someone what route you are taking and your expected arrival time.
- Always drive with extreme caution! If you find yourself caught in a blizzard or stranded in your vehicle take the following safety precautions:
  - Stay with the vehicle.
  - Wait for help. In a blizzard, rescue workers will be looking for stranded vehicles.
  - If you attempt to walk and find help in blowing snow, low temperature storm - disorientation can occur quickly and you can become lost.
  - Keep warm and dry.
  - Stay relaxed and think through possible actions.
  - Slightly open a window on the sheltered side, away from the wind, for ventilation.
  - Leave the car hood up to signal distress.
  - Turn on your emergency flashers to attract the attention of passing motorists or the police.
  - Keep your emergency kit handy in the vehicle.
If your vehicle is stuck, think carefully before attempting to push the vehicle manually or shovel during strong biting winds, blinding snow and cold temperatures.

- Work or walk slowly. Over exertion and exposure to the weather may lead to a heart attack unless you are in prime physical condition.
- Always think in terms of preserving body heat. Perspiration can mean a dangerous loss of body heat. Your clothing is the closest insulation to your body and it must be kept dry. When you perspire, your clothing will become damp and lose its insulation value.
- If your vehicle's exhaust pipe is buried in snow, try to clear the snow away or exhaust fumes will travel into the vehicle when it's running.
- If you can't run your vehicle, light a candle to keep warm.
- Run your motor sparingly and only if the exhaust pipe is exposed and exhaust can be taken away by air currents.
- Avoid overheating - loosen clothing at the neck, wrist and in front or remove layers of clothing.
- Use the high-energy foods packed in your Emergency Kit. Your body requires fuel to keep warm.
- Stimulate circulation by moving your arms, hands and feet.
- After the blizzard or bad weather has past, seek help during daylight hours.
Appendix C

30/30 Rule
- Follow the precautions outlined below when thunder is heard within 30 seconds of a lightning flash and wait for 30 minutes after the last thunder is heard to resume your activity.
- If you’re unable to take shelter inside, find the safest accessible location and stay there until the storm has passed.

General Precautions
- Stay away from metal poles, fences, clothes lines etc.
- If driving, slow down or park away from trees, power lines or other objects that may be damaged by storm activity.
- Stay inside metal-bodied (hard top) vehicles or caravans but do not touch any metal sections.
- If undertaking water activities, leave the water immediately.
- Discard all metal objects.
- Remember the 30 – 30 lightning safety rule – go indoors if, after seeing lightning, you cannot count to 30 before hearing thunder. Stay indoors for 30 minutes after the last clap of thunder.
- Rubber soled shoes and rubber tires provide NO protection from lightning. The Steel frame of a hard topped vehicle does provide increased protection if you are not touching metal. Although you may be injured if lightning strikes your car, you are much safer inside a vehicle than outside.

If shelter is near-by:
- Seek shelter in a hard top vehicle or solid building. Avoid small structures or fabric tents.
- Keep clear of windows.

If shelter is not available:
- Crouch (alone, feet together), preferably in a hollow. Make yourself a small target.
- Remove metal objects from head/body.
- Do not lie down (the more of you that is in contact with the ground, the more ‘attractive’ you are to lightening) but avoid being highest object.
- If your hair stands on end or you hear buzzing on nearby rocks, fences etc, move immediately. At night, a blue glow may show if an object is about to be struck.
- Stay away from high and low points (hilltops, ridges & gullies), rock overhangs and shallow caves.
- Keep out of, and well away from, water bodies or watercourses.
- Make sure the group is aware of the Lightning Safe Position. This involves:
  - Squatting or crouching with knees drawn up and feet together, preferably on dry insulating material (eg. foam mat).
  - Keeping hands off the ground.
  - Spread group members out – about ten metres apart, but within calling distance.
  - Never shelter under tree/s.

Rubber Tired Equipment
- If struck by lightning the equipment will NOT remain electrically charged. The charge will typically ground itself through the tire rim base and arc to the ground through the rubber tire. The greatest hazard exists in a tire fire or explosion due to the paralysis of the rubber.
- The operator will walk 300 meters away from the front of the unit in a straight line and in the direction of the tire tread, while minimizing exposure with the tires and sidewalls.
- All equipment shall provide a 300m clearance away from the unit.
- Supervision will place “DO NOT ENTER” signs 300 meters around the unit for at least 24 hours.
- After 24 hours a competent person will use an infrared heat sensor to check for hot spots on the tire. If hot spots remain, the area will continue to be barricaded for another 6 hours. If there are no hot spots on the tires, a competent tire technician will then proceed to inspect the tire.
HEALTH, SAFETY & ENVIRONMENT

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Track Type Equipment

- If struck by lightning, the equipment will NOT remain electrically charged. The charge will typically ground itself through the tracks of the machine. The greatest hazard exists if the operator is outside the cab of the machine and touching it when lightning strikes.
- The operator will walk 300m away from the unit in a straight line.
- Supervision will place “DO NOT ENTER” signs around the vehicle until the unit has been inspected by a competent mechanical Technician.

First aid

- Apply immediate CPR to lightning victims until medical help arrives. (You won’t receive a shock from the victim.)
REMEMBER!

- Use the right ladder for the job
- Use a 1-4 ratio (Base to Height) for Extension Ladders
- Minimum 1 Metre of ladder must extend past the top level of climb
- Check foot covers and end closures are in place
- Ground must be level and non slipping
- DO NOT stand on the top two steps of Step Ladders
- One Person only on a ladder at one time
- THREE POINT contact when climbing
- DO NOT carry items in hands while climbing
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Ladder Code to identify the proper use and safe work procedures for portable ladders to eliminate / minimize potential injury / damage to employees, contractors, and the public / property while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The proper placement, use and storage of portable ladders will enable employees to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Ladder Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Portable Ladder

A ladder that can readily be moved or carried and usually consists of side rails joined at intervals by steps, rungs, cleats, or rear braces

3.2 Combination Ladder

A portable ladder capable of being used either as a stepladder or a single or extension ladder.

3.3 Extension Ladder

A non-self-supporting portable ladder consisting of two or more sections, traveling in interlocking rails, guides, or brackets so arranged to permit length adjustment.
3.4 Single Ladder

A non-self-supporting portable ladder, non-adjusting in length consisting of one section only.

3.5 Step Ladder

A self-supporting portable ladder, non-adjustable in length having flat steps and a hinged back.

4.0 EXPECTATIONS

The Ladder Code shall provide required and adequate guidelines to ensure knowledge of potential hazards, which may be present to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Ladder Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Inspect ladder prior to use
- Not use a ladder that is unable to perform the function for which it is designed. (e.g. a step ladder shall not be used as an extension ladder)
- Be responsive, through adequate training, to minimize the risk of injury in the work environments, which may be prone due to the use of portable ladders.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
• Ensure appropriate ladders are available at the work site for the job description specified.
• Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
• Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

• Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
• Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

• Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
• Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Inspection Prior to Use

NCSG employees shall inspect a portable ladder prior to use to ensure serviceability. The following at minimum shall be verified:

• All rivets, crews and crimp joints are sound
• All end closures, slip resistant foot covers are in place
• All pivot points move freely without binding
• All ropes / pulleys are securely fastened and in good working order
• No excessive debris has been allowed to collect on rungs / steps
• Rungs / steps are still of a skid resistant material in nature

All portable ladders shall be clearly and permanently marked indicating in French and English, the following:

• Manufacturer’s name or trademark
• Date of manufacture
• Nominal length
• Maximum extended length (if applicable)
• Grade, projected use, and load rating
• Safety cautions in words or symbols
6.2 Prep of Work Site Prior to Use

- Use proper ladder for the job. In areas where there is a safer alternative to the use of a ladder the worker shall use that method instead of the ladder.
- A visual inspection shall be conducted in conjunction with a Field Level Risk Assessment to determine hazards such as live wire, overhead obstructions, etc. The area shall be made safe prior to the use of a portable ladder.
- If work is to be done in an energized or potentially energized environment, the ladder used shall be of a non-conductive material.
- Ensure adequate space is available to set a single or extension ladder at the proper (75%) angle resulting in a ladder base distance equal to one quarter of the total working length of the ladder away from the base of the vertical support.
- The base area shall be firm, and level and of a stable nature
- Dust and sand which may be present on a concrete or asphalt floor are cleared from under the foot area of the ladder to prevent slipping
- Placement of the ladder in front of a doorway or entrance / exit shall be avoided if possible, and where not, access shall be prevented until the completion of work.
- In the event the worker is trying to perform a task using a ladder which requires the worker to carry a heavy object, bulky materials or ascend or descend the ladder in an unsafe manner the worker shall instead use a safe elevating platform instead of a ladder.

6.3 Use of Ladder

- Employees, contractors shall be aware of personal physical limitations prior to the use of portable ladders on the work site
- Confirm prior to use a firm level base and the top ends of the ladder rails are secure
- Ensure that the horizontal distance between the base and top support of the ladder is at least ¼ that of the length of the ladder.
- Face rungs when climbing a ladder, and use both hands and ensure three point contact is used
- No more than one person is allowed on a ladder at one time.
- Items shall not be carried in hands while climbing ladders unless required in the assistance of the climb.
- Do not splice short ladders together.
- Do not use ladders with broken or missing steps or rungs.
- Do not place a ladder against a window.
- Always extend ladders 1 metre above roof when climbing to the roof of a building.
- Ladders shall be placed so that the side rails have secure footing.
- The top two rungs of a stepladder shall not be used as steps.
- Do not climb higher than the third rung from the top on straight ladders, or the second tread from the top of stepladders.
- Do not use ladder in high winds
- Do not “WALK” the ladder while on the ladder.
- If constructed on site, a portable constructed ladder shall meet or exceed the required legislation as applicable.

6.4 Storage Before / After Use

- Ladders shall be hung in a dry environment at intervals of 2 metres.
- Ladders while transported are to be securely fastened to vehicles with minimal overhang beyond support points.
- Wooden ladders shall not be painted.
Ladders shall be secured in a manner that prevents unauthorized use (e.g. restricted access, locks, etc).

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Proper climbing techniques shall be demonstrated and observed in order to establish employee competency
- Proper lifting / carrying / placement techniques shall be demonstrated and observed in order to establish employee competency
- NCSG orientation

8.0 RESOURCES

- WorkSafeBC – Construction Safety Series – Safe Ladder Use
- Alberta OH&S Code Part 8
- BC OH&S Regulations Part 13
- Saskatchewan OH&S Regulations Part 13
- Manitoba OH&S Regulations Part XVI
- CSA Z11-M81 Portable Ladders
- ASME
- OSHA 1920
- OSHA 1926

May all be used to reference additional information pertaining to portable ladders and control methods for minimizing potential exposure and risk.

NACG understands that there may be questions and concerns regarding the Ladder Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None

10.0 SUPPORTING DOCUMENTS

- None
HEALTH, SAFETY & ENVIRONMENT

LEAD EXPOSURE CODE

REMEMBER!

- Isolate the work area
- Use PPE (Masks, Respirators, Gloves, Disposable Coveralls)
- Dispose of lead contaminant in proper containers
- Use Double - Bagging
- Wash before eating / drinking
- Change and dispose of lead laden clothing before leaving the work site
- Use proper hygiene practices after work (Shower, wash thoroughly)
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Lead Exposure Code to identify the proper level of protection and control plan required to protect against a potential injury to employees, contractors, and the public regarding potential exposure and work with lead while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct engineering, administrative and PPE controls are essential in maintaining a safe work environment and the understanding lead exposure in the workplace. Proper use of these controls shall enable employees to ensure adequate protection from potential injury during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG. OELs which are provided by specific legislation shall be referenced to ensure limits are not exceeded. These limits shall apply to workers directly involved with tasks using lead, and also to workers in the workplace who may be exposed to lead indirectly from these tasks or from substances such as lead paint.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Lead Exposure Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Occupational Exposure Limit (OEL)

In respect of a substance, means the occupational exposure limit established in the applicable codes or schedules / tables within the codes

3.2 HEPA Filter

High efficiency particulate air filter
4.0 EXPECTATIONS

The Lead Exposure Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to employees, contractors, visitors and general public within NCSG areas of responsibility. The Lead Exposure Code will be reviewed at a minimum of every three years.

Any Standard Operating Procedures which contain a Lead Exposure Control Plan shall be reviewed annually.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Obey all warning signs and labels indicating the presence of lead containing materials.
- Follow all hygiene precautions as required to minimize / eliminate exposure to lead contaminants.
  - Hands and face should be washed immediately if lead materials are contacted.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to lead exposure.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Ensure all engineering controls (i.e. Vent hoods, vacuum systems, etc) are operating in serviceable condition.
- Not operate any engineering controls (i.e. Vent hoods, vacuum systems, etc) which are determined to be unserviceable or sub-standard.
- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment in accordance with the training and instruction received.
HEALTH, SAFETY & ENVIRONMENT

LEAD EXPOSURE CODE

- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Ensure all Lead Exposure Control plans are reviewed at minimum, annually or when the work environment changes.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Tools and Equipment for Lead Removal

- Primary focus shall be the reduction of dust and dispersal of lead in a cloud formation or particulate
- NCSG (although not our work focus) shall ensure any contractor shall have the following to safely remove / contain lead hazards within the work place if required to:
  - Dustless removal equipment(grinder, sander etc)
  - Wet/dry sandpaper, sanding sponge
  - Mist bottle, pump sprayer
  - Tape (painter’s, duct, masking)
  - Heavy duty (4-6 mil) plastic sheeting
  - Heavy duty garbage bags
  - Chemical stripper
  - Utility knife
  - Heat gun
  - Vacuum with HEPA filter
- NCSG shall ensure that respirators with an N-100 (or HEPA) rating or better are approved for use when working on lead-based paint surfaces.
- FLRA’s shall be used to determine if a different type of respirator rated for use around lead may be required depending on work conditions.
- Personal Protective Equipment as required (e.g. disposable coveralls, latex gloves, disposable head cover, etc)
NCSG shall ensure that:
- The availability of an isolated area from the work site for the provision of storing food, drinking and eating food.
- Adequate washing, showering, and change facilities are provided for any lead exposed workers so workers can wash thoroughly before rest and break periods.
- Adequate change facilities for workers to remove lead laden clothing / coveralls / boots and replace with clothing to worn off site.

6.2 Preparation of Area During Lead Removal (Adjacent worksites)

NCSG shall through the use of FLRA’s and Company Standard Operating Procedures evaluate the work site for lead exposure hazards

NCSG shall consider the following as a minimum:
- **Was the property constructed prior to 1978?** The majority of buildings constructed before 1978; especially those constructed prior to 1960; contain some lead-based paint.
- **Has there been significant renovation?** If all work will be conducted in an addition to the dwelling that was constructed after 1978 or in a home that was gutted and renovated after 1978, NCSG employees, contractors do not need to utilize lead-safe work practices in the parts of the home that were built/renovated after 1978.
- **Has the property been tested for lead?** Lead testing will tell you if there is lead in the property. If documentation that a certified inspector or risk assessor has performed a lead evaluation and found that no lead-based paint is present in the work area, you do not have to utilize lead safe work practices, regardless of the age of the property. If the paint has not been tested for lead, assume that lead-based paint is present and utilize lead safe work practices.

NCSG shall have or request client to have air sampling and surface testing conducted for a work site which may be suspect of the presence of lead contaminants where work is to be done.

NCSG shall ensure the following is assessed to control / manage lead in the workplace:
- Find out where and how lead is used (e.g. tools, weights, solder and old paint may contain lead)
- Establish where is lead present in this workplace
- What tasks or products involve the use of lead
- How or do workers come into contact with lead

NCSG shall work within the client’s Standard Operating Procedures a Lead Exposure Control Plan as applicable to Site Specific requirements and shall include in the plan but not limit the plan to:
- Statement of purpose and responsibilities of the plan.
- Worker education about the hazards of lead.
- Written Standard Operating Procedures for the control of lead hazards.
- Detailed procedures for worker decontamination.
- Reference to health monitoring as required in this code.
- Reference to documentation and record-keeping as required in this code.
- Application and installation requirements of 6 mil plastic on the doors into the work areas as a temporary containment while work is performed if required.
- 6 mil plastic on the floor in all work areas to contain dust and debris.
- Covering of belongings in the work area with 6 mil plastic and sealing with tape to the floor.
- Seal off ductwork (registers) in work area while doing work.
- Consider getting help from certified or licensed contractors if the amount of deteriorated paint / lead based hazard is significant.
6.3 General Safe Work Practice

Where applicable, NCSG shall ensure that the removal of lead based paint shall include the following processes:

- Use wet methods to scrape and sand by misting surfaces before scraping and sanding.
- Continue to mist while working.
- Dry scraping or sanding shall only be done in very small areas near electrical outlets and light switches and if flat surfaces below these areas are covered with protective sheeting.
- Mist before drilling and cutting to reduce dust creation and keep dust from becoming airborne and spreading beyond the work area.
- If power tools that sand or grind are used the equipment shall be equipped with a HEPA vacuum attachment.
- Abrasive blasting or sandblasting shall be avoided without the proper HEPA exhaust equipment in use on site.
- Use a heat gun only if set below 1,100°. It is shall only be used for small areas, such as the edge of a door, the top of a window stool, or the friction surface of a window jamb.
- Open torches, infrared scorers, electric irons, and heat guns operating above 1,100 ° shall not be used due to the danger of the release of lead fumes.
- Scoring paint before separating components shall be completed to assist paint from chipping when a paint seal is broken.
- Prying and pulling apart components and pulling nails shall be the preferred method over pounding out components due to the creation of less dust and fewer paint chips.
- No uncontained hydro blasting or high-pressure washing shall be performed in the removal of lead paint or lead hazards.
- No stripping lead-based paint with a volatile stripper unless properly ventilated by the circulation of outside air and adequate PPE shall be performed.

Where applicable, NCSG shall ensure paint stabilization during the removal of lead based paint / hazards with the following process:

- Remove all loose surface contaminants, wetting surface to minimize dust as you work.
- Repair any areas of the component surface or substrate that are not in good condition.
- De-gloss surfaces to be painted using wet sanding or a de-glossing paint.
- Prepare or Remove old paint using general safe work practices as outlined in this code.
- Use a primer before applying new paint to all surfaces.
- Clean the work site frequently.
- Removing debris frequently.
- HEPA Vacuuming horizontal surfaces frequently.
- Collect paint chips as they are created.
- Wrapping and disposing of removed components.

Where applicable, NCSG shall not engage in the following procedures due to the unsafe nature of the methods:

- Power-sanding or grinding without a HEPA vacuum attachment
- Dry scraping and dry sanding
- Uncontrolled abrasive- or hydro-blasting
HEALTH, SAFETY & ENVIRONMENT
LEAD EXPOSURE CODE

- Open flame torching or high heat gun settings
- Paint strippers containing methylene chloride
- Using power tools on heavily misted surfaces can be dangerous if they are wet. Tool blades can slip and water can cause electric shock. When misting, lightly mist the surface and use hand tools only. If power tools are to be used, they should be attached to a HEPA vacuum and shall be run through a Ground fault Interrupter Circuit (GFCI).

### 6.4 Clean Up

- Where applicable, NCSG shall ensure further lead contamination of the worksite is minimized by cleaning thoroughly and often. All visible paint chips and debris created while performing exterior paint work shall be cleaned up at the end of each day’s work.
- Cleaning with a HEPA vacuum and wet cleaning an area shall be completed periodically as work progresses.
- Water used for clean-up shall be filtered and dumped in a toilet.
- Waste water shall not be dumped down a sink, storm drain, on the ground, or in a tub.

### 6.5 Medical Review

- Where applicable, NCSG shall ensure a medical monitoring (blood lead testing) program is in place where employees are at risk of exposure to potentially hazardous levels of lead.

### 7.0 TRAINING REQUIREMENTS AND MATERIALS

- Lead Exposure Precautions training shall be provided before initial assignment in areas where lead is suspected and annually thereafter. The training shall contain but not limited to:
  - Proper tool Knowledge
  - Proper tool use
  - Preparation of a site
  - Recognition of potential Lead Exposure environment
  - Clean Up of a Lead Exposure environment
  - Medical Review process / program

- Health Effects of Lead
  - Acute Lead Poisoning
    - Loss of appetite, nausea, vomiting, stomach cramps, constipation, difficulty in sleeping, fatigue, moodiness, headache, joint or muscle aches, and anemia.
  - Long Term (Chronic) Overexposure
    - Severe damage to blood forming and nervous, urinary and reproductive systems

- PPE Equipment specific training
  - Dust Respirator / PAPR
  - Disposable Rubber or Latex gloves
  - Disposable Coveralls
  - Eye / Face Protection to prevent mists / dust particle from coming in contact with eye membrane

- NCSG orientation

Note: All training must be documented including date of training, employee name and trainer name.

### 8.0 RESOURCES

- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – CH061 Chemical Hazards
NCSG understands that there may be questions and concerns regarding the Lead Exposure Code. Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICES

- Appendix A – NCSG Lead Exposure Clean Up Procedures
- Appendix B – NCSG Precautions When Leaving a Lead Exposure Environment.

10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
- NCSG Code – Personal Protective Equipment – Respiratory Protection
Appendix A

NCSG Lead Exposure Clean Up Procedures

1. Wear plastic gloves to clean that can be thrown away after the work is complete to protect employees and contractors from exposure to lead.
2. With a gloved hand, use a damp paper towel, or duct tape to pick up larger paint chips.
3. Follow-up by thoroughly vacuuming the areas using a HEPA vacuum.
4. Seal paint chips, paper towels, tape, and vacuum bags in a plastic bag and dispose of safely.
5. Wash household surfaces.
   a. Use any all-purpose, non-abrasive cleaner (ie. dishwasher detergent which has mild phosphates in it) or TSP, a lead-specific detergent. Note, do not make the concentration more than the directions indicate.
   b. For best results scrub the area well being careful not to remove the intact paint.
   c. Especially clean areas such as floors, window wells, window sills, and other horizontal surfaces.
   d. Keep general public away when cleaning.
   e. Keep all cleaners safely away from general public and under control.
   f. Use a spray bottle to keep dust levels down.
   g. Use a cleaner already in a spray bottle, or put the cleaner into a spray bottle.
   h. If you must use a bucket, keep the wash water clean using the “two bucket method”.
6. Use paper towels.
   a. Don’t use dish cloths or sponges to clean.
   b. Use a new paper towel to clean each area.
   c. Seal the used paper towels and gloves in a plastic bag and throw them out.
   d. Rinse after cleaning.
7. Wash your hands when cleaning is done.
8. Pour any wash and rinse water down the toilet, not the sink.

Two Bucket Cleaning Steps

- Prepare a two-sided bucket or two separate buckets,
- A spray bottle with 1/2 ounce of cleaning solution and hot water.
- In the one side of the bucket place clean rinse water, leaving the other side empty.
- Clear any large debris from the areas to be cleaned and discard in wastebasket.
- Wear rubber gloves (throw them away when work is complete) when using cleaning solution.
- Wet the rag with the sprayer and begin to clean a small area at a time.
- Wring out excess water in the rag in the empty bucket, rinse in the clean water, and again wring it out into the “empty” side.
- Continue until the rinse water gets dirty.
- Place the rag in the trash.
- Empty both buckets into the toilet and begin again. Keep cleaning the same area until the rinse water stays clean.
- Repeat this cleaning in all areas (floors, window sills and troughs, and other horizontal surfaces) of each room that needs cleaning.
- When using a mop instead of rags, follow the same method – throwing away the mop head when it gets dirty, and replacing it with a clean one.
- After cleaning is complete be sure to rinse cleaned areas again with clean rinse water to thoroughly remove any soap residue that may be harmful to employees, contractors, visitors and general public.
- Dump wastewater only down the toilet and flush.
Appendix B

Precautions to take when leaving the work site

- When an employee or contractor leaves the work site (the area covered by protective sheeting or the room), the employee / contractor shall take precautions to prevent spreading dust and paint chips to other parts of the work site on clothes and shoes.
- NCSG shall provide materials to wipe or vacuum shoes before employees, contractors, and visitors step off of the plastic sheeting. A large tack pad on the floor may assist to clean the soles of shoes.
- Remove shoe coverings if used.
- At the end of the work shift, employees / contractors shall change clothes and wash adequately to reduce the risk of contaminating vehicles and potentially transferring lead dust to an employee’s / contractor’s residence.
- Throw away disposable clothing or place clothing in a plastic bag to stop dust from getting on other clothing.
- Adequate personal hygiene (e.g. thorough washing, showering, etc) should be concluded at the end of the work day.
- NCSG recommends employees / contractors wash work clothes separately from regular household laundry to stop lead particles from getting on other clothes.
1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Manual Materials Handling Code to identify the proper level of protection against a potential injury / damage to employees, contractors, and the public / property in the operation of manual materials handling while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct operation of manual materials handling is essential in maintaining a safe work environment which will enable employees to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

There are no definitions for the Manual Materials Handling Code.

4.0 EXPECTATIONS

The Manual Materials Handling Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Manual Materials Handling Code will be reviewed at a minimum of every three years.

This Code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Not operate manual materials handling equipment unless trained to do so
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to injury / damage from manual materials handling.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Identify unsafe conditions and apply corrective actions as applicable
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
- Ensure a procedure exists for the lifting of heavy loads including the manual lifting of heavy loads where applicable.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Inspection

- Before operating manual materials handling equipment, the operator shall complete a visual inspection of the equipment and the surrounding area to ensure that the equipment is in safe operating condition and that no worker, including the operator, is endangered when the equipment is started up.
- NCSG shall ensure a pre shift inspection is completed and a written record is maintained of the inspection.
- The inspection shall include, but is not limited to:
  - Brakes (if applicable)
  - Linkage
  - Operating controls
  - Steering
  - Minimal leaks (hydraulic,)

6.2 Operating Practices

- When there is excessive manual handling of materials over 50 pounds, then additional tools and equipment may be required for materials handling.
- A variety of tools and equipment is available to assist in the handling of materials and include but are not limited to:
  - Hooks
  - Dollies
  - Four wheel trucks
  - Rollers
  - Jacks
- A manual handling equipment left unattended shall be immobilized and secured against accidental movement
- No load may exceed the maximum rated load
- All loads must be handled in accordance with the height and weight restrictions on the load chart (if applicable)
- When a load is in the raised position, (i.e. pallet jack), the controls must be attended by an operator
- If an operator does not have a clear view of the path, assistance from a signaller who has been instructed in a code of signals for managing traffic in the workplace must be employed
- Loads must be carried as close to the ground or floor as the situation permits
- Loads that may tip or fall and endanger a worker must be secured
- Where a manual handling equipment is required to enter or exit a vehicle to load or unload, the vehicle must be immobilized and secured against accidental movement
• a manual material handling equipment shall not be used to support, raise or lower a worker unless the work is carried out in a lift truck-mounted work platform, which complies with applicable legislative regulations.
• barriers, warning signs, designated walkways or other safeguards must be provided where pedestrians are exposed to the risk of collision

6.3 Load Selection

• In the course of load selection, operators of manual materials handling equipment shall:
  o Ensure that the weight to be lifted does not exceed the capacity of the equipment.
  o Ensure that the load is adequately secured. If in doubt, have the pallet re-strapped or otherwise readied for movement.
  o Ensure that the forks, if applicable, are adjusted to permit maximum width under the payload.
  o Consider all factors affecting off-loading.

• In the event the worker must lift or move heavy or awkward loads they shall:
  o Conduct an informal assessment of the load to be lifted and the method to be applied
  o Use a power lifting device such as mobile lift vehicle or
  o Request assistance from a worker if the load can be safely managed by two people.

6.4 Maintenance

• NCSG shall ensure that a formal scheduled maintenance program is performed on all Manual Materials Handling equipment in accordance with the manufacturer’s specifications.

7.0 TRAINING REQUIREMENTS AND MATERIALS

• NCSG shall provide a training process that will ensure employees who are designated to operate Manual Materials Handling:
  o has been informed of the hazards associated with operating a manual material handling equipment in the particular workplace, including the hazards associated with the load, the design of the workplace and the environmental conditions
  o knows how to protect him/herself and others from the hazards
  o has demonstrated to a designated skilled and experienced operator that the skills and knowledge identified as final outcomes for operator competence have been learned

• NCSG shall maintain in the workplace a record (VTA) of workers competent to operate manual materials handling equipment.
• The record shall include, but is not limited to:
  o skills and knowledge demonstrated type of manual materials handling equipment on which the operator was assessed
  o name and affiliation of the assessor
  o date the assessment took place
• PPE Equipment specific training – Protective Footwear
• NCSG orientation

8.0 RESOURCES

• Alberta OHS Code Part 14
• OSHA 1920
• CSA B335-04 Safety Standards for Lift Trucks

28/11/2011
May all be used to reference additional information pertaining to Manual Materials Handling and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Manual Materials Handling Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Example of Manual Materials Handling Equipment

10.0 SUPPORTING DOCUMENTS

- None
Figure 1 presents an illustration of a hand dolly. Figure 2 illustrates a typical four-wheel truck.
REMEMBER!

- Always stay focused on the task at hand.
- Avoid distractions in vehicles and equipment.
- No Smoking or cell phone use.
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed an Operator Distraction Code to identify the proper level of protection against a potential injury / damage to employees, contractors, and the public / property due to the distraction of an operator from the primary area of focus and attention while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The comprehension and application of prevention of operator distraction is essential in maintaining a safe work environment. Emphasis shall be placed on the employee to comply with the direction provided and take a leading role in preventing distraction. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

Communication devices used for safety and work related transfer of information are excluded from this code however must still be recognized as a potential distraction.

3.0 DEFINITIONS

The following definitions are specific to Operator Distraction Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Distraction

Diversion of attention from driving or operating the machine, because the driver/operator is temporarily focusing on an object, person, task or event not related to driving/operating, which reduces their awareness, decision-making, and/or performance, leading to an increased risk of corrective actions, near-crashes, incidents or serious crashes.
4.0 EXPECTATIONS

The Operator Distraction Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Operator Distraction Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Ensure the use of personal protective equipment does not become in itself a distraction to the task assigned.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to distraction.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Immediately inform the Supervisor of any personal non-work related areas of concern which in the opinion of the employee may cause distraction to the task assigned.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure appropriate PPE as required in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Ensure that all reasonable measures are applied to enable workers to address without fear of reprisal any personal non-work related areas of concern of a worker which in the opinion of the employee may cause distraction to the task assigned.
Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Manufacturer’s Operation and User Manuals

- All employees / contractors shall have readily available access to equipment operator / user manuals in the workplace.
- All employees / contractors shall have reviewed the operator / user manual prior to the first use of equipment and detail any identified caution and hazard distraction notices identified by the manufacturer.
- All employees / contractors shall review on periodic schedule operator / user manuals to maintain a current understanding of potential distractions identified.

6.2 Entertainment / Electronic Devices

- NCSG employees, contractors, visitors shall not use an entertainment / electronic device (I-Pod, Ear Phone Radio, Cell Phone, Blackberry, etc) which prevents the individual from hearing ambient sound or emergency response alarms in the vicinity of the workplace.
- NCSG employee, contractors, visitors shall not drive a vehicle within the workplace or site while operating a cellular phone. Appendix A details the procedure for cell phone use by NACG employees and contractors.
- All NCSG workplaces shall ensure any ambient entertainment noise (e.g. office radio, portable CD player / radio, vehicle radio) used in the workplace is maintained at a sound level which will not prevent employees in the vicinity from hearing ambient sound or emergency response alarms in the workplace.
- Operators who are in control of equipment shall ensure the vehicle is in park / neutral with park brake engaged or otherwise made inoperable if communicating with other employees / contractors from the operators control area outside the scope of the equipment’s standard operation.
6.3 Other Distraction Considerations

- NCSG employees / contractors shall as reasonably practicable recognize other elements which may distract individuals. This list includes, but is not limited to:
  - Eating while operating equipment
  - Multi-tasking a process to save time resulting in split attention
  - Talking with co-workers
  - “DAY-DREAMING”
  - Fatigue (to be read in conjunction with the Fatigue Management Code)
  - Horseplay in the workplace
  - Personal issues (non work related)
- NCSG employees / contractors shall upon recognition of a distraction take reasonable steps and procedures to correct / eliminate the distraction prior to continuing with the task assigned.
- New employees are prone to distraction due to sensory overload in a new environment.
- Employees who are near retirement / termination are prone to distraction due to an expectation of changing work status.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Defensive Driving Course
- NCSG orientation

8.0 RESOURCES

- Alberta OH&S Code Part 2
- OSHA 1920
- Alberta Distracted Driving Legislation

May all be used to reference additional information pertaining to operator distraction and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Operator Distraction Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Steps for Cell Phone Use – NCSG Operated Equipment

10.0 SUPPORTING DOCUMENTS

- None
Appendix A

Steps for Cell Phone Use in NCSG Operated Equipment (non-light duty pick up)

NCSG Employees shall:

- as reasonable practicable, not use a phone when driving or operating equipment (hands free, hand held, or messaging)
- use message banking if available;
- when it’s safe to do so, pull to the side of the road ensuring the vehicle is completely removed from the flow of traffic prior to making or receiving calls; and / or
- arrange to ring the caller back at a time when the employee is not driving/operating.
REMEMBER!

- Can you contact someone in an emergency?
- Have you checked your communication system to ensure it works?
- Is all your equipment in Good Working Condition?
- Is First Aid equipment available and do you know how to use it?
- What is your Check in Schedule?
- Think the tasks through BEFORE you start
- Have you cleared out and confirmed you are no longer working alone?
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Working Alone Code to identify the proper level of protection that will assist all employees in performing their tasks effectively and efficiently when operating or working alone. This code will aid employees in minimizing the risks of exposure and assist in the knowledge of safe work practices to minimize or prevent potential injury.

2.0 SCOPE AND APPLICATION

The guidelines and recommendations are provided to increase awareness of correct control measures to be used by NCSG employees and contractors where there may be a risk of injury due to potential exposure to equipment, environment and / or conditions due to working alone. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

The following definitions are specific to Working Alone Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Work Alone

To work alone at a worksite in circumstances where assistance is not readily available in the event of an injury, illness or emergency

3.2 Effective Means of Communication

A radio, telephone or other electronic communication device
HEALTH, SAFETY & ENVIRONMENT

WORKING ALONE CODE

4.0 EXPECTATIONS

The Working Alone Code shall provide required and adequate guidelines to ensure knowledge of potential hazards from equipment, environment, and persons due to working alone which all employees, contractors, visitors and general public within NCSG may be exposed to. The Working Alone Code will be reviewed every year.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Regional Team Lead - Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as specified in the applicable codes in accordance with the training and instruction received to ensure personal safety
- Ensure equipment is used as intended, and according to manufacturer’s specifications
- Ensure equipment has been inspected prior to use
- Ensure appropriate first aid and emergency supplies are on the site and available.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Immediately inform the Supervisor of any change in climate or weather conditions, which may adversely affect the safety of employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as specified in the applicable codes in accordance with the training and instruction received to ensure personal safety.
- Ensure, appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.

Ensure if required due to climate/weather conditions that adequate work/rest periods are identified, recorded, and maintained to ensure the safety of all employees, contractors, visitors within NCSG areas of operation or active worksites.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.
- Copies of the working alone procedures will be readily available to employees of NCSG.

6.0 METHOD

6.1 Establishment of working alone

An employee is considered to be working alone, if the employee works alone at a worksite in circumstances where assistance is not readily available when needed.

Workers who work alone can be grouped into five categories:
1. Workers who handle cash
2. Workers who travel away from their base office to meet clients
3. Workers who do hazardous work and have no routine contact with the public
4. Workers who travel alone and have no routine interaction with the public
5. Workers who are at risk of a violent attack because their work is isolated from public view

Primarily, category three (3) and four (4) apply to NCSG operations on a consistent basis.

NCSG can eliminate the risk of employees working alone, as well as the need to comply with working alone provisions, if they choose to organize work schedules and procedures to remove the occurrence of working alone.
Before a worker is assigned to work alone or in isolation, the employer must identify any hazards to that worker. Before a worker starts a work assignment the employer must take measures to eliminate any hazards, and if it is not practicable to eliminate the hazard, to minimize the risk from the hazard.

6.2 Employer criteria

In the event that working alone circumstances exist, NCSG shall:

- Conduct a hazard assessment.
- Eliminate or reduce the risks
- Establish an effective means of communication
- Ensure employees are trained and educated
- Ensure a contact person is designated for each individual working alone situation and ensure that contact person process is validated.

6.3 Confirmation of Effective Communication

NCSG shall ensure that communication with an employee who is working alone has been analyzed to meet the following:

- Ensure the communication method involves a regular telephone, cell phone, or other electronic communication and whether a communication check been completed or;
- Scheduled check-in points with other employees or;
- An alarm system or process available to alert other employees in the event of an incident.

Regardless of the means of communication established NACG shall also include a planned “overdue check-in” procedure to initiate action on an employee who fails to report in

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Knowledge and understanding of correct use of cell phone / radiotelephone / communication equipment
- NCSG orientation – Field Level Hazard Assessment training
- NCSG shall ensure that all personnel working alone and those assigned the position as contact person shall receive sufficient training to perform the required tasks in a safe manner and in accordance to this procedure.

8.0 RESOURCES

- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – WA001 Working Alone
- Alberta OH&S Code Part 28
- BC Regulations Part 4

May all be used to reference additional information pertaining to Working Alone Legislation and control methods for minimizing potential exposure and risk.
NCSG understands that there may be questions and concerns regarding the Working Alone Legislation Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None
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17. Load Dimension Requirements
18. Escort vehicles
19. Loader. Forklift Operator
20. Refueling equipment & vehicles
**CRANE INCIDENT PROCEDURE**

**DRAFT**

Applicable Trade/Craft: **ALL TRADES AND CRAFTS**

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services, Inc. recommended procedures regarding crane incidents.

---

**Crane Incident Procedure**

Something has gone wrong! What responsibilities does an operator have when an incident happens?

Certain incidents require a crane to be taken out of service and inspected to ensure that it is safe, reliable, and capable of performing properly. The following procedure clarifies the types of conditions and responsibilities an operator needs to follow to deal with an incident.

This procedure is to ensure that:

1. Operators fulfill their duty in terms of due-diligence.

2. The owner fulfills its obligations of due-diligence.

3. MOST IMPORTANT OF ALL, the customer knows that proper due-diligence has been fulfilled and the crane is ready to be put back into service.
Safe Job Procedures

Task Global: CRANE INCIDENT PROCEDURE

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-Jun-07
Revised: 14-Nov-08

Known Recurring Hazards | Potential Risk | Required Controls
--- | --- | ---
Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees

Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points, emergency assembly areas and contact numbers with employees

Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSC incident and near-miss reporting procedures

CONDITIONS

1. Load has been dropped.
2. Shock-load to crane or specific components has occurred.
3. Structural damage (or the potential for damage) to any/all lifting components during: normal operations, shipment, rig up/down, transportation, etc.
4. Mechanical failure of any/all crane components directly involved with lifting.
5. Power line contact.
6. Rigging failures.
7. When an operator/client questions the structural integrity of a crane.

When these types of situations occur, follow the below procedure:
1. Immediately shut down crane and secure load and site for a proper and thorough investigation.

2. Inform customer personnel regarding the fact that an incident has occurred and the procedures that the operator is required to follow.

3. Contact:
   - Immediate Crane Supervisor if unavailable contact
   - HS&E Advisor if unavailable contact
   - Manager, Assistant Manager, Branch Manager.

4. Do not discuss the incident with anyone other than NCS personnel, until the incident has been discussed with NCS upper Management.

   UNDER NO CIRCUMSTANCES (OTHER THAN SECURING A LOAD, OR MAKING THE SITE SAFE) IS THE CRANE NOT TO BE MOVED UNTIL PROPER NCS AUTHORIZATION HAS BEEN GIVEN.

Once a Crane & Rigging Supervisor, Manager, Assistant Manager, Branch Manager, and/or HS&E Advisor has been informed they will:

1. Contact the operator and discuss with him/her all the circumstances surrounding the incident including:
   - Injury and/or property damage, and/or the potential of injury or property damage.
   - Position and rig-up configuration of the crane.
   - The load (including weight, size, position, placement, etc.)
   - Site conditions (hazards such as power lines, ground conditions, etc.)
   - The events of the actual incident and effects of the incident upon the crane.
   - Any other pertinent and valuable information required to fully understand the incident.

2. After through consultation with other members of the investigative team (including the operator involved with the event) a decision will be made to determine if the crane is safe and reliable to place back into service. A report will be issued to the customer to state that the incident has been fully investigated and the factors determining the safety and reliability of the crane.

3. When a crane is determined not be safe and reliable for service then the necessary steps will be taken to ensure the crane’s integrity for service.

All reports regarding the investigation of an incident will be shared with site personnel and all others involved with the crane.
Safe Job Procedures

Task Global: CRANE INCIDENT PROCEDURE

DRAFT

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Number: SJP001

Reference: General

Origin Date: 21-Jun-07
Revised: 14-Nov-08

Approved By: ___________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
**Safe Job Procedures**

**Task Global:**
CRANE INCIDENT PROCEDURE

**DRAFT**

**Reference:** General

**Applicable Trade/Craft:**
ALL TRADES AND CRAFTS

**Origin Date:** 21-Jun-07
**Revised:** 14-Nov-08

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</table>
**Safe Job Procedures**

**Task Global:** MANUALLY LIFTING AND/OR CARRYING HEAVY OBJECTS

**DRAFT**

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To establish safe work practices that minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services, Inc.’s general practice for physically lifting and or carrying heavy objects in a safe manner.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
| Lifting heavy objects | - Personal injury | - Conduct an FLRA prior to commencing task  
- Do not attempt to lift objects heavier than 27 kg./60 lbs. by yourself |
| Improper body position for task | - Personal injury | - Utilize proper body mechanics when lifting I.E. shoulders and feet square to load, lift with your legs from squat position, keep back straight |
Safe Job Procedures

Task Global:   MANUALLY LIFTING AND/OR CARRYING HEAVY OBJECTS

DRAFT

Applicable Trade/Craft:    ALL TRADES AND CRAFTS

Reference: General

Origin Date: 21-06-07
Revised: 24-Jan-08

<table>
<thead>
<tr>
<th>Condition</th>
<th>Injury</th>
<th>Precautions</th>
</tr>
</thead>
</table>
| Uneven, slippery ground conditions, tripping hazards, congested areas | Personal injury    | - Remove tools, debris, rocks and other tripping hazards from lift/travel area  
- Plan the travel route and discuss with others when more than one person is involved in lift  
- Identify potential pinch points prior to lifting and transporting load I.E. door frames, walls, other equipment, tables, etc where hands can be caught between objects and loads |
| Inadequate tools and/or PPE                    | Personal injury    | - Determine PPE required based on worksite and material handling requirements  
- Inspect hand tools prior to use I.E. lifting tongs, hand trucks, etc. |
| Restricted/Obstructed visibility              | Personal injury    | - Do not attempt to lift or carry loads that obstruct visibility  
- Ensure adequate lighting is available in lift area and along transport route |
Safe Job Procedures

Task Global: MANUALLY LIFTING AND/OR CARRYING HEAVY OBJECTS

ALL TRADES AND CRAFTS

DRAFT

Reference: General

Applicable Trade/Craft

Number: SJP002

Origin Date: 21-06-07

Revised: 24-Jan-08

Note: The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities.

1) Conduct an FLRA prior to commencing task.
2) Perform a pre-use inspection of any tools to be used.
3) Clear lift area and transport route of tripping hazards prior to lift.
4) Utilize proper lifting techniques.
5) Do not individually lift objects that exceed 132 kg/60 lbs.
6) Identify pinch points along travel route prior to lift.
7) Ensure adequate lighting in lift area and along travel routes.
8) Utilize safe guards identified in the hazard/control table of this document for lifting and/or carrying heavy objects.

Approved By: 
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
## Safe Job Procedures

**Task Global:** MANUALLY LIFTING AND/OR CARRYING HEAVY OBJECTS

**Number:** SJP002

**DRAFT**

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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</table>
### Purpose:
To establish safe job procedures that will minimize risk to people, equipment and the environment.

### Scope:
This document describes Northern Crane Services, Inc. job procedures for charging batteries for equipment or vehicles equipped with an alternator.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
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</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
  - Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
  - Supervisors conduct a thorough review of permit procedures/requirements with employees  
  - Supervisors will conduct weekly safety meetings  
  - Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal Injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
  - Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |

- Connect one cable to the positive post of each battery

- Connect one end of the second cable to the negative post of the booster battery.

- Connect the other end to a clean unpainted area of the disabled vehicle (bumper, frame, or engine), preferably on the side opposite to the battery.

- Ensure cables are away from moving parts.

- Start engine of "booster" vehicle

- Turn off all battery operated accessories.

- Start disabled vehicle.

- Remove the negative cable first.
| - | - If there is no apparent reason why the battery became disabled, contact the mechanic. |

**Charging Batteries - (for vehicles equipped with an alternator)**

**DO NOT CONNECT NEGATIVE POST OF DISABLED BATTERY**  
(Sparks could ignite any accumulated hydrogen gases)

**ENSURE THAT VEHICLE BATTERY HAS A NEGATIVE GROUND**

---

*Approved By:*

Ron Sims Vice-President Corporate Affairs

*All original copies of Final Safe Work Practices and Procedures are signed by the Corporate Manager HSE & Training and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.*
**Safe Job Procedures**

Task Global: CHARGING BATTERIES

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 24-Jan-08

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</table>
PURPOSE: To establish safe practices for operating pneumatic tools and compressed air

SCOPE: This document describes Northern Crane Services Inc.’s practice for the safe use of pneumatic tools and compressed air.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | Personal Injury, Equipment damage | Employees attend Client and/or NCSI New Hire Orientation  
Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures  | Personal injury                     | Supervisors will review Emergency Response Plan including emergency meeting points with employees                                             |
| Unaware of incident reporting procedures | Inadequate treatment for injuries, Lack of adequate controls post-incident | Supervisors will review Client and/or NCSI incident and near-miss reporting procedures                                                          |
| Compressed air                   | Personal injury, Equipment damage   | Ensure air compressors are in proper working order prior to use  
Ensure portable compressors are on level ground and secured against movement prior to start-up  
Review and follow appropriate machine “start-up” and “shut-down” procedures  
Ensure pressure regulators are in proper working order and set to deliver safe working pressures as defined by manufacturer of tool to be attached to compressor  
Compressed air should not be used to clean dust or debris from yourself or others  
Ensure pressure is relieved from connected hoses and tools prior to disconnecting |
| Defective hoses, clamps and couplings | Personal injury, Equipment damage | Inspect hoses for damage, wear and defects prior to use  
Ensure hoses are rated for the amount of pressure to be used  
Inspect clamps for damage, wear and secure connection to hose  
Ensure “quick connect” fitting are securely connected and locked prior to using air tool  
Ensure “Chicago” fitting are locked and pinned with |
**Safe Job Procedures**

**USE OF COMPRESSED AIR**

**DRAFT**

**Applicable Trade/Craft**

<table>
<thead>
<tr>
<th>Applicable Trade/Craft</th>
<th>MECHANICS &amp; LABOURERS</th>
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<table>
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<tr>
<th>Risks</th>
<th>Controls</th>
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<tbody>
<tr>
<td>approved pins (absolutely no wire to be used)</td>
<td>Ensure “Chicago” connections are fitted with whip check cables</td>
</tr>
<tr>
<td>Airborne debris</td>
<td>Personal injury</td>
</tr>
<tr>
<td>Use a respirator when excessive dust or airborne materials are generated from task i.e. using air to blow down equipment or grinding paint, rust, etc.</td>
<td>Wear required PPE for operating air tools</td>
</tr>
</tbody>
</table>

**Note:**

The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the Northern Crane Services Inc. FLRA form and make that document available in the immediate work area.

**STEPS FOR SAFE COMPLETION**

- Conduct an FLRA prior to commencing work.
- Conduct a pre-operational inspection of all tools and equipment prior to commencement of task.
- Ensure all safe guards are in place prior to operation of pneumatic tools.
- Only use tools for their manufacturer recommended applications.
- Wear required PPE for the type of pneumatic tool to be used.
- Report all deficiencies to supervisor immediately for repair.

**Approved By:**

Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
**Safe Job Procedures**

**Task Global:**

**USE OF COMPRESSED AIR**

**Number:** SJP004

**DRAFT**

**Reference:** MAINTENANCE

**Applicable Trade/Craft:** MECHANICS & LABOURERS

**Origin Date:** 21-06-07  
**Revised:** 24-Jan-08

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Safe Job Procedures

Task Global: JACKING PASSENGER, LIGHT AND MEDIUM TRUCKS

DRAFT

Applicable Trade/Craft: MECHANICS

Reference: Maintenance

Origin Date: 26-06-07
Revised: 24-Jan-08

Number: SJP005

PURPOSE: To ensure the safe raising and lowering of passenger, light and medium trucks.

SCOPE: This document describes Northern Crane Services Inc. general practice for safely raising and lowering passenger, light and medium trucks using jacks, safety stands and/or blocks.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</thead>
<tbody>
<tr>
<td>Body parts caught in pinches points</td>
<td>- Personal Injury - Equipment damage</td>
<td>- Perform FLRA to identify possible pinch points prior removal - Do not place body parts under vehicle suspended on a jack</td>
</tr>
<tr>
<td>Jack failure</td>
<td>- Personal Injury - Equipment Damage</td>
<td>- Inspect all tools prior to use - Do not rely on jacks for support. Use a properly rated stand - Ensure proper placement of jacks and stands - Keep work area clear of unnecessary tools and equipment</td>
</tr>
<tr>
<td>Falling/moving vehicle</td>
<td>- Personal Injury - Equipment damage</td>
<td>- Ensure vehicle is properly immobilized against movement i.e. locked-out when applicable or keys removed - Ensure wheel chocks are used</td>
</tr>
</tbody>
</table>

**Note:** The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities.

**SPECIALIZED TOOLS AND EQUIPMENT:**
- Proper rated jack for the job
- Wheel chocks
- Safety stands or blocks
Safe Job Procedures

Task Global: JACKING PASSENGER, LIGHT AND MEDIUM TRUCKS

DRAFT

Applicable Trade/Craft: MECHANICS

Reference: Maintenance

Origin Date: 26-06-07
Revised: 24-Jan-08

STEPS FOR SAFE COMPLETION

Raising:

1) Park vehicle on level, solid ground.
2) Lockout or immobilize vehicle to protect against movement.
3) Chock wheels.
4) Select appropriate jack for the size and weight of the vehicle.
5) Position the jack underneath the axle or approved lifting point of the vehicle.
6) Jack the vehicle only as high as necessary to remove the wheel assembly in need of repair.
7) Install the appropriate jack stand or blocking under the axle or appropriate lifting point.
8) Lower the jack enough to rest the weight of the vehicle on the jack stand or blocking.

Lowering:

1) Perform a walk around prior to lowering the vehicle removing any tools or obstructions.
2) Raise the vehicle with the jack enough to clear the stands or blocks.
3) Remove the stands or blocks.
4) Slowly lower the jack, until the vehicle is resting on the ground, and remove the jack to a safe location.
5) Remove wheel chocks to a safe location.
6) Remove lock outs or other methods used to immobilize the vehicle and return vehicle to service.

Approved By: ______________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Job Procedures

Task Global: SETUP OF MOBILE CRANES

FINAL

Applicable ALL TRADES AND CRAFTS

Reference: General

Origin Date: 21-06-07

Revised: 24-Jan-08

PURPOSE: To establish safe job procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. job procedures for the setting up of mobile cranes.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
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</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a through review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
| Unaware of operator responsibilities | - Equipment damage  
- Personal/Public Injury | - The crane operator must review the crane set-up area looking for all obstructions such as; overhead power lines, tail swing interference, underground utilities, ground conditions, and anything else that might interfere with a safe lift.  
- Cranes must always be set-up level and on solid ground conditions  
- Cranes equipped with hydraulic outriggers must set up with outriggers fully extended and pinned as per manufacturer’s specifications. Tires completely off the ground in accordance with manufacturer’s specified operating procedures and set on approved outrigger pads for all hoisting procedures other than “pick and carry”. |
Safe Job Procedures

Task Global: SETUP OF MOBILE CRANES

FINAL

Number: SJP006

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 24-Jan-08

- When it is not possible to operate with outriggers extended fully, outriggers can be partially extended as long as it is within the capacities as specified in the manufacturer’s published charts.
- Pick and carry only permitted, locked and centered on firm and level ground and within the manufacturer’s guidelines and appropriate Load Charts.

Notes:

NO EXCEPTIONS! Whenever the outriggers are extended, (for whatever reason: lifting, rigging up/down, servicing, etc.), the beams need to be pinned to prevent damage or upset of the crane.

Approved By:
Ron Sims Vice-President Corporate Affairs
Safe Job Procedures

Task Global: SETUP OF MOBILE CRANES

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Number: SJP006
Reference: General
Origin Date: 21-06-07
Revised: 24-Jan-08

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Job Procedures

Task Global:

SETUP OF MOBILE CRANES

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Employee Name (Print) | Signature | Date
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# Safe Job Procedures

**Task Global:** PARKING CRANE ON AN INCLINE

**Number:** SJP007

**FINAL**

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. job procedures for parking cranes on an incline.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
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| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures  | - Personal injury       | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
| Crane tipping Lose control of crane | - Damaged equipment/Property  
- Public/Personal Injury | - Check park brake integrity  
- Apply parking brake if automatic transmission unit must be left in park  
- Reduce boom angle for rear stability  
- No parking on side hill  
- Where applicable the maxie brake must be applied  
- Operator must have at least two tire chocks. |
Safe Job Procedures

Task Global: PARKING CRANE ON AN INCLINE

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Notes:

Never park any heavy piece of equipment on any degree of incline unless there is no other alternative.

Approved By: ____________________________
Ron Sims Vice-President Corporate Affairs

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Safe Job Procedures

Task Global: PARKING CRANE ON AN INCLINE

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

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Safe Job Procedure

Task Global: GREASING BOOM ON LIEBERR A/T’S

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe work practices that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services, Inc. general practices for greasing boom on Lieberr A/T’S.

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<th>Known Recurring Hazards</th>
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- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
GREASING BOOM ON LIEBHERR A/T’S

(For LTM’s: 1080/1, 1160/2, 1200/1, & 1300/1)

Process 1A – Sequence of Greasing the Underside of the Boom (with full counterweight)
1. Crane set up according to manufacturer’s recommendations and NCS policies and procedures.
2. With boom raised scope out all sections of boom.
3. Lower boom to horizontal position that is handy for the operator to spread grease.
4. Worker to use brush/paint roller to evenly apply grease on the lower sides of the boom, and underneath the boom along the exposed part of the boom section.
5. All five sections need to be greased.

Process 1B – Sequence of Greasing the Underside of the Boom (without counterweight)
1. Crane set up according to manufacturer’s recommendations and NCS policies and procedures.
2. With boom raised scope out first section of boom.
3. Lower boom to position that is handy to apply grease.
4. Worker to use brush/paint roller to evenly apply grease on the lower sides of the boom, and underneath the boom along the exposed part of the boom section.
5. Raise boom, retract first section, scope out second section and repeat Steps 1 to 4.

Process 2 – Greasing the Inside of the Boom (Section by Section) (Use accompanying Chart)
Minimum counterweight needed is; 8.5 tonnes for 1080 and 1 slab for all other models. All applications are for ‘over the rear’ only!
1. With boom up, extend section one to 92% and section two to 46%
2. Lower boom, use access hole and grease at nipple
3. Raise boom, extend section one to 46% and Section two to 92%
4. Lower boom, use access hole and grease at nipple.
5. Repeat these steps for each section of boom being greased according to accompanying chart.

Process 3 – Clean Up
1. Dispose of any contaminated material (brushes, rollers, rags) in appropriate containers.
2. Ensure no excess grease is dripping, or potential to fall from boom.
3. Clean up any wayward grease on ground, crane deck, etc.
4. Replace all tools, materials, equipment to proper storage.

FREQUENCY
1. Light Use – every 250 hrs/monthly
2. Medium Use – every 100 hrs/bi-monthly
3. Heavy Use – every 50 hrs/weekly
Safe Job Procedure

Task Global:

GREASING BOOM ON LIEBERR A/T'S

FINAL

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: General

Origin Date: 21-06-07
Revised: 24-Jan-08

GREASING BOOM ON LIEBHERR A/T’s
(For LTM 1120/1)

Process 1A – Sequence of Greasing the Underside of the Boom (with full counterweight)
1. Crane set up according to manufacturer’s recommendations and NCS policies and procedures.
2. With boom raised scope out all sections of boom.
3. Lower boom to horizontal position that is handy for the operator to spread grease.
4. Worker to use brush/paint roller to evenly apply grease on the lower sides of the boom, and underneath the boom along the exposed part of the boom section.
5. All five sections need to be greased.

Process 1B – Sequence of Greasing the Underside of the Boom (without counterweight)
1. Crane set up according to manufacturer’s recommendations and NCS policies and procedures.
2. With boom raised scope out first section of boom.
3. Lower boom to position that is handy to apply grease.
4. Worker to use brush/paint roller to evenly apply grease on the lower sides of the boom, and underneath the boom along the exposed part of the boom section.
5. Raise boom, retract first section, scope out second section and repeat Steps 1 to 4.

Process 2 – Greasing the Inside of the Boom (Section by Section) (Use accompanying Chart)
Minimum C/W needed is 5.0 tonnes, over the rear only!
1. With boom up, extend section one to 92% and section two to 46%
2. Lower boom, use access hole and grease at nipple
3. Raise boom, extend section two to 92% and Section three to 46%
4. Lower boom, use access hole and grease at nipple.
5. Repeat these steps for each section of boom being greased according to accompanying chart.

Process 3 – Clean Up
1. Dispose of any contaminated material (brushes, rollers, rags) in appropriate containers.
2. Ensure no excess grease is dripping, or potential to fall from boom.
3. Clean up any wayward grease on ground, crane deck, etc.
4. Replace all tools, materials, equipment to proper storage.

FREQUENCY
1. Light Use – every 250 hrs/monthly
2. Medium Use —every 100 hrs/ bi-monthly
3. Heavy Use – every 50 hrs/weekly
Safe Job Procedure

Task Global: GREASING BOOM ON LIEBERR A/T'S

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Approved By: ________________________________
Ron Sims Vice-President of Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice President of Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
## Safe Job Procedure

**Task Global:**
**GREASING BOOM ON LIEBERR A/T’S**

**FINAL**

**Applicable Trade/Craft:**
**ALL TRADES AND CRAFTS**

**Reference:** General

**Number:** SJP008

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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Safe Job Procedure

Task Global: LOCK OUT PROCEDURE

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 22/11/2006
Revised: 24-Jan-08

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes the Northern Crane Services Inc. procedure for locking out equipment prior to maintenance, service, inspection or storage.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury</td>
<td>- Employees attend Client and/or NCS New Hire Orientation</td>
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<td>- Equipment damage</td>
<td>- Supervisors conduct a through review of permit procedures/requirements with employees</td>
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<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
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<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
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<tr>
<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries</td>
<td>- Supervisors will review Client and/or NCS incident and near-miss reporting procedures</td>
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<td>- Lack of adequate controls post-incident</td>
<td></td>
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<tr>
<td>Working on energized equipment</td>
<td>- Personal injury</td>
<td>- Employees will initiate and follow NCS lockout procedure prior to commencing maintenance, service or testing on equipment</td>
</tr>
</tbody>
</table>
Safe Job Procedure

Task Global: LOCK OUT PROCEDURE

Number: SJP009

Reference: General

Applicable: ALL TRADES AND CRAFTS

Origin Date: 22/11/2006
Revised: 24-Jan-08

Note: The recurring hazards, potential risks and required controls listed above are applicable to the general execution of the task described in the “scope” section of this document. Prior to commencing work, the worker shall perform a Field Level Risk Assessment to identify any additional hazards that may otherwise be present and implement appropriate controls for site-specific tasks. If at any time the worker is unsure about the effectiveness of a control or needs assistance implementing a control, the worker will contact a supervisor prior to commencing work activities. In the event additional hazards are identified prior to or while performing this task, the supervisor will document the hazards and controls used to mitigate the risk using the Northern Crane Service FLRA form and make that document available in the immediate work area.

Definitions:

- **Lockout**: The process of de-energizing a piece of equipment at the energy source and installing a physical lock that prevents the equipment from becoming re-energized accidentally. If the installation of a lock is not feasible, precautions must be taken to provide a method of securely de-energizing the equipment equal to or greater than installing a physical lock.

- **Maintenance Common Lock**: A padlock, red in colour that is controlled by the NCSI Maintenance Department. This lock is one in a “keyed alike” series found on each piece of mobile equipment in the NCSI fleet. This lock is installed at the disconnected energy source of a piece of equipment that is under repair, service or testing by the maintenance department in a manner that prevents the equipment from being energized accidentally. If you find this lock installed on a piece of equipment, it means that the equipment is out of service and no attempt should be made to operate it.

- **Personal Lock**: A padlock that is controlled by the individual employee. This lock is issued to individual employees who perform maintenance/service work on equipment. This is not a “keyed alike” lock. Only the individual to whom the lock is issued has a key. A personal lock is installed at the disconnected energy source of a piece of equipment by each employee engaged in the repair, service or testing prior to commencement of work. The personal lock remains on the equipment until the employee’s task is completed or the employee is reassigned to another task.

- **Lock Tree**: A lock tree is a device used to install multiple locks on a single energy source disconnect.
Safe Job Procedure

Task Global: LOCK OUT PROCEDURE

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 22/11/2006

Revised: 24-Jan-08

Steps for Safe Completion

1) Conduct an FLRA prior to commencing task.
2) Ensure equipment and any attachments are secured against movement.
3) Shut down equipment and de-energize at the energy source.
4) If maintenance, service or testing is to be performed; install a lock tree and maintenance lock.
5) Install a personal lock with an I.D. tag for each person who will be involved with the maintenance, service or testing.
6) Test the equipment to ensure it cannot be started or operated.

Servicing/Testing Equipment While Running

1) When servicing or testing requires the equipment to be running or operational, follow the manufacture’s instructions provided with the equipment to complete the task safely.
2) If there are no manufacturer’s instructions available and the service or test work requires the equipment to be running or operational, a Safe Job Procedure must be written and followed to perform the task safely. **The Safe Job Procedure will be specific to the task in question and will not be transferable to other tasks or similar situations!**

Returning Equipment to Operation

1) Only the person who installs a **personal lock** is allowed to remove it. The exception to this rule occurs when there is an emergency, or the worker is not available. In this case a supervisor may remove the lock only after he or she has verified the installer of the lock is not present and there is no risk to people, equipment or the environment by removing the lock.
2) Once all personal locks have been removed, a competent maintenance person can remove the maintenance common lock once he or she has verified there is no risk associated with removing the lock and the equipment is ready to be returned to service.
Safe Job Procedure

Task Global: LOCK OUT PROCEDURE

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 22/11/2006
Revised: 24-Jan-08

Approved By: ___________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Job Procedure

Task Global: LOCK OUT PROCEDURE

Number: SJP009

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 22/11/2006

Revised: 24-Jan-08

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Safe Job Procedure

Task Global: LIGHTNING POLICY

DRAFT

Applicable ALL TRADES AND CRAFTS

Reference: General

Origin Date: 25-05-07
Revised: 24-Jan-08

PURPOSE: To establish safe work procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. procedures for a Lightning Policy.

<table>
<thead>
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- Equipment damage | - Employees attend Client and/or NCS New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct daily toolbox meetings  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NCS incident and near-miss reporting procedures |
| Weather | - Personal injury  
- Equipment  
- Environment | - Employees will initiate and follow NCS procedures prior to commencing job duties. |
Lightning is a flash of light followed by a deep rumbling sound. More than one hundred lightning bolts strike the earth every second. These little rivers of electricity are brighter than ten million one-hundred watt light bulbs. They travel at a speed of SIXTY MILES PER SECOND!

Thunder is the deep rumbling sound, it can be crackly, rumbly, or just one large crack might be heard.

If lightning is striking nearby you avoid direct contact with other people, remove all metal objects, get off or away from “At Risk Locations” and crouch down with you feet together on your hands and knees (do not lie flat on ground).

If someone is injured by lightning, call 9-1-1 and give first aid if certified. An injured person does not carry an electrical charge and can be handled safely.

Research indicates that 50 percent of lightning related deaths occur after the storm has passed and most people think the storm is over.

Definitions:

- At “Risk Work Locations” are any outdoor locations that could be hazardous to workers during a thunderstorm.

Typically:

- Isolated structures
- Metal fences around isolated structures
- The tops of tanks and large open areas
- Cranes and work equipment
- Flagpoles
- Tailing pipelines
- Tailing ponds
- Power lines and power lineman
Safe Job Procedure

Task Global: LIGHTNING POLICY

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 25-05-07
Revised: 24-Jan-08

• 30/30 Rule

When there is 30 second or less (6m) from “flash to bang” (i.e. the sight of a lightning flash to the resulting sound of thunder), have workers in “At Risk Work Locations”, move to safe locations.

When the storm has passed over the worksite, wait at least 30 minutes after the last lightning flash before leaving the safe location.

When the storm has not passed over the worksite but has moved beyond the 30-second (6m) range, it is safe to return to work.

NOTE:
In situation where no protected shelter area available operators at their own discretion can remain in the cab of the crane.

Responsibility

The supervision for the work should check the weather forecast at the beginning of each shift to see if there is a thunderstorm warning in effect for that day. This information is available from several sources for example http://www.weatheroffice.ec.gc.ca/forecast/city

In the event of a thunderstorm, it is the responsibility of the person in charge of the work at those locations that have been determined to be “at risk work locations” to stop the work and evacuate the workers to a safe location until the threat of lightning has passed. (Reference definition 30/30)

Approved By: ____________________________
Ron Sims Vice-President Corporate Affairs

All original copies of Final Safe Work Practices and Procedures are signed by the Vice-President Corporate Affairs and retained on file at the Northern Crane Service Corporate Office in Edmonton, Alberta.
Safe Job Procedure

Task Global: LIGHTNING POLICY

DRAFT

Reference: General

Applicable ALL TRADES AND CRAFTS

Trade/Craft

Number: SJP010

Origin Date: 25-05-07

Revised: 24-Jan-08

Employee Name (Print)  Signature  Date

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# Safe Job Procedures

**TAGLINE(S)**

**DRAFT**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** General

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general procedures on use of tagline(s).

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaware of job-site rules and regulations.</td>
<td>- Personal Injury</td>
<td>- Employees attend Client and/or NCSI New Hire Orientation</td>
</tr>
<tr>
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<td>- Equipment damage</td>
<td>- Supervisors conduct a through review of permit procedures/requirements with employees</td>
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<td>- Supervisors will conduct weekly safety meetings</td>
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<td>- Supervisors will review applicable Safe Work Practice documents with employees</td>
</tr>
<tr>
<td>Unaware of emergency procedures</td>
<td>- Personal injury</td>
<td>- Supervisors will review Emergency Response Plan including emergency meeting points with employees</td>
</tr>
<tr>
<td>Unaware of incident reporting procedures</td>
<td>- Inadequate treatment for injuries</td>
<td>- Supervisors will review Client and/or NSCI incident and near-miss reporting procedures</td>
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<td>- Lack of adequate controls post-incident</td>
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<tr>
<td>Unaware of the danger zone</td>
<td>- Personal/Public injury</td>
<td>- Assess the potential hazards that exist in the task at hand.</td>
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<td>- Equipment damage</td>
<td>- Where those hazards (danger zones) exist.</td>
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<td>- What are the safe areas need to position themselves in for the entire task.</td>
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<td>- Where is the optium point(s) to attach a tagline(s) to a load that allows:</td>
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<td>- Personnel to remain in a safe area</td>
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<td>- Allows personnel using a tagline(s) an easy escape route.</td>
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<td>- Gives personnel the best control</td>
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</tbody>
</table>
Safe Job Procedures

Task Global: TAGLINE(S)    Number:  SJP011

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

<table>
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<th>of the tagline/load.</th>
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<td>• Allows personnel to control the load (during movement and landing) with the tagline(s) while remaining on a stable, clear and safe pathway.</td>
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</tbody>
</table>

Notes:
Operator must be familiar with:

Alberta, Occupational Health & Safety Code, Part 6, Section 70 (1) (a)(b)

Approved By: ________________________________
Ron Sims Vice-President Corporate Affairs

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</table>
**Safe Job Procedures**

**Task Global:**

**INFLATE TIRES WITH SPLIT RIMS OR LOCKING RINGS**

**DRAFT**

**Applicable Trade/Craft:**

**ALL TRADES AND CRAFTS**

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**Reference:** General

**Number:** SJP012

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general procedures on inflating tires with split rims or locking rings.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
</tr>
</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a through review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees | |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees | |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures | |
| Tool failure  
Tire rupture | - Personal injury  
- Equipment damage | - Ensure that the low tire and rim have not been visibly damaged  
- Ensure the area near the tire to be inflated has been cleared of all personnel  
- A clamp on type of connector with an inline pressure gauge and positive pressure control must be used with a hose extension long enough to allow employee to maintain a safe position out of the immediate danger zone. | |
Safe Job Procedures

INFLATE TIRES WITH SPLIT RIMS OR LOCKING RINGS

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Approved By: Ron Sims Vice-President Corporate Affairs

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# Safe Job Procedures

**Task Global:**

INFLATE TIRES WITH SPLIT RIMS OR LOCKING RINGS

**Number:**  SJP012

**DRAFT**

**Reference:** General

**Applicable Trade/Craft:**

ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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Safe Job Procedures

SPILL RESPONSE

DRAFT

ALL TRADES AND CRAFTS

PURPOSE: To establish safe job procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general procedures on spill response.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a through review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures  
- Fill out spill report checklist |
| Unaware of equipment damage | - Environment  
- Personal/Public Injury | - Assess & contain spill situation  
- Apply spill kit as manufacturers specification  
- Report spill immediately to Supervision/Safety  
- Clean up spill, dispose of materials, as per Supervisors recommendations. |
Safe Job Procedures

Task Global: SPILL RESPONSE

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 24-Jan-08

Notes:

SPILL RESPONSE KIT

Occasionally Northern Crane Service handles cargo that may contain quantities and/or residual of materials regulated by Workplace Hazard Material Information Sheets (WHMIS) or Transportation of Dangerous Goods (TDG) requirements. These materials, as well as other non-regulated materials, can potentially create a hazard to people and/or the environment if not controlled. The regulated (WHMIS) material of primary concern within the company is hydraulic fluid used in the operation of truck-mounted cranes and specialized trailers.

The most probable type of spill concern, during normal operations, will be hydraulic fluid and/or fuel.

An accidental release of hydraulic fluids or fuel must be immediately controlled. In addition to the “Emergency Response Procedures” previously discussed in this section, each piece of equipment using hydraulic fluid or carrying fuel will be equipped with a “Spill Kit” as follows:

One container, consisting of:
- 15: 40cm x 50cm Absorbent Pads (for hydraulic-based materials).
- 3: 7.5cm x 90cm Absorbent Socks (for hydrocarbon based materials).
- 1: Shovel (non-ferrous)
- 4: Ties (for sealing Plastic Bags)
- 1: 500ml container of granular sealant (for repairing tank ruptures)
- Heavy Gauge Plastic Bags (for damming and recovery of used absorbents.
- 1: Emergency Contact Directory.
- 1: Containment and recovery Guidelines (laminated)
- 1: List of contents (laminated)

Each “spill kit” will be sealed. Whenever any contents of the kit are used and/or the seal is removed, the condition must be reported. This is to ensure the kit contains the above noted items, at all times.

Approved By: _______________________
Ron Sims Vice-President Corporate Affairs

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### Safe Job Procedures

**Task Global:**

**SPILL RESPONSE**

**DRAFT**

**Reference:** General

**Applicable Trade/Craft:**

**ALL TRADES AND CRAFTS**

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

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</table>
PURPOSE: To establish safe job procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general procedures on use of roadside emergency kits.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
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</table>
| Unaware of job-site rules and regulations | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
| Traffic accidents Unaware of mechanical issues | - Personal/ Public injury  
- Equipment damage | - Emergency situation requiring a company vehicle to be stopped on a public roadway, outside populated areas, during the period between sunset and sunrise or at any time when there is not adequate light to clearly see persons and/or vehicles on the roadway, from a distance of 150 meters (500 feet), the driver is responsible to:  
  - Where the vehicle lighting equipment can be used, activate the lighting equipment, including flashing emergency hazard warning lights (four-way flashers).  
  - Place approved warning devices (reflective triangles, flags, flares, etc.) on the roadway, in line with the vehicle, at a distance of: |
Safe Job Procedures

Task Global: ROADSIDE EMERGENCY KITS

DRAFT

Applicable Trade/Craft: ALL TRADES AND CRAFTS

<table>
<thead>
<tr>
<th>Notes:</th>
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<tbody>
<tr>
<td><strong>No less than 30 meters (100 feet) in front of and or to the rear of the vehicle.</strong></td>
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<tr>
<td><strong>When parked on a hill and/or curve, approximately 75 meters (250 feet) or more, depending on the situation.</strong></td>
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</tbody>
</table>

Traffic Warning Devices—Reflective triangles, flags, Flares:

- Drivers are responsible to ensure these warning devices are in place, even if the vehicle lighting equipment, including emergency hazard warning lights, can be used. The warning devices must be in place immediately (within 10 minutes) after the vehicle is stopped.

Each Roadside kit consists of the following:

- Reflective, tri-angle, (3set) for traffic safety
- Mat, chevron style 2/4 LED arrow lights
- Wand, multi-function w/LED flashlight
- Paddle, stop/slow, reflective
- Tape, barricade, “DANGER”
- Vest, traffic, orange mesh
- Battery, Industrial size D
- Battery, “AA”

Approved By: ________________________________
Ron Sims Vice-President Corporate Affairs

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## Safe Job Procedures

### Task Global:
**ROADSIDE EMERGENCY KITS**

### DRAFT

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07
**Revised:** 24-Jan-08

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# Safe Job Procedures

**Task Global:** TIRE CHAINS  
**Reference:** General  
**Applicable Trade/Craft:** ALL TRADES AND CRAFTS  
**Origin Date:** 21-06-07  
**Revised:** 24-Jan-08

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general procedures on use of tire chains.

<table>
<thead>
<tr>
<th>Known Recurring Hazards</th>
<th>Potential Risk</th>
<th>Required Controls</th>
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</thead>
</table>
| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
| Unaware of road conditions | - Personal/Public injury  
- Equipment damage | - Assess road conditions, always  
- Always install tire chains before conditions become too severe. In other words, “if you are unsure about chaining up, chain up”.  
- Park in an area where visibility is good. Curves and hills restrict the vehicle from being seen by other traffic. Look for stable, flat ground with good visibility to the front and rear of the vehicle.  
- Engage the parking brakes, activate the four way flashers and/or beacon lights and block the wheels  
- Position a tire chain beside each wheel that will be “chained up”; ensure the chain is spread out |
Safe Job Procedures

TIRE CHAINS

DRAFT

ALL TRADES AND CRAFTS

and the grip side ("Trygg" or "V-bar") of the cross chains are facing the ground, the rail with the "boomer" is closest to the outer tire and the tire chain is not tangled.

Note:
As these conditions can occur unexpectedly, drivers are required to insure their vehicle is equipped with adequate tire chains that are in good repair. Before leaving on an assignment tire chains must be inspected to insure they are in good repair and the chain repair kit is fully stocked. The kit should include appropriate tools and a sufficient amount of cross chains, spare links, quick links, clevises, etc. After the tire chains are used they must be inspected for wear and damage. The tire chain must be repaired before the next assignment.
Operator must dress according to weather conditions and keep extra emergency clothing in cab.

Definitions:
There are different types of chains for the various conditions that may be encountered:
- "Single" tire chains are primarily used on steering axle tires and/or trailer tires.
- "Triple" tire chains are used on dual wheels, primarily for drive axle applications.
- "Trygg" tire chains are made of heavier chain and are designed for use on frozen ground and ice.
- "V-bar" tire chains are made of lighter material (not as heavy as the "Trygg" type). This type of tire chain is used in muddy conditions.

The type and construction of tire chains, to be used is determined by vehicle tire size and the conditions that will be encountered.

Other applications

Dual wheels

1. With two hands positioned shoulder width apart, pick up the tire chain at the mid point of the center rail so it folds in half, lengthwise.
2. Drape the tire chain over the outside tire.
3. Flip the other half of the tire chain over the inside tire; the grip side of the cross chains will be facing up and the "boomer" will be on the outside of the tire.
4. Center the tire chain on the wheel and ensure it is draped over the wheels with the chain tails for each rail hanging evenly.
5. Starting with the center rail, attach the “C” hook to a chain tail link, as tight as possible, then do the same with the inside rail.
6. Next, insert the “boomer” of the outside rail through the chain tail link that will hold the outside rail tight then tighten the “boomer” and secure it with a clevis.
7. Using tarp straps as required, secure any loose tail chains.

Note: Where the tire chains are equipped with “cam” and/or “D-lock” tightening devises, the inside and outside rails are secured as tight as possible with a “T” or “L” bar.

Note: When only one set of tire chains is used on the drive axels it is recommended that the differential lock is engaged, to prevent driveline damage. However, with the differential lock engaged it is important to remember vehicle control is affected when negotiating curves and/or turning corners.

Single wheels

1. As with triple tire chains (dual wheel application), with two hands positioned shoulder width apart, pick up the tire chain by the inside rail and drape it over the tire; the grip side of the cross chains must be facing up and the rail with the “boomer” must be on the outside of the tire.
2. Center the tire chain on the wheel and ensure it is draped over the wheels with the chain tails for each rail hanging evenly.
3. Attach the “C” hook to the chain tail link of the inside rail, as tight as possible.
4. Next, insert the “boomer” of the outside rail through the chain tail link that will hold the outside rail tight then tighten the “boomer” and secure it with a clevis.
5. Using tarp straps as required, secure and loose chain tails.

Note: When using a steering axle tire chain, install it on the wheel opposite the steering wheel pump and hoses, usually the right side of the vehicle.

After all the tire chains have been installed and tightened, drive slowly for approximately 200 meters (650 feet). Listen for the sound of the tire chains “flapping” (may be too loose) or hitting the fenders (extra links in tail chain not secured).

- Stop and make the necessary adjustments.
- Slowly drive another 200 meters to ensure no other adjustments are required.
- After all adjustments are made and the tire chains are tight, continued travel can occur.
Safe Job Procedures

TIRE CHAINS

DRAFT

ALL TRADES AND CRAFTS

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: General

Origin Date: 21-06-07
Revised: 24-Jan-08

Note: Do not drive more than 50km/h with tire chains installed. Always listen for loose tire chains. If a loose tire chain is detected, stop and make the required adjustment, repair or replace the tire chain. Loose or broken tire chains can create extensive damage to the vehicle.

Removing Tire Chains

Again, an experienced driver will have already developed an effective method for handling the tire chains. The following information is to be used as a guideline in safely removing the chains:

- Park in an area where visibility is good. Hills and curves restrict the vehicle from being seen by other traffic. Look for stable, flat ground with good visibility to the front and rear of the vehicle.
- Engage the parking brakes, activate the four way flashers and/or beacon lights and block the wheels.
- Where the tire chains are equipped with “cam” and/or “D-lock” tightening devises, loosen them and remove the tarp straps.
- Detach the “C” hooks from the center and inside rails, remove the chains from the tire and pull them off to the side.
- Move the vehicle ahead and/or forward as necessary (approximately 2 meters or 6 feet).
- Pick up the tire chains and hang them in a neat and organized manner, by the center rail, on the chain rack.

Remember: Store the tire chains in the order that they will be used; the first chain to be put on the tire should be the first chain off the rack.

Remember: Tire chains must be inspected on a regular basis and after each use.

Note: When hanging or storing tire chains, ensure they are secure and will not swing or drag; a loose tire chain can damage a tire or rip the chain rack off the vehicle.

Approved By: Ron Sims Vice-President Corporate Affairs

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Safe Job Procedures

Task Global: TIRE CHAINS

DRAFT

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: General

Origin Date: 21-06-07
Revised: 24-Jan-08

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Safe Job Procedures

Task Global: JACK KNIFE

DRAFT

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Reference: General

PURPOSE: To establish safe job procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general procedures on jack knifing.

<table>
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<th>Known Recurring Hazards</th>
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| Unaware of job-site rules and regulations. | - Personal Injury  
- Equipment damage | - Employees attend Client and/or NCSI New Hire Orientation  
- Supervisors conduct a thorough review of permit procedures/requirements with employees  
- Supervisors will conduct weekly safety meetings  
- Supervisors will review applicable Safe Work Practice documents with employees |
| Unaware of emergency procedures | - Personal injury | - Supervisors will review Emergency Response Plan including emergency meeting points, emergency assembly areas and contact numbers with employees |
| Unaware of incident reporting procedures | - Inadequate treatment for injuries  
- Lack of adequate controls post-incident | - Supervisors will review Client and/or NSCI incident and near-miss reporting procedures |
| Unaware of road conditions | - Personal/Public Injury  
- Equipment damage | - Ensure all vehicle brakes are properly adjusted to minimize the possibility of one set of wheels “locking up”.  
- Avoid applying enough braking pressure to “lock” the wheels;  
- If you do, release the brakes to restore traction to the wheels. |
Safe Job Procedures

Task Global: JACK KNIFE

DRAFT

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Definition:
Jackknifing refers to the dangerous situation in which a vehicle and its attached trailer get out of sync during towing to form an L or a V shape. The phrase gets its name from the shape the truck and the trailer create, which bears a resemblance to a knife whose blade folds into the handle.

To know how to avoid jackknifing, you need to understand why it happens. Although a few different factors could cause a vehicle and its trailer to jackknife, it usually comes down to a loss of traction. Traction has to do with how well a wheel's tires grip the road. It's essential to what makes wheels work. Unfortunately, slick roads and improper braking wreak havoc on this grip, causing tires to skid along the pavement instead of rolling. Skidding tires are resisted only by sliding friction, which isn't as powerful as static friction (consider how it's harder to start pushing a couch across a carpet than it is to keep it sliding). In this way, slamming on the brakes could have an adverse effect, causing them to lock and leaving the skidding wheel without enough traction to stop. If the tractor or the trailer wheels lock, the loss of traction will allow the rig to swing sideways out of control into a tractor jackknife or a trailer jackknife.

How to Prevent a Jack Knife Situation:

The first step in preventing a jackknife situation on the highway is to check your mirrors for trailer swing frequently. You should also do this every time you have to brake hard. If you notice that you're already starting to jackknife, it might not be too late to prevent your caravan from bending into an angle of no return. In this situation, experts recommend letting go of the brake which lets the wheel resume rolling and regain the traction of static friction. With a trailer jackknife (the trailer wheels lose traction), you can increase your speed to allow the trailer to fall back in line. However, if you are experiencing a tractor jackknife (the tractor wheels lose traction), and you think sudden acceleration could have caused it, let up on the gas pedal until the vehicle regains traction. Then, steer out.

In many traffic reports of jackknifing, the trailers are empty. This is no coincidence, and the reason points back to friction. The heavier a trailer is, the more it bears down on the road, meaning the more friction it has with the road and the better the traction. Compound this with the fact that over-braking is easier on light loads (because the brakes of a tractor-trailer are made for fully-loaded trucks), and it turns out that empty trailers are more prone to jackknifing. So, although it might seem counterintuitive, you should watch mirrors for trailer swing, particularly when driving an empty trailer.
Safe Job Procedures

Task Global: JACK KNIFE

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 19-Feb-09

Proper braking is another essential. Instead of braking during turns, decelerate slowly on the long stretch before the bend or curve. Avoid slamming on the brakes, which could cause them to lock and will often result in a jackknife situation. Although, at times, there may be no alternative to hard braking, you can do your best to stay out of these situations. One way is to keep a safe distance from other vehicles on the road. When an emergency situation occurs, do your best to avoid braking and swerving at the same time. This might mean braking, letting go of the brake, swerving and then braking again.

It's important to note that jackknifing isn't a problem just for truckers -- drivers inexperienced with towing often set out on the highway with a trailer or a boat and end up losing control from heavy braking or other factors. To avoid this, make sure to pack your trailer with weight spread out and on the bottom, giving it a low center of gravity.

However, the novice trailer-tower is even more likely to get stuck in a jackknife position when backing up. This kind of jackknifing has less to do with traction and more to do with knowing how to handle a trailer in reverse. One handy trick is to place your hand at the bottom of the steering wheel, or six o'clock position. While turned around to see where you're going, move your hand in the direction you want the trailer to go.

Approved By: ______________________________
Ron Sims Vice-President Corporate Affairs

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## Safe Job Procedures

### Task Global:

**JACK KNIFE**

### DRAFT

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Origin Date:** 21-06-07

**Revised:** 19-Feb-09

<table>
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<th>Employee Name (Print)</th>
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Safe Job Procedures

**LOAD DIMENSION REQUIREMENTS**

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** General

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**Number:** SJP017

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general procedures on load dimension requirements.

<table>
<thead>
<tr>
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<th>Potential Risk</th>
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<td>- Lack of adequate controls post-incident</td>
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</table>
Load Dimensions

In addition to insuring the cargo does not create a hazard by leaving the vehicle, the dimensions of the cargo can also present a hazard if not identified and/or adequately marked. Following is a quick reference guide to ensure over dimensional cargo is adequately marked.

### Alberta:

<table>
<thead>
<tr>
<th>Cargo Dimensions (More than)</th>
<th>Requirement</th>
</tr>
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<tbody>
<tr>
<td>8 ft. 6 in. (2.6m)</td>
<td>Flags by day/Lights at night, on extremities of load.</td>
</tr>
<tr>
<td>10 ft. (3.05m)</td>
<td>Flags/Lights and WIDE LOAD SIGN to the rear-most part of the vehicle and/or load</td>
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<tr>
<td>11 ft. (3.35m)</td>
<td>Flags/Lights and WIDE LOAD SIGN and one rotating beacon and Two amber flashing lights.</td>
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<tr>
<td>12 ft. 6 in. (3.85m)</td>
<td>Flags/Lights and WIDE LOAD SIGN and one rotating beacon and ONE ESCORT VEHICLE (No movement after 1500hr Friday, Sunday, or Stat holidays)</td>
</tr>
<tr>
<td>14 ft. 6in. (4.45m)</td>
<td>Flags/Lights and WIDE LOAD SIGN and one rotating beacon and TWO ESCORT VEHICLES ( Except on 4 lane highway) (No movement after 1500hr Friday, Sunday, or Stat holidays) (RESTRICTED TO DAYLIGHT HOURS ONLY)</td>
</tr>
<tr>
<td>18 FT. (5.5m)</td>
<td>MUST CONTACT OVERLOAD CONTROL IN RED DEER</td>
</tr>
</tbody>
</table>

Approved By: __________ 
Ron Sims Vice-President Corporate Affairs

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## Safe Job Procedures

**Task Global:**  
LOAD DIMENSION REQUIREMENTS

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

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**Origin Date:** 21-06-07  
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# Safe Job Procedures

**Task Global:** ESCORT VEHICLES  
**Number:** SJP018  
**DRAFT**  
**Reference:** General  
**Applicable Trade/Craft:** ALL TRADES AND CRAFTS  
**Origin Date:** 21-06-07  
**Revised:** 19-Feb-09

## PURPOSE:
To establish safe job procedures that will minimize risk to people, equipment and the environment.

## SCOPE:
This document describes Northern Crane Services Inc. general procedures on use of escort vehicles.

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</tr>
<tr>
<td></td>
<td>- Lack of adequate controls post-incident</td>
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<tr>
<td>Public Awareness</td>
<td>- Personal/Public injury</td>
<td>- Any load that exceeds legal size and weight limits, a special permit must be obtained. The permit specifies general and precise conditions under which the movement must be made aware of and understand and comply with permit conditions.</td>
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<tr>
<td></td>
<td>- Equipment damage</td>
<td>- Maintain an adequate distance in front and/or behind the vehicle carrying the load, in order to warn approaching vehicles of the over dimensional load.</td>
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<tr>
<td></td>
<td>- Infrastructure damage</td>
<td>- Must be in constant communication, by two-</td>
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<tr>
<td></td>
<td>- Environmental</td>
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</table>
ESCORT VEHICLES

DRAFT

ALL TRADES AND CRAFTS

way radio, with the operator of the vehicle transporting the over dimensional load.
- Over dimensional load movements may not travel in convoy, unless the jurisdiction has given permission as outlined in the permit.
- The operator of the vehicle transporting the over dimensional load should take every opportunity to allow following traffic to pass; if traffic build up behind the vehicle becomes excessive, the vehicle and load should move off the traveled portion of the roadway to allow traffic to pass safely.
- Permission, from the appropriate authorities, must be obtained before removing or adjusting bridge railings and modifying or tampering with traffic control devices or roadway structures.
- Travel on all highways must be within the right lane with the overhang extending over the shoulder, except where there are roadside obstacles.
- Passing slower vehicles is allowed, where this can be done safely.
- Red or orange flags must be displayed at each of the four corners of the over dimensional load; the flags must be at least 40 cm x 40 cm (16 in x 16 in) and be in good condition.
- Turn on all vehicle headlights and other non-flashing exterior lights, including those of the escort vehicle.
- Dimensional signs, identifying the over dimensional load, must be properly displayed on the transport vehicle and each escort vehicle.
Safe Job Procedures

ESCORT VEHICLES

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07

Revised: 19-Feb-09

Duties and Responsibilities:

The primary responsibility of the escort vehicle driver is to make the general motoring public aware of the presence of an over dimensional load and to direct and/or control traffic when necessary.

Escort drivers also help the load driver move the load as safely as possible with the least possible delay and inconvenience to the traveling public.

Depending on the size of the load and the type of highway, a pilot (front) or trail (rear) escort vehicles, or both, may be required.

Front Escort

The operator of the escort vehicle ahead of the over-dimensional load is responsible to:

- Travel approximately 300m to 1000m ahead of the load and display an approved dimensional sign and flashing lights to warn oncoming traffic that an over dimensional load is following.
- By use of a two-way radio, warn the operator of the vehicle transporting the over dimensional load of any potential problems ahead, including hazards, obstructions, pedestrians and/or any other potential hazards.
- Ensure the vehicles are following the route specified on the permit.
- Locate safe areas for the vehicles to pull over to allow following traffic to pass safely.
- Using proper flagging procedures, warn motorists to stop at the entrance of narrow structures and other roadway restrictions, to allow safe passage of the load.

Rear Escort

The operator of the escort vehicle following an over dimensional load is responsible to:

- Travel approximately 100m to 300m behind the load and display an approved dimensional sign and flashing lights to warn traffic approaching from the rear that an over dimensional load is ahead.
- By use of a two-way radio, warn the operator of the vehicle transporting the over dimensional load of flat tires, objects coming loose from the load, defective lights and any other potential hazards the operator may not be aware of.
- Notify the operator of motorists attempting to pass the load.
- Using proper flagging procedures, warn motorists to stop at the entrance to narrow structures and other roadway restrictions, to allow safe passage of the load.
Safe Job Procedures

Task Global: ESCORT VEHICLES

Number: SJP018

DRAFT Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07 Revised: 19-Feb-09

Escort Vehicle Equipment:

The escort vehicle must be in safe operating condition and be capable of displaying signs and other warning devices specified on the permit. Each escort vehicle (or each towing vehicle if an escort vehicle(s) are not required) must be equipped with:

- Three approved warning devices.
- Three warning flags, for traffic marking.
- One warning flag for each crewmember, for flagging.
- One reflective vest for each crewmember.
- One flashlight, equipped with a signal tube, for each crewmember.
- An approved dimensional sign positioned so that it is readily visible to motorists approaching the over dimensional load.
- A two-way radio that meets Communications Canada standards.
- Safety equipment, including a first aid kit, fire extinguisher, hardhat, protective footwear and any other protective equipment and/or clothing (eye protection, fire resistant coveralls, winter clothing, etc.) required for the assignment.
- Warning devices, including red flares or lamps, lanterns, reflectors or reflective triangles.

Escorting the Load:

Before the trip begins all members of the team responsible for moving the over dimensional load are required to attend a “tailgate” meeting. The purpose of this meeting is to:

- Inspect the cargo and equipment.
- Review the permit for any special requirements or instructions.
- Ensure everyone understands the permit, the route and their responsibilities.
- Inspect the escort vehicle(s) equipment.
- Ensure the two-way radios are operational and select an appropriate channel.

During the trip the safety of the general motoring public is of great importance. Escort vehicle operators must obey all traffic laws and regulations. Don’t assume that other drivers will yield the right of way to the over dimensional load.

- When encountering a green traffic light, the escort vehicle operator must determine if the traffic light will allow for their vehicle and the over dimensional load vehicle to pass through the intersection without becoming separated. If the escort vehicle passes through the intersection but the load is required to stop, the escort vehicle operator must pull over as soon as possible, to the right side of the road, and wait for the loaded vehicle. When the loaded vehicle resumes travel the escort vehicle can then proceed ahead, at the required distance.
- If the rear escort vehicle is stopped by a red traffic light, after the over dimensional vehicle proceeded through the intersection, the operator of the loaded vehicle will continue travel. The rear escort vehicle will catch up as soon as possible.
In situations where more than three other vehicles are following the over dimensional load, or when other traffic is held up for more than a few minutes, the escort vehicle operator(s) are required to assist the operator of the loaded vehicle in finding a suitable location to pull off the traveled portion of the road way, allowing the other traffic to pass safely.

When inclement weather causes poor visibility and driving conditions, or there are mechanical problems, the escort and loaded vehicles must be moved to a suitable location off the traveled portion of the roadway.

Where the roadway is winding or narrow, or where obstacles are located near the roadway, approaching motorists may not be able to clearly see the over dimensional load until they are very close to it. In these cases, the escort vehicle operator must travel to a point where the escort vehicle can be clearly seen. At this point the escort vehicle is required to stop and the operator will use the stop/slow paddle or flag to warn other motorists of the approaching over dimensional load.

When an over dimensional load must use a roadway that is too narrow for two-way traffic, the escort vehicle operator is required to proceed ahead, to a point where two-way traffic is possible, and stop traffic by using proper flagging procedures. When the loaded vehicle reaches that point it is required to stop and allow traffic from both directions to clear.

**Flagging:**

A flag person is responsible for safeguarding the public and the over dimensional load by warning motorists of the danger and guiding them safely through the area. When necessary, a flag person can stop traffic, advise motorists of any delays and/or required lane(s) to travel in. The flag person must be alert at all times and always stand while waiting for traffic. During this activity a hardhat, reflective vest, and a flag or stop/slow paddle is required.

The safety of the flag person and the general motoring public is important. Understanding and using proper flagging procedures, as outlined below, is required.

- Stand far enough ahead of the problem area to give approaching traffic enough distance to reduce speed and come to a stop.
- Stand facing traffic, where you can see and be seen; do not stand in the center of the driving lane or in any position where you are likely to be struck by a vehicle.
- Your signals must be clear and distinct; motorists should not be unclear of what they are supposed to do.
- To warn traffic to stop, hold the flag or panel in a horizontal position, across the path of the vehicle. After the first vehicle has stopped, move to the centerline of the roadway to allow other drivers approaching from the rear to see you.
- If time permits, inform drivers of the reason for the delay; be courteous and brief.
- To slow traffic, but not to stop it, extend the flag or paddle into the traffic lane and lower it before the traffic is completely stopped. At the same time, use an up and down waving motion with the left hand, palm down, to emphasize the need for drivers to slow down.
Safe Job Procedures

Task Global: ESCORT VEHICLES

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 19-Feb-09

• Never wave a flag or paddle or use it to signal traffic to move ahead.

Note:

Permits are not issued to escort vehicle operators

Approved By: ____________________________
Ron Sims Vice-President Corporate Affairs

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Safe Job Procedures

Task Global: ESCORT VEHICLES

DRAFT

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 19-Feb-09

Employee Name (Print) | Signature | Date

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Safe Job Procedures

Task Global: LOADER/FORKLIFT OPERATOR

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

PURPOSE: To establish safe job procedures that will minimize risk to people, equipment and the environment.

SCOPE: This document describes Northern Crane Services Inc. general procedures for loader/forklift operator.

<table>
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<td>Improper use equipment</td>
<td>- Personal/Public Injury</td>
<td>- Each day, before starting, check all fluid levels, radiator, and hydraulics. Walk around the unit looking for leaks, loose bolts, low or damaged tires, or anything abnormal. Report any odd noises or any problems to the mechanic as soon as possible. Warm up the engine before operating. Check horn, lights, brakes and move hydraulics to circulate oil in storage tank. When using the bucket or forks make sure the work area is free of hazards. For example, always be aware of electrical cables and underground pipelines. Do not let anyone get below the hoist when it is in the air or let anyone get behind the loader. Use extreme caution when handling pipe.</td>
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</table>
Safe Job Procedures

Task Global:

LOADER/FORKLIFT OPERATOR

FINAL

Reference: General

Applicable Trade/Craft: ALL TRADES AND CRAFTS

 Origin Date: 21-06-07
Revised: 24-Jan-08

- Always operate the loader/forklift in a safe and professional manner. The loader/forklift is usually working near people and they depend on you to do the job safely. Before backing up or moving, make sure no one is in the way.

- Never go higher than third gear when traveling.

- Service the loader/forklift on a routine basis. Make sure the loader/forklift is ready to go to work when needed, if there is a problem, get it fixed.

Definitions:

Small Loader/Bobcat - The small loader is basically a material-handling machine. It is used to load and unload trucks and move materials around the yard. The operator should be as versatile as the machine, capable of handling the many different shapes and sizes of loads as safely as possible and foreseeing a possible problem or accident before it occurs. It is in the best interest of the operator to work slowly and cautiously until he gets used to the machine and its capabilities. Because the machine is of narrow gauge and the centre of gravity quite high, it could be tipped easily. Loads should be carried as low as possible when travelling and lifting should be done on as level a surface as possible. Care should be given when wide loads are lifted, a small depression will cause the load to list and possibly topple the load.

Points to consider:

- Do not lift heavy objects higher than necessary.
- Do not travel fast with a high load.
- Before backing up, check behind.
- Do not lift from one side.
- When the unit is cold and idling, DO NOT increase throttle.
- Periodically do a walk around and check the unit.

MUST HAVE PROPER CERTIFICATION AND TRAINING FOR EQUIPMENT SPECIFIC
Safe Job Procedures

Task Global:

LOADER/FORKLIFT OPERATOR

FINAL

Reference: General

Applicable Trade/Craft

ALL TRADES AND CRAFTS

Origin Date: 21-06-07
Revised: 24-Jan-08

Approved By: ______________________________
Ron Sims Vice-President Corporate Affairs

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# Safe Job Procedures

**Task Global:**

**REFUELLING EQUIPMENT & VEHICLES**

**FINAL**

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

**Reference:** General

**Origin Date:** 21-06-07

**Revised:** 24-Jan-08

**Number:** SJP020

**PURPOSE:** To establish safe job procedures that will minimize risk to people, equipment and the environment.

**SCOPE:** This document describes Northern Crane Services Inc. general procedures for refuelling equipment and vehicles.

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<td>- Lack of adequate controls post-incident</td>
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</tr>
<tr>
<td>Fire hazard</td>
<td>Severe burns to personnel and/or damage to equipment</td>
<td>- Extinguish all ignition sources; cigarettes, welding, cutting, cell phones/non-intrinsically safe devices, etc.</td>
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<td>- Ensure static line is in place and securely grounded</td>
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<td>- (DURING COLD WEATHER MONTHS STATIC LINES WILL BE UTILIZED WITHOUT EXCEPTION)</td>
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</table>
# Safe Job Procedures

## REFUELLING EQUIPMENT & VEHICLES

**Number:** SJP020

**Reference:** General

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS

| Chemical exposure/spill | Burns to personnel and/or environmental contamination | - Wear proper PPE, never leave nozzle with adapter unattended while transferring fuel  
- When using Wiggins nozzle, ensure that balls are properly seated in Wiggins fittings before disconnecting  
- When using standard fill nozzles (Tidy Tank), never wedge nozzle open i.e. with tank cap, stick etc.  
- Never leave nozzle unattended while fuelling |
|-------------------------|-------------------------------------------------------|--------------------------------------------------|
| Contacting equipment with service truck | - Personal injury  
- Equipment/Property damage | - Use a spotter in congested areas or areas of low visibility |
| Slip/Trip/Fall | - Personal injury | - Always use three-point contact when mounting and dismounting equipment |

**Note:**

After getting out of a vehicle/equipment, and feet are on the ground, an individual needs to touch the vehicle/equipment to disperse any static electricity that may be present.

1. Approach the fuel pump carefully and cautiously:
   - Allow room between the pump and the machine/vehicle to manoeuvre in and around the pump comfortably, but close enough to allow the hose and nozzle to reach the fuel tank without stretching it.
   - Turn off any electronic equipment in the vehicle/equipment (cell phones, etc.).
   - Turn off the vehicle/equipment that is being refuelled.
   - Extinguish any ignition source (cigarettes, lighters, etc.)
   - Follow all posted rules and regulations that are noted at the pump.
2. Prior to refuelling, take a mental note of where the fire equipment is located, what potential hazards are in the area, and what might be a good evacuation route.
3. **ENSURE** that the right fuel (Diesel, Gasoline, Premium, Lead Free, etc.) is being transferred.
3. When placing the hose nozzle into the tank, ensure that it fits into the tank and is secure.
4. If the nozzle is equipped with a clip to allow fuelling without manually holding the handle open, and it is used, then remain within a few feet of the nozzle to keep an eye on the refuelling process, and ensure that the hose/nozzle does not pop out, that the tank does not overflow, or that anything else may happen to cause a spill or fire hazard.
5. It the nozzle is not equipped with a clip to allow free flow of fuel, then remain with the nozzle and hold the handle manually until refuelling is complete. Never use an object to “jam” the nozzle in the open position, and never leave the refuelling area.

6. Be aware if there is an automatic shut-off for when the tank is full. If the pump is not equipped with an automatic shut-off, then listen to the sound of the fuel filling the tank, and use it as a guide to judge when the tank is reaching a full capacity. As the tank nears the full mark, begin to lessen the fuel flow to prevent overfilling.

7. When the tank is full, place the nozzle back in its storage position and secure the cap on the fuel tank.

8. Check the area to make sure the area is safe and secure.

9. Complete any other tasks (clean windows, check oil, pay for fuel, etc.) and then move vehicle/equipment away from fuel pumps.

If there is a fuel spill/leak, use available absorbent to put down over the spill and report it to your immediate supervisor or site representative.

NOTE: Use this same process when refuelling from any tidy tank, or other fuel storage tank.

Approved By: ______________________________
Ron Sims Vice-President Corporate Affairs

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**Task Global:**  
REFUELLING EQUIPMENT & VEHICLES  

**Number:** SJP020  

**Reference:** General  

**Applicable Trade/Craft:** ALL TRADES AND CRAFTS  

**Origin Date:** 21-06-07  

**Revised:** 24-Jan-08  

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PURPOSE: To have a step-by-step guideline for operators to follow to reduce the risk of injury or equipment damage.

SCOPE: To provide guidance to personnel to safely and effectively load and unload counterweight on Cranes with a minimum crew size of 4 people.

Communication
Any combination of the usually employed forms of communicating that is used in the Crane industry. i.e.: Crane’s designated hoist channel; single channel radio; hand signaling

Safety Equipment
NCSG Personal Protective Equipment Policy

Fall Protection
Fall protection equipment is utilized when required work is done at or above 6’ or on the crane deck. Three (3) point contact is maintained at all times unless the employee is tied off at a recognized anchor point.

Due to the nature of our work, Crane Services personnel will employ Fall Arrest equipment in accordance with the NCSG Personal Protective Equipment Policy or specific site rules working to the higher standard.

Crane Movement and Setup
Crane Services personnel are not allowed on the carrier deck, or any other part of the crane, when the crane body is in motion.

Accessing the crane deck should be used only when there are no other safe means of performing the work from ground level or secured ladder.

Depending on the crane make and model all attachment of slings to counterweights during installation and removal should be done from the ground level or with the assistance of a secured ladder, utilizing soft poly or manufacturer recommended slings of a size and capacity suited to the particular crane type and model being rigged.

Accessing the carrier deck should only be used when no other safe way of sling removal or counterweight placement is practical. In this situation utilize the following procedure.
Procedure

A. Removal of Counter Weights from Crane

1. Riggers attach the CWT slings to the crane hook at ground working level.
2. The Signalman will direct the Crane Operator to position the slings over the center of the CWT on the deck of the crane.
3. Once the crane has completed its movement and come to a complete stop, crane functions must be isolated prior to Riggers boarding the crane deck from the easiest side using three (3) point contact.
4. Shut off and Start up signal must be given by designated signalman.
5. The Riggers must tie off their fall arrest at designated points.
6. Designated points are defined as:
   a. Any manufacture made lifting lug found on the crane;
   b. A hand rail bracket that will support the wrapping of a certified:
      i. Wire rope sling that is terminated at both ends with a Flemish eye splice rated to a minimum of 90% of the wire rope's minimum breaking strength.
      ii. Kevlar dog leash that is terminated at both ends in an ‘eye’.

NOTE: No one is permitted on the Crane Carrier engine compartment and area. Exception - performing daily engine checks and maintenance work and must be tied off.

7. Once tied off, the Riggers will proceed to hook the slings to the CWT lifting lugs and attach taglines.
   a. The Riggers will cross the CWT to hook the slings to the lifting lugs on the Carrier engine side.
   b. For the tag lines, whenever possible, use a cross corner configuration to ensure optimum load control.
8. The Signalman will direct the crane operator to make any correction of boom angle and snug the slings in the lugs to ensure they are properly secured, before the Riggers leave the tie off points.
9. Riggers remove fall arrest from tie off and proceed to ground using 3 point contact from either side of the crane after ensuring crane controls have been isolated.
10. Each Rigger will take a tagline and notify the Signalman once they are in place.
11. Once the Signalman receives the all clear from the Riggers, the lift may begin.
12. The Signalman directs the operator to remove the CWT, and swing the load to ground.
13. This process is continued until all required CWT are removed from the crane.

NOTE: For the Crane Operator - ensure sure you are boomed down far enough for counterweight to ride against the protective guide rails positioned in front of the engine area.
B. **Removal of Kidney Weights**
   1. Riggers attach CWT slings to hook at ground level.
   2. The Signalman will direct crane operator to place slings over top of Kidney weight to be removed.
   3. One of the Riggers will use a stepladder, with the 2nd Rigger acting as spotter, to go up and hook up slings and taglines.
   4. The Riggers will attach both slings and remove the ladder from the area to allow clear access for the lift.
   5. Riggers will then each take a tagline and notify Signalman once they are ready.
   6. Once the Signalman receives the all clear from riggers the lift can begin.
   7. The Signalman directs the operator to remove kidney weight and swing load to ground.

C. **Addition of Counter Weights to Crane**
   1. Riggers attach the CWT slings to the crane hook at ground working level.
   2. Taglines are attached to the CWT slings at the ground working level. Using a "cross corner configuration" to ensure optimum load control when possible.
   3. The Signalman will now direct the Crane Operator to position the slings over the center of the CWT that is to be lifted on the crane.
   4. Each Rigger will position themselves at opposite corners of the CWT and take a tagline.
   5. Each Rigger notifies the Signalman once in position and ready.
   6. The Signalman notifies the crane operator to begin the lift.
   7. During the initial lift, the Riggers and Signalman assist the operator to position the CWT slightly forward of CWT deck area so CWT can’t contact operator’s cab and personnel accessing crane deck will not be under the load. Where possible counterweight should be touched down on carrier deck prior to access
   8. The operator will stop the lift and allow the Signalman and one (1) Rigger on the deck after crane controls have been isolated.
   9. The other rigger will stay on ground and control load with tag line.
   10. Each person will tie off at designated points.
   11. The lift will continue with the Signalman and Rigger assisting the operator to place the CWT.
   12. Once the CWT is in place, the Signalman directs the operator to stop and the slings are removed from the lifting lugs.
   13. The Rigger or Signalman will cross the CWT to unhook the slings from the lifting lugs on the Carrier engine side.
Safe Job Procedure

LOADING/UNLOADING OF COUNTERWEIGHT FOR ATs

DRAFT

SYNCRUDE & AURORA SITE FOR OPERATORS

Reference: Operations

Applicable Trade/Craft

Origin Date: 31-Mar-10
Revised: 22-May-10

14. When all four slings are detached, the Signalman and Rigger will remove the fall arrest from the tie off point, and disembark the crane, using three- (3) point contact, ensuring crane controls are isolated by signal to the operator.

15. This process will continue until all CWTs are in place.

D. Addition of Kidney Weights
1. Riggers attach CWT slings to hook at ground level
2. Signalman will direct operator to position hook above Kidney weight to be installed.
3. Riggers will then install CWT slings on Kidney weight and attach taglines.
4. Once the Signalman gets the all clear from the riggers the lift can begin.
5. The Signalman directs the operator to install the Kidney CWT while the two riggers help guide CWT into proper position.
6. Once Kidney CWT is in position, one of the Riggers will use a stepladder, with the 2nd Rigger acting as spotter, to access and remove the slings and taglines.

E. Removal of Counter Weights from Super Structure
1. Crew set up crane
2. Operator swings crane around and picks up stack of CWTs
3. Operator then swings Left or Right according to Signalman so there is a large area of deck exposed to work on.
4. Signalman then directs Operator to shut off crane.
5. Riggers access crane deck, using three (3) point contact, and tie off at designated tie off point.
6. Riggers will remove the CWT bolt from Superstructure using the proper tool.
7. Riggers then remove their tie offs and dismount crane using 3 point contact.
8. Signal man gives the all clear once riggers are off the deck and operator starts crane and swings to take CWT bolt from other side of crane CWTs following same procedure.
9. Operator then lowers CWTs onto deck and swings out of CWT stack to facilitate removal of CWTs following Step A. Removal of Counter Weights from crane

F. Installation of Counter Weights to Superstructure
1. Crew loads required CWTs onto Carrier deck following Step C. Addition of Counter Weights to crane
2. Once the CWTs are in place, the Signalman directs the operator to swing into place directly over the CWTs.
3. The operator will take on the CWTs per the specific instruction for each of the cranes.
Task Global: LOADING/UNLOADING OF COUNTERWEIGHT FOR ATs

DRAFT

SYNCRUDE & AURORA SITE FOR OPERATORS

4. Operator then swings Left or Right according to Signalman so there is a large area of deck exposed to work on.
5. Signalman directs Operator to shut off crane.
6. Riggers access crane deck using three- (3) point contact and tie off at designated tie off point.
7. Riggers attach the CWTs using the counter weight bolt and correct tool to the Superstructure.
8. Riggers then remove their tie offs and dismount crane using three- (3) point contact.
9. Signalman gives the all clear once riggers off deck.
10. The operator starts crane and swings to crane to opposite side per 4.
11. Steps 5 to 9 are followed to install 2nd CWT bolt to the other side of crane.

Definition:
Isolation of Crane Controls:
1. May consist of turning off crane engine.
2. Disabled by computer control if equipped.
3. Activation of dead man switch in seat if equipped.
4. A constant show of hands off of crane controls until acknowledged by signal man.

Exemption of Isolation to Crane Control:
1. Where the specific job environment or situation creates an identifiable hazard or safety concern.
2. Must be identified in FLRA and specific controls put in place to eliminate risk and signed off and acknowledged by entire crew and supervision.

Secure Ladder: permanently attached to the crane by manufacturer, or set up alongside the crane supported by a co-worker or secured to the crane carrier to eliminate any potential of slippage.

Supervision must be present at the start of the job to ensure crew is aware of the procedure and deemed competent to perform the task prior to commencing with work, signing off on FLRA and participating in job plan discussion and procedure sign off sheet.

Approved By: _______________________________ Date: _______________________________
Leo Davis, Chief Operating Officer yyyym/m/dd

All original copies of Final Safe Work Practices & Procedures are signed and retained on file at the NC Services Group office in Edmonton, Alberta
Safe Job Procedure

Task Global: LOADING/UNLOADING OF COUNTERWEIGHT FOR ATs
Number: SJP023

DRAFT
Reference: Operations

Applicable Trade/Craft: SYNCRUDE & AURORA SITE FOR OPERATORS
Origin Date: 31-Mar-10
Revised: 22-May-10

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DISPATCH PROCEDURES

Dispatch is a twenty-four (24) hour operation. An “on-call” Dispatcher can be reached at anytime by calling one of the following two numbers:

(780) 447 – 3700 or 1 – 888 – 771 – 7370

As a responsible carrier, TRANS TECH CONTRACTING INC. is committed to ensuring each project is completed in the safest and most efficient manner possible. In achieving that objective, thorough preparation and/or planning and timely communication are essential.

Dispatch personnel are responsible for coordinating the required equipment and personnel, as well as ensuring communication is maintained. The following procedure will ensure each movement of customer goods is completed without incident.

After the customer order and/or request is received via telephone, fax or e-mail:

- The Operations Manager will review the customer order and determine whether or not the company can accommodate it, as per dimensions, weight and scheduling. Regardless of whether or not the company can handle the order, the customer will be immediately notified.
- Where the company can handle the order, as outlined by the customer, the Operations Manager will assign a Dispatcher to the project.
- The Dispatcher will, whenever possible and/or necessary, send a Field Supervisor to the manufacturing facility or loading site to verify the cargo dimensions.
- After the dimensions have been verified, the Dispatcher and Operations Manager will determine the equipment required for the project.
- The Dispatcher then informs the Yard Supervisor, if necessary, to configure the proper trailer along with whatever beams, blocking or saddles that may be required.
- The Dispatcher will determine the best possible route to be utilized for the move and ensure that any route conditions (i.e.: lane width, bridges, overhead obstacles such as power lines, overpasses, etc.) are taken into consideration.
- After it has been determined the route is appropriate, the Dispatcher begins the process of obtaining all pertinent permits, as necessary.

Note: Where required, the Dispatcher will arrange for utility company escorts, traffic light and/or sign turners, police escorts, railway crossing supervision, etc. These arrangements will be made with consideration for the customer scheduling requirements. If the Dispatcher experiences any scheduling problems the Operations Manager will be immediately notified. If all efforts to solve the problem fail, the customer will be notified in order that they can begin the process of rearranging their schedule accordingly.

- Once all of the pertinent permits have been obtained and the required escorts are “in place”, the Dispatcher will then assigns a Truck Supervisor and/or Lead Hand Pilot Car Operator and a Tractor Driver(s) to the project.

Note: A Tractor Driver is assigned only after the Dispatcher confirms the driver has adequate hours available, as per the “Hours of Service Regulations”, and can complete the project within these guidelines. In situations where a driver is “out of hours” before completing the project, a second driver will be scheduled to
complete the project. All “Hours of Service Regulations” would then apply to the second driver and so on.

- To ensure everyone involved in the project is fully informed and properly prepared, the Truck Supervisor and/or Lead Hand Pilot Car Operator, Tractor Driver, Dispatcher and the Operations Manager (where required) will meet and discuss all scheduling, routing, escorts and any possible safety concerns.
- The transport vehicle is then dispatched to load, as per the customer schedule.
- While the load is in transit the Truck Supervisor and/or Lead Hand Pilot Car Operator will be required to contact the Dispatcher a minimum of three (3) times daily:
  - every morning, before the load leaves either the point of origin or an enroute parking facility;
  - during the day, at an appropriate time for the Truck Supervisor and/or Lead Hand Pilot Car Operator;
  - at the end of the day, when the load is either parked at an enroute parking facility or arrives at the destination.
- Any deviation from the schedule that may cause more than a minor delay is to be communicated to the Dispatcher immediately.
- The Dispatcher will then inform the customer of any possible delay in loading and/or delivery, including the length of time expected, so the customer can organize their personnel and/or equipment as necessary.

Projects and/or cargo that do not require specialized trailers, rigging and/or supervision will be handled as follows:

- Supervision will be the responsibility of the assigned Tractor Driver.
- The Dispatcher will coordinate all efforts directly with the Tractor Driver.
- All Dispatch Procedures will be followed, eliminating only those procedures that may not be required (i.e.: obtaining permits, arranging for third party escorts, etc.).
- The Tractor Driver is responsible to contact the Dispatcher.

HAZARD IDENTIFICATION and ELIMINATION

RESPONSIBILITY and PRE-JOB and/or “TAILGATE” MEETINGS

On all projects involving more than one person there must be an experienced, responsible company representative (Supervisor) at the location to coordinate the project.

To eliminate potential for serious injuries, equipment or cargo damage, teamwork, communication and safe work procedures are extremely important. It is recommended that two-way radios or other communication devices be used during these projects.

Prior to the project commencing, a pre-job meeting must be conducted by an experienced person, usually the Project Supervisor. In addition, a “tailgate” meeting must be conducted daily, during the term of the project. Minutes of both meetings must be recorded. All personnel involved in the project are required to attend and be involved in the meetings.
The pre-job meeting will serve to identify all hazardous operations to all personnel, and the Supervisor, workers, and/or lease operators will do hazard assessments during these meetings. During the term of the project the Project Supervisor will continuously assess for further potential hazards and advise all personnel during the “tailgate” meetings.

ACCIDENTAL ELECTROCUTION

Contacting overhead power lines is the most common hazard associated with over-dimensional loads, truck mounted cranes or picker operation.

The best method of eliminating this hazard is to have the power company turn off the power to any lines in the area of the work. Whenever this is not possible, a guide person must be available and in constant communication with the operator. The guide and equipment operator is responsible to follow the “Electrical Hazards Clearance Guides” for the jurisdiction they may be working in.

- Florescent paint or a high visibility tape should be used to identify low-level power lines.
- Only authorized power company employees shall be permitted to lift overhead power lines, where necessary, to allow a load to pass under.
- The equipment operator is responsible to know the over-all height of their load.
- Loads that are too high should be unloaded and skidded under the power lines. If this is not possible then the power company must be contacted.
- No **TRANS TECH CONTRACTING INC.** personnel should attempt to tamper with power lines, at any time.
POWER LINE CONTACT WITH HEAVY EQUIPMENT

If the load, crane and/or picker does come into contact with a power line:

- Do not panic; remain in the cab of the vehicle until the power has been disconnected.
- If that is not possible, **do not step from the vehicle to the ground; this will result in electrocution.** Step clear of the vehicle, keeping both feet together, and “rabbit hop” or “shuffle” out of the energized zone.
- Instruct all others to stay well clear of the vehicle; the entire vehicle, load and surrounding ground may be “hot”.
- Without assistance, try to reverse away from the power line. Keep reversing unit well clear of the line (well outside of the absolute limit).
- **Do not** move away from the power line if the crane and/or picker cable or boom appear to be welded to the power line; the line could break and/or snap.
- If the vehicle cannot be moved, wait in the cab until the line is de-energized and declared safe.
- Equipment must be completely inspected after a power line contact incident. Wire rope (cable) must be replaced if contact is made.
- All power line contact incidents must be reported immediately to the electrical authorities and **TRANS TECH CONTRACTING INC.** management.

**Electrical Hazards Clearance Guide (Alberta)**

<table>
<thead>
<tr>
<th>OPERATING VOLTAGE of OVERHEAD POWER LINE BETWEEN CONDUCTORS</th>
<th>SAFE LIMIT of APPROACH DISTANCE for PERSONS and EQUIPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 750 V Insulated or polyethylene Covered Conductors (1)</td>
<td>300 mm</td>
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<tr>
<td>Above 750 V Insulated Conductors (1)(2)</td>
<td>1.0 meters</td>
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<tr>
<td>0 – 40 kV</td>
<td>3.0 meters</td>
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<tr>
<td>69 kV, 72 kV</td>
<td>3.5 meters</td>
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<tr>
<td>138 kV, 144 kV</td>
<td>4.0 meters</td>
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<tr>
<td>230 kV, 240 kV</td>
<td>5.0 meters</td>
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<tr>
<td>500 kV</td>
<td>7.0 meters</td>
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### Electrical Hazards Clearance Guide (Other Jurisdictions)

<table>
<thead>
<tr>
<th>JURISDICTION</th>
<th>VOLTAGE (Line to Ground)</th>
<th>DISTANCE</th>
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<tbody>
<tr>
<td>BRITISH COLUMBIA</td>
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<td>SASKATCHEWAN</td>
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<td>Up to 75,000</td>
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<td>75,000 – 250,000</td>
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<td>250,000 – 550,000</td>
<td>6.1 m</td>
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<td>Areas under Federal Jurisdiction</td>
<td>Up to 50,000</td>
<td>3.0 m</td>
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<td>(Canada Labour Code)</td>
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<td>50,000 – 120,000</td>
<td>4.5 m</td>
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<td>120,000 – 250,000</td>
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<td>250,000 – 350,000</td>
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<td>Over 350,000</td>
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### EQUIPMENT INSPECTION

Damaged slings, chains and rigging are a major hazard. Bent, kinked, frayed and worn equipment is hazardous and can contribute to loss of load control, injury and/or death. Thoroughly inspect all slings, chains and rigging at specified intervals and maintain them in good condition.

Before starting a lift, always inspect the crane and/or picker, the slings, chains and rigging. If in doubt, **do not use it**. Replace or repair slings, chains and rigging that have:

- Broken or kinked strands, wickers and flat spots in the line or sling.
- Cuts, nicks, bent links, etc. in the chain.
- Loose eyes.
- Damaged and/o missing hooks and safety latches.
- Twisted shackles.

### TAG LINES

In order to maintain control of a lift, always attach a tag line to the load. Suspended loads represent a hazard to anything or anyone near them. Use tag lines where load control is a concern or when it is lifted above shoulder height. No person is permitted to walk under or place any part of the body under a suspended load. Where it is required to work under a suspended load, use a tool(s) to reach under the load or support the load with blocking before beginning the work.
RIGGING PROCEDURES

Following safe procedures, when rigging a load, will result in a successful lift every time. Operators are responsible to:

- Determine what the load is.
- Know its weight and center of gravity.
- Inspect the rigging before use.
- Cover all sharp corners and/or edges with pads or softeners to prevent slings or rigging from being damaged.
- Select only alloy chain slings; never exceed the working load limits.
- All rigging must meet ASME standards which include:
  - Below-the-hook lifting devices, other than slings, must meet the requirements of ASME Standard B30.20-2006, Below the Hook Lifting Devices

LIFT PROCEDURES

After the planning, hazard elimination and inspection procedures are completed the lifting procedure can begin. In ensuring a safe and successful lift, the operator is responsible to:

- Properly position the truck mounted crane and/or picker.
- Inspect the crane and/or picker.
- Ensure the rigging is properly attached to the load.
- Ensure personnel not in involved in the lift are clear of the lift area.
- Move the load slowly and “boom in” when lifting a heavy load.
- Keep the load as close to the ground as possible when the boom is in motion.
- Ensure the area where the load will be placed is clear of personnel and debris.
- Lower the load gently and make sure it is stable before releasing pressure on the sling or chain.

GROUND STABILITY

Unstable ground conditions often result in crane and/or picker damage, damage to the load or loss of load control. Evaluate the capability of the ground to support the crane and/or picker and its load. Check for soft spots, unstable soils, underground hazards, etc. Use outriggers and mats to provide a stable, level work surface.
COMMUNICATION

Poor communication can be a hazard, resulting in injury or damaged equipment, if the operator, signalperson and tag line holder(s) get their signals crossed.

Following basic safety rules can eliminate hazards. This includes:

- Holding a pre-lift meeting.
- Identifying associated hazards.
- Designating one individual as a signalperson.
- Designating specific people as tag line holders.
- Ensuring all personnel, including equipment operator(s), know and understand the signaling system.
- Ensuring the signalperson does not signal a move until they have received the “all ready” signal from all other personnel in the area.
- Ensuring the signalperson is readily identified by the use of a reflective vest, armlets, etc.

**CRANE and HOISTING SIGNALS**

- Hoist load
- Lower load
- Arm position 90
- Arm position 90
- Arm position 90
- Boom up
- Boom down
- Arm position 90
- Lower the boom
- Raise the boom
- Swing

**STOP SIGNALS**

- Stop
- Emergency stop
- Dog everything

**TELESCOPING BOOMS**

- Shorten boom
- Extend boom

**SLOW SIGNALS**

- Make movements slowly
- Raise load slightly
- Lower load slowly
- Lower boom lightly
- Raise boom slowly

**CLAM BUCKET SIGNALS**

- Open
- Close

**CRAWLER or TRACK SIGNALS**

- Travel both crawler belts in direction indicated by revolving fists
- Lock the crawler belt on the side indicated by raised fist
- Travel opposite crawler belt in direction indicated by revolving fist
WINCHING

Winching is also a high-risk activity. Extreme care must be taken when working with and/or around winching operations. Personnel operating winching equipment are responsible to inspect the equipment. A thorough inspection ensures a safe and efficient winching operation, as well as protects the safety of every person involved in the operation.

Before using the winch, make sure it is operating properly. Check the winch line and brake, slings, tail chain, snatch block and load pins. If any of the following conditions are found during the inspection, repair and/or replace the equipment before starting the winching operation:

- Broken or kinked strands in a line or sling.
- Wickers in a line or sling.
- Flat spots in a line or sling.
- The bell in a winch line has slipped.
- Stretched links in a tail chain.
- Improperly installed cable clamps.
- The snatch block is in poor condition and there is excessive wear at the pins.
- The load pins are bent and are not the appropriate length for the load.

WINCHING OPERATION HAZARDS

In all winching operations there are safety and danger zones that must be recognized.

- **Do not** allow any person to be positioned between the winching vehicle and the load being winched, during the winching operation.
- **Do not** allow any person to stand directly beside or directly behind the load being winched.
- **Do not** allow any person to walk under a load that is being winched.
- **Always** stay at least 4.5 m (15 ft.) from a winch line under stress.
WINCHING OPERATION SAFETY

- Use a “hand-over-hand” grip when working with winch lines.
- **Do not** let the winch line “slip” through the hands, due to the danger of wickers.
- Leather gloves must always be worn when handling a winch line.
- **Do not** allow any person to place their hands near the winch drum.
- When the winch line is fully extended there **must** be at least five (5) wraps of line on the winch drum.

Visually check to ensure the winch drum clutch is engaged before operating the winch under load. A partially engaged clutch can “jump” out of gear, causing a sudden loss of load control. This could result in property damage, personal injury and/or death.

The most critical point in winching operations is when the load starts over the “roll”. At this point the line could “snap” because the stress on the line and/or sling is at its greatest force. To maintain load control, operators are required to lower the winching speed as the load is winched over the “roll”.
RIGGING

Rigging appears to be a simple operation requiring no particular skill or experience. That attitude can result in personal injury and/or death. Following are some general guidelines and safety precautions to observe:

- All riggers must be sure they are clear of the area before they give an “all ready” to the signalman. After positioning slings or chokers, the rigger should release them, if possible, before giving the “all ready” signal.
- Slings or chokers must be of adequate length. Never shorten a sling or choker line by twisting or knotting it. With chain slings, never use bolts or nuts as securement devices.
- If the sling or choker must be held in position, be sure hands are clear of pinch points. In addition, hands should be far enough away so there is no possibility of a frayed wire rope (cable) catching a glove and pulling a hand into a pinch point.

Note: Frayed wire rope (cables) should never be used, at any time.

- Watch the roll or swing of a load. Since it is almost impossible to position the hook exactly at the center of gravity of a load, the load will normally swing or roll. Anticipate the direction of the swing or roll and work away from it.
- Never stand between material, equipment or any stationary object and the anticipated path of the load swing.
- Avoid standing near stacked material that may be knocked over by a swinging load.
- Never stand under the load and avoid standing under the boom, as much as possible, in the event equipment failure occurs.
- Never work under a suspended load, unless the load is adequately supported.
- Never leave a load suspended when the hoist or crane is unattended.
- Never permit anyone to ride the lifting hook or the load.
- When lowering and/or setting the load, ensure no part of the body will be trapped under the load. The load should be set down easy and slow. If the load does roll on the blocking, it will be a slow movement. This will allow time to move any part of the body before it becomes trapped under the load, thus avoiding injury.

TRUCK-MOUNTED CRANES

There are several considerations to be observed in order to operate a truck-mounted crane and/or picker in a safe manner. Where applicable, the operator is required to be suitably trained, adequately qualified and sufficiently experienced before operating a crane. As evidence of qualification, operators of truck-mounted cranes having a lifting capacity of more than 5 tons and operators of mobile cranes having a lifting capacity of more than 15 tons must possess a recognized certification issued by Alberta Learning - Apprenticeship and Industry Training.

The following information is provided as a guideline in ensuring the job is completed safely:

PLAN THE LIFT

Planning is the key to ensuring a job is completed in a safe, efficient and cost effective manner. The following steps are required in planning a safe lift:
SAFE JOB PROCEDURES

- Know the limitations of the crane and/or picker unit.
- Determine what the load is, where it is to be moved from (ground, vehicle, dock, etc.) and where it will be moved.
- Know the weight and dimensions of the load; **never lift a load if you don’t know the weight of it.**
- Determine the center of gravity of the load; the lifting device should be positioned immediately above the estimated center of gravity.
- Select and size the rigging for the load; determine how it will be connected to the hook.
- Check the location of power lines; take the necessary precautions to prevent contact.
- Check the ground conditions for stability and underground hazards (buried lines, cable, etc).
- Determine the type and size of outrigger mats required.
- Check the outriggers for proper operation.
- Check clearances between the load, the boom and any objects near the lift path.
- Confirm the crane and/or picker capacity exceeds the total of the load, rigging, blocking, etc.; **allow a 10 – 20 % safety margin.**
- Have a meeting before the lift begins; everyone involved must understand the lift procedures, who the person in charge is, who the signalperson is, etc.

**LIGHTING**

Adequate lighting is imperative for safe loading, moving and unloading operations. Every effort must be made to plan and coordinate a move so that:

- Adequate daylight hours remain during loading and unloading.
- During the move, and where applicable, trip planning is important to ensure loads that are not permitted to travel after daylight hours are parked in a safe, secure location.

In the event the lighting is not adequate, the move will be shut down until ½ hour before sunrise or until adequate lighting is available and the Project Supervisor has given approval to proceed.
MOVING VESSELS, BUILDINGS and EQUIPMENT

Moving vessels, buildings and equipment is a potentially high hazard operation. The following guidelines will provide for a safe operation.

- All slings and knots on winch lines should be inspected prior to any lift.
- Double lines must be used on heavy loads. All loads over 50,000 lbs. (22,680 kg) should be either loaded using the double line system or hoisted by a crane(s) unit, of sufficient capacity.
- Never get between a vehicle and a load until the operator signals it is safe to do so.
- After hooking up a winch line step back, beside the load, in the event of a line failure; never stand in front of a load that is being winched into position.
- Stay out from under the load while it is being spotted or loaded.

Remember: Heavy equipment does not load or unload in a smooth and steady motion.

- Ensure the hoist is disengaged and the operator is aware of your position before adjusting lines, etc.
- All loads must be adequately secured (including location moves).
- High visibility vests must be worn at all times.
- All personnel must be familiar with and obey hand signals, as given by the designated person unless, in their opinion, the signals may interfere with their safety and the safety of other personnel in the area.
- Never stand in front of the snatch block, when using a double line system.
- Never position any part of the body under any load that is being lifted.
- Never ride on running boards or vehicle decks at any time during a move.
- Preparing a vessel, building and/or equipment for a move includes securing power cords, securing the roof, properly unhooking and draining hoses, piping, etc.
- Whenever possible, especially on longer moves, air ride trailers should be used to transport buildings.
- When “rigging out” or loading a vessel, building and/or equipment, appoint one person to give directions to the truck operator; this will prevent confusion and eliminate the possibility of damage to the cargo.
- Where applicable, the vehicle and/or cargo must be equipped with Transportation of Dangerous Goods placards and the appropriate permit(s) must be “on hand”.
- All containers hauling dangerous goods must meet Transportation of Dangerous Goods Regulations.
- After piping has been disconnected, ensure the ends and fittings are properly plugged to prevent dirt, water and/or debris from entering into them.

HANDLING TUBULARS

No person will be permitted on top of unsecured tubular loads. All pipe loads are to be unloaded using one of the following methods:

Roll-off Ramps
These ramps are specifically designed to roll pipe from the truck to the racks.

“Cherry Picker”
When using a “cherry picker”, a maximum of two hooks per end, on a sling system, must be “in place”. Tag lines must be used to control the load.
Under **NO** circumstance will **TRANS TECH CONTRACTING INC.** allow a person to stand on top of a load of pipe to assist in unloading.

**TRANSPORTING OVERSIZE and/or OVERWEIGHT COMMODITIES**

The transportation of modules, vessels, transformers, gas compression equipment, oil and gas processing equipment, as well as forestry, mining and earth moving equipment is very much a part of the **TRANS TECH CONTRACTING INC.** operation. Moving over-dimensional cargo can present certain hazards to the people involved in the move, as well as the general motoring public.

After the order to transport an oversize and/or overweight commodity is received, the following procedures are to be used in controlling and/or eliminating those hazards.

- Prior to the start of the project, the Truck Supervisor will, whenever practical or necessary, travel to and evaluate the loading and offloading locations.
- The Truck Supervisor and/or Operations Manager will ensure the proper transport trailer (tonnage capacity, deck length, blocking/beams, hydraulic lift and steer, etc.) is being dispatched for the project.
- Before the transport trailer is dispatched a “pre-use inspection” of the pin joints, hydraulic hoses, air lines, tires, lights, remote steering, any apparent damage (i.e.: cracks, bent web rail, broken or missing cross members, etc.) will be completed.
- The Tractor Driver and Truck Supervisor will discuss the route to be used to arrive at the loading location, making sure it coincides with the applicable permit conditions and is practical for the size of the unit (i.e.: traffic congestion on certain routes, etc.).

**Note:** If it is determined a more suitable route is available, the Dispatcher must be advised and it is the responsibility of the Dispatcher to have the permit changed to the new routing. Where this is required, the transport unit **must not** leave the **TRANS TECH CONTRACTING INC.** yard until the revised permit has been issued.

- After the transport unit arrives at the loading location, but before entering the facility, the Truck Supervisor checks the facility for access (if this had not been done prior to the project start) and determines the best way to enter the facility; either drive in or back in.
- Once the cargo is loaded the Truck Supervisor and Transport Driver will determine the number of tie-downs and tensile strength required, as well as the load securement method for the particular cargo; each load is unique and therefore, different load securement procedures will and/or may be required for different loads.
- After the cargo has been secured, all required over-dimensional signs, lights, flags, and any other special markings must be affixed.
- Before leaving the loading facility, the Truck Supervisor, Tractor Driver, Pilot Car Operators and outside Escorts, if required, will conduct a “Tailgate Meeting”. The meeting will include, but is not limited to, discussions regarding:
  - Permits accuracy and conditions,
  - Routing,
  - Radio communication,
  - Possible obstructions,
SAFE JOB PROCEDURES

- Weather factors,
- When and where to meet the next Escorts (i.e.: Power Crews, Sign Turners, Railway Protection, Traffic Light Turners, etc.).
- A “checkpoint” location, that can accommodate parking the transport unit for the first tie-down and walk-around inspection, is determined; due to the size of certain commodities and permitted routes, the time and distance between inspections will vary as there are only certain locations that can accommodate oversize loads.

**Note:** At the first “checkpoint”, after all inspections have been completed, the next “checkpoint” is to be determined, and so on until the cargo arrives at the final destination.

**Note:** In situations where the transport unit is parked for other than enroute tie-down and walk-around inspections (i.e.: overnight and/or over a weekend, etc.), appropriate signage to warn the “general public” is to be set up.

- Upon arrival at the offloading facility, the Truck Supervisor will check the location for access (if this had not been done prior to the project start) and determines the best way to enter the facility; either drive in or back in.

**Note:** While the Truck Supervisor is checking facility access, the transport unit is to be parked at the last available parking spot and **never** on a roadway.

- “Spot” the transport unit next to offloading area; **do not** remove the cargo tie-downs until instructed to do so by the location supervisor and/or person in charge of the offloading procedure.
- After approval to offload has been given, remove the tie-downs and proceed with the offloading process.
- After the cargo has been unloaded, pick up all loose dunnage, transport beams, etc. and secure them to the deck of the transporter trailer.

**Note:** After unloaded, certain transporter trailers may need to be reduced in size before leaving the offloading location; always reduce the trailer size, whenever practical to do so. If a permit is required for the empty equipment, ensure all applicable permits are in place and accurate before leaving.

- Before leaving the offloading location, complete a pre-trip inspection of the transporter unit.
- Travel to home base, or the next loading site, as required.
- Enroute, perform periodic inspections of all equipment as often as practical and/or as required by the “Hours of Service Regulations”.

**LOADING/OFFLOADING OF Equipment**

**LOADING EQUIPMENT ON HYDRAULIC TRAILER**

This procedure is to be used when loading a piece of equipment that is already jacked up to proper loading height and set on blocking or stands. If jacking and setting of equipment is required please refer to “Jack and Roll Procedures”.
The following steps need to be taken when arriving on site to load a piece of equipment on a hydraulic trailer:

- Sign in at Security Gate of site, check Emergency Procedures for yard.
- Check access and egress for the transporter and where the module is located, wear proper personal protective equipment required for job and in the yard.
- Once load is located check the height of the load on stands and the height of the trailer.
- Conduct Tailgate Meeting and Hazard Assessment with crew for loading. Check that all stands are secure and do not walk under the load on the stands. Check that there is a clear area for trailer under the load.
- Using the pilot car operator or Supervisor as the signal person, help the Truck Driver to back the trailer under the load. Use two-way radio for communication and hand signals. Use second signal person on opposite side of trailer if at all possible.
- May need to block trailer wheels if ground is uneven. Supervisor or Pilot Car Operator will start to raise the deck of the trailer while watching the load. Place blocking on trailer while raising, to keep load level.
- Truck Driver and Supervisor/ Pilot Car Operator can remove stands, using proper lifting techniques and placing stands clear from the path of the trailer. Secure load to trailer using chains and boomers.
- Supervisor or Pilot Car Operator to lower loaded trailer to correct travel height.
- Place all appropriate dimensional signage, lights and flags on the load and trailer. Check load for anything loose that may fall off during travel.
- Check the height and width of the load with the permits and utility clearances.
- Check all paper work and have signed off with any noted damages or deficiencies to load.
- Exit yard/site with Supervisor or Pilot Car Operator watching the width and height of load and checking for obstructions. Escorts must control traffic. If Utilities are used must maintain contact with them and check all clearances.

LOAD BINDERS (“BOOMERS”)

PLACEMENT OF LOAD BINDERS

The placement of load binders is dependant on the load. Following are guidelines that will provide for the safest and most effective use of load binders:

- Whenever possible, load binders are to be positioned where they can be closed while standing on the ground, rather than on the load; allows for stable footing while working with the load binders.
- Position the load binders on one side of the load; allows for easier physical inspection during an enroute stop and/or visual inspection while traveling.
- Where a load binder must be positioned higher up on the load, try to place it as close as possible to one side of the load; again, this is to allow for stable footing.
Note: Ensure the load pins are in place and the load will not shift while the load binders are being attached and/or secured in place. A load binder should never be used as a “come-along”.

CLOSING AND OPENING LOAD BINDERS

The opening and closing of load binders is among the highest risk activities found in the transportation industry and extreme care must be exercised.

Situations will occur where a load binder cannot be adequately closed and/or a load “tie down” made tight enough, without assistance. In these situations, the use of a “snipe”, to gain leverage, is required. A “snipe” is a piece of pipe placed over the load binder handle. It is recommended that the “snipe” be at least 1 meter (3.5 feet) long and 3.8 centimeters (1½ inches) in diameter.

Manufacturers recommend against using a “snipe” on load binders. As an alternative, manufacturers suggest using a “ratchet-type” load binder where increased leverage is required.

It is recommended that when using a “snipe”, it be pinned to the load binder handle. This will prevent the “snipe” from causing injury if it slips and/or the operator looses control of it.

Following is the recommended procedure for the safe use of a “snipe” in closing a load binder:

- With the palms of the hands open, press down on the “snipe”; prevents the hands and/or fingers from being caught in the boomer when it closes.
- Continue to push down on the “snipe” until the pressure from the load binder is no longer pushing back on the palms of the hands; if the load binder is not fully closed the “snipe” will push back, against the palms of the hands.
- Do not stand directly over the “snipe” while it is being used to close the load binder. If the “snipe” slips, the recoil from the load binder exerts a tremendous amount of force; standing off to the side reduces the possibility of being struck by the load binder or “snipe”.
- The load binder handle should be locked in place by rope, wire or chain to prevent the handle from accidentally releasing.

Reminder: Never position the body directly over a load binder when opening or closing it.

The procedure for closing a load binder without a “snipe” is the same.

Following is the recommended procedure for safely opening a load binder:

- **Do not** use a “snipe” to open a load binder. When a load binder is opened a tremendous amount of force is exerted. If the “snipe” slips and strikes a person, severe injury can occur.
- Before removing the rope, wire or chain used to secure the load binder handle, ensure the load binder has not been released. If the load binder is released the handle could open unexpectedly when the rope, wire or chain is removed and cause an injury.
SAFE JOB PROCEDURES

- After the rope, wire or chain has been removed, use a pry bar to release the load binder handle; to prevent the body from being struck by the handle, stand off to the side while it is being released.

BACKING OF TRACTOR/TRAILER

Before performing a Back-Up Procedure to access a site, whether empty or loaded, the following steps must be performed:

- Park the Tractor/Trailer unit in a safe, visible area. If necessary; set up temporary traffic control devices such as traffic cones and chevrons before leaving the tractor/trailer unattended. If a Pilot/Escort Vehicle (other than the Tractor/Trailer Supervisor) is with the unit; this vehicle and operator is to stay and perform traffic control.
- Truck Driver and Supervisor are to then access the site and determine whether it is best to drive into or back into the site. Where the piece of equipment is to be loaded/offloaded will have a bearing on which method to use. **NOTE:** It is always recommended that when possible- you drive into site as opposed to backing into site.
- Once it is determined which method will be utilized for entering the site, the Truck Driver and Supervisor (and any other workers present who will be directly working with this load) are to conduct a Tailgate Meeting and Hazard Assessment. The route should be clarified during this meeting for the safest travel onto site and the location of the load/offloading of equipment.
- Once route has been established then it is up to the Truck Driver and Supervisor to make sure that this route is free from obstructions. This also includes workers that are working in the area, make sure that they are aware of the moving vehicle and clear of the route.
- Truck Driver and Supervisor should then determine which method of communication to use. This will be determined on whether the trailer needs to be steered, how wide the load is, and the position of the equipment to be loaded/offloaded. Either visual communication will be used through hand signals and mirrors, and/or radio contact may be used. If at all possible it is recommended to use more than one spotter. If hand signals are to be used the Driver and Spotter must review the hand signals and determine the best location for the Spotter to be in so that the Driver is able to see them clearly and the Spotter is able to see the back of the trailer. If radio contact is used then the Driver and Spotter must confirm the radio channel they will be on and that they both have reception. This must be done before anything is moved. Communication is the most important part of any backing procedure.
- When the Driver is ready to begin backing up it is recommended that he honks the horn of the truck to let everyone know that he will be moving. Use the lowest gear possible and the slowest possible speed when moving so that reaction time will be increased.
- While moving backward Spotter and Driver should be in constant communication. It is also important that the Driver and Spotter still be checking the route so that no obstructions or workers are in the way of the moving Tractor/Trailer unit.
CHANGING TRAILER DECK SECTIONS

Many of Trans Tech’s trailers are capable of increasing or decreasing their deck lengths to accommodate different sized loads. The following procedure should be used when a trailer deck section needs to be added to a trailer.

- Use proper backing procedures to back the truck up to trailer that has the deck being changed and hook up to the trailer.
- Air the trailer up.
- Let the neck down on the trailer.
- Remove nuts and bolts from one side of the trailer deck that is being removed using proper tools and personal protective equipment.
- Undo all airlines and electrical from the deck that is being removed.
- Drive crane up to trailer deck and position in front of the deck that will be removed. Lower crane outriggers onto crane mats.
- Attach the chain slings from the crane to the trailer deck that is being removed.
- Place blocking under trailer and deck sections that are not being removed to support these deck sections.
- Use the crane to lift the trailer deck up and remove the shims from the one side of the deck.
- Lower the trailer deck and remove the lock pins and main pins from the deck that is being removed from the same side that the shims were removed from. The main pins will have to be knocked out with a sledgehammer.
- Move trailer ahead with truck and use the crane to lift the deck up again to remove nuts and bolts and shims from the other side of the deck.
- Remove other two sets of lock pins and main pins from the deck that is being removed. The main pins will have to be knocked out with a sledgehammer.
- Using the crane, raise the deck slightly, and put the lock pins and main pins back in this deck section.
- Using the crane, lift the deck section up and place out of the way of the truck and trailer.
- Take the chain slings off the removed deck section and put them on the deck section that is still attached to the trailer and truck.
- Use the crane to lift up this deck section and back up the truck and trailer as it is raised and line it up with the deck section that is attached to the dolly.
- Put the pins back in to attach the two deck sections together. Use a sledgehammer to get the main pins in.
- Use the crane to raise the deck sections up so that shims can be put in between the decks to get the appropriate camber.
- Put the nuts and bolts back in the deck sections and tighten.
- Unhook the chain slings from deck.
- Raise the neck of the trailer back up.
- Put unused deck section back in appropriate spot with the crane.
TIRE CHAINS

Tire chains are required where a combination of road, weather and terrain conditions affect traction. This often occurs in muddy and/or icy road conditions and can be more severe where grades are encountered. Whenever possible, these conditions will be anticipated during project planning.

As these conditions can occur unexpectedly, drivers are required to ensure their vehicle is equipped with adequate tire chains that are in good repair. Before leaving on an assignment tire chains must be inspected to ensure they are in good repair and the chain repair kit is fully stocked. The kit should include appropriate tools and a sufficient amount of cross chains, spare links, quick links, clevises, etc. After the tire chains are used they must be inspected for wear and damage. The tire chains must be repaired before the next use and/or make before the next assignment.

There are different types of tire chains for the various conditions that may be encountered.

- “Single” tire chains are primarily used on steering axle tires and/or trailer tires.
- “Triple” tire chains are used on dual wheels, primarily for drive axle applications.
- “Trygg” tire chains are made of heavier chain and are designed for use on frozen ground and ice.
- “V-bar” tire chains are made of lighter material (not as heavy as the “Trygg” type). This type of tire chain is designed for use in muddy conditions.

The type and construction of tire chains to be used is determined by vehicle tire size and the conditions that will be encountered.

PERSONAL PROTECTIVE EQUIPMENT

When installing or removing tire chains there is a potential for injury to the feet, hands, head or eyes. The following personal protective equipment is recommended when working with tire chains:

- CSA approved steel-toed boots (prevents foot injury if a tire chain is dropped).
- Leather gloves (prevents cuts from sharp edges of worn tire chains).
- Hardhat (prevents injury when working under the vehicle).
- Safety glasses (prevents injury from a tarp strap slipping of a tire chain and/or debris falling while working under a vehicle).
- Coveralls or rain suit (keeps a person clean and dry).

INSTALLING TIRE CHAINS

Always install tire chains before conditions get too severe. In other words, “if you are unsure about chaining up, chain up”.

An experienced driver will have already developed an effective method for handling tire chains. The following information is to be used as a guideline in safely installing tire chains:

- Park in an area where visibility is good; curves and hills restrict the vehicle from being seen by other traffic. Look for stable, flat ground with good visibility to the front and rear of the vehicle.
- Engage the parking brakes, activate the four-way flashers and/or beacon lights and blocks the wheels.
- Position a tire chain beside each wheel that will be “chained up”; ensure the chain is spread out and the grip side (“Trygg” or “V-bar”) of the cross chains are facing the ground, the rail with the “boomer” is closest to the outer tire and the tire chain is not tangled.

**Dual Wheels:**

- With two hands positioned shoulder width apart, pick up the tire chain at the mid point of the center rail so it folds in half, lengthwise.
- Drape the tire chain over the outside tire.
- Flip the other half of the tire chain over the inside tire; the grip side of the cross chains will be facing up and the “boomer” will be on the outside of the outside tire.
- Center the tire chain on the wheel and ensure it is draped over the wheels with the chain tails for each rail hanging evenly.
- Starting with the center rail, attach the “C” hook to a chain tail link, as tight as possible, then do the same with the inside rail.
- Next, insert the “boomer” of the outside rail through the chain tail link that will hold the outside rail tight then tighten the “boomer” and secure it with a clevis.
- Using tarp straps as required, secure any loose chain tails.

**Note:** Where the tire chains are equipped with “cam” and/or “D-lock” tightening devices, the inside and outside rails are secured as tight as possible with a “T” or “L” bar. When only one set of tire chains is used on the drive axles it is recommended that the differential lock be engaged, to prevent driveline damage. However, with the differential lock engaged it is important to remember vehicle control is affected when negotiating curves and/or turning corners.

**Single Wheels:**

Steering axle and trailer tires are the last to be chained up. The wider the steering axle tires are the more likely tire chains will be required as wider tires tend to provide reduced traction in icy and muddy conditions.

- As with triple tire chains (dual wheel application), with two hands positioned shoulder width apart, pick it up the tire chain by the inside rail and drape it over the tire; the grip side of the cross chains must be facing up and the rail with the “boomer” must be on the outside of the tire.
- Center the tire chain on the wheel and ensure it is draped over the wheels with the chain tails for each rail hanging evenly.
- Attach the “C” hook to the chain tail link of the inside rail, as tight as possible.
- Next, insert the “boomer” of the outside rail through the chain tail link that will hold the outside rail tight then tighten the “boomer” and secure it with a clevis.
- Using tarp straps as required, secure any loose chain tails.
Note: When using a steering axle tire chain, install it on the wheel opposite the power steering pump and hoses, usually the right side of the vehicle.

- After all the tire chains have been installed and tightened, drive slowly for approximately 200 meters (650 feet). Listen for the sound of the tire chains “flapping” (may be too loose) or hitting the fenders (extra links in tail chains not secured).
- Stop and make the necessary adjustments.
- Slowly drive another 200 meters to ensure no further adjustments are required.
- After all adjustments are made and the tire chains are tight, continued travel can occur.

Note: Do not drive more than 50 km/h with tire chains installed. Always listen for loose tire chains. If a loose tire chain is detected, stop and make the required adjustment, repair or replace the tire chain. Loose or broken tire chains can create extensive damage to the vehicle.

REMOVING TIRE CHAINS

Again, an experienced driver will have already developed an effective method for handling tire chains. The following information is to be used as a guideline in safely removing tire chains:

- Park in an area where visibility is good; curves and hills restrict the vehicle from being seen by other traffic. Look for stable, flat ground with good visibility to the front and rear of the vehicle.
- Engage the parking brakes, activate the four-way flashers and/or beacon lights and blocks the wheels.
- Where the tire chains are equipped with “cam” and/or “D-lock” tightening devices, loosen them and remove the tarp straps.
- Detach the “C” hooks from the center and inside rails, remove the chains from the tire and pull them off to the side.
- Move the vehicle ahead and/or forward, as necessary, approximately 2 meters (6 feet).
- Pick up the tire chains and hang them in a neat and organized manner, by the center rail, on the chain rack.

Remember: Store the tire chains in the order that they will be used; the first chain to be put on a tire should be the first chain off the rack.

Remember: Tire chains must be inspected on a regular basis and after each use.

Note: When hanging or storing tire chains, ensure they are secure and will not swing or drag; a loose tire chain can damage a tire or rip the chain rack off the vehicle.
JACK-KNIFE

There are two ways a combination tractor-trailer vehicle can jack-knife.

TRACTOR JACK-KNIFE

Tractor drive wheels “locked up” or spinning.

TRAILER JACK-KNIFE

Trailer wheels “locked up” and sliding.

A jack-knife occurs in one of two situations; during wheel “lock up” or during drive-wheel over acceleration.

WHEEL LOCK-UP

In a trailer jackknife, the wheels “lock-up” and start to slide when the wheels experience reduced traction on the roadway. At this point the “locked-up” wheels tend to lead the vehicle.

Lock-up Prevention

- Ensure all the vehicle brakes are properly adjusted to minimize the possibility of one set of wheels “locking-up”.
- Avoid applying enough braking pressure to “lock” the wheels; if you do, release the brakes to restore traction to the wheels.

Remember: The sliding or “locked-up” wheels will always attempt to take the lead. In a combination unit, if the trailer wheels are “locked-up”, the rear of the trailer will come forward to take the lead.

OVER-ACCELERATION SPIN

This occurs when too much power has been applied to the driver wheels and they begin to spin excessively. The rear of the power unit will begin to “spin-out” and slide either left or right. This will cause the front of the power unit to come back, toward the trailer, and cause a tractor jackknife.

Over-Acceleration Spin Prevention

- Do not apply too much power to the drive wheels. If you do mistakenly apply too much power, simply reduce the power to the drive wheels by taking your foot off the accelerator.
SAFE JOB PROCEDURES

Remember: You must reduce the power BEFORE the angle between the tractor and trailer reaches 15 degrees.

MANUAL LIFTING and HANDLING

Since the size and weight of materials handled within our company can vary greatly, especially in the “rigging” operation, it is difficult to outline lifting and handling procedures for every situation. However, following are recommended guidelines that should be considered when manually handling any object and/or materials:

- Develop a plan of action before lifting.
- Decide how you are going to handle the object safely.
- Assess the weight of the object to be moved. An experienced person knows to ask for assistance or use a mechanical device when an object is too heavy for one person to lift or move. **Do not** attempt to lift or move any object that may be too heavy for one person. Tarps, for example, can weigh 135 kg (300 lbs) or more.
- Determine that the size and shape of the object will permit a secure grip.
- Ensure the location of the object is such that it can easily be grasped and lifted.
- Ensure the surface poses no hazards (i.e.: insecure footing, obstructions or uneven and slippery surfaces that may cause you to trip, slip or fall, etc.).

LIFTING TECHNIQUE

There are many ways of lifting objects. The following method is recommended for objects that fit between the knees.

- Stand close to the object, with the knees bent and the back comfortably straight.
- Keep the object close to the body.
- Keep one foot slightly ahead of the other and flat on the floor.
- Keep the knees bent. Lifting should be done with the legs, not the back.
- Grip the object with your whole hand.
- Tuck in the elbows and arms. Put the arms between the legs when grasping the object.
- Tighten the abdominal muscles for the duration of the lift.
- As you are coming back up, bring your head up so that the eyes are looking straight ahead.
- Lift by straightening the knees and standing up.
- Where it is necessary to turn after lifting, turn your whole body; **do not** twist at the waist.
- Move slowly and carefully.
- The best lifting range is between the hips and the waist, however, it is acceptable to lift between the knees and the shoulders.
- If the object is above shoulder height, bring yourself closer to the object by using a ladder and make sure you have solid footing.
- **Do not** stand on your tiptoes or arch your back.
For objects that require the assistance of another person:

- Before starting, ensure both persons understand where the object will be moved to and the route that will be taken.
- Coordinate the lift with the other person; use the 1 – 2 – 3 – lift routine.
- Stand close to the object, with the knees bent and the back straight.
- Get a solid grip on the object.
- Tuck in the elbows and arms.
- Bend the knees; lifting should be done with the legs, not the back.
- Tighten the abdominal muscles and lift by straightening the knees and standing upright. Avoid jerking movements and/or twisting at the waist.
- Keep the head up.
- Keep the feet clear of the object being lifted, in the event that it falls.
- Move slowly and carefully. Guide the person who is backing because they cannot clearly see where they are going.

**PUSH or PULL?**

Always push an object, using the proper stance. Pulling puts too much stress on the back. Following is the recommended technique for safely pushing an object:

- Do not use jerking movements and move slowly.
- Squat down and get a firm footing, one foot slightly ahead of the other.
- Keep the body straight and do not twist at the waist.
- Keep the feet apart and your weight evenly distributed over them; this gives you a wide, stable base.
- Position the body low and close to the object. The push force needs to be parallel to the floor to get optimum power, however, this force will be limited by the size of the object.
- Face the object, keep the back straight and tighten the abdominal muscles.
- Use your body weight and power, not your back, to do the pushing.
- Lean into the load, without straining yourself.

**BOOSTING A BATTERY**

Before boosting a battery it is important to determine if the batteries are connected in parallel or in series. Batteries connected in parallel have all of the positive terminals connected together and all of the negative terminals connected together. Batteries
SAFE JOB PROCEDURES

connected in series use four six-volt batteries to make two pairs. In the series system the positive terminal of one battery is connected to the negative terminal of the other battery in the pair. The other cable of one pair is connected to the starter and the other cable of the second pair is connected to ground.

The following procedure is for boosting the most common system, batteries connected in parallel:

- When using booster cables on a disabled battery there is always danger of a hydrogen gas explosion. Always wear eye protection.
- Connect one cable to the positive post of each battery.
- Connect one end of the other cable to the negative post of the booster battery.
- Connect the other end to a clean unpainted area of the disabled vehicle, preferably on the side opposite the battery.
- Make sure the vehicles are not touching each other.
- Turn off all battery-operated accessories.
- Make sure the booster cables are securely attached to the battery posts; if they become disconnected and touch other parts of the engine, an explosion may occur.
- Start the booster vehicle.
- Start the disabled vehicle.
MAP READING (LSD’s)

Any parcel of land in Manitoba, Saskatchewan, Alberta or the Peace River Block of British Columbia can be located by its legal land description. Legal land descriptions are based on the Township System (TS). Townships are divided into 36 one-mile square sections. The system uses a simple grid network to divide the prairies into equal sized parcels of land. The term “Township” is also used to describe the six-mile square formed by the intersection of a range and a township.

Under this system, land is described as being west of the 1st to the 6th Meridian. The 1st Meridian runs north - south through Winnipeg. The 4th Meridian is the Alberta - Saskatchewan border. The 5th Meridian is in the center of Alberta and the 6th Meridian is east of the Alberta – British Columbia border.

Referring to the map on the following page as an example, the location is described as 1-87-18-W4; 1 is the section number, 87 is the Township number, 18 is the Range number, W4 means west of the fourth (4th) meridian.

Each section of land (one square mile) is divided into sixteen (16) squares, called survey pins. For example, the northeast quarter of a section includes survey pins 9, 10, 15 and 16. The system in Alberta consists of Townships starting at the Alberta – United States border. The first six miles are Township 1, progressing northward to Township 126 at the Alberta – Northwest Territories border. Range numbers increase going west from each Meridian. As per the above example, the 87th Township north of the Alberta - USA border and the 18th Range west of the 4th Meridian.

**Example:** Starting at Township 39-0 or 390, as you travel north the Township numbers increase at each one (1) mile increment (391, 392, 393, 394, 395, etc.) to Township 400 (the 40th Township line).

**Example:** Starting at Range Road 3-0 or 30 or 3.00, as you travel west the Range Road numbers increase at each one (1) mile increment (3-1, 3-2, 3-3, 3-4, 3-5) to Range Road 4-0 (the 4th Range Road).

Township and Range Road signs may appear different from County to County or a Municipal District, but all are based on the same system.
"Don't be afraid to ask for directions."
SAFE JOB PROCEDURES

JACK AND ROLL PROCEDURES

JACK AND SKID LOAD

The following is a general Jack and Roll procedure for the skidding of a load from a trailer onto site. This procedure may be modified depending on the hazard assessment done prior to the work, the conditions of the site, and the location of load. It can also be used for the skidding of a load onto a trailer.

- Sign in at gate and attend site safety orientation (if required).
- Commence Tailgate Meeting and Hazard Assessment. Discuss the hazards in the area and how to prevent or avoid any incidents. Also, assess the situation as to how the work will commence and what needs to be done.
- Place the picker truck and jack and roll equipment trailer as close to site as possible.
- Take off all tie-downs, chains and boomers off equipment and load on trailers.
- Offload equipment, skid steer, and jacking unit with picker. Use tag lines and signal person while using picker.
- Move blocking and equipment around load using proper lifting techniques and the skid steer.
- Build jacking piles in required lifting areas around load using proper lifting techniques. Also build block piles for skid rails to be placed on.
- Check jacks and hoses for cracks or leaks.
- Set jacks on steel plates on jack piles.
- Pressure jack to required pressure, check for leaks.
- Begin lifting only one end of load with jacks, safety blocking every 2” while lifting. Rise to appropriate height to set onto blocking. Use signal person or radio controls while lifting.
- Move jacks to other end of load.
- Set jacks on steel plates on jack piles.
- Pressure jack to required pressure, check for leaks.
- Begin lifting the other end of load with jacks, safety blocking every 2” while lifting. Rise to appropriate height to set onto blocking. Use signal person or radio controls while lifting.
- Place skid rails under load and onto block piles.
- Install skid shoes on the skid rails underneath the load.
- Use jacks to lower the load onto the skid shoes.
- Hook up the hoses to the skid shoes for pushing of load on skid rails. Make sure that skid rails are all connected properly.
- Once load is pushed into proper location unhook the hoses from the skid shoes.
- Build blocking piles in required lifting areas around load for setting of load and removal of skid rails.
- Check jacks and hoses for cracks or leaks.
- Set jacks on steel plates on jack piles.
- Begin lifting the load with jacks, safety blocking every 2” while lifting. Rise to appropriate height to remove skid rails.
- Remove skid rails and skid shoes from underneath load.
SAFE JOB PROCEDURES

- Begin lowering the load with jacks, making sure there is still blocking underneath the load. The load will be lowered into correct location and set. Use signal person or radio controls while lowering.
- Remove Transport Trailer from site.
- Move in Rigging Trailer and Picker Truck
- Reload Rigging and Equipment onto jack and roll trailer using picker, skid steer, and proper rigging and lifting techniques.

WEIGHING A LOAD USING LOAD CELLS

The following is a general Jack and Roll procedure for the weighing of a load using load cells. This procedure may be modified depending on the hazard assessment done prior to the work, the conditions of the site, and the location of load.

- Sign in at gate and attend site safety orientation (if required).
- Commence Tailgate Meeting and Hazard Assessment. Discuss the hazards in the area and how to prevent or avoid any incidents. Also, assess the situation as to how the work will commence and what needs to be done. Determine the amount of Engineered Lifting Points there is, which will determine the number of jacks you will use.
- Place the picker truck and jack and roll equipment trailer as close to the load as possible.
- Take off all tie-downs, chains and boomers off equipment on trailer.
- Offload equipment, skid steer, and jacking unit with picker. Use tag lines and signal person while using picker.
- Move blocking and equipment around load using skid steer and proper lifting techniques.
- Build jacking piles in required lifting areas using hardwood blocking and proper lifting techniques.
- Check jacks and hoses for cracks or leaks.
- Set jacks on steel plates on jack piles. Place jacks under load as close to engineered lifting points as possible and as evenly spaced as possible.
- Attach hoses to jacks and unified jacking unit.
- Record measurements of load: height, width, length, distance between lifting lugs and jacking points, and any overhang.
- Activate fluid to jacks through unified jacking system to required pressure to lift load off ground (or stands) and hold.
- Use signal person or radio controls while lifting, raise module 4”.
- Place load cells on existing blocking underneath engineering lifting points.
- Lower load (using jacks) onto load cells. Use signal person or radio controls while lowering.
- Each gauge reading may be different depending on the weight distribution on each jack. Recode readings from load cells.
- Raise load up again to loading height while safety blocking every 2”.
- Lower jacks by releasing pressure to them and set the load on the blocking or stands.
- Unhook hoses from jacks and jacking unit and put away.
- Remove load cells.
Clean up blocking, jacks, and other equipment using skid steer and proper lifting techniques.

Load equipment back onto rigging trailer with picker. Use tag lines and signal person while using picker.

Secure equipment onto trailer using chains and boomers.
HEALTH, SAFETY & ENVIRONMENT

Code of Ethics and Professional Conduct

The code of ethics and professional standards are to be observed by all NC Services Group and its affiliated companies personnel. All personnel shall, in their professional activities, sustain and advance the integrity, honor, and prestige of the profession by adherence to these standards. These standards apply at all times during the course of employment, both on and off Property.

STANDARDS

1. Hold paramount the safety and health of people, the protection of the environment and protection of property in the performance of professional duties and exercise their obligation to advise clients, workers and the public of dangers and unacceptable risks to people, the environment, or property.

2. Undertake assignments only when qualified by education and/or experience in the specific technical craft/field involved. Demonstrate responsibility and competence for their craft/field by continued professional development and education.

3. Conduct themselves in a professional manner, recognizing that discrimination or improper conduct on the basis of race, creed, color, language, national origin, political or religious affiliation, sex, sexual orientation, age, marital status, family relationship and disability is strictly prohibited by the Company.

4. Engage only in activities that maintain, enhance and improve their professional skills and avoid circumstances that compromise their conduct.

5. Recognize and respect the work and skills of others.

6. Recognize their professional limitations and level of competence.

7. Protect the confidentiality of Company information and disclose such information only when properly authorized or when legally obligated to do so.

8. Conduct their professional relations by the highest standards of integrity and avoid compromise of their professional and ethical judgment by conflicts of interest.

9. Enforcement of Company safety rules, policies and procedures as well as any and all federal, state and local safety rules and regulations.

10. Properly report all incidents, no matter the size or nature to Supervision immediately.
In remaining consistent with the overall Health and Safety Policy, it is appropriate that we extend the requirement for all employees to work safely to those individuals who drive company vehicles or other vehicles covered under the company insurance program. The diverse nature of NC Services Group and its affiliated companies (NCSG) exposes the company and its employees to a significant frequency of risk associated with the extensive operation of vehicles, which is critical to the overall effectiveness of our business. This policy is intended to serve as the foundation for a driver awareness program geared toward the promotion of safe driving. The company requires that all employees affected by this policy realize that their right to drive a vehicle owned by the company or to have a vehicle covered under the company insurance program is a privilege. Besides costing the company more money to carry insurance, vehicle damage and driving violations reflect badly on the company as a whole. It is therefore incumbent on every person affected by this policy to make a positive contribution in this regard. The general requirements of the policy are as follows:

- All current and new employees or contract employees who require driving a company vehicle or a vehicle insured by NCSG as a regular part of their duties must agree to adhere to this policy. In doing so, the employee or contract employee authorizes NCSG to monitor their personal driving record. NCSG will require a printout of driver’s abstracts for all participating employees as often as once every six months. All new hires, employee or contract employee, must supply at their own expense, a current 3 year driving record or abstract. A disclosure consent form will be provided for this purpose. Driver’s abstracts will be obtained and paid for by NCSG for existing employees or contract employees.

- A driver shall have no more than three moving violations or seven (7) demerits in the most recent two-year period. Once an employee has acquired three of these violations in the stated time frame or accumulated the equivalent of seven demerit points, the individual shall be required to immediately attend a recognized defensive driver course as prescribed by NCSG. These circumstances will be documented and then placed into the employee’s personnel file.
Repeated offences beyond the initial violations will result in a review of the employee’s driver’s abstract and may result in a suspension of the individual’s right to operate a company vehicle. In the case of a suspension of driving privileges imposed by the Provincial / State / Federal jurisdictions, the employee must report his/her suspension to the applicable NCSG supervisor or manager immediately. **Driving while suspended will result in termination.** Company driving privileges will be suspended for the period determined by the jurisdiction or longer as determined by NCSG. A letter of reprimand will be placed into the employee’s personnel file.

All individuals driving in a company vehicle are to wear their seat belt. The driver of the vehicle is responsible to ensure that all passengers are in compliance. Dangerous driving, stunting and impaired driving convictions are unacceptable; serious offenses will be dealt with severely. In these instances the individual may have his/her privilege to drive a company vehicle suspended for a minimum period consistent with the penalty imposed by the jurisdiction or a longer term as determined by NCSG. Depending on the circumstances, an individual could lose their company driving privileges permanently, or could even be terminated. A letter of reprimand will be placed into the employee’s personnel file.

Violation tickets for photo radar, intersection camera, red light camera and speed camera will be result in; payroll deduction for the cost of the violation, letter of appropriate discipline consistent with policy and practice, and potential loss of driving privileges.

Impaired driving charges, whether or not on company business must be disclosed immediately to your supervisor and Branch Manager. Disciplinary action(s), if any, will follow the practice below with discussion involving the Vice President – HS&E, Technical Training and Quality.

Disciplinary action for circumstances such as those described will be determined by discussion and review with the immediate supervisor, the applicable Company or Branch Manager and the Vice President - HS&E, Technical Training and Quality.
HEALTH, SAFETY & ENVIRONMENT
STANDARDS OF PRACTICE
COMPANY RULES

- All workers are to wear the appropriate PPE clothing and equipment when and where required.
- Report all substandard acts, conditions and near miss incidents immediately.
- Report all incidents including injury or damage incidents immediately and freeze the scene.
- Perform all work following the company’s safety work practices and safe job procedures.
- Maintain good housekeeping in your work area. This also includes mobile equipment and vehicles.
- Operate vehicles and/or mobile equipment in accordance with applicable legislation.
- Possession or consumption of alcohol or illegal drugs while at work is prohibited.
- Arrive to work “Fit for Duty”.
- Possession of weapons (firearms) at the worksite will result in immediate dismissal.
- No fighting, horseplay, practical jokes or gambling.
- No theft or vandalism.
- No damaging, disabling or interfering with safety, fire-fighting or first aid equipment.
- Smoking is allowed in designated smoking areas only during scheduled breaks, company vehicles and equipment is not a designated smoking area.
- It is the employee’s responsibility to notify his/her supervisor if they are going to be absent from work prior to the start of their shift.
- Employees must refrain from acts of violence, discrimination or harassment and address and/or report incidents of discrimination or harassment they observe or become aware of.
- Jewellery (dangling necklaces, earrings, etc) is not to be worn while on shift.
- No MP3 players, games or DVD’s in mobile equipment or yard.
- Distracted driving and operating is illegal, Hands free operation only, cell phone use without an approved hands free device is prohibited while driving or operating, this includes text messaging and emails.
- Do not perform any mechanical repair or servicing on machinery while it is in motion. Keep all safe guards in place while machine is in operation.
- When workers are using or need to use prescription medication that may interfere with their ability to do their tasks, it is mandatory that they inform their immediate Supervisor or HS&E Advisor.

Any violation of Company Policies or Company Rules may result in disciplinary action.

3/8/2012
Policy
NC Services Group and its affiliated companies (NCSG), employees, contractors and customers are entitled to be treated with dignity and respect, free from harassment based on race, sex, national or ethnic origin, color, religion, age, marital or family status, sexual orientation, or disability.

Definition
Harassment is a form of discrimination. Harassment is any conduct — verbal, physical, or by innuendo — that is likely to cause offense or humiliation to any person in the workplace.

Sexual Harassment
Sexual harassment is one of the most common forms of harassment. Sexual harassment is deliberate and unsolicited and can be offensive sexual comments, gestures or physical contact that are unwanted or offensive either on a first time basis or as a continuous series of incidents.

It may also involve favors, promises of favors, advantages in return for giving in to sexual advances or, the threat of revenge for refusing them.

What is not sexual harassment? The common social banter that occurs regularly in the work environment is usually not considered sexual harassment. Flirtation or a workplace romance between two consenting persons is not sexual harassment. Sexual harassment, by definition, is coercive and one-sided and both males and females can be victims of it.

What to do if harassment occurs
If you feel that you are being harassed, the first step is to immediately make the alleged harasser know of your disapproval and/or uneasiness. To avoid any misunderstanding, you should clearly state that you view his or her action/behavior as harassment under the terms of the company policy.
If there is a further incident, immediately contact your supervisor or manager, the harasser's manager, or the Human Resources Dept. If possible, tell the harasser that you are informing management.

If there is a further incident, make a written record of all incidents; the company has a standard form in its policy/procedures manual for this purpose. In your statement, include the nature of the behavior, dates, times, witnesses (if any), and the action taken by you to tell the alleged harasser of your disapproval. Contact the Human Resources Dept. who will request a copy of your statement.

The accused person and her/his rights must also be protected. He/she will be provided with the chance to explain themselves.

The Human Resources Dept. will investigate, or arrange a legitimate and timely investigation of the alleged harassment. This will require interviewing the complainant, the alleged harasser, and any witnesses. A decision/recommendation will be made and both parties will be advised. If you are not satisfied, then a more formal investigation will be carried out.

Confidentiality
Management must keep all information concerning the matter confidential. Information will only be given out for an investigation or disciplinary measures. Privacy legislation will be followed at all times in the handling of all related information.

Documentation on the matter will not be placed in the complainant's file.

Disciplinary action
Harassment by an employee is a serious offense. If found to be true, she/he will be subject to immediate disciplinary action.

Intentionally accusing someone of harassment, known to be false, is a serious matter and is also subject to disciplinary action.
Management has a responsibility to prevent any harassment in the workplace. Managers who fail to take appropriate corrective action when made aware of harassment will themselves be subject to disciplinary action.
REMEMBER!

- Keep the office floor clear
- Ensure Doorways / Access routes are clear
- Report any spills / water / floor damage as soon as possible
- Conduct work in a professional manner – Refrain from Horseplay
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed General HS&E Duties Code to identify the responsibility and accountability of NCSG and its employees.

2.0 SCOPE AND APPLICATION

Jurisdictional Legislation requires general duties for employers and employees be outlined and defined. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG Companies.

3.0 DEFINITIONS

There are no definitions for the General Duties Code.

4.0 EXPECTATIONS

The General HS&E Duties Code shall provide required and adequate guidelines to ensure knowledge of responsibilities to all employees, contractors, visitors and general public. The General HS&E Duties Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use, maintain and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Utilize all safeguards in the workplace;
- Lockout any equipment being serviced, repaired or maintained;
- Not use compressed air for any purpose other than what it is intended;
- Report, tag and repair or replace any defective tools or equipment.
- Stop, report and refuse unsafe work. This includes protecting others from the hazards.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Immediately respond and investigate any report of unsafe work, stopped work or imminent danger. Involve any employees in the investigation process that may have stopped the work or reported the hazard/danger.
- Ensure reporting processes are in place for workers.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.

13/09/2011
6.0 METHOD

6.1 Employer General Responsibilities (Supervision or higher)

All employers shall:
- make the workplace safe
- prevent risks to health
- ensure that plant and machinery is safe to use, and that safe working practices are set up and followed
- make sure that all materials are handled, stored and used safely
- provide adequate first aid facilities
- tell employees about any potential hazards from the work you do, chemicals and other substances used by the firm, and give you information, instructions, training and supervision as needed
- set up emergency plans
- make sure that ventilation, temperature, lighting, and toilet, washing and rest facilities all meet health, safety and welfare requirements
- check that the right work equipment is provided and is properly used and regularly maintained
- prevent or control exposure to substances that may damage your health
- take precautions against the risks caused by flammable or explosive hazards, electrical equipment, noise and radiation
- avoid potentially dangerous work involving manual handling (and if it can't be avoided, take precautions to reduce the risk of injury)
- provide health supervision as needed
- provide protective clothing or equipment free of charge (if risks can't be removed or adequately controlled by any other means)
- ensure that the right warning signs are provided and looked after
- report certain accidents, injuries, diseases and dangerous occurrences to either the Health and Safety & Environment Executive (HSE) or the local authority, depending on the type of business
- provide current reference and copies of the provincial occupational health and safety act, regulation and code as well as material safety data sheets

6.2 Employee General Responsibilities

Employees shall:
- take reasonable care of your own health and safety, and others around you
- Immediately stop any work that poses or may pose imminent danger and report it immediately to supervision.
- avoid wearing jewellery or loose clothing if operating machinery
- tie or tuck out of the way long hair when working with machinery (it could get caught in machinery)
- take reasonable care not to put other people - fellow employees and members of the public - at risk by what you do or don't do in the course of your work
- co-operate with your employer, making sure you get proper training and you understand and follow the company's health and safety policies
- not interfere with or misuse anything that's been provided for your health, safety or welfare
- report any injuries, strains or illnesses you suffer as a result of doing your job (your employer may need to change the way you work)
• tell your employer if something happens that might affect your ability to work (eg becoming pregnant or suffering an injury) because of the employers legal responsibility for your health and safety.
• Wear, use and maintain all PPE provided.
• if you drive or operate machinery, to tell your employer if you take medication that makes you drowsy - they should temporarily move you to another job if they have one for you to do.

6.4 Young Workers

• no person under the age of 16 years shall be employed or permitted to work within NCSG due the hazardous nature of the work at NCSG and legislative requirements.

6.5 Supervisors

Supervisors shall have sufficient knowledge of all of the following with respect to matters that are within the scope of the supervisor’s responsibility:
• the Act and any regulations made pursuant to the Act that apply to the place of employment,
• any occupational health and safety program at the place of employment,
• the safe handling, use, storage, production and disposal of chemical and biological substances,
• the need for and safe use of personal protective equipment,
• emergency procedures required by these regulations,
• any other matters that are necessary to ensure the health and safety of workers under their direction.

6.6 Contractors

Contractors shall:
• Comply with site health and safety requirements;
• Give notice in writing to NCSG setting out the name of the person who is supervising the work on behalf of the contractor, any emergency facilities provided by the contractor for the use of the employers workers or self employed persons and the existence of a committee or representative, if any, at the place of employment and the means to contact the committee representative.

6.7 Information for Employees

NCSG will ensure at all times the following documents are available and easily accessible to employees:
• Applicable Occupational Health and Safety legislation;
• Material Safety Data Sheets;
• Codes, practices and procedures;
• Committee meeting minutes;
• Guidelines and responsibilities.

6.8 Right to Refuse

Every employee has the right to refuse work that is classified as unsafe. No employee will be reprimanded for exercising their right to refuse work providing they can provide a reasonable cause.

Employees must report any unsafe, act, condition, tool or equipment to ensure it can be corrected or controlled and reduce the risk. All unsafe work conditions reported must be investigated and documented by a supervisor. Supervisors will utilize control methods to bring the hazard to an acceptable level of risk if possible.
If emergency action is required to correct a condition which constitutes an immediate threat to workers only those qualified and properly instructed workers necessary to correct the unsafe condition may be
exposed to the hazard, and every possible effort must be made to control the hazard while this is being done.

6.9 Equipment and Tool Defects

Tools and equipment must have maintenance scheduled and followed through with at regular intervals. Reference the manufactures specifications for maintenance scheduling.

Any defective or damaged tools or equipment must be immediately, tagged/locked out and reported to the supervisor. Repair or replacement must then be arranged for by the supervisor.

6.10 Inspection

NCSG will perform regular inspection of premises, equipment, work methods and work practices, at appropriate intervals, to ensure that prompt action is undertaken to correct any hazardous conditions found.

6.11 Serious Incidents

Any incident shall be quickly followed up with an investigation led by safety management to determine the cause. All necessary measures must be taken to ensure that the incident will not occur in the future and that the workplace is safe and free from hazards. Unsafe or harmful conditions found in the course of an inspection must be remedied without delay. Whenever a person observes what appears to be an unsafe or harmful condition or act the person must report it as soon as possible to a supervisor or to the employer, and the person receiving the report must investigate the reported unsafe condition or act and must ensure that any necessary corrective action is taken without delay.

6.12 Workplace Conduct

All employees of NCSG shall act in a professional manner and keep in mind that their actions are a reflection of the company they work for. The attempted or actual exercise by a worker towards another worker using physical force to cause injury, and including any threatening statement or behaviour which gives the worker reasonable cause to believe he or she is at risk of injury. Horseplay, practical jokes, unnecessary running or jumping or similar conduct will not be tolerated in the workplace. A person must not engage in any improper activity or behaviour at a workplace that might create or constitute a hazard to themselves or to any other person.

Improper activity or behaviour must be reported and investigated.

6.13 Cardinal Safety Rules

NCSG Employees and Contractors Shall:

1. Smoke in designated areas only.
2. Wear a seatbelt at all times while operating vehicles or equipment.
3. Avoid speeding and distractions while operating vehicle or equipment – use of personal electronic devices is prohibited while operating vehicles or equipment.
4. Maintain a valid license to operate the assigned class of vehicle – a minimum valid Class 3 license or CDL is required to operate any equipment.
5. Only operate equipment deemed competent and authorized to by a Supervisor.
6. Utilize all safety devices – disabling of any safety device is prohibited.
7. Report to work fit for duty – being under the influence of, using, possessing, selling, and/or distributing Alcohol or Drugs is prohibited.

13/09/2011
8. Utilize proper fall protection systems at heights of 6 feet and greater.
9. Isolate all forms of hazardous energy, apply personal lock and confirm effectiveness prior to working on equipment.
10. Report incidents immediately and freeze the incident scene until released by a supervisor.
11. Never walk or work under suspended loads or unsecured equipment.
12. Where applicable, work only with the proper work permit.
13. Follow all applicable policies and procedures.
14. Do not text, email, message or use a phone (unless an approved hands free) while driving.

Compliance with these Rules is a condition of employment. Failure to comply may lead to termination.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- NCSG shall ensure workers and supervisors are trained in all matters that are necessary to protect the health and safety of the themselves and their co-workers when the employee begins work at a place of employment or is moved from one work activity or worksite to another that differs with respect to hazards, facilities or procedures.
- Training shall include:
  - procedures to be taken in the event of a fire or other emergency,
  - the location of first aid facilities,
  - identification of prohibited or restricted areas,
  - precautions to be taken for the protection of the worker from physical, chemical or biological hazards,
  - any procedures, plans, policies and programs that the employer is required to develop,
  - any other matters that are necessary to ensure the health and safety of the worker while the worker is at work.
- Training shall be documented including the employee name, date of training, subject of training and the name of the person providing the training.

8.0 RESOURCES

- Alberta Occupational Health and Safety Act Section 2
- British Columbia Occupational Health and Safety Act Part 3
- Saskatchewan OH&S regulations Part III
- Manitoba WS&H Regulations Part 2

May all be used to reference additional information pertaining to office safety and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the General HS&E Duties Code.

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None
HEALTH, SAFETY & ENVIRONMENT
RIGGING POLICY

NC Services Group and its affiliated companies (NCSG) is committed to safety in rigging. Our standards are based on those set by OH&S, ASME B30(5,9,10,20 &26), ANSI A10.42.2000, WSTDA and our own Rigging courses, Fundamentals of Rigging, Advanced Rigging and Engineered Lifts.

Although OH&S is not specific on the requirements in some of these standards, NCSG recognizes the need to maintain the highest possible level of Due Diligence. Since these standards are considered 'best practice' in the trade of Crane and Hoist, Mobile Crane, it is reasonable that we should follow the strictest of these standards.

There are some absolutes that must be followed when rigging.

- Never use rigging unless you have been adequately trained
- Always know the weight of the load
- Always know where the center of gravity of the load is
- Never exceed the WLL of the rigging for the configuration used
- Always inspect the rigging prior to every use
- Always use adequate softeners to protect rigging from damage
- Never use damaged rigging
- Never shock load the rigging

More information on rigging requirements is available on request through the company training department.
1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a General Personal Protective Equipment Code to identify the proper application of appropriate protective equipment by employees, contractors, and the public while operating within NCSG areas of responsibility. This code will aid employees in proper use, care, maintenance and selection of personal protective equipment.

2.0 SCOPE AND APPLICATION

The General Personal Protective Equipment Code will standardize the type of equipment workers will wear as their last line of protection from workplace hazards. This code will also serve as a guideline to the selection, inspection, use and care of applicable PPE. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG when using and selecting protective equipment.

This Process applies, without exception, to all NCSG companies and affiliates.

3.0 DEFINITIONS

The following definitions are specific to the General Personal Protective Equipment Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 American National Standards Institute (ANSI)

ANSI is the American equivalent to CSA.

3.2 Canadian General Standard Board (CGSB)

The CGSB is one of the largest Standards development and conformity assessment organizations in Canada. They are responsible to develop standards for consumer goods, textiles, and other industry.

3.3 Canadian Standards Association (CSA)

The CSA is a non profit organization that creates Standards for all industry in terms of health, safety and the environment.

3.4 Flame Resistant Clothing (FRC)

Single to multi-layer protective clothing including, but not limited to: coveralls, trousers, shirts, jackets, rainwear and parkas, designed to provide protection against hydrocarbon flash fire. FRC is not designed for prolonged exposure to high heat.

3.5 Flash Fire
A rapid moving flame front which can be a combustion explosion and may occur in an environment where fuel and air become mixed in adequate concentrations to combust and where all sources of ignition have not been controlled.

3.6 Fall Protection

Personal protective equipment that is designed to arrest falls, support the body and limit fall hazards.

3.7 Gloves

Gloves are designed to protect the hand from electrical, chemical and physical hazards, and can consist of leather, rubber, and nitrile; but are not limited too.

3.8 Hard Hat

Head protection that meets either CSA or ANSI Standards.

3.9 Hearing Protection

PPE that consists of Class A ear plugs or ear muffs that provides a NRR of 28 or more.

3.10 Noise Reduction Rating (NRR)

The average noise reduction across the human hearing range. The NRR does not mean an actual decibel noise reduction.

3.11 Respirator

PPE that provides protection from particulates vapors, fumes, and gases.

3.12 Safety Boots

Footwear that provides an CSA Industrial Class 1 steel or kevlar toe cap, puncture resistant sole plate, 6 inch high ankle support and where required, di-electric.

3.13 Safety Glasses

Eye protection that meets the CSA Standard Z94 or ANSI 87 for lens thickness and penetration resistance and side shield minimum standards. The Standard applies to “Over the Glasses” (OTG), and prescription and non-prescription safety glasses.

4.0 EXPECTATIONS

The General PPE Code will be reviewed every year.
This code shall supplement, but not supersede any regulatory Provincial / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System is updated a revision record will be posted to all employees notifying them of the update.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

All employees are responsible to:

- Use and wear properly, the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect all personal protective equipment before using it.
- Refrain from wearing protective equipment outside of the work area where it is required if to do so would constitute a hazard
- Report any equipment malfunction to the supervisor or employer.
- A worker who is assigned responsibility for cleaning, maintaining or storing personal protective equipment must do so in accordance with training and instruction provided.
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- NCSG will provide all necessary PPE appropriate to the risk assessed to all employees at no cost, with the exception of Foot Protection and winter FRC.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Workers are responsible to provide clothing suitable to the environmental conditions they are working in. Such as cold weather clothing for use under coveralls.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
Ensure appropriate protection is readily available for all employees, contractors and visitors within NCSG areas of operation or active worksites.
NCSG shall replace any defective PPE.
Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Hazard Assessment and Control

To establish the required PPE for the job, a field level risk assessment must be conducted prior to commencing any work. FLRA’s identify hazards and appropriate controls, including PPE.

PPE must only be used if it does not itself endanger the worker. Engineering and Administrative controls must be utilized prior to PPE selection.

MSDS and Standards of Practice shall be referenced as well.

6.2 Training

All employees must be training in the correct use, care and maintenance of their PPE.
Employees must use and wear properly, the appropriate PPE in accordance with the training and instruction received, inspect the PPE equipment before using it, and not use PPE that is unable to perform the function for which it is designed.
6.3 Head Protection

6.3.1 Selection
- All hardhats must, at a minimum, meet the requirements of ASNI Standard Z89.1-1997 or CSA Standard Z94.1-92; and
- Ensure the class of headwear selected meets the requirements of the hazard assessment results for the job task (i.e. general use, chain saw use, electrical, etc.).

6.3.2 Use
- Wear hard hats on all work sites and where an overhead hazard exists.
- Ensure peak is to the front and follow Manufacturer Specifications;
- Install winter fire resistant liners when appropriate; and
- Never modify hard hat by painting, cleaning with solvents, drilling holes, or altering the suspension.

6.3.3 Maintenance
- Inspect the shell and suspension of the hard hat regularly for cracks, cuts, excessive wear or contact with chemicals (i.e. bug spray) or other damage that may make the hard hat less effective;
- Clean using a mild detergent and rinsing in clean, hot water;
- Maintain winter liners in accordance with manufacturer specifications;
- Avoid storing in direct sunlight; and
- Ensure components (i.e. shell and harness) are not combined from one manufacturer to another.
- Replace hard hat and hard hat components as per manufacturer’s recommendations or when damaged (i.e. on impact).

6.4 Foot Protection

6.4.1 Selection
- Select protective footwear that meets the NCSG PPE Footwear Code; and
- Select high cut, above ankle (min 6”), grade 1 safety footwear with sole protection;
- Grade 1 is identified by a green triangular patch on boot; and
- Di-electric foot wear is marked with an omega symbol (Ω) on a white rectangular patch on the right boot.

6.4.2 Use
- Employees are required to provide their own foot protection to meet the selection requirements.
- Protective footwear will not be provided to visitors. Visitor without protective footwear will be restricted to areas where there is a low injury risk;
- Laces must be tied all the way up the boot and snug to provide the most ankle protection and support; and

6.4.3 Maintenance
- Clean and maintain footwear as per manufacturer’s recommendations; and
• Ensure protective toe cap is always covered, and laces are replaced as required.

6.5 Eye and Face Protection

6.5.1 Selection
• Refer to the PPE- Eye and Face Protection code for standards of eye protection;
• Select safety glasses and face protectors that meet the requirements of CSA Standard Z94.03-02; or ANSI equivalent for industrial eye wear.
• Those with prescription glasses that are not CSA or ANSI approved must wear over the glasses (OTG) safety glasses that meet the CSA Standard.

6.5.2 Use
• Wear eye protection with side shields at all times. Exceptions include, but are not limited to: lunchrooms, office areas and company motor vehicles;
• Use face shields, in addition to safety glasses or goggles/monogoggles, during grinding operations and/or where corrosive chemical splashes may occur (i.e. acid splashes);
• Ensure goggles are contoured to the face and fit properly; and
• Wear the goggles so that the strap rests against the back of the head and not over the back of the hard hat.
• Arc welding may only be performed if workers exposed to the radiation are wearing eye protection or the welding area is protected by a screen.

6.5.3 Maintenance
• Repair or replace eye protection as required; and
• Clean as per manufacturer / supplier recommendations.

6.5.4 Prescriptive Safety Glasses and Contact Lenses
• Receive an eye exam if prescription safety glasses are required.
• Ensure glasses are stamped with CSA or ANSI OG Z87 on arm or bridge of glasses and have rigid, form fitting and fixed side shields.
• Prescription Safety Glasses with bifocals, trifocals or progressive lenses may not be used if there is a danger of impact.
• If the use of plastic prescription lenses is impracticable and there is no danger of impact, a worker may use lenses made of treated safety glasses meeting ANSI requirements.
• If wearing contact lenses poses a hazard to workers eyes during work, the worker must be advised of the hazards and the alternative to wearing contact lenses.

6.6 Hearing Protection

6.6.1 Selection
• Select Class A - hearing protector (plugs or muffs) that meet the requirements of CSA Standard Z94.2-02 and have a minimum noise reduction rating of 28 (NRR 28).

6.6.2 Use
• Use hearing protection (plugs or muffs) in identified areas and where noise levels are 85 dBA or greater;
• Use dual hearing protection (plugs and muffs) in identified areas and where noise levels are 105 dBA or greater; and
6.6.3 To wear disposable earplugs
- Ensure your hands are clean;
- Roll each earplug to compress it before insertion. This will ensure the earplug conforms to the shape of the ear canal and does not protrude excessively from the ear;
- Pull up on the top of the ear and insert the earplug; and
- Discard soiled earplugs after one time use.

6.6.4 To wear muffs
- Check the condition of the earmuffs prior to putting them on. The muffs should be clean and in good condition. Replace the cushions according to manufacturer's specifications if they are loose or damaged;
- Place muffs on head ensuring the ears are completely enclosed and that hair and / or eyewear does not hamper a good seal;
- Check for comfort and ensure the weight of the muffs is evenly balanced; and
- Do not modify the earmuffs in any way.

6.6.5 Maintenance
- Clean and maintain hearing protectors according to manufacturer's instructions

6.7 Hand Protection

6.7.1 Selection
- Reference the Material Safety Data Sheet (MSDS) if chemicals or controlled products are being used.
- Ensure appropriate hand protection has been selected prior to being exposed to:
  - Chemicals
  - Corrosive Materials
  - Extreme Temperatures
  - Abrasive Surfaces
  - Sharp Edges
  - Electricity

6.7.2 Use
- Inspect gloves for leaks and defects prior to each use; and
- Refer to PPE Matrix to determine where and when hand protection is required.

6.7.3 Maintenance
- Ensure chemical protective gloves, which are being reused, are not left turned inside out;
- Replace gloves as needed;
- Store cuffs or gauntlets out of the sunlight in a cool, dark place, and ensure they have not been left turned down.

6.8 Chemical Protection

6.8.1 Selection
• Reference the Material Safety Data Sheet (MSDS) when chemicals or controlled products are being used.
• Ensure appropriate chemical protection has been selected prior to being exposed to:
  o Chemicals
  o Corrosive Materials

6.8.2 Use
• Inspect gloves, aprons or suits for defects prior to each use.

6.8.3 Maintenance
• Ensure chemical protective gloves, which are being reused, are not left turned inside out; and
• Replace gloves, aprons or suits as needed.

6.9 High Visibility Markings

6.9.1 Selection
• All high visibility markings must meet the CSA Z96-02 High Visibility Safety Apparel and should be worn in areas were exposed to traffic or other vehicular activity such as other industrial mobile equipment.

6.9.2 Use
• Regularly inspect high visibility apparel for defects.

6.9.3 Maintenance
• Ensure apparel is clean, and follow manufacturer instructions while cleaning and repaired/replaced as required.

6.10 Respiratory Protection Equipment
• Refer to PPE - Respiratory Protection Code

6.11 Fall Protection Equipment
• Refer to Fall Protection Code

6.12 Skin Protection

6.12.1 Selection
• Skin protection will be based on the type of work being performed. Leather sleeves and aprons are available for hot work. For protection from Chemicals, reference the Chemical Protection section.
• Flame resistant clothing will be utilized in addition to leathers when hot work is performed, when a worker may be exposed to a potential flash fire or if it is a site requirement.

6.12.2 Use
• Regularly inspect leathers for holes or tearing;
• Ensure leathers are worn as per the manufacturers instructions;
• Flame resistant clothing must be clean and free of holes and tears;
• Clothing made of natural fibers must be worn underneath flame resistant clothing.
Flame resistant clothing must be worn correctly and per the manufactures instructions.

6.12.3 Maintenance
- Ensure apparel is clean, and follow manufacturer instructions for cleaning.
- Repaired/replaced as required.

6.13 Limb and Body Protection

6.13.1 Selection
- If there is a danger that a workers hand, arm, leg or torso may be injured, an employer ensure that the worker selects protection for that specific area of the body.

6.13.2 Use
- Wear properly fitting hand, arm, leg or body protective equipment that is appropriate to the work, the work site.

6.13.3 Maintenance
- Ensure protective equipment and clothing is clean, and follow manufacturer instructions for cleaning.
- Repaired/replaced as required.

7.0 MINIMUM APPLICATIONS

7.1 Mandatory PPE Required

7.1.1 Project Sites
- Approved hardhat with reflective stripes.
- Approved safety eyewear
- Approved safety footwear
- Hearing protection in any area exceeding 82 dBA
- Approved coveralls with reflective stripes. Approved reflective vests for supervision and safety.
- Where applicable approved FR Coveralls with reflective stripes.

7.1.2 Shops
- Approved safety eyewear
- Approved safety footwear
- When risk of overhead impact exists, an approved hardhat, or where applicable, bump cap or impact resistant welding helmet/grinding shield is required
- Hearing protection in any area exceeding 82dBA

7.1.3 Facility Yards, Storage Compounds, Laydown Areas
- Approved safety footwear
- Approved safety eyewear
- Coveralls, Jacket or vest with reflective stripes.
- When risk of overhead hazard or impact exists, an approved hardhat
8.0 TRAINING REQUIREMENTS AND MATERIALS

- Use, care and maintenance of PPE
- Safety briefing - PPE
- NCSG orientation
- Site Specific orientation
- FLRA training
- WHMIS

8.0 RESOURCES

- ANSI Z89.1-1997, American National Standard for Industrial Head Protection
- CAN/CGSB 155.20-2000 Work wear for Protection Against Hydrocarbon Flash Fire
- CAN/CSA Z94.3-02 Eye and Face Protectors
- CAN/CSA Z94.2-02 Hearing Protection Devices - Performance, Selection, Care, and Use
- CAN/CSA Z94.1-92 Industrial Protective Headwear
- CAN/CSA Z96-02 High Visibility Safety Apparel
- CAN/CSA Z195-02 Protective Footwear
- Alberta Occupational Health and Safety Code
- Saskatchewan Occupational Health and Safety Regulations
- BC OHS Regulations Part 8
- Manitoba WS&H Regulation Part 6

Manufacturer’s operating, use, and care instructions included with all classifications of personal protective equipment may be used to provide employees additional information for the proper use. Additional information may be sourced from specific manufacture’s websites.

NCSG understands that there may be questions and concerns regarding the General PPE Code. Please direct any questions regarding this Code to the applicable Regional Team Lead HS&E.

9.0 APPENDICIES

- Appendix A – PPE Matrix

10.0 SUPPORTING DOCUMENTS

- PPE – Eye and Face Protection Code
- PPE – Respiratory Protection Code
- PPE – Footwear Code
HEALTH, SAFETY & ENVIRONMENT

PPE – EYE & FACE PROTECTION CODE

REMEMBER!

- Ensure Eyewear fits correctly
- Use the correct Eye Protection based on your FLRA
- Make sure the eye protection is serviceable
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Personal Protective Equipment Code – Eye & Face Protection to identify the proper application of appropriate eye and face protective equipment by employees, contractors, and the public while operating within NCSG areas of responsibility. This code will aid employees in proper use, care, maintenance and selection of eye and face protection.

2.0 SCOPE AND APPLICATION

The correct identification of applicable eye and face protectors will enable employees to ensure adequate protection from activities involving hazards to the eye or face during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG when using and selecting Eye and Face protection.

This Process applies, without exception, to all NCSG companies and affiliates.

This code does not apply to:
- x-rays
- gamma rays
- high energy particulate radiation
- radioactive materials
- lasers / masers

3.0 DEFINITIONS

The following definitions are specific to PPE - Eye and Face Protection Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Automatic Darkening Welding Filter

An optical filter that automatically switches from light state (shade) to a dark state (shade) in response to a change in incident light intensity.
3.2 Chin Protector
The part of a face shield that extends over and around the chin and upper throat.

3.3 Cover Lens/Plate
A clear lens for use in front of a filter lens to protect it from weld spatter, pitting, or scratches.

3.4 End Piece
The part of the front that attaches to the temple.

3.5 Eye Protector
Any form of eye protective equipment worn or held by the user that covers at least the eye area and permits vision.

3.6 Face Shield
A device that has a transparent window or visor supported in front of the face to shield the eye and face.

3.7 Filter
A lens that reduces dangerous light intensity and ultraviolet and infrared radiation to a predetermined level.

3.8 Front
The part of a spectacle frame that holds the lenses or lens, exclusive of the temples.

3.9 Glare
An uncomfortably bright light without hazardous levels of ultraviolet or infrared radiation.

3.10 Goggles
A device contoured for full facial contact and held in place by a headband or other suitable means, for the protection of the eyes and eye sockets.

3.11 Hand Shield
A rigid handheld protector that shields the eyes and face during welding operations.

3.12 Headgear (suspension)
The part of a protective helmet or face shield that supports the device on the wearer's head.
3.13 Hood
A non-rigid protector that completely covers the head, neck, and portions of the shoulders.

3.14 Impact Resistance
The ability of a protector to resist the force of an object that comes into contact with the lens or protector at the speed specified in the referenced standard.

3.15 Lens
The transparent component of the hypertext or through which the user sees.

3.16 Protective Frame
A device pattern after a conventional spectacle frame but of more substantial construction and fitted with side shields.

3.17 Protective Spectacles
A device that enhances eye protection and usually consists of two lenses in a protective frame.

3.18 Respirator Face Piece
The portion of a full face respirator that covers the nose, mouth, and is designed to make a seal or partial seal (in the case of a loose fitting hood or helmet) with the perimeter of the face.

3.19 Side Protection
The protection against hazards directed at the temporal area of the head afforded by any combination of lenses, housing, temple, and/or separate side shield.

3.20 Side Shield
A component permanently affixed to or integral with the spectacles, providing side protection.

3.21 Welding Helmet
A rigid protector to be worn on the head to protect the eyes and face during welding operations.
4.0 EXPECTATIONS

The PPE – Eye and Face Protection Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System is updated a revision record will be posted to all employees notifying them of the update.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

All employees are responsible to:

- Use and wear properly, the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect all personal protective equipment before using it.
- Not use personal protective equipment that is unable to perform the function for which it is designed.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure, appropriate eye and face protection is readily available for all employees, contractors. Visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
• Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

• Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
• Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

• Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
• Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Classification of Eye and Face Protection Devices

To establish the acceptable minimum standard of eye and face protection to be used by NCSG employees, contractors, visitors and the general public, the following classifications shall be used.

A. Class 1: spectacles
B. Class 2: goggles.
C. Class 3-5: welding protection
D. Class 6: face shields
E. Class 7: respirator face pieces (to be read in conjunction with PPE- Respiratory Protection Code).

6.2 Development Process

Job safety analysis, task analysis, and field level risk assessment shall be used to determine the level of eye and face protection required to complete any tasks. The assessment shall ensure compliance with regulatory legislation.

The established eye and face protection shall be considered the minimum acceptable level for NCSG employees, contractors, visitors and general public, while at the work site.

6.3 Standard Use of Class 1 Spectacles (Safety Glasses)

The minimum application of class (1) spectacles (Safety Glasses) shall be used by all persons engaged in any activity on an NCSG active worksite.
Goggles shall be worn correctly, and at all times with the exclusion of the following:

- Interior of Control Offices
- Administrative buildings
- Lunch Room facilities
- Site Specific areas identified and signed as not requiring the minimum application of class (1) Spectacles (Safety Glasses)

6.4 Increased Levels of Eye and Face Protection

Standard Operating Procedures (SOP’s) will further define additional levels of Eye and Face Protection required in accordance to legislation and risk assessment analysis for each task. Once identified through signage and / or task analysis, appropriate PPE Eye and Face Protection shall be worn prior to the commencement of any work.

Use of the “Selection of Eye Protection” matrix should be used in conjunction with SOP’s and Risk Assessments to identify minimum levels of protection.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Equipment specific training
- NCSG orientation

8.0 RESOURCES

- CSA Z94.3-07 Eye and Face Protectors
- Alberta OH&S Code Part 18
- BC OH&S Code Part 8
- Saskatchewan OH&S Regulations Part VII

Manufacturer’s operating, use, and care instructions included with all classifications of Eye and Face Protection may be used to provide employees additional information for the proper use. Additional information may be sourced from specific manufacture’s websites.

NCSG understands that there may be questions and concerns regarding the PPE –Eye and Face Protection Code. Please direct any questions regarding this Code to the applicable Regional Team Lead HS&E.

9.0 APPENDICIES

Appendix A –Selection of Eye Protection Matrix for Use

10.0 SUPPORTING DOCUMENTS

- Hazard and Risk Analysis Training
# Appendix A: Selection of Eye Protection Matrix

## PERSONAL PROTECTIVE EQUIPMENT

### SELECTION OF EYE AND FACE PROTECTION

<table>
<thead>
<tr>
<th>HAZARD</th>
<th>HAZARDOUS ACTIVITIES INVOLVED</th>
<th>RECOMMENDED PROTECTION</th>
<th>LEGEND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Spectacles</td>
<td>Monoframe Goggles</td>
</tr>
<tr>
<td>Group A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flying Objects</td>
<td>Chipping/Drilling/Scaling</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td></td>
<td>Grinding/Painting/Sanding</td>
<td>□</td>
<td>□</td>
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<tr>
<td></td>
<td>Riveting/Punching/Shaping</td>
<td>□</td>
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<td></td>
<td>Hammer Mill/ Crushing</td>
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<td></td>
<td>Heavy Sawing/ Planing</td>
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<tr>
<td></td>
<td>Wire &amp; Strip Handling</td>
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<tr>
<td></td>
<td>Hammering/Unpacking/Rolling</td>
<td>□</td>
<td>□</td>
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<tr>
<td></td>
<td>Punch Press/Lathe Work</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**Group B**

### Flying Objects/Dust/Wind

|        |                               | Spectacles | Monoframe Goggles | Welding Helmet | Face Shield |
|--------|-------------------------------|           |                  |               |            |
| Woodworking/Sanding/Turning | □ | □ | □ |
| Light Metal Working/Machining | □ | □ | □ |
| Exposure to Wind/Dust | □ | □ | □ |
| Resistance Welding* | □ | □ | □ |
| Sand/Grit Handling | □ | □ | |
| Painting | □ | □ | |
| Plastering/Concrete Work | □ | □ | |
| Material Handling/Mixing | □ | □ | |

**Group C**

### Heat/Glare/Sparks/Splash from Molten Metal

|        |                               | Spectacles | Monoframe Goggles | Welding Helmet | Face Shield |
|--------|-------------------------------|           |                  |               |            |
| Soldering/Brazing | □ | □ | □ |
| Spot/Stud Welding* | □ | □ | |
| Hot Dipping Operations | □ | □ | |
| Acid/Alkaline Handling | □ | □ | |
| Pickling/Plating/Degreasing | □ | □ | |
| Glass Breakage | □ | □ | |
| Chemical Spraying | □ | □ | |
| Liquid Blumen Handling | □ | □ | |

**Group D**

### Chemical Splash

|        |                               | Spectacles | Monoframe Goggles | Welding Helmet | Face Shield |
|--------|-------------------------------|           |                  |               |            |
| Sandblasting | □ | □ | |
| Shot Blasting | □ | □ | |
| Spattering | □ | □ | |
| Reflection/Sunlight | □ | □ | |
| Reflected Welding Flash | □ | □ | |
| Metal Pouring/Furnace Work | □ | □ | |
| Spot/Stud Welding* | □ | □ | |
| Photographic Copying | □ | □ | |

**Group E**

### Injurious Optical Radiation

|        |                               | Spectacles | Monoframe Goggles | Welding Helmet | Face Shield |
|--------|-------------------------------|           |                  |               |            |
| Gas Cutting/Welding* | □ | □ | |
| Furnace Work | □ | □ | |
| Electric Arc Welding* | □ | □ | |
| Heavy Gas Cutting* | □ | □ | |
| Plasma Spraying/Cutting* | □ | □ | |
| Inert Gas Shielded Arc Welding* | □ | □ | |
| Atomic Hydrogen Welding* | □ | □ | |

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REMEMBER!

- Select proper fitting footwear
- Fully lace footwear for stability and proper protection
- Watch for potential FALLING, CRUSHING, CUTTING hazards
- Replace worn out shoes / boots
  Not a “Badge of Honor” to wear worn out boots with leather missing
  No tread = No grip
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a PPE – Footwear Protection Code to identify the proper level of protection that will assist all employees in performing their tasks effectively and efficiently when operating within NCSG areas of responsibility. This code will aid employees in proper use, care, maintenance and selection of footwear protection.

2.0 SCOPE AND APPLICATION

The correct identification of applicable footwear protection will enable employees to ensure adequate protection from activities involving hazards to the foot, ankle, and lower leg during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG when using and selecting Footwear protection.

This Process applies, without exception, to all NCSG companies and affiliates.

Although specific protection required by the below mentioned applications is not covered, impact, puncture, and static-dissipative criteria may be applied to other types of footwear as appropriate.

This Code does not specifically address the criteria for:
- Electrical flash and flame protection,
- ankle protection,
- firefighter’s footwear,
- spiked climber’s footwear, and riot boots

3.0 DEFINITIONS

The following definitions are specific to PPE – Footwear Protection Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.
3.1 Conductive Footwear

A boot or shoe with a sole made from a conductive compound, chemically bound to the bottom components, for permanent control, to electrically ground the foot.

3.2 Disruptive Discharge

A phenomenon associated with the failure of insulation under electrical stress, in which the discharge completely bridges the insulation under test, reducing the voltage between the electrodes to zero or nearly zero (i.e., less than 10% of the applied voltage).

3.3 Electric-shock-resistant sole

A sole and heel design and method of attachment to the footwear that, at the point of manufacturing, has electrical-insulating properties.

3.4 Insole

The inner part of footwear upon which the foot rests and that conforms to the bottom of the last.

3.5 Metatarsal protection

An abnormal depletion of body fluids. This can occur during hot climate working conditions when an individual perspires due to exertion / additional clothing without replenishing the required fluids in the body.

3.6 Outsole

The bottom surface of footwear, which is exposed to wear.

3.7 Protective footwear

A boot or shoe that provides the wearer with a degree of protection against injury as specified in this Standard.

3.8 Protective sole

An integral component that provides puncture protection to the sole of the foot.

3.9 Protective toecap

The component which, when incorporated into a boot or shoe, provides protection against impact at the toe of the boot.
3.10 Slip-resistance

A property of sole materials that reduces slipping on specific surfaces

3.11 Static-dissipative footwear

A boot or shoe with a sole made from an anti-static compound, chemically bound into the bottom components, for permanent control, to dissipate an electrostatic charge.

4.0 EXPECTATIONS

The PPE – Footwear Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to the foot and lower leg which may be present to all employees, contractors, visitors and general public within NCSG areas of responsibility. The PPE – Footwear Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System is updated a revision record will be posted to all employees notifying them of the update.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it,
- Maintain in a serviceable condition, personal protective footwear owned or provided to employees,
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be responsive, through adequate training, to minimize the risk of exposure when working in a heat related climate / condition.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Ensure that if a change of hazards occurs during the course of the work day where alternate footwear is required, that adequate steps are taken to replace existing footwear.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites who are not in possession of their own prior to access being granted.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.
6.0 METHOD

6.1 Classification of Protective Footwear

To establish the acceptable minimum standard of protective footwear protection to be used by NCSG employees, contractors, visitors and the general public, the following classifications shall be utilized:

- Grade 1 Footwear
- Grade 2 Footwear
- Electric-Shock-Resistant Footwear
- Static-Dissipative Footwear
- Conductive Footwear
- Chainsaw Protective Footwear
- Protection Marking Code

Detailed criteria are outlined in Appendix A.

6.2 Development Process

Job safety analysis, task analysis, and field level risk assessment shall be used to determine the level of footwear protection required to complete any tasks. The assessment shall ensure compliance with regulatory legislation.

The following potential hazard areas shall be considered:

- Materials handled by the employee during the normal course of his/her job;
- Evaluate the risk of objects falling onto or striking employees’ feet.
- Consider any material or equipment that might roll over employees’ feet.
- Consider any sharp or pointed objects that might cut the top of employees’ feet.
- Foreign objects that may penetrate the bottom or side of the foot;
- Exposure to corrosive or irritating substances;
- Exposure to explosive atmospheres: evaluate the risk of static electrical discharges igniting an explosion or fire;
- Risk of damage to sensitive electronic components or equipment due to the discharge of static electricity;

Note: Check with protective footwear suppliers or manufacturers regarding the level of electrical resistance provided by the footwear.

- Risk of coming into contact with energized conductors of low to moderate voltage (i.e. 220 V or less);
- Risk to ankles from uneven walking surfaces or rough terrain (in which case ankle support is required);
• Risk of foot injury due to exposure to extreme hot or cold environments / substances / surfaces;
• Risk of slips and falls on slippery walking surfaces;
• Exposure to water or other liquids that may penetrate the footwear causing damage to the foot and the footwear; and
• Risk of exposure to rotating or abrasive machinery (i.e. chainsaws or grinders).

The established footwear protection shall be considered the minimum acceptable level for NCSG employees, contractors, visitors and general public, while at the work site.

6.3 Standard Use of Class 1 Footwear

The minimum application of class (1) footwear, work boot style (non shoe) shall be used by all persons engaged in any activity on an NCSG active worksite.

Safety footwear shall be worn correctly, and at all times with the exclusion of the following:

• Interior of Control Offices
• Administrative buildings
• Site Specific areas identified and signed as not requiring the minimum application of class (1) footwear.

6.4 Increased Levels of Footwear Protection

Standard Operating Procedures (SOP’s) will further define additional levels of footwear protection required in accordance to legislation and risk assessment analysis for each task. Electrostatic Discharge, Grounding Requirements and exposure to Chainsaws and other cutting tools are examples of site specific hazards that shall be considered. Once identified through signage and / or task analysis, appropriate PPE Footwear Protection shall be worn prior to the commencement of any work.

Use of the “Protective Footwear Markings” matrix should be used in conjunction with SOP’s and Risk Assessments to identify minimum levels of protection.

6.5 Selection of Correct Footwear

6.5.1 General Guidelines

• Ensure correct fit
• Ensure correct lacing
• Ensure correct socks are worn
• Ensure addition of any insoles / orthotics do not compromise the integrity of any toecap protection
6.5.2 Fitting Recommendations

- Fit shoes midday due to swelling
- Walk and flex footwear to ensure correct fit
- Do not under / oversize

6.5.3 Maintenance

- Refer to manufacturer’s recommendations on care and use
- Inspect for cracks, wear and tears of soles, toecaps, and uppers
- Replace if leather is deteriorated
- Do not recycle old / replaced footwear

6.5.4 Sole Design / Work Factors

- Sole design factors that affect slip resistance include the following:
  (a) the shape of the sole;
  (b) tread design;
  (c) the shape of the heel; and
  (d) the softness/hardness of the sole.

- Work Environmental Factors:
  (a) type of surface material;
  (b) smoothness of walking surface;
  (c) whether it is a dry or wet surface;
  (d) the type of liquid on a wet surface;
  (e) the temperature of the surface; and
  (f) the temperature of the air.

In general, smooth and/or wet surfaces are more slippery. Be aware also that cold temperatures can affect the soling material by making it harder and less slip-resistant.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- PPE Equipment specific training
  o Recognition of Footwear Classifications
  o Recognition of Danger areas of foot / ankle / sole makeup
- NACG orientation

8.0 RESOURCES

Manufacturer’s operating, use, and care instructions included with all classifications of Footwear Protection may be used to provide employees additional information for the proper use. Additional information may be sourced from specific manufacture’s websites.
HEALTH, SAFETY & ENVIRONMENT

PPE – FOOTWEAR CODE

- Alberta OH&S Code Part 18
- BC OH&S Code Part 8
- Saskatchewan OH&S Regulations Part VII
- CSA Z195-02 – Protective Footwear
- CSA Z195-02 – Protective Footwear – Selection, Care and Use

May all be used to reference additional information pertaining to Heat Related Stress and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the PPE – Protective Footwear Code. Please direct any questions regarding this Code to the applicable Regional Team Lead HS&E.

9.0 APPENDICIES

Appendix A – Marking and Classification of Footwear
Appendix B – Protective Footwear Marking

10.0 SUPPORTING DOCUMENTS

- None
Appendix A
Marking and Classification of Footwear

Manufacturer’s ID
At least one shoe or boot of each pair shall bear the following information permanently marked in a conspicuous location:

(a) the manufacturer’s or listee’s name or trademark; or

(b) the trade name and the certification agency’s identification number; and

(c) the month and year of manufacture (a date code may be used).

Grade 1 Footwear
Grade 1 protective footwear with protective soles shall have a green equilateral triangle with sides measuring no less than 20 mm sewn or otherwise permanently attached to the right shoe upper or tongue as a means of indicating that sole protection and Grade 1 toe protection are provided (see Figure 14). The green patch shall be permanent in nature and of a material compatible with the footwear involved. The green patch shall be permanently marked with the registered identifying logo or mark of the certifying agency.

Grade 2 Footwear
Grade 2 protective footwear with protective soles shall have a yellow equilateral triangle with sides measuring no less than 20 mm sewn or otherwise permanently attached to the right shoe upper or tongue as a means of indicating that sole protection and Grade 2 toe protection are provided (see Figure 14). The yellow patch shall be permanent in nature and of a material compatible with the footwear involved. The yellow patch shall be permanently marked with the registered identifying logo or mark of the certifying agency.

Electric-Shock-Resistant Footwear
Footwear incorporating electric-shock-resistant soles shall be marked as follows:

(a) with a rectangular patch sewn, embossed, or otherwise permanently attached on the outside of the right boot or shoe. The patch shall be white and shall measure approximately 16 x 25 mm. The patch shall be permanently marked with the Greek letter omega (Ω) and the registered logo or mark of the certifying agency, both in orange (see Figure 14); and

(b) with a printed label or tag attached to the footwear that states, “WARNING: Electric shock resistance deteriorates rapidly in a wet environment and with wear”; and «AVERTISSEMENT: La résistance aux chocs électriques se détériore rapidement en milieu humide et avec l’usure».

Static-Dissipative Footwear
Footwear incorporating static-dissipative soles shall be marked as follows:
(a) with a rectangular patch, sewn, embossed, or otherwise permanently attached on the outside of the right boot or shoe. The patch shall have a fluorescent yellow background and shall measure approximately 16 x 25mm. The patch shall be permanently marked with a prominent green “SD” notation. Below the “SD” notation the patch shall show an electrical grounding symbol and the registered logo or mark of the certifying agency, both in green (see Figure 14); and

(b) with a printed label or tag attached to the footwear that states, “WARNING: This footwear should not be used in areas where there is hazard of electric discharge” and «AVERTISSEMENT : Cette chaussure ne doit pas être portée dans des endroits où il y a risque de décharge électrique».

Conductive Footwear
Footwear with electrically conductive soles shall be marked as follows:

(a) with a rectangular patch sewn, embossed, or otherwise permanently attached on the outside of the right boot or shoe. The patch shall be red and shall measure approximately 16 x 25 mm. The patch shall be permanently marked with a black “C” with an electrical grounding symbol and the registered logo or mark of the certifying agency (see Figure 14); and

(b) with a printed label or tag attached to the footwear that states, “WARNING: This footwear should not be used in areas where there is hazard of electric discharge” and «AVERTISSEMENT : Cette chaussure ne doit pas être portée dans des endroits où il y a risque de décharge électrique».

Chainsaw Protective Footwear
Chainsaw protective footwear shall be marked with a square patch sewn, embossed, or otherwise permanently attached on the outside of the right boot or shoe. The patch shall be white and shall measure approximately 16 x 25 mm. The patch shall be permanently marked with a green fir tree symbol and marked with the registered identifying logo or mark of the certifying agency (see Figure 14).

Protection Marking Code
A five-place alphanumeric code, a minimum of 3 mm in height, shall be permanently marked on the inside or outside of at least one shoe or boot of each pair, indicating the protection offered by the footwear, and marked with the registered identifying logo or mark of the certifying agency. This marking shall have the following appearance:

\[
\text{1 P M E X}
\]

Example Code

Position 1 shall indicate the level of toe protection (1 for Grade 1 or 2 for Grade 2, 0 if not present).

Position 2 shall indicate the presence of a puncture-resistant sole (P if present, 0 if not).

Position 3 shall indicate the presence of metatarsal protection (M if present, 0 if not).
Position 4 shall indicate the type of electrical protection (E if shock-resistant; S if static-dissipative; C if conductive; 0 if no electrical protection).

Position 5 shall indicate whether or not the footwear is chainsaw protective (X if chainsaw protective, 0 if not).

The certification mark ® follows the last place of the code.

Note: Trailing 0s may be omitted (i.e., the marked code may include only the one or two characters).
## Appendix B
### Protective Footwear Markings

<table>
<thead>
<tr>
<th>Outside Labels</th>
<th>Location</th>
<th>Criteria</th>
<th>Intended Application</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Green Triangle" /></td>
<td>The label shall appear at ankle height on the tongue of the right shoe.</td>
<td>Green triangle indicates sole puncture protection with a Grade 1 protective toe to withstand impacts up to 125 joules.</td>
<td>For any industrial environment, especially that of construction, where sharp objects (such as nails) are present; heavy work environments.</td>
</tr>
<tr>
<td><img src="image" alt="Yellow Triangle" /></td>
<td>The label shall appear at ankle height on the tongue of the right shoe.</td>
<td>Yellow triangle indicates sole puncture protection with a Grade 2 protective toe to withstand impacts up to 90 joules.</td>
<td>For light industrial work environments requiring puncture protection as well as toe protection.</td>
</tr>
<tr>
<td><img src="image" alt="White Rectangle with Orange Greek Letter" /></td>
<td>The label shall appear at ankle height on the tongue of the right shoe.</td>
<td>White rectangle with orange Greek letter omega indicates soles that provide resistance to electric shock.</td>
<td>For any industrial environment where accidental contact with live electrical conductors can occur. <strong>Warning:</strong> Electrical shock resistance deteriorates with wear and in a wet environment.</td>
</tr>
<tr>
<td><img src="image" alt="Yellow Rectangle with Green “SD” and Grounding Symbol" /></td>
<td>The label shall appear at ankle height on the tongue of the right shoe.</td>
<td>Yellow rectangle with green “SD” and grounding symbol indicates soles are static dissipative.</td>
<td>For any industrial environment where a static discharge can create a hazard for workers or equipment.</td>
</tr>
<tr>
<td><img src="image" alt="Red Rectangle with Black “C” and Grounding Symbol" /></td>
<td>The label shall appear at ankle height on the tongue of the right shoe.</td>
<td>Red rectangle with black “C” and grounding symbol indicates soles are electrically conductive.</td>
<td>For any industrial environment where low-power electrical charges may create a hazard for workers or equipment.</td>
</tr>
<tr>
<td><img src="image" alt="White Label with Green Fir Tree Symbol" /></td>
<td>The label shall appear at ankle height on the tongue of the right shoe.</td>
<td>White label with green fir tree symbol indicates chainsaw protective footwear.</td>
<td>For forestry workers and others exposed to hand-held chainsaws or other cutting tools.</td>
</tr>
</tbody>
</table>
REMEMBER!

- Know the difference between types of respirators
- Know the difference between “N” “R” and “P”
- ALWAYS do a positive / negative seal test prior to use of a respirator
- Replace cartridges if in doubt
- Keep respirators in sealed bags – separate from cartridges when not in use
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Personal Protective Equipment - Respiratory Protection Code to identify the proper level of protection against a potential hazardous environment where respirators are used at the worksite resulting in potential exposure to employees, contractors, and the public while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct identification of applicable respiratory protection will enable employers and employees the ability to ensure adequate protection from activities where dusts, chemicals, or reduced oxygen in the air create health hazards for workers. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG Companies and affiliates.

3.0 DEFINITIONS

The following definitions are specific to Personal Protective Equipment - Respiratory Protection Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 ALARA

As Low As Reasonably Achievable, a measure must be taken to keep the worker’s exposure to a level as low as reasonably achievable.
3.2 Confined Space

A space such as a tank, a silo, storage bin, process vessel, sewer, or other enclosure not designed or intended for human occupancy. Or an area, other than underground working such as a tunnel or shaft, that:

- Is enclosed or partially enclosed.
- Is not designed or intended for continuous human occupancy.
- Has limited or restricted means of entry or exit that may complicate the provision of first aid, evacuation, rescue, or other emergency response service.
- Is large enough and so configured, a worker could enter to perform assigned work.

3.3 Dust

Find solid particles dispersed in here that has been formed by mechanical means such as grinding, crushing, blasting or drilling.

3.4 Exposure Limit

The maximum concentration of a contaminant that workers are allowed to be exposed to without respiratory protection, as set out in specified regional legislation.

3.5 Fit Test

A quantitative or qualitative test to check the respirators fit by detecting leakage of a test compound into the face piece. Fit tests must be performed in accordance with procedures found in CSA standard Z94.4.93, *Selection, Use, and Care of Respirators*.

3.6 Fume

Solid particles formed as a result of vaporize Asian and condensation of the material. Produced when solid material (such as metal or plastic) is heated, causing some of the material to boil off, cool in the air, and condensed into tiny solid particles.

3.7 HEPA Filter

High efficiency particulate air filter, meeting the specifications of a nuclear great filter providing 99.97% filtration efficiency at a particle size of 0.3 micrometer. For respirators, a HEPA filter is a NIOSH 100 series filter (N, R, or P).

3.8 IDLH Atmosphere

An atmosphere containing the substance in a concentration that is immediately dangerous to life or health (IDLH) because it impairs a worker’s ability to escape without serious injury or irreversible health effects.

3.9 Mist

Tiny airborne drops of liquid usually formed when liquid is sprayed, shaken, mixed, or stirred.
3.10 Protection Factor

A value assigned to a particular class of respirators that is the anticipated level of protection that would be provided to a properly fitted user.

3.11 Seal Check

A negative or positive pressure checks of the respirator’s fit, performed in accordance with the respirator manufacturer's instructions. May also be called a fit check.

3.12 Vapour

The gaseous form of a substance that is normally liquid or solid at room temperature.

4.0 EXPECTATIONS

The Personal Protective Equipment - Respiratory Protection Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to respiratory hazards in the workplace which employees, contractors, visitors and general public within NCSG areas of responsibility. The Personal Protective Equipment - Respiratory Protection Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / Federal legislation within the operational areas of responsibility of NCSG.

In cases where a worker is required to enter or work in an area where IDLH or oxygen deficient atmosphere situation exist the worker will be attended by at least one other worker.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System are updated a revision record will be posted to all employees notifying them of the update.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it.
• Not use personal protective equipment that is unable to perform the function for which it is designed.
• Be responsive, through adequate training, to minimize the risk of exposure to potential work environments, which may be hazardous to respiratory conditions.
• In the case of a tight-fitting facepiece, maintain their required clean-shaven condition, and refrain from having any object or material that would interfere with the seal or operation of the respirator.
• Remove from service a respirator that they determine to be defective and report it to their immediate supervisor or other responsible person.
• Use the respirator in accordance with the written instructions and training received.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

• Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
• Report to their supervisor or other responsible person any condition or change that may impact on their ability to use a respirator safely.
• Leave the area to wash or change cartridges or if they detect break-through or resistance.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

• Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
• In the presence of dust, fumes, gas, mist, aerosol, or any airborne contaminant that may be present in any amounts that are harmful or offensive to the worker, ensure appropriate respiratory PPE is readily available for all employees (at no cost to the employee), contractors, and visitors within NCSG areas of operation or active worksites.
• Ensure that health screening, fit testing, and training are completed prior to assigning a user any task that requires the use of a respirator.
• In the case of a tight-fitting facepiece, ensure respirator users maintain their required clean-shaven condition, and do not have any object or material that would interfere with the seal or operation of the respirator.
• Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
• Ensure that respirator equipment designated specifically for emergency response and or emergency rescue situations is identified and maintained in accordance with CSA Z94.4-02 – Selection Use and Care of Respirators.
• Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.
5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
- Provide adequate training in the selection, care and use of respirators if those personnel are assigned to any type of emergency rescue unit.
- Provide a written procedure ensuring the availability of respiratory protective equipment to personnel working on NCSG sites.
- NCSG Management shall implement a process to ensure where required all personnel are wearing the appropriate respirator.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Respiratory Code of Practice

NCSG shall be responsible for preparing and implementing the respiratory protection program, including all of the elements listed in this section. NCSG shall designate competent employees to administer the PPE – Respiratory Protection Code. The respiratory code shall conform to CSA Z94.4-02 – Selection Use and Care of Respirators.

The contents of the PPE- Respiratory Code shall consist of:
- roles and responsibilities;
- hazard assessment;
- selection of the appropriate respirator;
- respirator fit testing;
- training;
- use of respirators;
- cleaning, inspection, maintenance, and storage of respirators;
- health surveillance of respirator users;
- program evaluation; and
- recordkeeping.
NCSG shall ensure fit testing of all employees who are required to use respiratory protection through the course of their work duties is conducted at a maximum two-year cycle. Records shall be maintained in accordance with this code and regulatory legislation. NCSG shall ensure any contractors or visitors who are required to use respiratory equipment have completed adequate fit testing within the last two years and may if requested be able to produce evidence of same.

6.2 Hazard Assessment

A hazard assessment of the work area shall be conducted to determine the respiratory hazards present. The results of the hazard assessment for each work area are documented in specific Industrial Hygiene reports.

The following factors shall be considered during the hazard assessment, prior to selecting the type of respiratory protection:

- Oxygen concentration less than 19.5% by volume
- Nature and physical state of airborne contaminants
- Concentration of airborne contaminants
- Duration of worker exposure
- Warning properties of the contaminants
- Toxicity of the contaminants
- Need for emergency escape

If breathing conditions at a worker site are or may become immediately dangerous to life or health, work must stop. The supervisor will conduct a risk assessment with the HSE Advisor to determine the necessary controls to resume work. If Self Contained Breathing Apparatus are required, NCSG shall contract an approved and qualified contractor to conduct the work. The contractor must have a procedure to ensure that a worker wears self-contained breathing apparatus or an airline respirator that meets Provincial/Federal regulations and CSA Standard Z94.4-02.

6.3 Selection of Applicable Respirator

NCSG shall use the Hazard and Risk Assessment and Field Level Risk Assessment processes to establish the correct selection of Respirator to be used. Reference may be viewed in the resource material identified.

NCSG shall ensure a procedure for the selection and wearing of respirators on work sites that is in accordance with the NIOSH standard and the CSA Z94.4-02 Standard for Selection, Use, Care and Maintenance of Respirators.

If a respirator is to be shared amongst workers it must be cleaned and re-fitted before another individual uses it.

NCSG shall ensure there is written procedure to ensure the quality of supplied air used in self contained breathing apparatus meets the standard laid out in the CSA Z180.1 –00 Air Quality Table 1
The respirator selected for both emergency and non-emergency environments may be the same however; respirators approved for escape only shall not be used for nonemergency applications.

6.4 Use of Applicable Respirator

Applicable respirators are grouped as follows for the correct application and use:

- Atmosphere-Supplying Respirators:
  - Supplied-air: demand, pressure-demand, or continuous-flow.
  - Self-contained breathing apparatus: demand or pressure-demand.
  - Combination supplied-air with auxiliary self-contained air supply.

- Air-Purifying Respirators:
  - Non-powered air-purifying respirators.
  - Powered air-purifying respirators.
  - Gas masks.

- Special-Use Respirators:
  - Supplied-air suits.

- Emergency Rescue Respirators:
  - Self-contained breathing apparatus: demand or pressure-demand.

6.5 Maintenance of Respirator

NCSG shall provide for a competent and qualified person to establish an inspection and change-out schedule for the replacement of in use or stored respiratory protection equipment including air-purifying elements of respirators before their useful service life is ended. Inspections shall occur once every month and the dates and name of the inspector are kept in an orderly fashion where the equipment is stored.

Self-contained breathing apparatus or air line respirators shall use air that is of a quality that meets the requirements of Table 1 of CSA Standard Z180.1-00, and does not contain a substance in a concentration that exceeds 10 percent of its occupational exposure limits.

NCSG shall establish through a training program, competency criteria for all employees and contractors, to maintain respirators in a serviceable condition. This training program shall ensure that care and maintenance shall include:

- Cleaning and sanitizing.
- Inspection, testing, and repair.
- Storage.
6.6 Fit Testing

Fit testing procedures shall meet the requirements outlined in CSA Standard Z94.4-02. NCSG employees required to wear respiratory protection shall undergo the medical assessment and fit testing within the first month of employment. Workers must be clean-shaven when a fit test is to be conducted. Before a respirator is used it must be pressure tested (positive or negative) to ensure a proper seal.

Medical evaluations shall be kept confidential, provided during normal working hours in a method that is both convenient and understandable to the worker. The employee shall be given a chance to discuss the results with the physician (or other licensed health care professional).

Fit testing is repeated for every new type of tight-fitting respirator the employee may use. Fit testing will need to be repeated for any worker that has a change in their physical condition that could affect fit of the respirator. The physical changes could include significant weight gain or loss, introduction of dentures, facial scarring or changes in facial structure.

All contractors will be expected to ensure that their employees have access to appropriate respiratory protection that provides an adequate facial seal as per Alberta OH&S Act, and OH&S Code, Part 18 Sections 244 through 255.

6.7 Recordkeeping

The Regional HS&E Advisor shall ensure that appropriate records are kept of all respiratory protection program activities as required by applicable legislation and NCSG policy. An acceptable program of recordkeeping shall include:

- A list of individuals fulfilling the roles and responsibilities, which include corresponding with users, qualified persons, and Program Administrators.
- Ongoing hazard assessment, including periodic monitoring of the workplace atmosphere if applicable.
- Selection of the appropriate respirator.
- Respirator facial fit.
- Training.
- Cleaning, maintenance, and storage of respirators.
- Health surveillance of respirator users (inclusive with Medical Fit Testing if applicable).
- Program evaluation.

For the purpose of compliance to BC OHS Regulation Part 32, Section 32.6 all maintenance records will include:

- Manufacture name
- Equipment type
- Date of service
- Purpose of use
- Last date of Inspection
- Any type of damage or additional maintenance required due to use

Note: It is recommended that records be maintained for a minimum of 10 years.
7.0 TRAINING REQUIREMENTS AND MATERIALS

NCSG shall ensure all employees, contractors required to use respiratory protection in the course of their duties are familiar with the care and practical use regarding respiratory equipment. The training shall initially be completed before being assigned work applicable to this code and annually thereafter. This shall include but not be limited to the following:

Care and practical use refers to:
- Hands-on training relating to the choice of the appropriate respirator for a given hazard.
- The operation of each respirator, including:
  - user seal checks;
  - care;
  - cleaning;
  - inspection;
  - end-of-service recognition;
  - change-out of filter elements;
  - replacement of air cylinders;
  - identification of problems;
  - use under failure or emergency modes;
  - storage;
  - removal from service;
  - basic maintenance; and
  - familiarity with and adherence to the manufacturer’s instructions.

- PPE Equipment specific training:
  - Dust Respirator / PAPR
  - Fit Testing
  - Employee Responsibilities
- NCSG orientation

8.0 RESOURCES

- Workers Compensation Board of BC – WorkSafeBC – Breathe Safer – How to Use Respirators Safely and Start a Respirator Program
- Alberta OH&S Code Part 18
- BC OH&S Regulation part 32
- BC OH&S Regulations Part 8
- CSA Z94.4-02 Selection, Use, and Care of Respirators (R2007)
- CSA Z180.1-00 Air Quality Table 1 Requirement
May all be used to reference additional information pertaining to PPE – Respiratory Protection and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Personal Protective Equipment - Respiratory Protection Code. Please direct any questions regarding this Code to the applicable Regional Team Lead HS&E.

9.0 APPENDICIES

- None

10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
HEALTH, SAFETY & ENVIRONMENT
PREVENTATIVE MAINTENANCE POLICY

1.0 PURPOSE
NC Services Group and its affiliated companies (NCSG) are committed to becoming an industry leader in providing productive, quality crane lifts and heavy haul solutions to its customers, in the most safe and efficient manner possible.

To achieve this, NCSG has established a Preventative Maintenance Program. Supervision shall ensure that all preventative maintenance is carried out by qualified personnel according to established schedules and that records are maintained.

2.0 SCOPE AND APPLICATION
All tools, vehicles, and equipment owned, leased, and / or otherwise operated on behalf of NCSG and operated by personnel employed by the company shall be properly maintained so as to reduce the risk of injuries to employees and damage to equipment.

3.0 ROLES AND RESPONSIBILITIES
All employees / lease operators / subcontractors shall regularly check all tools, vehicles, and equipment that they are working on, and shall take out of service any tools, vehicles or equipment that pose a hazard due to need for repair.

4.0 PROCESS
In this policy, “company equipment” refers to any and/or all equipment owned, leased and/or otherwise operated on behalf of NCSG and operated by personnel employed by the company.

- Company equipment must be included and documented as part of the preventative maintenance program.
- All company equipment will be maintained at a level that meets and/or exceeds Alberta Regulation AR 118/89, manufacturer recommendations and industry standards.
- All manufacturers recommended maintenance procedures are to be available for the appropriate piece of equipment.
- All repairs performed, outside a company-operated facility, must be done by a licensed mechanic and at a company-approved facility.
Each piece of equipment will have a separate maintenance file. All repairs and/or regularly scheduled maintenance, to any company equipment, will be recorded in the appropriate equipment files. In addition, any repair done by a facility, other than the company facility, will be recorded in the accounting program and a copy of the invoice must be placed in the appropriate equipment file.

All company equipment requiring an annual “CVIP” (Commercial Vehicle Inspection Program) certification will be “flagged” one month (minimum) prior to the expiry date of the current certification. This is to ensure the equipment can be scheduled at an approved facility, inspected and re-certified in the required time.

To ensure the safety of personnel working on any company equipment, the person working on the equipment must, before the work begins, remove the key from the ignition.

No equipment will be operated with a known safety defect.

This policy also applies to contractors operating vehicles and/or equipment registered under and/or bearing a NCSG Company name. These companies and/or person(s) are required to prepare and submit, once monthly, a summary report of maintenance completed on their vehicles and/or equipment. In addition, a copy of the annual CVIP inspection must be included with the monthly report, in the month the inspection occurred.

**Mechanical Failure**

Road “breakdowns” are time consuming, costly and a source of bad publicity. In the event of a mechanical failure enroute, it is important to accurately determine, whenever possible, the nature of the problem. Once the problem has been identified contact dispatch and/or the maintenance department. The problem will be further assessed and a course of action will be determined as quickly as possible.

Ensure the vehicle is parked where it will not become a hazard to other traffic. Warning devices must be set out if the vehicle is in a position to create a hazard. All repairs and purchases must be approved beforehand.

**Inspections – Tractors and Trailers**

The “professional” driver is responsible for completing vehicle inspections in accordance with, and as a minimum standard, Alberta Regulation AR 118/89 requirements and the National Safety Code (NSC) guidelines. In addition, the “professional” driver is responsible to ensure the vehicle they are operating is safe, well maintained and does not pose a hazard to themselves and/or the general motoring public.
Frequent inspections are an integral part of the overall Health & Safety Program. Equipment inspections are to be completed prior to, at regular intervals (once every 8 hours) during and at the end of a job and/or operation of the equipment.

Defects are to be recorded on the “Drivers Vehicle Inspection Report” form, as well as an indication that the observed defects will and/or will not affect the safe operation of the vehicle. All inspection forms must be submitted to the company, on a daily basis or as soon as practical.

Do not operate a vehicle with a defect(s) that would put it “out of service” as per the “CVSA - Out of Service” criteria. If in doubt, contact the company maintenance department before proceeding.

As part of vehicle maintenance, drivers are responsible to maintain a clean vehicle, especially the interior. The outside of the vehicle is to be washed whenever possible, depending on time and job conditions. Truck washing facilities are available at the company main yard.

A “professional” driver knows their vehicle better than anyone. Therefore, it is important to ensure the vehicle is operating properly, at all times. Major problems can be avoided by early detection and can often be less expensive to repair.

- **Listen** for unusual or abnormal sounds; they could be an indication of a potential problem. Report them promptly and accurately describe the sound(s) to maintenance personnel.
- **Smell** for unusual odors (i.e.: burning insulation, rubber or wood, scorched fabric, hot oil and other abnormal smells.
- **Feel** changes in the vehicle that affect steering, shifting, braking or other handling functions. If the vehicle does not respond in the usual manner, promptly report the problem.
- **Observe** all equipment components carefully during routine inspections. Defects in lights, wiring, cables, tires, airlines, coupling devices, landing gear, brakes, suspension, etc. must be corrected.

Drivers are responsible for the care of any equipment they may be working with. Trucks and trailers are to be greased at least once every week; more often in dusty or muddy conditions. All lubrication and “on road” repairs must be recorded on the vehicle inspection form.
Truck-Mounted Cranes
All crane owners and/or operators are, in accordance with the “General Safety Regulations”, legally responsible for the following:

Logbooks
All cranes with a lifting capacity of 2,000 kgs (4400 lbs) or more are required to have a maintenance logbook. All repairs, maintenance, certifications and other relevant safety-related information must be documented and signed by the crane operator.

Equipment Maintenance
All cranes must be maintained in accordance with the crane manufacturer's specifications, by qualified and competent trades people. Structural or welding repairs must be completed under the direction and control of a Professional Engineer. All maintenance must be documented in the crane maintenance logbook.

Certification
Regular structural inspections must be performed by competent, qualified personnel. Where applicable, necessary structural repairs must be adequately supervised and entered in the maintenance logbook. Structural repairs or modifications must be certified by a Professional Engineer.

Mounting
All trucks to which cranes are mounted must meet or exceed the crane manufacturer's minimum chassis requirements or be certified by a Professional Engineer that the chassis is adequate and will safely allow the crane to operate at its rated load capacity.

Maintenance Program
Preventative maintenance is an integral part of ensuring equipment does not present a hazard to those operating the equipment, a hazard to other personnel or the general public and create unscheduled delays.

Personnel operating company equipment are responsible for inspecting the equipment they are operating and recording the condition of the equipment, including any defects, on the appropriate inspection forms.
Tractor (Power Unit)

Regular scheduled maintenance and inspections is the primary means of ensuring all company equipment is in the best condition possible. The following “Maintenance Schedule” information is intended to assist in achieving and maintaining that goal.

“A” Service: daily, operator pre and post trip inspections

“B” Service: every 20,000 km / 300 hours

“C” Service: annually (CVIP)

Trailer(s)

“A” Service: daily, operator pre and post trip inspections

“B” Service: mechanical service and inspection every 10,000 KM on highway trailers, 6000 KM on hydraulic steering trailers

“C” Service: annually (CVIP)

Tire / Wheel Assemblies

All wheel nuts will be:

- Hand torqued, according to the manufacturer specifications.
- Torque checked within the first 80 - 160 km after installation.
- Torque rechecked at regular maintenance schedule intervals.

All tire pressures will be checked at regular maintenance schedule intervals. Tire pressures are not to exceed manufacturer recommendations.

Any tire showing excessive, abnormal and/or unusual wear must be reported immediately. Management, in conjunction with the supplier, will determine the necessary action.

Steering Tires

All steering tires will be radials and new (no recapped tires). Steering tires will be replaced when there is 5/32” wear remaining. This is subject to operating conditions and is to be used as a guideline only.
Drive and/or Trailer Tires
All drive and/or trailer tires will be radials and can be either recapped or new tires. Maintenance personnel and/or management must approve installation of recapped tires. Drive tires will be replaced when there is 3/32" wear remaining. This is subject to operating conditions and is to be used as a guideline only.
The purpose of this policy is to provide for general and specialized safety and related training throughout all levels of the organization and to provide competent workers to safely perform the work assigned. A competent worker is a worker who is adequately qualified, suitable trained, and has sufficient experience to safely perform work with little to no supervision.

NC Services Group and its affiliated companies (NCSG), in conjunction with its clients, government and safety groups, manufacturers and suppliers, unions, and other appropriate organizations, will provide training to ensure the necessary skills, aptitudes, attitudes, and competencies to minimize or eliminate all injuries to personnel and protect the assets of the company.

Training courses may be provided “in house” or by independent consulting firms and/or training institutions. NCSG will, from time to time, evaluate the content of each course to determine the effectiveness of the course material. Additional “on-the-job” training may be required to complete the training requirements. A training record will be maintained for all personnel.

All employees will be expected to participate in the identified training for their required duties and responsibilities, the safe operation of equipment, and the requirements for particular work sites and specific work conditions.

Basic training requirements will include, but not be limited to:
- New Hire Safety Orientations (Company and Client Specific) which include company policies and procedures
- Appropriate government licensing (task and trade-specific training and certification) where required such as:
  - Class 1 & Class 3 Driver’s License
  - Crane and Hoisting Certification
  - Heavy Duty Technician
  - Airbrake Training Course
  - Pilot Vehicle Drivers
  - Hazard Assessment
HEALTH, SAFETY & ENVIRONMENT
TRAINING

- C.S.T.S. training (including specific WHMIS when required)
- Applicable training on specific equipment

Training requirement for all employees when and where required:
- T.D.G. (Transportation of Dangerous Goods)
- H2S Alive
- Fall Protection
- Awareness of Modified Duty Program.
- Plant/job site specific orientations.
- Rigging and Signalling

Training for supervisors and management:
- Leadership for Safety Excellence (ACSA)
- Practical Loss Control (DNV)
- Incident Investigation (DNV)
- Systematic Causal Analysis Tool – SCAT (DNV)
- Better Supervision (CLR)
- First Aid with CPR
- NCSG Orientation for Supervisors and Managers

All workers will be trained until deemed competent for their job.
1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) will comply with all local and federal regulatory bodies pertaining to the verification of qualification and competency of Operators of powered mobile equipment. NCSG will ensure that a system is in place that evaluates and tracks competencies based on training, testing and evaluation by a person deemed competent for the task being performed. The company will make certain that only employees signed off as competent, at the required operational level, are assigned to and operate NCSG equipment. Finally, the company will ensure that only an employee signed off as an evaluator may sign off an Operator and only at the level that the evaluator is signed off at.

2.0 SCOPE AND APPLICATION

This policy applies to all NCSG employees who supervise or operate any type of NCSG Powered Mobile Equipment. It is NCSG management’s responsibility to ensure that Supervision, Dispatch and Operators of powered mobile equipment understand and comply with this Qualification Verification Policy.

3.0 DEFINITIONS

3.1 Sign Off: means that an Operator, through training, testing and evaluation, has been deemed competent to a specific level of operation on specific equipment, and Evaluator has signed off the Crane Specific Evaluation Form (CSEF) and Checklist and ensured the Operator is familiar with the Operator’s manual and safe operation of the equipment.

3.2 Evaluator: is an employee determined by NCSG management to be competent to train, observe, test, evaluate and sign off on the competency of the Operator only at the level that they themselves have been deemed competent. An Evaluator may be a Vice President, Branch Manager, Supervisor, or another individual deemed competent by NCSG management.
3.3 **Trainer:** is any employee who has been signed off as competent on a specific piece of equipment, at a specified level, to train another worker and only to the level that they themselves have been deemed competent. **Trainers may not sign off employees unless they have received Evaluator status for the level of training they are performing.**

4.0 **ROLES AND RESPONSIBILITIES**

4.1 **Dispatch**

- The Dispatcher must verify with an Operator that he/she has been signed off on a specific piece of equipment before dispatching him/her to Operator the specified equipment.
- If the Operator has not been signed off on the piece of equipment, the Dispatcher must alert the Site Supervisor to arrange to have an evaluator sign off the Operator.
- If the Site Supervisor is not qualified to sign off the Operator on the piece of equipment, then the Supervisor must arrange to have the Operator trained, supervised, or signed off by an Evaluator.
- Under no circumstance should a Dispatcher assign an Operator to operate a piece of equipment before he/she has been signed off on that specific piece of equipment or arrangements are made for direct supervision by a person competent for the model and operations to be performed.

4.2 **Site Supervisor**

- Site supervisors must also verify with the Operator that they have been signed off on the assigned piece of equipment.
- If the Operator has not been signed off, the Site Supervisor, if qualified to do so, may sign off the Operator on the piece of equipment or assign a Trainer to either train or supervise.
- If the Site Supervisor is not qualified to sign off the Operator, then he/she must arrange for an Evaluator to sign off the Operator before the Operator is assigned to the piece of equipment.
Under no circumstance should a Supervisor, or any management member, allow an Operator to operate a piece of equipment unsupervised before they have been signed off at the required level of competency on that piece of equipment.

Process

- If the Operator has not been signed off for the equipment, then an Evaluator will use the applicable Specific Evaluation Form and Checklist in conjunction with the Sign Off Guide Book to verify whether or not the Operator is competent for the tasks they are required to perform.
- If the Operator has been deemed competent by an Evaluator then the applicable Specific Evaluation Form will be filled out according to the level the Operator is competent for and signed by both the Operator and the evaluator.
- If the Operator has not been deemed competent then the applicable Specific Evaluation Form must be filled out as a training document and the Operator must be directly supervised by a competent worker until such time as he can be deemed competent.
- Once the applicable Specific Evaluation Form has been filled out and signed, the Operator’s Experience Log Book must be filled out for recording purposes for the Operator.
- Ensure all documentation is sent to either the HS&E Department or the Training Department for enter into the Virtual Training Assistant (VTA) and filed in the Operator's training file. All files must end up with the Training Department.
HEALTH, SAFETY & ENVIRONMENT

Orientation Process

1.0 PURPOSE

NC Services Group and its affiliated companies (referred to as NCSG) has developed an Orientation Process to introduce NCSG Workers to worksite policies and procedures. The main objective of Orientation is to familiarize employees with the new work site and to protect the health and safety of its workers, the public, and the environment.

2.0 SCOPE AND APPLICATION

All employees shall receive a new hire orientation from their applicable Supervisor or delegate on their first day worked as well as a site orientation before accessing any field site or project that NCSG works on. Every project or site shall have a unique orientation customized by on-site HSE Advisors or applicable persons. This document is meant as a guideline to ensure that all necessary areas are reviewed to ensure the familiarity with the work location and its policies and processes.

This Process applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

There are no definitions for the Orientation Process.

4.0 EXPECTATIONS

The Orientation Process shall provide required and adequate guidelines to ensure knowledge of responsibilities to all employees, contractors, visitors and general public. The Orientation Process will be reviewed at a minimum of every three years.

This process shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System is updated a revision record will be posted to all employees notifying them of the update.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Attend new hire orientation and applicable site orientations.
HEALTH, SAFETY & ENVIRONMENT
Orientation Process

- Be familiar with the hazards and emergency procedures.
- Know where to access available documentation including MSDS, Emergency Response Plans and Legislation.
- Report and refuse unsafe work.

5.2 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that all workers attend new hire orientation and applicable site orientations.
- Ensure workers are familiar with the rules, regulations, policies, and procedures of the site.
- Ensure employees have access to applicable documents.
- Investigate any reports of unsafe work or refusal to work unsafely.

5.3 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this process, at all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequately train and monitor for compliance through the use of the Health, Safety and Environment team.

5.4 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this process to ensure current compliance with all regulatory legislation and company practices.
- To assist Supervision with new hire and site orientations.
- Amend and maintain this process within the defined review period.

6.0 METHOD

All employees at NCSG will be indoctrinated to the standard and the supporting processes, codes, procedures and documents that go along with it. Orientation is designed as a general work location introduction to the hazards, response plans and expectations to be complied with.

Orientation is mandatory for all employees of NCSG and its affiliated companies.

6.1 Introduction

- Introduce facilitator, the company, and applicable clients contracted too.
- Distribute orientation package – including the Employee Handbook, site handbooks, stickers, etc.
- Distribute an attendance sheet to ensure orientation is documented.
- Discuss the orientation agenda - including Coffee Breaks, Lunch, etc.

Note: The HS&E Portion of the new hire orientation is scheduled for 1.5 hours.
6.2 HSE Overview

- Responsibility/Ownership pyramid.
- Employee/Employer Responsibility

6.3 Plan

- Policy
- Legislative Requirements
- Applicable OH&S legislation
- Bill C-45
- Employee 3 Rights
- Hazard and Risk Analysis
  - FLRA
  - Task Hazard Assessment
  - Project Hazard Assessment

6.4 Do

- Training
- Emergency Preparedness and Response
- Communication
- HS&E Committee Meetings
- Monthly Safety Meetings
- Toolbox Meetings
- Cardinal Rules
- Codes
- Standard Operating Procedures

6.5 Check

- Incident Management
- 1 – 10 – 30 – 600 Pyramid
- Modified Work
- Alcohol and Drug
- Corrective and Preventive Actions

6.6 Act

- Management Review
- Committee, Council and Network

7.0 TRAINING REQUIREMENTS AND MATERIALS

- CSTS Training is mandatory for workers on-site. (Version 9.0)
- OSSA Regional Orientation (as required for Ft McMurray)
- WHMIS Training is mandatory for workers on-site (usually covered in CSTS training).
• VTA Alcohol and Drug Training for employees
• First Aid / CPR Training is preferred but not mandatory.
• NCSG shall ensure workers and supervisors are trained in all matters that are necessary to protect the health and safety of the themselves and their co-workers when the employee begins work at a place of employment or is moved from one work activity or worksite to another that differs with respect to hazards, facilities or procedures.
• All certificates and the expiry dates shall be photocopied and kept on file with VTA.

8.0 RESOURCES
Contact Regional Team Lead HS&E for more information regarding this Process.

9.0 APPENDICIES
• Appendix A – Orientation Checklist

10.0 SUPPORTING DOCUMENTS
• Health, Safety and Environment Policy
• Health, Safety and Environment Processes
• Health, Safety and Environment Codes
• Health, Safety and Environment SOP’s
# Orientation Process

## Appendix A

### Orientation Checklist

- **□ New Hire Orientation**  
- **□ Site Orientation**  
  Site Name: __________________________

<table>
<thead>
<tr>
<th>Name: _______________________________</th>
<th>Date: _______________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor: ___________________________</td>
<td>Date of Hire: _________________________</td>
</tr>
<tr>
<td>Facilitator: ____________________________</td>
<td>Handouts received? □ Yes □ No</td>
</tr>
</tbody>
</table>

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<tr>
<th>Areas to be reviewed</th>
<th>Description</th>
<th>Covered</th>
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<td>Description of the type of work conducted by NCSG</td>
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<td>Yes</td>
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<tr>
<td>Standard</td>
<td>Explain the Standard and the Model (CSA Z1000)</td>
<td>Yes</td>
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<tr>
<td>Processes</td>
<td>Define and review applicable Processes</td>
<td>Yes</td>
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<td>Yes</td>
</tr>
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<td>Review inspection schedule and what is inspected</td>
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<td>Incident Management</td>
<td>Review incident management process, reporting and modified work program</td>
<td>Yes</td>
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<tr>
<td>Alcohol and Drug Program</td>
<td>Ensure completion of VTA training on A&amp;D</td>
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</tr>
<tr>
<td>Right to Refuse</td>
<td>Reference legislation on right to refuse unsafe work</td>
<td>Yes</td>
</tr>
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</table>

Employee Signature: _____________________________ Date: _____________________

Facilitator Signature: _____________________________ Date: _____________________
1.0 PURPOSE

The purpose of the Short Service Process (Green Hand) is to heighten the visibility of new (new and new to us) and young workers and prevent incidents during their initial months of service.

Young workers are at a much higher risk of injury than other workers. Young workers generally have less experience in recognizing hazardous situations than older workers. Many are also eager to please and afraid they’ll look dumb if they ask questions, so they take risks that could be avoided. They may also be unaware of rights and responsibilities such as questioning potentially hazardous work activities.

Starting with a new job/employer can be risky for workers of any age, including experienced workers. Whether young or old, new workers may not be fully aware of the hazards in their new job, and they may feel pressured to work quickly to keep up with more experienced workers.

2.0 SCOPE AND APPLICATION

The process applies to all employees who are engaged in company business, including contractors. All craft work employees who are considered new or young workers, will take part in the process.

3.0 DEFINITIONS

3.1 Green Hand

A worker that is new at their job, new to the type of work, new to the worksite or require additional assistance or guidance.

3.2 Competent Worker

Adequately qualified, suitably trained and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision.

3.3 New Worker

A new worker can be any age, and includes workers who are:
- New to the workplace (new to the company)
- Facing hazards that have changed or developed while they were at work or absent from work
- In a new workplace or location that has different hazards than the old one

3.4 Young Worker

A young worker is any worker who is under 25 years of age.
4.0 EXPECTATIONS

This Process outlines the method by which new workers will be identified and provided extra assistance or guidance.

5.0 ROLES AND RESPONSIBILITIES

5.1 HS&E Advisors

- Conduct new hire orientation.
- Forward training documentation to VTA.
- Document items reviewed in the orientation.
- Distribute the appropriate color hard hat sticker (Green Hand) to employees.

5.2 Supervisors

- Instruct workers in safe work procedures.
- Train workers for all tasks assigned to them, and regularly check that they are doing their work safely.
- Ensure that only authorized, adequately trained workers operate tools and equipment or use hazardous chemicals.
- Ensure that workers follow safe work procedures for handling, storing, and maintaining equipment and materials.
- Enforce health and safety requirements.
- Ensure all new and young workers receive a Green Hand hard hat sticker.
- Conduct competency tests with green hands after 3 months of on the job experience.

5.3 Employees

- Know and follow health and safety requirements that apply to your job.
- If you don’t know how to do something safely, ask your supervisor for training before you begin work.
- Participate in all required health and safety education and training.
- Work safely, and encourage your co-workers to do the same.
- Use all required personal protective equipment and clothing.
- Correct any unsafe conditions or immediately report them to your supervisor.
- Immediately report any injury to a first aid attendant or supervisor.
- Inform your supervisor of any physical or mental impairment that may affect your ability to work safely.

6.0 METHOD

6.1 Orientation

All workers will receive a health and safety orientation to the company and the site prior to starting work.
When a worker is classified as a new or young worker, it’s essential to include safety issues as part of their orientation to the worksite on the first day of work, before they start working.

Appendix A outlines the topics reviewed in orientation.

6.2 Green Hand

After the health and safety orientation is complete, new and young workers will receive a hard hat sticker to wear.

The hard hat sticker signifies that the worker is new to the worksite or task and may need extra assistance and/or guidance with working safely on the site.

- 6.2.1 New to Site (Green Hand Sticker)
- 6.2.2 Apprentice sticker A1, A2, A3
- 6.2.3 Journeyman J
- 6.2.4 New to company N

6.3 Competency

After a probationary period of 3 months at a task or site, all new and young workers will complete a job evaluation that assesses their knowledge of information that was covered in their health and safety orientation.

The workers will be evaluated and their safety performance will be taken into consideration. If the new workers have shown that they are knowledgeable about the safety program and have met the safety performance expectations, then they graduate out of the green hand hard hat sticker.

7.0 TRAINING MATERIAL

- New Hire Orientation

8.0 RESOURCES

Contact Health, Safety and Environment for more information regarding this Process.

9.0 APPENDICIES

- Appendix A – New Hire Orientation Form
- Appendix B – Green Hand Evaluation
# Appendix A

## Orientation Checklist

- New Hire Orientation
- Site Orientation

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Employee Signature: _______________________________ Date: _____________________

Facilitator Signature: _______________________________ Date: _____________________

2/2/2012
Appendix B
Green Hand Evaluation

Name: _____________________________________  Date: ___________________________
Position: ___________________________________  Hire Date: _______________________
Supervisor Name: __________________________________________________________________

1. What would you do if you noticed an unsafe condition at the worksite?
_____________________________________________________________________________________

2. List one of your responsibilities towards health and safety:
_____________________________________________________________________________________

3. List your 3 rights as a worker:
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

4. Name 3 of the Cardinal Safety Rules:
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

5. List 3 major hazards you face at work and how you protect yourself from them:
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

6. Provide an example of a Standard Operating Procedure that you currently perform:
_____________________________________________________________________________________

7. List the PPE you are required to wear:
_____________________________________________________________________________________
_____________________________________________________________________________________
8. List the specific training you require:

_________________________________________________________________________

_________________________________________________________________________

9. Who are the designated First Aiders on site?

_________________________________________________________________________

10. Where are the first aid kit(s)/station located?

_________________________________________________________________________

11. Where is the designated muster point located?

_________________________________________________________________________

12. To who and when do you need to report injuries or illnesses?

_________________________________________________________________________

13. Where can you obtain a copy of the MSDS for site?

_________________________________________________________________________

14. Explain the procedure you follow when working alone?

_________________________________________________________________________

15. Who is your HSE Advisor?

_________________________________________________________________________

Supervisor Observation Comments:

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

Worker progress to Gold Hand?

☐ Yes  Gold Hand Sticker received on: ________________________________________

☐ No  Probationary to continue until: ________________________________________

Supervisor Signature: ____________________________________  Date: _______________
Purpose
The purpose of this policy is to control the loss of human and material resources by identifying and correcting unsafe acts and conditions prior to failure.

Policy
NC Services Group and its affiliated companies (NCSG) will maintain a comprehensive program of safety inspections at all facilities and jobs.

There is an extensive Inspection process within the Quality Control and Maintenance program. This includes Annual Inspections, Maintenance Inspections, Vehicle Inspections, Crane Inspections, etc.

This policy will deal with inspections that are not a part of the Equipment Maintenance program. These types of inspections will be similar to and enhance the Hazard Assessment process. Such Inspections will include, but not restricted to such inspections as:

- Office Facilities
- Shop Facilities
- Yard Inspections
- Site Inspections
- Equipment Inspections

Responsibilities
Senior Management is responsible for the overall implementation of the program.

Managers are responsible for directing formal inspections on jobs that they control, and for involving workers in such inspections.

Supervisors are responsible for conducting ongoing informal inspections of areas where their crews are working.
Workers are responsible for participating in and contributing to the inspection program, and reporting any unsafe conditions immediately to their supervisor.

The HS&E Dept is responsible to monitor, support, advise, and direct inspections and correct actions that may need to be taken.

**Schedule**

<table>
<thead>
<tr>
<th>Position</th>
<th>Type of Inspection</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP’s and above</td>
<td>Planned Inspection</td>
<td>1 per Quarter</td>
</tr>
<tr>
<td></td>
<td>Focused Inspection</td>
<td>1 per Quarter</td>
</tr>
<tr>
<td>Managers</td>
<td>Planned Inspection</td>
<td>1 per Month</td>
</tr>
<tr>
<td></td>
<td>Focused Inspection</td>
<td>1 per Month</td>
</tr>
<tr>
<td>Supervision</td>
<td>Planned Inspection</td>
<td>1 per Month</td>
</tr>
<tr>
<td></td>
<td>Focused Inspection</td>
<td>2 per Month</td>
</tr>
<tr>
<td>HS&amp;E Advisor</td>
<td>Planned Inspection</td>
<td>1 per Month</td>
</tr>
<tr>
<td></td>
<td>Focused Inspection</td>
<td>2 per Month</td>
</tr>
</tbody>
</table>
1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Focused Inspection Process to provide a systematic compliance measurement process in order to measure Health, Safety and Environment Management System within the company.

2.0 SCOPE AND APPLICATION

NCSG has implemented the Focused Inspection Process to provide a system to identify process hazards which measure compliance to health and safety standards and legislation. The data obtained from these inspections will be used to implement improvements that are required on the identified processes that are non-compliant.

3.0 DEFINITIONS

3.1 Cycle
A schedule of consecutive work days or shifts that is repeated.

3.2 Focus Inspection
An inspection which focuses on a particular task or process to identify opportunities for improvement.

3.3 Finding
A health or safety hazard; a substandard condition; a substandard practice; negative environmental impacts.

3.4 Hazard
A condition with the potential for human injury or illness, damage to property, damage to the environment, or any combination of these.

3.5 Inspection Team
Employees, Operators, Supervisors, Site/Project/Branch Managers and HS&E Advisors.

4.0 EXPECTATIONS

Focused Inspections will be performed by Supervisors, Managers and HSE Advisors. Active participation in the program is an occupational requirement which promotes health and safety awareness and reduces workplace incidents.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

Employees are responsible to:

- Cooperate with the inspection team during a focus inspection;
- Participate in focus inspections when requested.

5.2 HS&E Advisors

It is the responsibility of HS&E Advisor’s to:

- Select the Focus Observation teams;
- Select the Focused Inspection categories which apply to the site;
- Compile the inspection data;
- Provide recommendations for improvement;
- Provide Focused Inspection training;
- Monitor program effectiveness.

5.3 Focused Inspection Team

It is the Inspector’s responsibility to:

- Perform focused inspections as per the Focused Inspection Schedule;
- Document inspection findings;
- Report inspection findings, both compliant and non-compliant, to site Supervisor;
- Provide feedback to employees on inspection findings;
- Provide Inspection to HS&E Lead for review.

6.0 METHOD

6.1 Schedule

Each inspection team member shall complete at least two focused inspections per month. The designated HS&E Advisor will review the inspections for efficiency and thorough completion.

6.2 Categories

1. 100% Safe
2. Barricades
3. FLRA/JSA
4. Fall Protection
5. Housekeeping
6. Cranes and Equipment
7. FLRA Card
8. Equipment Blocking
9. Power and Hand Tools
10. Environment Care
HEALTH, SAFETY & ENVIRONMENT
FOCUSED INSPECTION PROCESS

11. Permit Compliance
12. Personal protective Equipment
13. WHMIS – Chemical Inventory
14. Mechanical Isolation
15. Preventative Maintenance
16. Respiratory Protective Equipment
17. Rigging
18. Walking Loads
19. Fuel Storage and Use
20. Pneumatic Tools
21. Equipment Isolation
22. Mine Driving
23. Heavy Equipment Servicing
24. Materials Handling
25. Lifting and Hoisting Devices
26. Crane Boom
27. Working around Open Holes
28. Loading and Offloading Tooling of Trailers

Additional Categories may be added upon review of the program as part of the improvement plan.

6.3 Process

Focused inspection forms are designed to be generic in order to be applicable at different sites.

When conducting a focused inspection, observe the area or task to be inspected and check off each identified item as compliant or non-compliant on the applicable checklist. Tally the total compliant items and divide it by the total number of items on the focus inspection checklist itself. This will provide you a percentage of total compliance with the inspection conducted. (i.e. the total number of items on the checklist is 45 and 37 of these were compliant. \(37 \div 45 = 0.82\). Compliance is 82%). A compliance score of 80% or greater is an acceptable focus inspection score.

The score is not the primary focus, although it gives a generality of the compliance on that particular area. The focus is on the actions put in place to correct the non-compliant items.

Non-compliant items will be tracked in the Focused Inspection Tracking Tool (Appendix A) and through graphical, bar chart representation for weekly, monthly/quarterly trending of cumulative data. Corrective actions must be determined for each item checked as non-compliant to ensure a method is in place to reduce the risk to employees.

7.0 TRAINING REQUIREMENTS AND MATERIAL

- Focused Inspection Training

8.0 RESOURCES

Please direct any questions that you may have regarding the Focused Inspection Process to the HS&E Lead.
1.0 PURPOSE

NC Services Group and its affiliated Companies (NCSG) has developed a Planned General Workplace Inspection Process to help prevent work-related injuries and illnesses. Inspections identify and record hazards for corrective actions to be determined and put forth to ensure a healthy and safety workplace. Inspections also ensure that existing health and safety standards, procedures and controls remain effective.

Planned General Workplace Inspections are a critical element in the overall Health, Safety and Environment Management System which requires regular examinations throughout NCSG from all levels of the company’s hierarchy.

2.0 SCOPE AND APPLICATION

NCSG has implemented a Planned General Workplace Inspection Process which examines the; who, what, when, where and how of the workplace. Substandard conditions and acts identified are recorded and an action plan developed to prevent reoccurrence.

This document establishes the expectation and standard method for conducting planned general workplace inspections throughout NCSG. It is designed to incorporate all NCSG sites, offices and facilities to identify health, safety and environment areas which require corrective actions.

Recognizing the focus of identifying hazards and correcting them in order to prevent workplace incidents, subjects this program to ongoing review and revisions. Necessary modifications will be made to this document as required to meet applicable legislation and standards.

3.0 DEFINITIONS

3.1 Finding

A HSE hazard; a substandard condition; a substandard practice; negative environmental impacts.

3.2 Hazard

A condition with the potential for human injury or illness, damage to property, damage to the environment, or any combination of these. Hazards can be classified as:

- Physical – such as inadequate lighting on stairs or slippery floors
- Chemical – such as insecticides or petroleum
- Biological – such as fungi or Infections
- Mechanical or electrical – such as bared electrical wires
- Psychological – such as violence and interpersonal conflict.

3.3 Project Site

A location which requires NCSG employees and sub-contractors to provide a service under a contract or service agreement.
3.4 Office Site

A fixed facility location which requires NCSG employees and sub-contractors to provide a service, including office, shop and warehouse environments.

3.5 Inspection Checklist

A document identifying the main items the inspection team is checking and includes information on the location, date and inspection team.

3.6 Planned Inspection

Are inspections that are a planned walkthrough or examination of a workplace, selected work area, or particular hazards, machinery, tools, equipment and work practices. Planned inspections must include an inspection of work processes and procedures.

3.7 Internal Responsibility System

The system of internal audit for occupational health, safety and quality that is shared by all parties in the workplace.

3.8 Inspection Team

Can include the safety advisor, supervisor, worker, and in some instances human resource personnel, OH&S committee members, external agencies such as governmental, emergency responders, suppliers, manufacturers.

4.0 EXPECTATIONS

Planned general inspections will take place on a regular basis by all levels of employees within NCSG.

- Executives will perform site inspections at least once per year.
- Branch Managers will perform site inspections at least twice per year.
- Site, Shop, and Department Managers will perform site inspections at least once each quarter.
- HS&E Advisors will perform site inspections at least once each month.
- Employees will perform site inspections as required.
- It is the responsibility of the individual to ensure the expectations are being met in order to identify areas which require corrective actions in an effort to maintain a healthy and safe workplace.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

- Participate in planned general workplace inspections when required.
5.2 Supervisors

- Ensure the Planned Workplace Inspection Program is scheduled and implemented in their areas;
- Provide Employees with equipment and resources in order to comply with the Program;
- Monitor Inspection Deficiency Reports to ensure they are compliant with the Program; and
- Take action to prevent accident and injury.

5.3 HS&E Advisors

- Educate Supervisors with respect to the Program;
- Provide assistance to Supervisors in applying the Program;
- Provide resolution of any questions of interpretation;
- Support supervisors in meeting their responsibilities;
- Participate as indicated on the Inspection Schedule.

5.4 Inspection Team

- Conduct regular inspections of their assigned areas and document all findings;
- Identify and categorize hazards;
- Ensure proper reporting towards ensuring correcting any workplace hazards or deficiencies;
- Undertake the necessary research and investigation to define the hazard; and
- Continually monitor the status of the inspection process and its ability to remain effective.

6.0 METHOD

6.1 Identify Planned Inspection Schedule

Annually, Regional Team Lead’s – HS&E in conjunction with the applicable Manager(s) will identify all locations that require inspection in the calendar year, based on the following minimum criteria:

- Project Sites shall be inspected once per week.
- Office Sites shall be inspected once per month.
- Records shall be kept of the history of the sites inspected as well as any corrective actions taken.

The Planned General Workplace Inspection schedule will include:

- Executives will perform site inspections at least once per year.
- Branch Managers will perform site inspections at least twice per year.
- Site, Shop and Department Managers will perform site inspections at least once each quarter.
- HS&E Advisors will perform site inspections at least once each month.
- Employees will perform site inspections as required.

Note: The intent of this requirement is to provide a fresh perspective and/or share area specific information and best practices.

6.2 Perform Planned Inspections
The inspection team should familiarize themselves with the Planned Workplace Inspection Program.

Review the inspection report from previous inspections with the inspection team prior to the inspection taking place.

Identify the appropriate Planned Workplace Inspection Form to be completed during the inspection (i.e. project site or office site)

Assign an individual on the team to complete the appropriate form.

Visually inspect the site for hazards, physical, health, safety and environmental findings.

Review all pertinent documentation and conduct interviews as needed.

Document all findings on the Planned Inspection Form. These forms outline the minimum criteria for sites (i.e. project sites and office safety) as well as help to ensure consistent physical conditions.

Forward completed Planned Workplace Inspection records to the HS&E Administrator for filing and to be retained for three years.

6.3 Types of workplace hazards to look for in the workplace

- Safety hazards; e.g., inadequate machine guards, unsafe workplace conditions, unsafe work practices.
- Biological hazards caused by organisms such as viruses, bacteria, fungi and parasites.
- Chemical hazards caused by a solid, liquid, vapour, gas, dust, fume or mist.
- Ergonomic hazards caused by anatomical, physiological, and psychological demands on the worker, such as repetitive and forceful movements, vibration, temperature extremes, and awkward postures arising from improper work methods and improperly designed workstations, tools, and equipment.
- Physical hazards caused by noise, vibration, energy, weather, heat, cold, electricity, radiation and pressure.

6.4 Reporting

Completed Planned Inspection records shall be forwarded to the Regional Team Lead HS&E.

- Those findings with a category “A” Hazard classification will have immediate arrangements made to manage the hazard to an acceptable level (awaiting final resolution, if applicable).
- When findings have been assigned a “B” or “C” hazard classification, priority will be given to have them corrected within 14 days.
- Findings classified as a “D” Hazard, will be corrected within 30 days.
- Any decision made to provide no corrective action shall be documented and is to include the name of the authorized employee.
- Local site considerations will be assessed and resolved by the Site Supervisor.

6.5 Classification

“A” Hazard
- A condition or practice likely to cause permanent disability, loss of life, extensive damage or negative environmental impact.
- Must be corrected immediately.

“B” Hazard
• A condition or practice likely to cause temporary disability or disruption to property or environmental damage.
• Must be corrected within 14 days.

“C” Hazard
• A condition or practice likely to cause minor injury or damage.
• Must be corrected within 14 days.

“D” Hazard
• Housekeeping issues.
• Must be corrected within 30 days.

7.0 TRAINING REQUIREMENTS AND MATERIALS
• Planned General Workplace Inspection Training

8.0 RESOURCES
Please direct any questions that you may have regarding the Process to the Regional Team Lead HS&EE.

9.0 APPENDICIES
• Appendix A – Project Site Inspection Form
• Appendix B – Office Inspection Form
• Appendix C – Planned Workplace Inspection Pocket Guide

10.0 REFERENCES
• Occupational Health and Safety Legislation
• Health, Safety and Environment Management System Standard
## Appendix A

### Planned Workplace Inspection

<table>
<thead>
<tr>
<th>Item</th>
<th>Location</th>
<th>Hazard Class</th>
<th>Repeat at Item</th>
<th>Action</th>
<th>Action By When</th>
<th>Action By When</th>
<th>Date Completed</th>
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</tbody>
</table>

### Hazard Class

- **A**: Condition requires immediate correction to avoid serious injury or death, destruction or damage, or serious environmental impact.
- **B**: Condition requires immediate correction to avoid serious injury or death, destruction or damage, or serious environmental impact.
- **C**: Condition requires correction within 4 days.
- **D**: Condition requires correction within 10 days.
- **E**: Condition requires correction within 30 days.
- **F**: Condition requires correction as required.

---

## Appendix B
Are ladders/step stools safe and well maintained?
Is there loose material, debris, worn carpeting?
Are the floors slippery, oily or wet?

**LIGHTING**
Are lamp reflectors clean?
Are bulbs missing?
Are any areas dark?

**EQUIPMENT**
Are ladders/step stools safe and well maintained?
Are copier and other pieces of equipment in working order?
Are extension cords used extensively?
Are electrical or telephone cords exposed in areas where employees walk?

**MATERIAL STORAGE**
Are materials neatly and safely piled?
Are step ladders or stools to get to materials on higher shelves?
Are step stools safe and well maintained?

**DANGEROUS SUBSTANCES**
Are there any controlled substances (e.g. WHMIS controlled products)?
- If yes, are the products properly labelled?
Are controlled substances (e.g. WHMIS controlled products) stored in secure places?
- If yes, is there a corresponding material safety data sheet (MSDS) for each product?
Are controlled substances (e.g. WHMIS controlled products) handled properly?
- If yes, are workers trained in how to use these products safely?

**COMMENTS:**

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**COPIER STATIONS**

<table>
<thead>
<tr>
<th>FLOORS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Are ladders/step stools safe and well maintained?</td>
<td></td>
</tr>
<tr>
<td>Is there loose material, debris, worn carpeting?</td>
<td>Are storage shelves overloaded or beyond their rated capacity?</td>
</tr>
<tr>
<td>Are the floors slippery, oily or wet?</td>
<td>Are large and heavy objects stored on lower shelves?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIGHTING</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Are lamp reflectors clean?</td>
<td>Are passageways and work areas clear of obstructions?</td>
</tr>
<tr>
<td>Are bulbs missing?</td>
<td>Are file drawers kept closed when not in use?</td>
</tr>
<tr>
<td>Are any areas dark?</td>
<td>Are storage shelves overloaded?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Are ladders/step stools safe and well maintained?</td>
<td>Are file cabinet drawers overloaded?</td>
</tr>
<tr>
<td>Are copier and other pieces of equipment in working order?</td>
<td>Are file cabinets loaded with the heaviest items in the bottom drawers?</td>
</tr>
<tr>
<td>Are extension cords used extensively?</td>
<td>Are counters clean &amp; safe?</td>
</tr>
<tr>
<td>Are electrical or telephone cords exposed in areas where employees walk?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MATERIAL STORAGE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Are materials neatly and safely piled?</td>
<td></td>
</tr>
<tr>
<td>Are step ladders or stools to get to materials on higher shelves?</td>
<td>- If yes, are the products properly labelled?</td>
</tr>
<tr>
<td>Are step stools safe and well maintained?</td>
<td>- If yes, is there a corresponding material safety data sheet (MSDS) for each product?</td>
</tr>
</tbody>
</table>

**WASHROOMS**

<table>
<thead>
<tr>
<th>FLOORS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Are the following provided adequately?</td>
<td></td>
</tr>
<tr>
<td>Is there loose material, debris, worn carpeting?</td>
<td>- toilets</td>
</tr>
<tr>
<td>Are the floors slippery, oily or wet?</td>
<td>- toilet paper</td>
</tr>
<tr>
<td>Are lamp reflectors clean?</td>
<td>- soap</td>
</tr>
<tr>
<td>Are bulbs missing?</td>
<td>- paper towels</td>
</tr>
<tr>
<td>Are any areas dark?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIGHTING</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGEROUS SUBSTANCES</td>
<td></td>
</tr>
<tr>
<td>Are there any controlled substances (e.g. WHMIS controlled products)?</td>
<td>- If yes, are the products properly labelled?</td>
</tr>
<tr>
<td>Are controlled substances (e.g. WHMIS controlled products) stored in secure places?</td>
<td>- If yes, is there a corresponding material safety data sheet (MSDS) for each product?</td>
</tr>
<tr>
<td>Are controlled substances (e.g. WHMIS controlled products) handled properly?</td>
<td>- If yes, are workers trained in how to use these products safely?</td>
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</table>

**SANITATION**

<table>
<thead>
<tr>
<th>WASHROOMS</th>
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</thead>
<tbody>
<tr>
<td>Are washrooms and food preparation areas clean?</td>
<td></td>
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</tbody>
</table>

**COMMENTS:**

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Page 7 5/14/2012
HEALTH, SAFETY & ENVIRONMENT

Planned General Workplace Inspection Process

<table>
<thead>
<tr>
<th>MAIL ROOM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLOORS</strong></td>
</tr>
<tr>
<td>Are there loose material, debris, worn carpeting?</td>
</tr>
<tr>
<td>Are the floors slippery, oily or wet?</td>
</tr>
<tr>
<td><strong>LIGHTING</strong></td>
</tr>
<tr>
<td>Are lamp reflectors clean?</td>
</tr>
<tr>
<td>Are bulbs missing?</td>
</tr>
<tr>
<td>Are any areas dark?</td>
</tr>
<tr>
<td><strong>EQUIPMENT</strong></td>
</tr>
<tr>
<td>Is the equipment in good working order?</td>
</tr>
<tr>
<td>Are extension cords used extensively?</td>
</tr>
<tr>
<td>Are electrical or telephone cords exposed in areas where employees walk?</td>
</tr>
<tr>
<td><strong>MATERIAL STORAGE</strong></td>
</tr>
<tr>
<td>Are materials neatly and safely piled?</td>
</tr>
<tr>
<td><strong>COMMENTS:</strong></td>
</tr>
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</table>

<table>
<thead>
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<th>OFFICES/WORKSTATIONS</th>
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</thead>
<tbody>
<tr>
<td><strong>FLOORS</strong></td>
</tr>
<tr>
<td>Are there loose material, debris, worn carpeting?</td>
</tr>
<tr>
<td>Are the floors slippery, oily or wet?</td>
</tr>
<tr>
<td><strong>LIGHTING</strong></td>
</tr>
<tr>
<td>Are lamp reflectors clean?</td>
</tr>
<tr>
<td>Are bulbs missing?</td>
</tr>
<tr>
<td>Are any areas dark?</td>
</tr>
<tr>
<td><strong>EQUIPMENT</strong></td>
</tr>
<tr>
<td>Is the furniture safe?</td>
</tr>
<tr>
<td>- worn or badly designed chairs</td>
</tr>
<tr>
<td>- sharp edges on desks and cabinets</td>
</tr>
<tr>
<td>- poor ergonomics (keyboard elevation, chair adjustment)</td>
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<tr>
<td>- crowding</td>
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| **COMMENTS:** |

Page 8 5/14/2012
<table>
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<tr>
<th><strong>ELECTRICAL CLOSET AND JANITORIAL CLOSET</strong></th>
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<tr>
<td><strong>FLOORS</strong></td>
<td>Are passageways and work areas clear of obstructions?</td>
</tr>
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<td></td>
<td>Are the floors slippery, oily or wet?</td>
</tr>
<tr>
<td><strong>MATERIAL STORAGE</strong></td>
<td>Is loose material, debris, worn carpeting?</td>
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<tr>
<td></td>
<td>Is key available in case of emergency</td>
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<td></td>
<td>Are there any controlled substances (e.g. WARMIS controlled products)?</td>
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<tr>
<td></td>
<td>Are materials neatly and safely piled?</td>
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<tr>
<td></td>
<td>Are there stepladders or stools to get to materials on higher shelves?</td>
</tr>
<tr>
<td></td>
<td>Are storage shelves overloaded or beyond their rated capacity?</td>
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<td></td>
<td>Are large and heavy objects stored on lower shelves?</td>
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**COMMENTS:**

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<table>
<thead>
<tr>
<th><strong>EMERGENCY EQUIPMENT</strong></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Is all fire control equipment regularly tested and certified?</td>
<td>Is emergency lighting in place and regularly tested?</td>
</tr>
<tr>
<td>Is fire control equipment appropriate for the type of fire it must control?</td>
<td>Are first aid kits available and stocked?</td>
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**COMMENTS:**

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<table>
<thead>
<tr>
<th><strong>LUNCH ROOM</strong></th>
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<tbody>
<tr>
<td><strong>SANITATION</strong></td>
<td>Are the floors slippery, oily or wet?</td>
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<tr>
<td></td>
<td>Are food preparation areas clean?</td>
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<tr>
<td></td>
<td>Is the safety notice board neat and prominently marked?</td>
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<td></td>
<td>Is the general notice board current?</td>
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<tr>
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<td>Is noise protection available?</td>
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<tr>
<td></td>
<td>Are there &quot;NO SMOKING&quot; signs displayed?</td>
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<tr>
<td></td>
<td>Is the Lunchroom well ventilated with adequate lighting?</td>
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<tr>
<td></td>
<td>Is there a clear access/exit?</td>
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<tr>
<td></td>
<td>Is the Lunchroom free of hazards (e.g. damaged electrical appliances, leads or overloaded powerpacks)?</td>
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<tr>
<td></td>
<td>Is the Lunchroom kept in a clean and dry condition?</td>
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<tr>
<td></td>
<td>Is the Lunchroom supplied with adequate seating, tables and hand washing facilities?</td>
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<tr>
<td></td>
<td>Does the Lunchroom have adequate waste disposal facilities?</td>
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<tr>
<td></td>
<td>Are the waste disposal facilities emptied daily and the contents removed for disposal?</td>
</tr>
</tbody>
</table>

**LIGHTING**

| | Are lamp reflectors clean? |
| | Are bulbs missing? |

**EQUIPMENT**

| | Are electrical appliances in working order? |
| | Are extension cords used extensively? |
| | Are electrical cords exposed in areas where employees walk? |

**DANGEROUS SUBSTANCES**

| | Are there any controlled substances (e.g. WARMIS controlled products)? |
| | If yes, are the products properly labelled? |
| | If yes, is there a corresponding material safety data sheet (MSDS) for each product? |
| | If yes, are workers trained in how to use these products safely? |

**FLOORS**

| Is loose material, debris, worn carpeting? |  |

**COMMENTS:**
## Planned General Workplace Inspection Process

### MULTI-PURPOSE ROOMS - MEETING ROOMS/BOARD ROOMS

<table>
<thead>
<tr>
<th>FLOORS</th>
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<tbody>
<tr>
<td>Are storage shelves overloaded or beyond their rated capacity?</td>
<td>Are large and heavy objects stored on lower shelves?</td>
<td></td>
</tr>
<tr>
<td>Is there loose material, debris, worn carpeting?</td>
<td>Are passageways and work areas clear of obstructions?</td>
<td></td>
</tr>
<tr>
<td>Are the floors slippery, oily or wet?</td>
<td>Are desk and file drawers kept closed when not in use?</td>
<td></td>
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<table>
<thead>
<tr>
<th>LIGHTING</th>
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<tbody>
<tr>
<td>Are lamp reflectors clean?</td>
<td>Are filing stools or wastebaskets placed where they might be tripping hazards?</td>
<td></td>
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<tr>
<td>Are bulbs missing?</td>
<td>Are office accessories in secure places?</td>
<td></td>
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<tr>
<td>Are any areas dark?</td>
<td>Are materials stacked on desks or cabinets?</td>
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<table>
<thead>
<tr>
<th>EQUIPMENT</th>
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<tbody>
<tr>
<td>Are ladders/step stools safe and well maintained?</td>
<td>Are file cabinets loaded with the heaviest items in the bottom drawers?</td>
<td></td>
</tr>
<tr>
<td>Are copier, TV and other pieces of equipment in working order?</td>
<td>Are file cabinets loaded with the heaviest items in the bottom drawers?</td>
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<tr>
<td>Are extension cords used extensively?</td>
<td>Are there any controlled substances (e.g. WHMIS controlled products)?</td>
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<tr>
<td>Are electrical or telephone cords exposed in areas where employees walk?</td>
<td>- If yes, are the products properly labelled?</td>
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<tr>
<td>Are materials neatly and safely piled?</td>
<td>- If yes, is there a corresponding material safety data sheet (MSDS) for each product?</td>
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</tr>
<tr>
<td>Are there stepladders or stools to get to materials on higher shelves?</td>
<td>Are materials neatly and safely piled?</td>
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### AIR HANDLING SYSTEM

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<tr>
<td>Does air exchange rate meet standard requirements?</td>
<td>Is humidity within standard range?</td>
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<tr>
<td>Is the system free of sources of contamination (asbestos, microorganisms, dust, fumes)?</td>
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### OTHER

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Planned General Workplace Inspection – Pocket Guide

Summary

In addition to the regulatory and due diligence requirements that NCSG must meet, an inspection is a proactive approach to creating safer, more environmentally friendly workplaces. Inspections contribute significantly to the prevention of accidents and incidents.

Inspections also provide the opportunity for employees to take an active interest and role in the safety of their workspace and that of others. Management’s involvement sends a powerful message and demonstrates commitment to the process.

The primary intent of any inspection process is to highlight and correct actual and potential health, safety and environmental hazards and concerns. This guide outlines the various health, safety and environmental aspects of our worksites. For specific guidance applicable to your situation, please consult with your applicable HS&E Advisor.

The guide is organized alphabetically and begins with a table of contents of what to expect within.
Planned Inspection Procedure Overview

1. Obtain appropriate Inspection Form
2. Review past inspections
3. Conduct inspection, reviewing documents, observing physical conditions, talking with employees
4. Document all issues on form;
5. Forward report to appropriate personnel
6. Perform corrective actions

Hazard Classification

“A” Hazard
- A condition or practice likely to cause permanent disability, loss of life, extensive damage or negative environmental impact.
- Must be corrected immediately.

“B” Hazard
- A condition or practice likely to cause temporary disability or disruptive property or environmental damage.
- Must be corrected within 14 days.

“C” Hazard
- A condition or practice likely to cause minor injury or damage.
- Must be corrected within 14 days.

“D” Hazard
- Housekeeping issues.
- Must be corrected within 30 days.
Aisleways and Passageways
- Clear and unobstructed – 35 inches
- Sufficient lighting
- Egress doorways served by an aisle not less than 43 inches; subsidiary aisles 35 inches

Chemicals and Fuels
- All containers are clearly marked to show the contents
- Adequate storage cabinets provided; fire resistant and vented outside / grounded
- Container corrosion prevention provided
- Proper signage as required – building code
- Means of exit/egress prescribed
- Storage heated by a means not constituting a source of ignition
- Tanks/drums adequately supported
- Tanks/drums grounding equipment available and in good condition; proper signage for grounding requirements
- Tanks/drums are properly contained
- Approved portable safety containers used as required (CSA certification affixed); appropriate product identification
- Materials separated to avoid incompatibility reactions (combustible chemicals and fuels stored separately)
- Non-arcing type fans in hazardous substance storage areas
- Minimized storage of flammable materials
- Tanks vented in accordance with applicable code
- Appropriate spill handling / clean-up materials available
- Appropriate personal protective equipment is indicated and available to handle the controlled products

Compressed Gases
- Appropriate ventilation in storage areas
- Inspected for dents, corrosions, test records
- Segregated by contents and legibly marked; "full" and "empty"
- Stored away from stairs, elevators, and egress routes
- Dispensing equipment, valves, lines, hoses
- Caps in place and hand tight
- Cylinders isolated and lines depressurized when not in use
- Legible WHMIS supplier or workplace labels
- Protection against rust/corrosion
- Stored upright and secured against falling over
- Stored away from heat sources
- Outdoor storage - supported on raised concrete or other non-combustible surface; protected from weather;
- Outdoor storage clearances per the National Fire Code
- Flashback arrestors on oxy/acetylene systems

Electrical Power Systems
- Good condition of wiring, insulation and fixtures
- Wiring is adequate and well-insulated
- Proper identification and signage for electrical hazards (especially related to high voltage equipment and systems, equipment containing PCBs).
- Properly rated and tested tools and protective equipment to perform maintenance on electrical equipment (electrical gloves, hot-sticks, grounding cables/straps)
- Adequate restraints to prevent accidental contact with high voltage electrical equipment (enclosures, fences)
- Tag and lockout equipment in accordance with safety code
Health, Safety & Environment

Planned General Workplace Inspection Process

- Properly functioning switches, breakers and protective relaying for controlling electrical equipment
- Approved electrical equipment/devices installed and properly maintained in classified areas
- Well maintained bonding and grounding systems on fences, buildings and structures
- CSA labels, Class 1 Div 1/2 identification affixed
- Adequate work space to perform required repairs and maintenance on electrical equipment
- Ground fault interruption (GFI) provided where required
- Explosion proof extension cords and receptacles in required areas.
- Permit and inspection procedures completed for all modifications or additional to the electrical system and equipment

Emergency Preparedness

- Ensure emergency plans are on site and up to date
- Are emergency contact lists available and current;
- Offices - Emergency evacuation procedures posted in conspicuous locations (conference rooms, kitchens, exits, etc.)
- Offices - Fire wardens are listed
- Route maps are available and current
- Site evacuation plan is available and current
- Emergency eye wash stations available; tepid water
- Eye wash bottles available in battery rooms; seals are intact, bottles have not expired
- Emergency showers are operational (if available)
- Emergency lighting operational

Emergency Rescue Equipment

- Spill containment available and maintained
- Adequate equipment available and properly located

Environment

- Proper serviceable condition
- Rescue plans available for hazardous confined spaces and work heights over 6 meters
- Rescue equipment available and in good condition
- Employees are trained on rescue

- Adequate spill containment
- Yard weed control
- Properly stored sampling probes available
- Control of vapor emissions and hydrocarbon spills/releases
- Stain on buildings, in yard, or on tanks
- Waste storage facility: spill containment equipment, specific signage
- Chemical Spill Response Kit available and stocked according to inventory list
- Yard drainage system / erosion control
- Recycling: cans, rags, paper where possible
- Products are not stored near doorways

Ergonomic Factors

- Controls sized to permit operation with clothing/equipment normally worn
- Design allows normal body positions when seated or standing
- Adequate illumination of work spaces
- Controls follow normal response patterns (down for off, etc.)
- Hand tools used permit normal body positions
- Limited weight and size of materials lifted or carried by people
- Lifting and twisting in combination not required in the work place
- Approaches to exits unobstructed and unimpeded
- Cleaned of snow/ice
Exit / Egress
- Open outward onto level floor
- Sufficient exits for prompt escape; adequate design for exit (buildings)
- Routes and exits clearly marked
- At least 36 inches wide or as prescribed
- Exits and exit signs adequately illuminated (building)
- No locks or fastenings restricting escape / all compressor station emergency/panic gates unlocked and painted as per engineering standards?
- Exit doors open in direction of travel when a maximum pressure of 20 lbs is applied

Fences / Gates
- Barbed wire in acceptable condition
- Fence and gates secure, stable
- Separation from ground acceptable

Fire Protection
- Extinguishers inspected monthly (tags attached)
- Fire doors, lids, and shutters in good repair and unobstructed
- Test alarms to ensure in good working condition
- Floor openings protected
- Portable extinguishers appropriate for type of materials and readily available
- Sprinkler master control valves accessible and locked open
- Fire equipment visibly marked
- Fire blankets available, properly marked and in good condition
- General condition of PPE
- Sprinkler heads have proper clearance from materials and furnishings [at least 18 inches]
- Fire doors, lids and shutters in good repair and unobstructed with fusible links intact

First Aid Kits / Station / Equipment
- Adequate materials and equipment available and conveniently located (First Aid Kit / Stretcher); checked monthly
- Electrical safety items included in high voltage areas and conditions
- Instructions to accident reporting posted
- Accident reports (logbook / records) are kept confidential
- First Aid Kit Contents List inside kit
- Kits and items are kept neat and sanitary
- Located as prescribed by legislation and organizational medical policy
- Workplace Injury Response Packages Available
- First Aid can be administered by appropriately trained employee; current list of 1stAiders is available

Floors (Walking and Working Surfaces)
- Clean, orderly, sanitary condition
- Free of slips, trip or fall hazards (protrusions, nails, cords, ice, etc.)
- Load limits posted on upper floors when required
- Drainage maintained
- Openings covered or barricaded
- Guarding of open floors, walkways, etc. proper

Hand and Portable Tools
- General condition of tools, electrical cords, air hoses
- Guards and safety devices serviceable
- Power tools equipped with constant pressure switches
- Hand tools free from burs and defects (check wiring)
HEALTH, SAFETY & ENVIRONMENT

Planned General Workplace Inspection Process

- Proper storage when not in use
- Electrical grounding or double insulation protected
- Tool retainers installed on pneumatic tools
- Adjustments correct on tool rests (pedestal grinders)
- Permanent power tools are “off” when not in use (i.e. pedestal grinders)
- Vibration should be reduced when possible
- Non-intrinsically safe tools not used where flammable vapors or gases are present
- Air pressure regulators upstream of feed to pneumatic tools
- Grinders, drill presses, etc. anchored

Hydraulic Power Lube Oil / Glycol Systems
- General condition; leaks dents, nicks and severe scratches of pressure lines and fittings
- Pressure regulated within power limits
- Tanks are product labeled
- System operated within manufacturer specifications
- Inspections recorded
- Remote shut off available

Illumination
- Adequate illumination during periods of occupancy
- Illumination level sufficient for detail or work performed
- Lighting fixtures clean and operational
- Emergency lighting system operational and shining on egress points

Labeling, Signs and Tags
- Hazard warning, directional and informational signs and tags used where there are immediate dangers, potential hazards, or there is a need for general instructions
- Tags affixed to all defective equipment to prevent use
- Color coding or labeling for piping systems used to indicate system contents and flow directions (per WHMIS); labels are legible; color coding consistent throughout site
- Blue color coding used for general information, signs and tags
- Green color coding used to indicate safety instructions and first aid equipment
- Red color coding used to indicate immediate danger, flammable/explosive materials and fire protection
- Orange color coding used to indicate areas under modification, hazardous parts when guards removed

Ladders
- Doors blocked open, locked, or guarded if in front of ladder
- 3 foot extension above roof if used for access to roof (or platform)
- Metal ladders not used in electrical areas (fiberglass or wood only)
- Of sufficient height for work to be done
- Unpainted and free of grease and oil
- Properly positioned, tied in at top
- Supported in place against window openings
- Defective ladders have danger / repair tags affixed
- Safety feet in serviceable condition
- CSA approval is clear / affixed

Lifting Gear / Equipment
- General condition, damage, cleanliness, lubrication, servicing
- Fitted with overhead guards
- Safe access (steps or platforms) to cab/seat/platform
- Hoist motor brakes operational
- Controls permit full, unrestricted operation by operators wearing appropriate clothing and equipment
- Hoist chain/rope free of kinks and twists
- All locally manufactured lifting equipment has an engineer stamp
- Slings and lifting equipment are free from defect and load ratings are clear
- Monthly inspections are complete and recorded in log book
- Legibly labeled as to capacity and load testing
- Controls operational
- Limit stops operational
- Cable/rope in good repair
- Hooks not deformed or damaged and safety latches intact
- Annual certification of overhead hoist systems
- All lifts are recorded in log book; critical lifts are recorded on proper sheet

**Lock-Out Systems**
- Lockouts provided for all power systems individual powered equipment
- Lockout Tag board in use to track Lockout Tags
- Lockouts permit multiple lockout
- Lockout system provides means to reduce system/equipment to a zero energy state, (i.e. steam, air, electrical, hydraulic, etc.)
- Lockout tags have employee's name, signature, date, time and reason for lockout

**Machine Tools and Guarding**
- Proper general condition, evidence of damage, cleaning and lubrication; manuals available
- Fixed guards operative and not altered
- Clear plate covering wheel of pedestal grinders
- Emergency stop buttons operational, correctly positioned, labeled, and color coded
- Guards provided for rotating parts, chips or particles, sparks, kickbacks, etc.
- Isolation and lockout provided for servicing, set-up, lubrication, etc.
- Operating controls guarded against inadvertent actuation
- Pinch points, in running nip points, and points of operation guarded
- Automatic and operator guards properly adjusted
- Operating controls locked and key removed when not in use

**Materials Handling Equipment**
- Dock boards provided
- Pallets and skids of correct type and in good repair
- Lifting equipment properly stored
- Barrel transport dolly available
- Containers in good repair
- Rows to visually inspect container are adequate
- Chains, slings, and ropes adequate for loads and in good repair
- Inspection records available

**Materials Labeling (including WHMIS)**
- Standard labels affixed to all containers of all substances in storage and in use, including workplace labels on decanted product
- Labels legible, visible and complete
- Standard labels affixed to vehicles transporting hazardous materials, meeting legislated requirements where prescribed
- Operational placards/decals on emergency controls
  - (on/off, open/close, etc.)
- Personnel transporting and accepting dangerous goods carry valid TDG certificate
Motor Vehicles and Powered Mobile Equipment
- All vehicles equipped with seat belts
- Brakes, lights, warning devices operative
- Equipment and tools secured
- Load sizes and weight limits controlled
- Personnel transported in safe manner
- Provincial vehicle laws and regulations followed
- Regularly inspected and maintained
- Overhead Guards / rollover protective equipment where required
- Equipped with Fire Extinguishers
- Condition of tires i.e. inflated, wear
- Designed areas for recharging batteries i.e. ventilation
- Planned hazards
- Danger zone identified where required (heavy equipment)
- Back up alarms (if applicable)
- Motor vehicles are parked properly (proper location, forks down on forklift, etc.)
- Forklift pre-use checklist completed regularly
- Forklift load charts and capacity data plate in place and legible
- Working alone contact number in vehicle cabs
- Road vehicles equipped with First Responders Kits
- Keys not left in unattended vehicles
- Areas for fueling and servicing of vehicles shall be at least 100 m from a watercourse, lake or wetland

Noise Exposure
- Hazardous noise areas identified and marked
- Ear protection provided when sound levels exceed standard

Offices, Housekeeping and Sanitation
- Drawers are closed when not in use
- Computers and valuables are locked to prevent theft
- Work space is kept clear of trash and other recyclable materials
- Adequate and sufficient lighting (see illumination)
- Elevators have rated capacity and annual inspection certificate posted
- Emergency instructions available in elevator or office areas
- Elevator foyer clean and unobstructed
- Washrooms are clean and sanitary
- Potable water is supplied for drinking and washing
- If unfit to drink - signs are posted
- Lunchrooms are clean and orderly (counters, sinks, microwave, fridge, etc.)
- Waste, debris and scrap material regularly disposed

Personal Protective Equipment
- Maintenance of PPE - cleaning supplies
- Inspection records available (harnesses, gloves, SCBA)
- Availability / Locations suitable
- Adequate type of PPE for hazards
- Respirators, harnesses, etc. are inspected prior to use and properly stored

Platforms / Scaffolding
- Working platforms at least 24 inches wide or as prescribed
- Proper flooring: non-skid
- Safe access to moveable platforms
- Equipped with standard guard rail if over 10 feet above floor (top and intermediate)
- No accumulation of tools or materials
- Condition of casters and equipped with locking device
4 inch toe board provided along all sides or as prescribed
- Access gates self closing and locking
- Sound, rigid, footing for scaffolds
- No altering or moving of scaffolds in use
- Condition of jacks and leveling screws
- Tied off when required (height is greater than 3 times the width)
- Condition of scaffolds (cracks, dented)
- Employees tied off
- Engineered when higher than 3 times the width

**Roadways**
- Surfaces in good repair
- Maintenance for seasonal weather extremes (i.e. snow, rain, heavy usage)
- Standard signs and marks
- Sufficient width and vertical clearance
- Rail sidings in good repair

**Stacking and Storage**
- Aisle ways and access paths clear and unobstructed
- All stacks stable and secure against sliding / collapsing
- Storage area / barrel dock
- Small or irregular shaped items properly blocked, inter-linked, with appropriate limitations in height of storage
- Proper drainage in storage area
- Minimum distance of 18” between sprinkler head deflectors and stored items

**Stairs**
- Provided where there is regular traffic between levels
- Angled between 30 degrees to 50 degrees or as prescribed
- Open risers if less than 9 inch tread depth or as prescribed
- Long flights connected by rest platforms as prescribed
- At least 22 inches wide or as prescribed
- Steps uniform in height and tread depth
- Outdoor stairs have grating type treads
- Handrails provided on open sides (when greater than 4 risers)
- Stairways adequately lighted
- Clean and unobstructed
- Handrails on at least one side if closed

**Valves and Mechanical Controls**
- Labeled and colour coded
- Valves in yard are locked
- Readily accessible
- Operational
- Manual controls locked out on power actuated valves

**Ventilation and Extraction**
- Adequate means provided; hoods exhausted
- Enclosures provide continuous inward air flow
- Ductwork made on non-combustible material
- Air inlets and openings arranged to minimize escape of contaminants
- Separators provided if air recalculated
Warning Systems
- Fire / emergency alarm systems operational
- Overpressure device on pressure vessels
- Hazard warning systems on appropriate vehicles and equipment
- Warning signs and devices for railway sidings available
- Over temperature warning systems on fired pressure vessels, hazardous material storage, powered equipment
- Scrubber tank full switch warning system operational

Waste Storage / Disposal
- Adequate number of appropriate refuse containers
- Storage facilities for wastes
- Chemical spill absorbent available in work areas
- Waste identified as per company requirements
- Separate containers provided for oily rags, smoking materials, dusts, scrap, chemical wastes, etc.
- Anti-static devices fitted as necessary
- Waste and new products segregated
- Sawdust is swept at frequent intervals and deposited in safe containers for combustible materials
- Oil and grease separators (if applicable)
- Neutralization and equalization tanks
- Alarm systems
- Warning signs
- Containment for hazardous product storage
1.0 PURPOSE

NC Services Group (NCSG) has developed an Incident Management Process to ensure that all incidents that cause, or have the potential to cause, injury or illness, damage to equipment or property or regulatory non-compliance will be reported and investigated.

Investigating the facts and circumstances of incidents and near misses to determine root causes and develop action plans prevents recurrence. It is also essential to ensure all incidents are communicated appropriately and in an effective manner.

2.0 SCOPE AND APPLICATION

The Incident Management Process was designed and developed to ensure employees are capable of recognizing and acknowledging when an incident has occurred and reporting the incident so that a proper investigation can be conducted to identify the facts and not place blame.

Notification and investigation of incidents determines root causes and allows for corrective and preventive measures, controls and actions to be developed to prevent recurrence.

All incidents that occur as a result of or during NCSG or its affiliated companies business will be investigated.

3.0 DEFINITIONS

3.1 Cause Analysis

A process to identify the immediate/direct, and or, basic/root causes that result in an incident.

3.2 Emergency

A present or imminent event that requires prompt coordination of actions or special regulation of persons or property to protect the health, safety, or welfare of people or public, or to limit damage to property and the environment.

3.3 First Aid (FA)

A minor injury requiring usually a one-time treatment, regardless of the professional status of the person providing the treatment.

3.4 Incident

An incident is an unintended occurrence that did, or could have, resulted in injury, damage or loss. This includes all occupational injuries / illness, damage to property, damage to the environment and loss to processes.

3.5 Investigation

Analysis of all incidents with the intent of establishing a root cause and determining corrective/preventive measures to prevent recurrence
3.6 Lost Time Injury or Days Away (DA)

An injury that required medical attention and days are lost following the day of the injury or illness.

3.7 Medical Aid (MA)

An injury that requires medical attention in accordance with NCSG Classification Standard, but no days are lost beyond the date of injury or illness.

3.8 Modified Duty (MW)

May consist of, but is not limited to, the employee's normal work that has been changed, redesigned, or physically modified, including reductions in time or volume. It may also encompass a training opportunity, work which is normally performed by others, or work which has been specifically designed or designated as a modified work program. The goal of modified work is to provide the injured employee with the opportunity to utilize the work site as part of their treatment program. The work acts as a bridge, enabling an employee to work toward a return to their normal job and the normal activities of their life. The work will be appropriate, meaningful and productive. All work will be performed safely and without undue risk of re-injury and without undue risk to others or NCSG property.

3.9 Near Miss (NM)

An incident that could have, but did not result in unintended harm or damage.

3.10 Corrective and Preventive Action Log - CAPA

A log to record corrective and preventive actions related to specific deficiencies.

4.0 EXPECTATIONS

All incidents shall be communicated within the timelines identified in the Incident Notification Standard - Reporting Chart (see Appendix A)

Incident investigation shall determine the facts of the incident, identify root causes and make recommendations to prevent recurrence. Recommendations shall be tracked on a CAPA Log. This shall include identifying who is responsible for the corrective actions, due dates and resources required.

Incidents shall be reported to HS&E Advisors and affected Supervisors. Incident reports and corrective/preventive actions shall be monitored through monthly reports which will be distributed to Management and Executives by the Regional Team Lead HS&E.

Incidents and corrective/preventive actions shall be communicated to applicable staff.
5.0 ROLES AND RESPONSIBILITIES

5.1 Executives (CEO, CFO, VP)

- Be accountable for monitoring compliance with the IMP.
- Be responsible for handling Media and Public affairs.
- Monitor incidents and investigation results as per IMP.
- Monitor updates from the applicable Manager and the Regional Team Lead HS&E when the media is involved.
- Review the details of incidents with legal council to determine the need for privileged and confidential handling of reports and documentation, when necessary.

5.2 Managers

For the purpose of this process, a Manager will be defined as Branch Manager, Department Manager, Site Manager, Office Manager, Construction Manager or Project Manager.

- Be accountable for the implementation of the IMP.
- Ensure incidents are reported properly and investigated as per the IMP.
- Manage the Corrective and Preventive Action Log (CAPA).
- Direct media inquiries and responses to the Executive.

5.3 Supervisors

For the purpose of this process, a Supervisor will be defined as Supervisor, Team Lead, Superintendent, General Foreman or Foreman.

- Ensure all incidents are properly investigated with corrective action taken. Supervisors are the Investigators and in their absence the Manager will assume this role.
- Ensure Alcohol & Drug program is followed.
- Ensure notifications are completed as per the Incident Notification Standard – Reporting Chart.
- Secure the scene to protect evidence
- Protect the scene, public and environment from further harm
- Gather necessary information and complete all required documentation.
- Involve HS&E where necessary to assist in the completion of a detailed investigation and analysis of incidents.
- Ensure the proper assistance and treatment is provided to injured employees.

5.4 Employees

- Ensure all incidents are immediately reported to a Supervisor
- Provide factual information regarding incidents.
- Assist in the incident investigation process when required.
5.5 HS&E Advisors and Regional Team Lead HS&E

- Assist in determining the incident category.
- Advise Supervisors and Managers on necessary documentation and reporting requirements.
- Provide assistance to management in organization or administration of investigation activities.
- Provide support to management in the completion of investigation, cause analysis and determination of recommendations.
- Lead and participate in the IMP.

6.0 INVESTIGATION METHOD

6.1 General

The Responsible Investigator will gather information that will answer:

WHO – Who was involved in the incident.
WHERE – The location that the incident occurred.
WHEN – The date and time of the incident.

WHAT - Provide a description of the incident.

Before the incident:
- What happened before the incident?
- What events lead up to the incident?
- What was the person doing right before the incident occurred?

At the time of the incident:
- What happened at the time of the incident?
- What was the employee doing at the time of the incident?
- What was the last event before the incident?

After the incident:
- What happened after the incident?
- Who was involved?
- What treatment, if any, was given to the person?

Other information:
- Additional observations?
- Additional related information?
WHY – Incident causes and contributing factors:

From the WHAT, you should be able to identify hazards that the employee was exposed to and thus WHY the incident occurred. To determine the most probable cause and contributing factors, consider details of the investigation and, where possible, the employees incident statement. 
Determine if the incident was due to an ACT of an individual, a CONDITION of the working environment, or a PERSONAL factor inherent in an individual at the time of the incident.

HOW – Corrective measures

Once you know WHY the incident occurred, you can now determine HOW to prevent recurrence of this and similar incidents.

Following DNV SCAT analysis chart, identify the applicable corrective actions listed with the identified causes. Ensure to assign the corrective actions to appropriate individuals and dates at which the corrective actions should be in place.

Loss Control Report’s must be completed and sent to HS&E within 72 hours of the incident being reported. (Client’s may have specific reporting times as well)
6.2 Response

Recognize that an incident has occurred.

Supervisors will complete an initial assessment of the incident to determine the following:

- What has occurred?
- Who was involved?
- What is required to control the scene?

Determine if emergency response is required.

If the incident is an Emergency Situation follow the Site Emergency Response Plan for the type of incident. If the incident is not classified as an Emergency Situation continue following the Incident Management Process.

Prevent further loss by determining and implementing immediate corrective action.

Do not disturb the incident scene more than is necessary to safely remove injured personnel and shut down equipment still in operation.

Secure the incident scene to:

- Protect the public
- Protect the environment
- Prevent further incidents.
- Locate and preserve evidence.
- Meet legislative requirements.

6.3 Notification and Initial Reporting

Use the Incident Notification Standard - Reporting Chart to define the incident type and determine who needs to be notified. Verbally notify the appropriate individuals of the incident occurrence based on incident type. Regardless of incident severity, employee must still notify their Supervisor immediately.

The Supervisor shall notify support departments as necessary.

Following verbal notification of the incident occurrence, an initial summary will be completed on the Incident Investigation Report and provided to the HS&E Advisor to be entered into Incident Tracking.
6.4 Investigations

The loss causation model outlines an incident from the loss to the direct cause. Following this model during investigations will assist in determining incident cause and corrective actions.

Loss Causation Model

6.4.1 Investigation tools and Equipment

Investigation kits shall be assembled, maintained and made accessible to all Supervisors and HS&E Advisors. Investigation kits shall contain the following:

- Incident Notification Standard - Reporting Chart
- Incident Management Process
- Blank Loss Control Report - LCR
- Applicable Emergency Response Plans
- Personal Protective Equipment
- Digital Camera
- Clipboard, Paper, Pencils, Pens
- Graph Paper
- Tape Measure
- High Visibility Tape
- Hazard Triangles
- Flashlight
- Lock and Tag
6.4.2 Conduct Initial Assessment of Incident

Gather evidence to assist in determining causes of the incident such as the following:

- Diagrams
- Maps
- Photographs
- Measurements
- Videos
- Site plans

All evidence and incident investigation information (i.e. photos, videos, etc.) shall be dated and referenced as an attachment.

Record details immediately as the incident site may be subject to rapid change or evidence destroyed. Include details such as:

- Witnesses (i.e. contact information)
- RCMP/Police Officers
- Position of Injured (i.e. worker, public)
- Position of Equipment (i.e. hoist, vehicle)
- Position of Materials (i.e. chemicals, loads)
- Preventive Devices in use (i.e. guards)
- Ergonomic Conditions (i.e. lighting, machinery controls)
- Environmental Conditions (i.e. weather, temperature)
- Housekeeping (i.e. debris)

6.4.3 Determine Investigation Resources and Establish Investigation Team

The supervisor accountable for the incident selects resources required for the investigation based on the incident category and type of event. Keep the investigation team to a manageable size and include those personnel who will add value to the process.

The designated HS&E Advisor will sit as a member of the investigation team for all incidents. Incident summary reviews for all incidents shall reside as a standing agenda item for all recurring management and safety meetings.

Assign roles/tasks to each person involved in the team (i.e. contact person, leader, etc.) Designate a lead investigator to co-ordinate the investigation.

Provide the investigation team with the appropriate tools as outlined in 6.4.1.
HEALTH, SAFETY & ENVIRONMENT

Incident Management Process - IMP

6.4.4 Obtain and Evaluate Data

Put all those involved at ease

- Discuss with the individuals involved that the intent of the investigation is to prevent recurrence of similar incidents by determining cause(s) and that the investigation focuses on the facts to determine corrective and preventive actions.

Review the preliminary documentation

- Ensure the initial incident assessment details are recorded (i.e. positions of injured workers, where objects are in relation to each other, the angle something came from or the force behind an object).

Interview witnesses

- Talk with everyone who was in the area at the time of the incident, or just before, or just after it happened. This includes eyewitnesses, individuals involved, or others such as individuals familiar with the work practices, procedures or work area.

Evaluate historical data

- Obtain relevant information from analysis of the conditions at the time of the incident, or from prior records such as technical data sheets, maintenance reports, past incident reports, training reports, work schedules, planning schedules, work practices and procedures, etc.

Define sequence of events

- Determine the chronological order of the events. Include relevant events that occurred 48 hours prior to the incident and following the incident.

6.4.5 Complete Cause Analysis

Identify the conditions that describe the circumstances relative to each event. Follow the DNV SCAT Chart to complete a thorough analysis.

Describe the incident and categorize it as:

- Personal Incident
- Motor Vehicle Incident
- Property/Equipment Damage
- Environmental Incident
- Regulatory/Non-Compliance
- Security Incident
- Public/Media Incident

Evaluate the loss potential

- Low
- Moderate
- Serious
- Critical
Determine the Immediate/Direct Cause

Causes are often described as the substandard acts and conditions that precede the event. Classify the immediate or direct cause using the following table:

<table>
<thead>
<tr>
<th>Substandard Acts</th>
<th>Substandard Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Operating equipment without authority</td>
<td>21. Inadequate guards or barriers</td>
</tr>
<tr>
<td>2. Failure to warn</td>
<td>22. Inadequate or improper protective equipment</td>
</tr>
<tr>
<td>3. Failure to Secure</td>
<td>23. Defective tools, equipment or materials</td>
</tr>
<tr>
<td>4. Operating at improper speed</td>
<td>24. Congestion or restricted action</td>
</tr>
<tr>
<td>5. Making safety devices inoperative</td>
<td>25. Inadequate warning system</td>
</tr>
<tr>
<td>6. Using defective equipment</td>
<td>26. Fire and explosion hazards</td>
</tr>
<tr>
<td>7. Failing to use PPE properly</td>
<td>27. Poor housekeeping/disorder</td>
</tr>
<tr>
<td>8. Improper loading</td>
<td>28. Noise exposure</td>
</tr>
<tr>
<td>9. Improper placement</td>
<td>29. Radiation exposure</td>
</tr>
<tr>
<td>10. Improper lifting</td>
<td>30. Temperature extremes</td>
</tr>
<tr>
<td>11. Improper position for task</td>
<td>31. Inadequate or excess illumination</td>
</tr>
<tr>
<td>12. Servicing equipment in operation</td>
<td>32. Inadequate ventilation</td>
</tr>
<tr>
<td>13. Horseplay</td>
<td>33. Presence of harmful materials</td>
</tr>
<tr>
<td>14. Under the influence of alcohol and/or other drugs</td>
<td>34. Inadequate instructions/procedures</td>
</tr>
<tr>
<td>15. Using equipment improperly</td>
<td>35. Inadequate information/data</td>
</tr>
<tr>
<td>17. Failure to identify hazard/risk</td>
<td>37. Inadequate support/assistance</td>
</tr>
<tr>
<td>18. Failure to check/monitor</td>
<td>38. Inadequate communications hardware/software/process</td>
</tr>
<tr>
<td>19. Failure to react/correct</td>
<td>39. Road conditions</td>
</tr>
<tr>
<td>20. Failure to communicate/coordinate</td>
<td>40. Weather conditions</td>
</tr>
</tbody>
</table>
Determine the Basic/Root Cause

Once the Immediate/Direct cause is determined, possible Basic/Root causes can be identified. Basic/Root causes will be described under Personal Factors and Job/System Factors. Basic/Root causes may include:

<table>
<thead>
<tr>
<th>Personal Factors</th>
<th>Job/System Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Inadequate physical/physiological capability</td>
<td>9. Inadequate leadership and/or supervision</td>
</tr>
<tr>
<td>2. Inadequate mental/physiological capability</td>
<td>10. Inadequate engineering</td>
</tr>
<tr>
<td>3. Physical or physiological stress</td>
<td>11. Inadequate purchasing</td>
</tr>
<tr>
<td>4. Mental or physical stress</td>
<td>12. Inadequate maintenance</td>
</tr>
<tr>
<td>5. Lack of Knowledge</td>
<td>13. Inadequate tools and equipment</td>
</tr>
<tr>
<td>7. Improper motivation</td>
<td>15. Excessive wear and tear</td>
</tr>
<tr>
<td>8. Abuse or misuse</td>
<td>16. Inadequate communications</td>
</tr>
</tbody>
</table>

6.4.6 Develop Recommendations for Corrective Action Plans

Once causes have been determined, appropriate corrective and preventive actions can be identified and implemented so similar incidents do not recur. Areas for corrective action may include:

<table>
<thead>
<tr>
<th>Areas for Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. General Commitment, Leadership and Participation</td>
</tr>
<tr>
<td>2. Management Commitment and Leadership</td>
</tr>
<tr>
<td>3. Worker Participation</td>
</tr>
<tr>
<td>4. Health, Safety and Environment Policy</td>
</tr>
<tr>
<td>5. Planning</td>
</tr>
<tr>
<td>6. Review</td>
</tr>
<tr>
<td>7. Legal and Other Requirements</td>
</tr>
<tr>
<td>8. Hazard and Risk Identification and Assessment</td>
</tr>
<tr>
<td>9. Health, Safety and Environmental Objectives and Targets</td>
</tr>
<tr>
<td>10. Implementation</td>
</tr>
<tr>
<td>11. Hazard and Risk Control Measures</td>
</tr>
<tr>
<td>12. Emergency Preparedness and Response</td>
</tr>
<tr>
<td>13. Competence and Training</td>
</tr>
<tr>
<td>14. Communication and Awareness</td>
</tr>
<tr>
<td>15. Procurement and Contracting</td>
</tr>
<tr>
<td>16. Management of Change</td>
</tr>
<tr>
<td>17. Documentation</td>
</tr>
<tr>
<td>18. Evaluation and Corrective Action</td>
</tr>
<tr>
<td>19. Monitoring and Measurement</td>
</tr>
</tbody>
</table>
Recommendations should address each cause and can be of two types:

- Interim Actions are ones that should be taken immediately to reduce the hazards. These “stop gap” measures are usually ones that have been recommended and implemented at the time the incident occurred. They are extremely important because they reduce the hazard potential immediately.

- Corrective and preventive actions are permanent solutions and may require more time to accomplish. Corrective and preventive actions must address each cause. Implementation and follow up of these permanent measures are essential and may require input and consultation from other groups such as Senior Management, Legal, etc.

Ensure each recommendation specifically describes the action to be taken, and is defined in clear and measurable terms. Recommendations should be practical and achievable and eliminate or decrease risk or consequences.

Recommendations must be assigned to a person, by name not position, for completion by an identified date. The corrective action plan must be reviewed with those they are assigned to.

Recommendations for control generally fall into the following four categories:
- Substitution;
- Engineering controls;
- Administrative controls, and / or
- Personal protective equipment.

To complete further analysis, consult with the appropriate technical experts (i.e. Engineer, experienced equipment operator, etc.)

6.4.7 Corrective / Preventive Action Log (CAPA)

All corrective actions will be tracked using the Corrective Action/Preventive Action (CAPA) log (see Appendix E). A CAPA log will be created for each branch and site (if applicable) and be maintained by the Manager or designate. The report will be updated on a weekly basis and forwarded to the Team Lead HS&E for each Division. The content of the CAPA log will be reviewed at least monthly by the Branch Manager and Team Lead HS&E for feedback to operations management.
6.4.8 Assess Actual Costs and Confirm Incident Classification

Extensive analysis of incidental property damage costs around the world has led experts to conclude that property damage costs are 5 to 50 times the medical and compensation costs of occupational injuries. Other uninsured costs constitute an additional 1 to 3 times more than these costs.

Costs are to be maintained in as accurate a manner as possible. The recording of cost is to be performed in accordance with the following cost guidelines:

**Structural / Equipment Damage**
- Work request costs;
- Purchase costs;
- Work request labour costs;
- Rental costs;

Service work should be tracked by hourly estimate from those performing the work when direct costs are not available.

**Injury / Illness Costs**
- Overtime / replacement employee costs = # of hours X $50 hr.
- Retraining injured employee for alternate work. Include costs until trained and reassignment is complete. (Include course tuition and injured Employee's time). Training costs for replacement employee would also be included ($50/hr.)
- Injury costs are reflected in insurance premiums paid to W.C.B. For estimating purposes use:
  - $2,000 Medical Aid injury with no work restrictions
  - $10,000 for Medical Aid injury with work restrictions (MA/Mod)
  - $15,000 for Lost Time Injuries

**Legal Costs**
- Fines and / or penalties levied by regulatory agencies or the courts.
- Court fees as a result of legal action/defence.
- Cost associated with obtaining legal services (case preparation, presentation, hearings, etc.).

**Other Costs**
- Time spent gathering data for investigation. Actual Investigation time and time spent in follow-up meeting. Total man-hours x $50.
- Time spent writing, typing report. Use $50 per incident.

Utilize the cost data to assist in confirming and finalizing the incident severity classification and to assist in the prioritization of implementing corrective and preventive action.
6.5 Reporting

Once all the information has been collected and interpreted, it must be documented on a Loss Control Report (LCR) by the Supervisor and entered into the Incident Tracking by the Regional Team Lead HS&E.

Corrective Action Plans will be tracked to completion in accordance with the Corrective Action/Preventive Action Log, which is designed to:

- Identify and notify individuals accountable for corrective/preventive action implementation;
- Assign responsibility to individuals to action specific items;
- Track implementation progress by providing status updates on targeted completion dates; and
- Confirm the incident has been managed until all actions are completed.

6.6 Communication

Information identified and documented throughout the management of the incident may assist others (internal or external) in preventing similar incidents from recurring.

NC Services Group (NCSG) or its affiliated companies employees, contractors and external parties may learn from incidents and prevent recurrence in the future. HS&E Advisors are accountable for communicating appropriate incident findings and corrective action.

Notification and reporting to the applicable regulatory agency (OSHA, State, Provincial, Federal) may be necessary. HS&E Advisors would be responsible for such.

The overall goal of incident investigation is to identify all root causes and implement corrective actions necessary to prevent recurrence. Equally valuable is distribution of the key findings in the investigations and sharing them with all employees and contractors, increasing awareness and promoting dialogue to prevent incident recurrence at other locations.

Incident bulletins, alerts, notices and reports will be sent out by the HS&E Advisor as well as other applicable information.

6.7 Incident Review

Incident bulletins will be sent out by HS&E Advisors based on severity, or potential for, and involves lessons learned that may benefit other company sites or groups to prevent recurrence.

These bulletins will be reviewed at tailgate meetings, weekly safety meetings, HS&E Committee meetings, posted on boards, at all operational meetings and other effective means.

6.8 Evaluation

Incident Investigation Reports will be evaluated based on completion and quality of the investigation and the investigator. By utilizing the evaluation tool, all Incident Investigation Reports will be evaluated by a Team Lead HS&E. Completion and quality are relative to overall compliance with the IMP. The compliance rating from a sampling will indicate the overall understanding of the IMP, and may prompt additional resources, such as training.
7.0 TRAINING REQUIREMENTS AND MATERIALS

- IMP Supervisor Training Package
- Employee Orientation

8.0 RESOURCES

Contact Corporate Health, Safety and Environment for more information regarding this Process.

9.0 APPENDICIES

- Appendix A – Loss Control Report (LCR)
- Appendix B – Corrective And Preventive Action Log (CAPA)
- Appendix C – Incident Cause Analysis Chart

10.0 SUPPORTING DOCUMENTS

- Federal and Provincial Occupational Health and Safety Legislation
- Provincial Worker’s Compensation Board Legislation
- Corrective and Preventive Action Process
- NCSG Incident Classification Guide
- NCSG Incident Reporting Chart
HEALTH, SAFETY & ENVIRONMENT

Incident Management Process - IMP

LCR TO BE COMPLETED BY SUPERVISOR:

SEVERITY
Actual Severity: [ ] Low [ ] Moderate [ ] Severe [ ] Critical
Potential Severity: [ ] Low [ ] Moderate [ ] Severe [ ] Critical

Frequency:
[ ] Rare [ ] Occasional [ ] Frequent
Format Investigation: [ ] Yes [ ] No

Potential for Recurrence:
[ ] Low [ ] Medium [ ] High

For Injuries/Illness Only
Body Parts Injured (Check one or more of the items listed):
[ ] 04 Eyes [ ] 02 Hand (includes fingers, thumb)
[ ] 03 Fingers (includes thumb)
[ ] 04 Head (includes face, neck)
[ ] 05 Arms (includes elbows)
[ ] 06 Back [ ] 07 Knees
[ ] 08 Legs [ ] 06 Truck (includes chest, hips, shoulders)
[ ] 10 Feet (includes toes, ankles)
[ ] 11 Internal
[ ] 00 Other

Classification:
[ ] FA [ ] MA [ ] MW [ ] PA[L,T]
[ ] NON[CC] [ ] RA [ ] OC

Site Treatment: [ ] Yes [ ] No
Send to Doctor: [ ] Yes [ ] No
Modified Dates: [ ] Yes [ ] No
WCB: [ ] Yes [ ] No

Nature of Injury (Check one or more):
[ ] 04 Cut [ ] 02 Fracture [ ] 03 Allergy
[ ] 04 Sprain/Strain [ ] 05 Scrape [ ] 06 Stab [ ] 07 Welding Flash
[ ] 08 Burn [ ] 09 Other
[ ] 10 Foreign Body [ ] 11 Exposure [ ] 13 Puncture
[ ] 14 Dislocation [ ] 15 Dermatitis [ ] 00 Other

Incident Costs: [ ] Estimated cost of repair or replacement (must be $ amount)

Job #:

CAUSES (REFER TO F.C.A.T. CHART)
Immediate:

Baseline:

INITIAL ACTIONS TO BE CARRIED OUT:

ACTION WORK TO CONTROL LOSS
(C.C.R. refer to RE-S-OFT where "Date Completed" of actions is first completed)

BY WHOM (Name)

DATE DUE

DATE COMPL

Signed: Date: 
yyyymm/dd
Report Completed by: 

Comments:

Signed Off By: Supervisor Date: 
yyyymm/dd

Signed Off By: Branch Manager Date: 
yyyymm/dd

Signed Off By: Vice-President of Operation Date: 
yyyymm/dd

Signed Off By: Vice-President of HS&E Date: 
yyyymm/dd

Signed Off By: Chief Operating Officer Date: 
yyyymm/dd

12/9/2010 18
## Corrective and Preventive Action (CAPA) Log

<table>
<thead>
<tr>
<th>Date Opened</th>
<th>CAPA ID</th>
<th>Source</th>
<th>Identified Action Item</th>
<th>Proposed Completion Date</th>
<th>Person Responsible</th>
<th>Status</th>
<th>Issues Preventing Start Up or Completion</th>
<th>CAPA Completion Verification Date</th>
<th>CAPA No.</th>
<th></th>
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</table>
## HEALTH, SAFETY & ENVIRONMENT
### CLASSIFICATION STANDARD

<table>
<thead>
<tr>
<th>Definitions:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAPA</strong></td>
<td>Corrective Action / Preventative Action</td>
<td></td>
</tr>
<tr>
<td><strong>CAPA ID</strong></td>
<td>LCR or inspection number etc plus the CAPA list number For Example LCR</td>
<td></td>
</tr>
<tr>
<td><strong>Source</strong></td>
<td>Activity that generates the Corrective or Preventative Action</td>
<td></td>
</tr>
<tr>
<td>LCR</td>
<td>Loss Control Report</td>
<td></td>
</tr>
<tr>
<td>WR</td>
<td>Internal Inspection</td>
<td></td>
</tr>
<tr>
<td>RI</td>
<td>Regulatory Inspection</td>
<td></td>
</tr>
<tr>
<td>CI</td>
<td>Client Inspection</td>
<td></td>
</tr>
<tr>
<td>VI</td>
<td>Vehicle Inspection</td>
<td></td>
</tr>
<tr>
<td>HA</td>
<td>Hazard Analysis</td>
<td></td>
</tr>
<tr>
<td>RV</td>
<td>Rule Violation</td>
<td></td>
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<tr>
<td>RIR</td>
<td>Risk Identification Report</td>
<td></td>
</tr>
<tr>
<td><strong>Identified Action Item</strong></td>
<td>Description of Corrective or Preventative Action</td>
<td></td>
</tr>
<tr>
<td><strong>Proposed Completion Date</strong></td>
<td>Target date for completion of Corrective or Preventative Action</td>
<td></td>
</tr>
<tr>
<td><strong>Person Responsible</strong></td>
<td>Name of individual who will ensure the Corrective or Preventative Action is completed</td>
<td></td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Actions: Listed under cell H5</td>
<td></td>
</tr>
<tr>
<td>Not Started</td>
<td>Not Started</td>
<td>Provide reasons why</td>
</tr>
<tr>
<td>In Progress - S</td>
<td>Progress Satisfactory</td>
<td>Update activities</td>
</tr>
<tr>
<td>In Progress - U</td>
<td>Progress Unsatisfactory</td>
<td>Identify issues delaying completion</td>
</tr>
<tr>
<td>In Progress - H</td>
<td>Progress Halted</td>
<td>Manager to provide reasons for stoppage</td>
</tr>
<tr>
<td>Closed</td>
<td>Complete</td>
<td>Ensure Corrective actions are validated</td>
</tr>
<tr>
<td><strong>Issues Preventing Start-up or Completion</strong></td>
<td>Description of issues preventing Corrective or Preventative Action implementation. Must be reviewed by GM</td>
<td></td>
</tr>
<tr>
<td><strong>CAPA Completion Verification Date</strong></td>
<td>Data that Corrective or Preventative actions have been verified as complete. Must include sign off by Branch Manager</td>
<td></td>
</tr>
<tr>
<td><strong>Identified Action Item</strong></td>
<td>Description of Corrective or Preventative Action</td>
<td></td>
</tr>
</tbody>
</table>
## Incident Notification Standard – Reporting chart

<table>
<thead>
<tr>
<th>Incident Type</th>
<th>Low</th>
<th>Moderate</th>
<th>Serious</th>
<th>Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Incident</td>
<td>Personal Incident</td>
<td>Personal Incident</td>
<td>Personal Incident</td>
<td>Personal Incident</td>
</tr>
<tr>
<td>• Near Miss</td>
<td>• Medical Aid</td>
<td>• Modified work</td>
<td>• Lost time Incident</td>
<td></td>
</tr>
<tr>
<td>• First Aid</td>
<td>•</td>
<td>• Threatened violence</td>
<td>• Fatality</td>
<td></td>
</tr>
<tr>
<td>Motor Vehicle Incident</td>
<td>Motor Vehicle Incident</td>
<td>Motor Vehicle Incident</td>
<td>Motor Vehicle Incident</td>
<td>Motor Vehicle Incident</td>
</tr>
<tr>
<td>• Near Miss</td>
<td>• Results in personal injuries – not third party</td>
<td>• Third party injuries</td>
<td>• Permanent disabling injury</td>
<td></td>
</tr>
<tr>
<td>• Results in damage less than $1,000</td>
<td>• Results in damage $1,001 to $10,000</td>
<td>• Results in damage $10,001 to $100,000</td>
<td>• Actual Violence</td>
<td></td>
</tr>
<tr>
<td>Property/equipment Damage</td>
<td>Property/equipment Damage</td>
<td>Property/equipment Damage</td>
<td>Property/equipment Damage</td>
<td>Property/equipment Damage</td>
</tr>
<tr>
<td>• Near Miss</td>
<td>• Results in damage $1,001 to $10,000</td>
<td>• Line contact</td>
<td>• Failure or collapse of crane</td>
<td></td>
</tr>
<tr>
<td>• Results in damage less than $1,000</td>
<td></td>
<td>• Results in damage $10,001 to $100,000</td>
<td>• Results in damage in excess of $100,000</td>
<td></td>
</tr>
<tr>
<td>Environmental Incident</td>
<td>Environmental Incident</td>
<td>Environmental Incident</td>
<td>Environmental Incident</td>
<td>Environmental Incident</td>
</tr>
<tr>
<td>• Near Miss</td>
<td>• Any event that poses no adverse environmental effect</td>
<td>• Spill or release that requires clean up or remediation</td>
<td>• Regulatory reportable spill or release</td>
<td></td>
</tr>
<tr>
<td>Regulatory/Non-Compliance</td>
<td>Regulatory/Non-Compliance</td>
<td>Regulatory/Non-Compliance</td>
<td>Regulatory/Non-Compliance</td>
<td>Regulatory/Non-Compliance</td>
</tr>
<tr>
<td>• Not Applicable</td>
<td>• Violation to company policy, standard or SOP</td>
<td>• Cardinal Safety Rule violation</td>
<td>• Regulatory reportable incident</td>
<td></td>
</tr>
<tr>
<td>Security Incident</td>
<td>Security Incident</td>
<td>Security Incident</td>
<td>Security Incident</td>
<td>Security Incident</td>
</tr>
<tr>
<td>• Not Applicable</td>
<td>• Theft, vandalism and/or fraud less than $2500</td>
<td>• Theft, vandalism and/or fraud $2500 to $25000</td>
<td>• Theft, vandalism and/or fraud exceeding $25000</td>
<td></td>
</tr>
<tr>
<td>Public/Media Incident</td>
<td>Public/Media Incident</td>
<td>Public/Media Incident</td>
<td>Public/Media Incident</td>
<td>Public/Media Incident</td>
</tr>
<tr>
<td>• Not applicable</td>
<td>• Localized media attention</td>
<td>• Third Party injury</td>
<td>• Violent act committed by employee to a member of the public</td>
<td></td>
</tr>
<tr>
<td>•</td>
<td>• Community complaint attributed to our operations</td>
<td>• Adverse media attention impacting reputation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notification</td>
<td>Supervisor HS&amp;E Advisor</td>
<td>Supervisor HS&amp;E Advisor</td>
<td>Supervisor HS&amp;E Advisor Branch Manager Human Resources Regional Team Lead HS&amp;E</td>
<td>Supervisor &amp; Regional Team Lead HS&amp;E Branch Manager &amp; VP Ops VP HS&amp;E CEO</td>
</tr>
<tr>
<td>Immediate Call</td>
<td>Branch Manager</td>
<td>Branch Manager Regional Team Lead HS&amp;E</td>
<td>VP Operations VP HS&amp;E CEO / CFO</td>
<td></td>
</tr>
<tr>
<td>Within 4 hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 8 hours</td>
<td>Client if applicable</td>
<td>VP Operations Human Resources VP HS&amp;E CEO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### A&D Testing

Supervisors to follow A&D Policy/Program, CannAmm to be called by the Supervisor to be contacted immediately to arrange the test. Human Resources will advise the results back to the Supervisor. CannAmm contact #1-800-440-0023, press #3 from the option menu, advise company name, Crane or Transport division and branch office location when requesting. Test must be completed no later than 8 hrs post incident, anything longer than 4 hrs must have VP Involvement.
Purpose
To ensure uniform recording, classification and reporting of injuries, illnesses, damage and other applicable events, throughout NC Services Group (NCSG) and its affiliated companies.

Scope
This standard applies to:
- All companies, employees and contractors injured in the course of employment at NC Services Group (NCSG) and its affiliated companies.
- Provides direction for the classification of injuries, illnesses, damage and other applicable events.

Classification
An event as described herein, shall be classified according to its most serious consequence. For example, if there are multiple injuries as a result of an accident, the most severe consequence shall determine its classification.

The Team Lead HS&E will be the adjudicator for the HS&E interpretation of the policy. All appeals will be directed to VP of HS&E.

Recordable
Recordable deals with the allocation of whether the event as described herein is classified as work related or not and how it will be applied against the company/division’s monthly Loss Management statistics.

The Team Lead HS&E will determine the recordable frequency by reviewing the following:
Events will be reviewed to determine whether they occurred in the work environment and arose out of and in the course of employment while acting in the interests of the company. If there is a question as to whether the event is work related, the case will revert to work related until such time as there has been a review to necessitate a change to non-work related. (Examples are noted in Appendix II)

All injuries/illnesses will be reviewed to determine whether or not the employee actually received medical treatment as opposed to simple first aid, diagnostic or precautionary measures for injuries/illnesses.

The Team Lead HS&E will identify any changes to the injury/illness classification with the management in the appropriate company/division, advising them of the rationale for change.
Classification Appeal Process

All appeals against the classification of an event will be made in writing to the VP of HS&E, with any new information to support the stated appeal. The VP of HS&E will review the case with the Team Lead HS&E. Any changes to the classification will be made after the review and consultation.

Fatality (FAT): Any death as a resulting from a work related or on the job event.

Days Away (DA): Any work-related injury or illness that prevents the worker from reporting to work on the next scheduled work day.

Observation Period, if a worker is injured on the job and the physician places them in a hospital (or at home) for observation only and the worker misses a scheduled work day, it is classed as a Days Away incident.

Medical treatment, when a worker loses part or all of a work day following the day of injury due to medical treatment, it is classed as a Days Away incident.

Fatalities of workers resulting from occupational injury or illness are Days Away regardless of the time between the injury or illness and the expiration.

Medical Aid (MA): Any work related injury or illness that requires treatment outside of the definitions defined below under the First Aid, by a physician or by registered professional personnel under the standing orders of a physician. (defined as; Physician’s Assistants, RN, Paramedic, Chiropractors, and Physio-therapists)

All diagnosed occupational illnesses are considered at least Medical Aid (MA) cases; no illnesses are considered First Aid (FA). Loss of consciousness due to an injury or exposure in the work environment is a MA and must be recorded as such until it meets the requirements of Days Away (DA).

Modified Work (MW): Any work related injury or illness that prevents a worker’s ability to perform their regularly assigned duties, but are medically able to perform alternate, modified or restricted work.
First Aid (FA): Minor injury requiring usually a one-time treatment, regardless of the professional status of the person providing the treatment. Even when a physician or other registered medical professional provides these treatments.

First Aid includes the following:

- Using an over-the-counter medication at non-prescription strength.
- Administering tetanus immunizations (other immunizations, such as hepatitis B Vaccine or Rabies Vaccine, are considered Medical Aid (MA))
- Cleaning, flushing, or soaking wounds on the surface of the skin
- Using hot or cold therapy
- Using wound coverings such as bandages, band-aids, gauze pads, etc or using butter-fly closures or steri-strips. (other wound closures such as sutures, staples are considered Medical Aid (MA))
- Using non-rigid means of support, such as elastic bandages, wraps, back belts. (devices with rigid stays or other systems designed to immobilize parts of the body are considered Medical Aid (MA))
- Removing foreign objects from the eye using only irrigation or a cotton swab
- Using eye patches
- Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means
- Using finger guards
- Using massages (physical therapy or chiropractic treatment is considered a Medical Aid (MA))
- Drinking fluids for relief of heat stress.
MVI (motor vehicle incident): Any incident involving a licensed motor vehicle in the care of, while performing work for, or for the purpose of NC Services Group (NCSG) or its affiliated companies. (Non MVI classes would be; ATV’s, crawler cranes, powered mobile equipment, side booms, loaders, and are included in property damage)

Use of a vehicle covers driving a company or contractor owned, leased or rented vehicle for business use, or use of a personal vehicle for which the operator is eligible for reimbursement for the mileage driven.

Non-collision incidents of the upset, rollover, jackknife, or run-off-the-road types that cause fatality, injury or damage are MVI’s.

Shifting cargo, when abnormal driving causes the shifting of cargo, which results in a fatality, injury or damage is considered a MVI. (examples are materials coming off trailer while in transit)

Towing or Pushing; Damage resulting from towing or pushing actions is considered Property Damage. A towed vehicle while in transit causes a fatality, injury or damage is classed as a MVI.

Contact with animals, birds, rocks, gravel and tar while in motion that cause fatality, injury or damage is considered a MVI.

Environmental (ENV): Spill, leak, release or loss of means of containment which results in a potential impact to soil, water or air.

Near Miss (NM): Any potential event (incident or injury) that could or would have occurred. The potential must have been significant.

Security (SC): Theft, fraud, unauthorized entry or vandalism of any amount.

Property Damage: Incident involving contact by machinery or energy other than MVI that results in damage.

Significant: Having or likely to have a major effect, example; fatality, third party involvement, dollar value >$10,000.00, or regulatory notification.

TRIR: Total Recordable Incident Rate, formula defined by the number of medical aids + modified work cases + days away cases + fatalities multiplied by 200,000 and divided by the total number of man hours worked.
Appendix I

Definitions

Occupational Injury
Any injury such as a cut, fracture, sprain, amputation etc., which arises from an accident or from a single instantaneous exposure in the work environment (i.e. insect bites, one-time exposure to chemicals).

Occupational Illness
Any abnormal condition or disorder of an employee, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. These illnesses or diseases may be caused by inhalation, absorption, ingestion or direct contact with contaminants.

The following are some typical examples of recordable occupational illnesses and disorders:

- **Occupational skin diseases and disorders** – such as contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous materials, chemical burns or inflammation, etc.

- **Dust diseases of the lungs (pneumoconiosis)** – such as silicosis, asbestosis, byssinosis, etc.

- **Respiratory conditions due to toxic agents** – such as pneumonitis, pharyngitis, rhinitis, acute congestion due to chemicals, dust, gases, exhausts, mists, fumes, etc.

- **Poisoning** – such as acute and chronic toxic effects from lead, mercury, arsenic and other metals, hydrogen sulphide, sulphurdioxide, etc., solvents and pesticides, etc.

- **Disorders due to physical agents** – such as heat stroke, sun stroke, heat exhaustion, frost bite, welding flash, ultraviolet rays and effects of ionizing radiation.

- **Other occupational illnesses** – such as diseases caused by infectious substances, food poisoning, malignant and benign tumors, etc.

On-Site Occupational Injury/Illness
Any injury/illness occurring on a NC Services Group (NCSG) or its affiliated companies work site, arising out of and in the course of employment and while acting in the interests of NC Services Group (NCSG) will be considered work-related and therefore occupational.
Off-Site Occupational Injury/Illness
Illnesses/Injuries which occur during off-site training programs, schools, conventions or meetings while acting in the interests of NC Services Group (NCSG) or its affiliated companies, during the employee's normal hours of work or after hours at the request of the company will be considered occupational. All off-site occupational illnesses/injuries will be considered non-recordable.

Non Occupational Injury/Illness
Non occupational injuries/illnesses do not arise as a direct result of employment, but rather have their origins outside of the workplace. Non occupational injuries are neither recordable nor non-recordable.

Work Environment
The work environment is defined as all physical locations, equipment and materials processed or used and the operations performed by employees in the course of their assigned duties, irrespective of location.
Appendix II

Clarification, Exceptions and Special Cases

- Injuries/Illnesses which occur while making “reasonable use” of a site cafeteria or eating area shall be considered occupational, but not recordable.
- Injuries/illnesses which occur as a result of employer provided equipment such as knives, forks, etc., or food or drink provided by or purchased by an employee are occupational, but not recordable. However, injuries/illnesses arising from food, equipment or other hazards introduced by the worker are non-occupational.
- If an injury occurs while boarding or exiting a bus on a worksite property, while walking from a designated on-site bus drop off point or while making reasonable and permitted use of the company parking lot, it shall be considered occupational but not recordable.
- Injuries sustained during employment regardless of the area or duty, inflicted by or arising out of horseplay while in the work environment are considered occupational.
- Injuries occurring to employees driving to and from work on a special assignment or as a result of being called out for an emergency situation are occupational and non-recordable.
- Injuries occurring to employees traveling to and from their regular place of employment during routine travel in their own transportation, including travel at irregular hours due to late shifts or overtime are not considered occupational as workers are not in the course of employment while commuting. This includes injuries occurring while driving private or company vehicles to and from work on a regular basis.
- Injuries occurring to employees going to/from their house from/to a designated bus stop where employees board buses are not considered occupational.
- Employees injured during a specifically defined off-duty period in such areas as cafeterias or camp facilities, or while using any such facilities or their buildings or equipment therein in an off duty period will not be considered occupational. If, however, at such time, an injury should occur arising out of a hazard of the facility in question, it would be considered occupational, but not recordable.
- In the event that an illness/injury occurred solely because of a pre-existing physical deficiency with no distinct accident involved (an employee falls down because of his “trick knee” giving out although the ground was smooth and level) it would not be considered occupational. However, should the ground be icy or wet and the employee was to fall, spraining their “trick knee” this would be considered occupational.
- Aggravation at work of symptoms resulting from non-occupational injury may be considered recordable only if a new accident or unusual occurrence at work has transpired.
Appendix III

Examples of Medical Aid

In the event that x-ray examination for fractures is required, this procedure would be considered a diagnostic procedure and as such not considered medical aid or first aid.

- **Common Medical Aid Treatments**
  - All cases involving loss of consciousness, caused by the industrial injury or illness unless more severe consequences dictate another classification.
  - Butterfly or steristrip sutures, only if used in lieu of standard sutures.
  - Sutures and closures, by or on the advice of a physician.
  - Compress, hot or cold, multiple soakings and drainage of collected blood on a second or subsequent visit if prescribed by a physician.
  - Administration of prescription only medicines, if exceeding one single dose. (See definition of Medical Aid).
  - Cutting away of dead tissue. (Surgical deportment, debridement).
  - Aspiration (draining) of blood or fluids from damaged areas using suction or temporary implants.
  - Application of non-temporary casts, splints or other immobilizing procedures following need diagnosis by a physician or registered professional.
  - Diathermy treatment on second or subsequent visit if prescribed by a physician.
  - Removal of EMBEDDED foreign objects, if removal from wound requires surgical means, including the use of prescription medication to treat the condition.
  - Removal of EMBEDDED foreign bodies from the eye, if removal requires surgical means.
  - Treatment of 2\(^{nd}\) degree burns. The determining factor in classifying 2\(^{nd}\) degree burns as medical aid will be primarily based on the actual size of the burn (2.5 cm x 2.5 cm or larger). In addition, if the injury requires a series of treatments including soaks, use of whirlpool and surgical debridement, the injury should also be considered a medical aid.
  - Treatment of 3\(^{rd}\) degree burns including multiple treatments (dressing changes, soakings, whirlpool treatments and surgical debridement).
  - Treatment of fractures, other than hairline.
  - Treatment of infections.
  - Treatment of secondary infections.
  - Ultrasound treatment, on the second or subsequent visit if prescribed by a physician.
  - Whirlpool or similar physical therapy treatment, on the second or subsequent visit if prescribed by a physician.
➤ Application of Skin Glue in lieu of sutures, if the wound have required sutures due to the location and severity of the affected area.
➤ Dental injury requiring dentistry and/or oral surgery.
Incident Response Guidance

In the event of an incident, workers are required to notify their supervisors immediately. The supervisor will then provide a notification to their branch manager and to the HSE Advisor for their respective region.

The following is a visual aid to provide guidance in determining response personnel. Individual scene characteristics may dictate a different response; however, that determination is to be made by the on-scene supervisor in collaboration with the HSE Advisor and/or the Team Lead HSE.

*See the Reporting Chart, found within the Incident Notification Standard of the NCSG Incident Management Plan for definitions of incident type and severity.*

<table>
<thead>
<tr>
<th>INCIDENT TYPE</th>
<th>LOW</th>
<th>MODERATE</th>
<th>SERIOUS</th>
<th>CRITICAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Incident</td>
<td>Workers Immediate Supervisor</td>
<td>Workers Immediate supervisor, HSE Advisor</td>
<td>Workers Immediate Supervisor, HSE Advisor with assistance from HSE Team Lead</td>
<td>Workers Immediate Supervisor, Branch Manager, Team Lead HSE</td>
</tr>
<tr>
<td>Motor Vehicle Incident</td>
<td>Workers Immediate Supervisor</td>
<td>Workers Immediate supervisor, HSE Advisor</td>
<td>Branch Manager, HSE Advisor, Team Lead HSE</td>
<td>Branch Manager, HSE Team Lead</td>
</tr>
<tr>
<td>Property or Equipment Damage</td>
<td>On-Site Supervisor</td>
<td>Branch Manager, HSE Advisor</td>
<td>Branch Manager, HSE Advisor with assistance from Team Lead HSE</td>
<td>Branch manager, BU VP, Team Lead HSE, VP HSE</td>
</tr>
<tr>
<td>Environmental Incident</td>
<td>On-Site Supervisor</td>
<td>On-Site Supervisor, HSE Advisor</td>
<td>On-Site Supervisor, Team Lead HSE, HSE Advisor</td>
<td>On-Site Supervisor, Branch Manager, Team Lead HSE</td>
</tr>
<tr>
<td>Regulatory Non-Compliance</td>
<td>On-Site Supervisor</td>
<td>On-Site Supervisor, HSE Advisor</td>
<td>Branch Manager, Team Lead HSE</td>
<td>HSE VP, Team Lead HSE and BU GM or VP</td>
</tr>
<tr>
<td>Security Incident</td>
<td>On-Site Supervisor</td>
<td>Branch Manager</td>
<td>Branch Manager, BU Vice President</td>
<td>CEO, COO, CFO a/o VP HSE</td>
</tr>
<tr>
<td>Public/Media Incident</td>
<td>Branch Manager</td>
<td>Branch Manager</td>
<td>BU Vice President or Vice President HSE</td>
<td>CEO or designated spokesman</td>
</tr>
</tbody>
</table>
Incident Response

It is the responsibility of the on-scene supervisor, or task supervisor, to ensure that adequate measures have been taken in eliminating an emergent incident, reducing threat of harm or damage by evacuating workers or stopping processes. The on-scene/task supervisor is also required to contact emergency services should there be any serious injuries or threats to public safety.

Once it is safe to do so, contact must be made between the on-scene/task supervisor and their respective supervisor or branch manager. Initial contact should consists of who, what, where, when and estimated and potentially ongoing losses. The immediate Supervisor or Branch Manager will be responsible for contacting the HSE Advisor for the work region.

After initial notifications have been made, the on-scene/task supervisor will likely be utilized for the purposes of completing the LCR and providing technical information to the investigation regarding the task and processes. If applicable, the on-scene/task supervisor is also responsible for ensuring that the worker is scheduled for and provided transportation to a post-incident drug and alcohol test. This will be coordinated between the on-scene/task supervisor and the HSE Advisor.

In the event that there is no on-scene/task supervisor, and the worker is working alone, dispatch will be required to assist the worker in meeting the obligations of this section until a supervisor arrives at scene. Any worker, who is working alone, must be aware of these responsibilities and competent in executing them.
Federal Regulatory Reporting/Notification Guidance

As per the Incident Notification Standard – Reporting Chart, all notifications, regardless of company or operation, to any regulatory agency will be handled by the NC Services Group Executive.

Specifically;

- NC Services Group or its affiliated companies shall report to a health and safety officer, the date, time, location and nature of any accident, occupational disease or other hazardous occurrence that had one of the following results, as soon as possible but not later than 24 hours after becoming aware of that result, namely, (a) the death of an employee; (b) a disabling injury to two or more employees; (c) the loss by an employee of a body member or a part thereof or the complete loss of the usefulness of the body member or a part thereof; (d) the permanent impairment of a body function of an employee; (e) an explosion; (f) damage to a boiler or pressure vessel that results in fire or the rupture of the boiler or pressure vessel; or (g) any damage to an elevating device that renders it unserviceable, or a free fall of an elevating device.

- NC Services Group or its affiliated companies shall make a report in writing, without delay, using the form found in Part 15 of the Regulations, where that investigation discloses that the hazardous occurrence resulted in any one of the following circumstances: (a) a disabling injury to an employee; (b) an electric shock, toxic atmosphere, or oxygen deficient atmosphere that caused an employee to lose consciousness; (c) the implementation of rescue, revival, or other similar emergency procedures; or (d) a fire or an explosion.

- NC Services Group or its affiliated companies shall submit a copy of the report: (a) without delay, to the workplace committee or the health and safety representative; and (b) within 14 days after the hazardous occurrence, to a health and safety officer at the regional office or district office (Occupational Health and Safety).

- NC Services Group or its affiliated companies shall, not later than March 1 in each year, submit to the Minister a written report setting out the number of accidents, occupational diseases, and other hazardous occurrences of which the employer is aware affecting any employee in the course of employment during the 12 month period ending on December 31 of the preceding year. The report shall be made using the form found in Part 15 of the Regulations.
Purpose
To ensure NC Services Group and its affiliated companies (NCSG) personnel are prepared and ready to react in an appropriate and efficient manner to the possible emergency scenarios that may be encountered in the course of operations.

The scenarios most likely to happen, that will require immediate and swift reaction can be classified as the following:

**Class 1:**
- Major Fire – A fire that will and/or could potentially:
  - Cause equipment or property damage
  - Affect company operations
  - Threaten adjoining property
  - Not be controllable by the use of an appropriate fire extinguisher

**Class 2:**
- Explosion – an actual and/or potential explosion, at any company operated facility, which could:
  - Result in equipment or property damage
  - Affect company operations
  - Threaten adjoining property

**Class 3:**
- Personnel Injury and/or Fatality – any event that results in:
  - Injury requiring more than first aid treatment
  - Missing personnel
  - The potential for and/or actual loss of life

**Class 4:**
- Adverse Operating Conditions - included in this area are:
  - Life threatening telephone calls, messages and/or any other form of threatening communication
  - Inclement weather (snow storm, flood, freezing rain, etc.)
  - Any and/or all other operational emergencies
Class 5:
- Hazardous Materials Spill – potential and/or actual spill or leak of hazardous material or a reaction with other materials that generate emissions which may create a hazard to life, health, property or the environment.

Class 6:
- Infectious Diseases/Pandemics – usually results from a virus, bacteria, or parasite. Transmission from one person to another can occur through the sharing of liquids, food, bodily fluid, and contaminated objects. They can also be spread through airborne inhalation.

Personnel need to be trained for emergencies, and have the opportunity to simulate a reaction to an emergency situation.

At sites under the direction of NCSG, the following criteria will be implemented:
- An Emergency Response Plan that is posted at various locations for all personnel to see, along with the locations and phone numbers of all emergency facilities in the area;
- Personnel to be informed of the Emergency Response Plan for the site at time of orientation;
- Personnel to be informed of what roles and responsibilities they may have during the emergency;
- Scheduled on-site emergency response simulations (i.e. fire drills) will be conducted under the supervision of the HS&E Advisor responsible for the particular site.

The Emergency Response Plan and Procedures will be reviewed on a regular base by employees and management to ensure that it meets the needs and expectations of personnel on site.

Levels of Emergencies
For convenience and quick reference, the level of severity possible with each type of emergency is as follows:
- Level 1 – No potential and/or actual danger outside company property; the situation can be controlled by company personnel
Health, Safety & Environment

Emergency Preparedness Policy

- Level 2 – No immediate danger; sufficient potential does exist to justify contacting outside services (police, fire, medical, etc.)
- Level 3 – The ability to operate safely is seriously jeopardized thus creating an/or potentially creating an immediate damage to personnel, the general public and/or the environment.

Responder Role
Upon notification of an emergency situation, the person receiving the call is required to record the following information:
- Time of call
- Name and telephone number of person calling
- Type of emergency
- Injuries or fatalities, if any
- Potential danger to the general public, if any
- Name(s) of authorities contacted, if applicable

With this information, the contact person must then establish:
- The serious nature (class and level) of the situation
- How much of a factor time may be
- Whether or not a company representative is required at the scene
- Whether or not it may be necessary to contact other personnel (police, fire, ambulance, etc.)
- When applicable, equipment required (if any) to assist with recovery

Where company personnel (management or other designate) will attend the scene as “On-Site Coordinator”, their responsibilities will be to:
- Assess the situation
- Coordinate manpower and equipment required for recovery
- Cooperate and coordinate procedures with any and/or all authorities attending the scene
- Arrange for the movement of damaged equipment to an appropriate location, usually a company operated facility

3/8/2012
Ensure all required reports have been completed and sent to the appropriate personnel and/or agencies.

Emergency Response Procedures

**Class 1: Major Fire**
- Sound an alarm and notify the appropriate personnel, including the company
- Evacuate the area of all non-essential personnel
- Proceed with fire fighting procedures but only if there is no risk to the life and/or health of yourself and other personnel in the area

**Class 2: Explosion**
- Sound an alarm and notify the appropriate personnel, including the company
- Evacuate the area of all non-essential personnel
- Only attempt fire-fighting procedures if there is no risk to the life and/or health of yourself and other personnel in the area

**Class 3: Personal Injury and/or Fatality**
- Remain calm and take charge of the situation
- Ensure the safety of any other person(s)
- Assess the hazards
- Notify appropriate personnel, including the company
- Administer appropriate first aid, keeping the following priorities in mind: Stopped breathing, severe bleeding and unconsciousness
- Move the injured to a safe area before administering first aid, whenever fire and/or explosion are a concern
- Keep the injured warm
- Where a fatality is involved, do not disturb the scene
- Cover the fatality and watch over the body
- Do not talk to anyone about the incident
- Provide complete cooperation to the authorities at the scene

**Class 4: Adverse Operating Conditions**
- Treat all conditions as serious
- Immediately suspend operations
- Contact appropriate company personnel for further instructions
- Keep all non-essential personnel out of the area
**Class 5: Hazardous Materials Incident**

- Notify and provide appropriate company personnel with as many details as possible
- Attempt to control or reduce the extent of the spill, without endangering your life and/or health
- Keep all non-essential personnel away from the affected area
- If you are in no danger and the situation has been controlled, take whatever steps are necessary to start the clean-up process.

In keeping with the requirements of the Transportation of Dangerous Goods Act and Regulations, where regulated dangerous goods are involved, the following order of notification must be followed:

- Local authorities
- Employer
- Owner of the shipment
- Owner of the property and/or vehicle, if not the employer
In addition to reporting to the local authorities, “certain quantities” of regulated dangerous goods involved in any given situation may require a written report to be submitted to Transport Canada. The following table outlines the “certain quantities” where immediate reporting is required.

<table>
<thead>
<tr>
<th>Class &amp; Division</th>
<th>Quantities or Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
</tr>
<tr>
<td>2.1</td>
<td>At least 100 liters*</td>
</tr>
<tr>
<td>2.2</td>
<td>At least 100 liters*</td>
</tr>
<tr>
<td>2.3</td>
<td>All</td>
</tr>
<tr>
<td>2.4</td>
<td>All</td>
</tr>
<tr>
<td>3</td>
<td>At least 200 liters</td>
</tr>
<tr>
<td>4</td>
<td>At least 25 kilograms</td>
</tr>
<tr>
<td>5.1</td>
<td>At least 50 kilograms or 50 liters</td>
</tr>
<tr>
<td>5.2</td>
<td>At least 1 kilogram or 1 liter</td>
</tr>
<tr>
<td>6.1</td>
<td>At least 5 kilograms or 5 liters</td>
</tr>
<tr>
<td>6.2</td>
<td>All</td>
</tr>
<tr>
<td>7</td>
<td>Any discharge or radiation level exceeding 10mSv/h at the package surface and 200 uSv/h at 1 meter from the package surface</td>
</tr>
<tr>
<td>8</td>
<td>At least 5 kilograms or 5 liters</td>
</tr>
<tr>
<td>9.1</td>
<td>At least 50 kilograms</td>
</tr>
<tr>
<td>9.2</td>
<td>At least 1 kilogram</td>
</tr>
<tr>
<td>9.3</td>
<td>At least 5 kilograms or 5 liters</td>
</tr>
</tbody>
</table>

*Container Capacity

**On-Site Personnel Role – Spill Response**

In the event of a release of a material to the environment, the person(s) at the scene (usually the driver) can, in the first few moments after the incident, take the following action(s) to reduce injury and/or damage to the environment:

- Determine the existing fire and safety hazards

If there is no immediate danger of fire and/or explosion, then the first action(s) should be to:

- Stop the release
Eliminate all sources of ignition

Secure the scene; evacuate the injured and warn the public

Report the incident; call or have someone call the fire department, police and dispatch with information concerning:

- Location of the incident
- Material and volume spilled
- Injuries
- Potential contamination

Wherever possible, assist the police, fire department and other agencies that may be involved.

Once the danger of fire and/or explosion is removed, proceed with the following action(s):

- If the authorities have not yet arrived, secure the immediate area
- Contain the spill using the materials supplied in the company “Spill Kit”; prevent the spilled material from entering drains, manholes, culverts, dykes, ditches, etc.

Note: Straw bales, peat moss, sand, gravel or earth are also effective absorbent materials. Any materials used as absorbents must be removed to a safe disposal area

Assist the authorities in cleanup and reporting procedures

**Class 6: Infectious Diseases/Pandemics**

Because of the ease at which most infectious diseases can spread from person to person, it is important to be aware of the ways in which we can prevent getting them, and which precautions we must take to avoid spreading them.

The following are ways in which to help prevent getting most infectious diseases:

- Ensure that your workplace is clean and there is adequate space between you and your coworker’s station
- Make sure there is suitable ventilation in your work space
- Wash your hands as often as possible
- Get an influenza immunization
In relation to a very common infectious disease – influenza (the flu) it is important to identify the symptoms to be better prepared. Flu symptoms will usually include sudden fever, chills, headache, aching muscles, dry cough, extreme exhaustion, and poor appetite. If you notice flu symptoms in yourself or a co-worker, you should take immediate precautions. Precautions to take to prevent spreading of the flu would be:

- Washing your hands (the flu can be spread through coughing or sneezing)
- Avoid contact with others if experiencing flu symptoms

There is a proper way in which to wash your hands to prevent the spread of the infection:

- Use warm running water and soap
- Lather and rub hands together well, scrub for at least 15 seconds
- Use the friction to get rid of the germs on the surface of the hands as well as the back of the hands, the wrist, in-between the fingers, and under the fingernails
- Rinse hands under running water
- Dry with a clean or disposable towel
- If using a waterless hand cleanser, use a dime-sized amount and rub hands together until dry (about 15 seconds) making sure you cover all surfaces.

NCSG is committed to preventing the spread of infectious disease/pandemic in the workplace. Therefore, NCSG will recommend that all employees:

- Notify their supervisor or manager if they notice any symptoms related to the influenza, as described above, and remove themselves from the workplace. This will help to prevent the spread of the flu; because the flu is infectious still 3-5 days after symptoms occur.
- Help in areas or jobs where workers are missing due to the flu. (During a pandemic there could be a loss of 20% – 50% of the workforce)
Emergency Equipment

- **Fire & Fire Extinguishers – Classification**

Fire authorities have established four classes of fire, referred to as “A”, “B”, “C”, “D”. In relation, portable fire extinguishers are also rated using the same classification; the most common being the “A B C” rated multi-use extinguisher. Portable fire extinguishers having this rating are recommended for use in all three classes of fires.

Class “A” fire involves ordinary combustible materials such as cloth, wood, paper, rubber, etc.

Class “B” fires involve flammable liquids, gases and greases.

Class “C” fires involve live electrical equipment or wiring

Class “D” fires involve combustible metals.
Fire Extinguishers – Location, Care, and Maintenance

Each company vehicle will be supplied with at least one appropriately sized fire extinguisher with the multi-purpose classification “A B C”. Equipment operators are responsible to inspect the fire extinguisher during each pre-use inspection to ensure the pressure gauge indicates a fully charged extinguisher and the safety pin is securely in place.

Fire extinguishers are also located on site throughout all the shops and offices. The locations of these fire extinguishers are shown on the Emergency Map for each site. These fire extinguishers will be checked monthly by a company appointed worker.

Fire extinguishers are only effective when they are operating properly. Since the extinguishing media inside is a very fine powder, it tends to “pack down” into a solid mass when the extinguisher is left in one position for long periods. It is recommended and operators are required to, once monthly, remove the fire extinguisher from its bracket, turn it upside down and tap it with a rubber hammer to loosen the powder. After the powder has been loosened, vigorously shake the extinguisher to ensure the powder will discharge when the extinguisher is used.

All fire extinguishers will also be inspected monthly by internal staff and serviced annually by a certified technician in order to be in compliance with all applicable fire-related regulations, codes and standards.

Fire Extinguisher - Use

In the event that a fire should occur, the following procedures are recommended in ensuring effective and efficient use of a fire extinguisher:

- Remove the fire extinguisher from its bracket
- Approach the fire from an upwind position and with a “buddy”, whenever possible
- Hold the fire extinguisher in an upright position and pull the safety pin to break the seal
- Aim the discharge apparatus (hose, horn, nozzle) toward the fire
- Squeeze the handle to determine the discharge range of the extinguisher (do not attempt to fight the fire from a distance closer than necessary)
HEALTH, SAFETY & ENVIRONMENT
EMERGENCY PREPAREDNESS POLICY

- Aim the discharge apparatus at the base of the fire and, using a sweeping motion, proceed to extinguish the fire
- After the fire is extinguished and/or the extinguisher is fully discharged, replace the safety pin.
- Ensure the fire extinguisher is recharged before being put back into service

**Traffic Warning Devices – Reflective Triangles, Flags, Flares**

Emergency situations requiring a company vehicle to be stopped on a public roadway, outside populated areas, during the period between sunset and sunrise or at any time when there is not adequate light to clearly see persons and/or vehicles on the roadway, from a distance of 150 meters (500 feet), the driver is responsible to:

- Where the vehicle lighting equipment can be used, activate the lighting equipment, including flashing emergency hazard warning lights (four-way flashers)
- Place approved warning devices (reflective triangles, flags, flares, etc) on the roadway, in line with the vehicle, at a distance of no less than 30 meters (100 feet) in front of and to the rear of the vehicle, and when parked on a hill and/or at a curve, approximately 75 meters (250 feet) or more, depending on the situation.

Drivers are responsible to ensure these warning devices are in place, even if the vehicle lighting equipment, including emergency hazard warning lights, can be used. The warning devices must be in place immediately (within 10 minutes) after the vehicle is stopped.

**Spill Response Kit**

Occasionally, NC Services Group handles cargo that may contain quantities and/or residual of materials regulated by HazComm or WHMIS or Transportation of Dangerous Goods requirements. These materials, as well as other non-regulated materials, can potentially create a hazard to people and/or the environment if not controlled. The regulated (WHMIS) material of primary concern within the company is hydraulic fluid used in the operation of cranes and specialized trailers.
During the operation of this equipment, whether at a location or while enroute, an accidental release of hydraulic fluids must be immediately controlled. In addition to the “Emergency Response Procedure” previously discussed in this section, each piece of equipment using hydraulic fluid will be equipped with a “Spill Kit” as follows:

- 15 40 cm x 50 cm Absorbent Pads (for hydrocarbon-based material)
- 3 7.5 cm x 90 cm Absorbent Socks (for hydrocarbon-based material)
- 1 Shovel (non-ferrous)
- 4 Ties (for sealing plastic bags)
- 1 500 ml container of granular sealant (for repairing tank ruptures)
- Heavy Gauge Plastic Bags (for damming and recovery of used absorbents)
- 1 Containment and Recovery Guidelines (laminated)
- 1 List of Contents (laminated)

Each “Spill Kit” will be sealed. Whenever any contents of the kit are used and/or the seal is removed, the condition must be reported. This is to ensure the kit contains the above noted items, at all times.

**Rescue and Evacuation**

If the alarm is sounded (air horn) at any company facility or yard, all personnel must evacuate to the muster points that are posted for each facility/branch. The proper authorities must be notified of the emergency, these numbers are posted at each facility/branch.

If there is an emergency on a remote site, you must follow their evacuation procedures which should be given to you before work begins. You must not commence work if you are not given these procedures. You should also obtain emergency numbers for first aid and rescue on remote sites.
Communication / Alarm System

The communication system that is available to workers to summon first aid or emergency services would be the cell phones or two-way radios that are located in every company vehicle, and the phones that are located in the shop and offices. Emergency contact numbers are available at every phone in the offices.

The alarm systems that will be used are air horns which are located at every facility (marked on the emergency maps) as well as in every piece of yard equipment and crane. The person who is sounding the alarm will blow two long blasts. This should indicate to all personnel that they must immediately evacuate the facility/shop/yard and proceed to designated muster points.
1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Fire and Explosion Code to identify the proper level of protection when working with flammable and combustible materials while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct use, handling and storage of flammable and combustible materials is essential in maintaining a safe work environment and will enable employees to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Fire and Explosion Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Hazardous Space (Also referred to as Confined Space)

An enclosed or partially enclosed space that is not designed or intended for continuous human occupancy with a restricted means of entry or exit and may become hazardous to a worker entering it because:

- of its design, construction, location or atmosphere,
- of the work activities, materials or substances in it,
- the provision of first aid, evacuation, rescue or other emergency response service is compromised, or
- of other hazards relating to it."
3.2 Flammable Material

Substances that can ignite easily and burn rapidly. They can be common materials that are at most work sites in gas, liquid and solid forms. Some examples of flammable materials include:

- **Gases**
  - propane,
  - butane,
  - methane,
  - acetylene,
  - carbon monoxide,
  - hydrogen sulphide.

Flammable gases are usually gases with an LEL of less than 13% in air, or have a flammable range in air of at least 12%.

- **Liquids**
  - gasoline,
  - acetone
  - alcohols and toluene
  - paint and paint thinners
  - adhesives
  - degreasers
  - cleaners
  - waxes
  - polishes

- **Solids**
  - some types of coal
  - pyrophoric metals (metals that burn in contact with air or water, such as sodium and potassium)
  - solid wastes, which are soaked in flammable liquids (breaks, paper, spill clean-up products)

3.3 Compressed Gas

One or more gases in a container having an absolute pressure that exceeds 40 pounds per square inch (PSI) at 37.8°C

4.0 EXPECTATIONS

The Fire and Explosion Code shall provide required and adequate guidelines to ensure knowledge of potential hazards are available to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Fire and Explosion Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This Code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified for use in accordance with the training and instruction received.
- Ensure storage and handling of flammable materials and compressed gases is in accordance with the training received and the code requirements outlined herein.
- Ensure that all flammable materials and compressed gases are used in accordance with manufacturer’s specifications and only used for the intended purpose.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure that supervisors are adequately trained to ensure any worker entering a confined space is competent and certified to enter a confined space.
- Ensure that NCSG employees, contractors who are selected to conduct hazard assessments on confined space are qualified.
- Ensure that all confined space hazards are as reasonably and practicably possible eliminated or minimized to ensure work is performed a safe manner.
- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.
5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- NCSG shall ensure that responsibility for administration of the Fire and Explosion Code is performed by adequately trained employees or if outsourced, the contractor is adequately trained.
- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 General

6.1.1 Storage and Handling

NCSG shall not store the flammable materials near exits, ignition sources, electrical equipment or heating equipment.

NCSG shall make all reasonable effort to store flammable combustibles in separate, well ventilated storage areas, away from potential sources of ignition. If the material is removed from its original container, it must be placed into a container that is appropriate for flammable materials. All flammable liquids shall be stored in reasonable quantities and in approved safety vented containers.

Only containers Approved for portable storage of a flammable liquid shall be used when a flammable liquid has been transferred from the original container (one they were purchased in), or from bulk storage such as a drum or tank. During transfer with metallic or conductive containers, flammable substances must be electrically bonded to each other. Containers that are approved for the use and storage of “portable quantities” are usually made of metal or plastic, are vapour-proof and have:

- welded seams,
- spark or flame arrestors,
- pressure relief valves or spring closing lives with spout covers

All portable containers used by NCSG employees, contractors, visitors and general public on NCSG worksites shall meet one of the following standards:

- Underwriter's Laboratories of Canada, ULC/ORD-C30-1995, Safety Containers
- CSA, B376-M1980-R2003, Portable Containers for Gasoline and Other Petroleum Fuels

NCSG shall ensure all flammable liquids which are not in use, and are stored inside a building are stored inside certified storage cabinets that meet the requirements of Standard ULC-C1275-1984, Guide for the Investigation of Storage Cabinets for Flammable Liquid Containers. NCSG shall not store in excess of 500 L of flammable and combustible liquids in each cabinet and in addition shall ensure that no more than half of the total volume (up to 250 L) shall be flammable liquid.
When storing compressed gases or liquids:
- Store cylinders in a clearly identified, dry, well-ventilated storage area away from doorways, aisles, elevators, and stairs.
- Store cylinders away from ignition sources (flames, heat, sparks, hot work)
- Post "no smoking" signs in the area.
- Store cylinders in the upright position and secure with an insulated chain or non-conductive belt.
- Secure the protective caps.
- Ensure that the area is well ventilated. With outside storage, place on a fireproof surface and enclose in a tamper-proof enclosure.
- Protect cylinders from contact with ground, ice, snow, water, salt, corrosion, and high temperatures.
- The control valve of a storage cylinder for compressed gas, other than a cylinder connected to a regulator, supply line or hose, shall be covered by a protective cap that is secured in its proper position.
- Store oxygen and fuel gases separately. Indoors, separate oxygen from fuel gas cylinders by at least 6 metres (20 feet), or by a wall at least 1.5 m (5 ft) high with a minimum 0.5 hour fire resistance.
- A spent storage cylinder shall not be stored inside a building.
- No storage cylinder for propane shall be placed closer than three metres to a source of ignition or fire.
- The valve on a compressed gas cylinder must be kept closed when the cylinder is empty or not in use.
- Any valve, regulator or fitting connected to a compressed gas cylinder must be a standard fitting, designed and manufactured for the type of cylinder and compressed gas for which it will be used, and must include provisions for flashback arresters where necessary.

6.1.2 Contamination

If a workers clothing/and or skin is contaminated with a flammable or combustible liquid, the worker must:
- Avoid any activity where a spark or open flame may be created or exists,
- Remove the clothing and,
- Ensure the clothing is decontaminated before it is used again.
- If a workers skin is contaminated the worker must wash the skin at the earliest possible time.

Decontamination stations include:
- Emergency showers
- Eye wash Stations
- Contaminated material Receptacles

6.1.3 Fire Safety Plan

Where there is potential for an outbreak of a fire, a fire safety plan must be developed to include:
- the emergency procedures to be used in case of fire, including:
  - sounding the fire alarm;
  - notifying the fire department;
  - evacuating endangered workers, with special provisions for workers with disabilities;
- the quantities, locations and storage methods of all flammable substances present at the place of employment;
- the designation of persons to carry out the fire safety plan and the duties of the designated persons;
- the training of designated persons and workers in their responsibilities for fire safety;
- the holding of fire drills; and
- the control of fire hazards.
6.2 Hot Work

Welding equipment must be 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.

6.2.1 Prior to the Start of Hot Work

NCSG shall ensure that prior to the commencement of any Hot Work activity:

- The area surrounding the operation is inspected and all combustible, flammable or explosive material, dust, gas or vapour is removed, or alternate methods of rendering the area safe are implemented,
- Work location shall be clearly or suitably isolated from combustible materials,
- Where it is not possible to isolate the Hot Work Activity from combustible material, guards should be used to confine the heat, sparks slag and to protect the immovable fire hazards,
- No welding or cutting of metal that has been cleaned with a flammable or combustible liquid until the metal has thoroughly dried,
- Ensure that approved flashback devices are installed on both hoses at the regulator end and acetylene and liquefied gas containers are used and stored in an upright position.
- Procedures shall be implemented to ensure continuous safe performance of a hot work activity,
- Adequate testing shows that the atmosphere does not contain:
  - a flammable substance in a mixture with air, in an amount exceeding 10% of that substance's lower explosive limit for gas or vapours, or
  - the minimum permissible concentration for dust
- NCSG shall ensure, in accordance with legislation, any flammable substances that are stored, handled, processed or present at a work site will not ignite unintentionally during a Hot Work activity.
- Where necessary, a vessel, tank or piping system, previously containing hydrocarbons shall be made safe for workers by purging or inerting prior to work beginning. Caution shall be used when purging to prevent or decrease the risk of explosion due to the medium used.
- Where welding is being performed above an area where a worker may be present, adequate means must be taken to protect the worker below the operation from sparks debris and other falling hazards.
- A regulator and it's flexible connecting hose must be tested immediately after connections to a gas cylinder to ensure that there is no leak of the gas supply.
- Supervisor's shall be responsible to establish if a fire watch is required, as detailed by Field Level Risk Assessments and NCSG Standard Operating Procedures.

6.2.2 During Hot Work Activities

- Signage shall be posted identifying the Hot Work Area,
- Apply and maintain proper grounding methods to prevent electrical shock when touching the two points during welding.
- If a leak of the gas supply develops during gas welding, the supply of gas must be immediately shut off by the worker performing the welding or allied process, and the work is not resumed until the leak is repaired.
- Appropriate and adequate fire suppression and extinguishing equipment shall be readily available in the event it is required and shall not be part of the buildings existing fire suppression system.
- Welding equipment must never be left unattended without removing the electrode.
- All Welding Equipment shall be free of oils, gas, grease and or any other debris around the cylinder, valve and regulator during a welding process.
• Welders will ensure that Oxygen is never used as a substitute for compressed air. At no time will workers allow oxygen to come into contact with any petroleum product, natural fibre or metal powder that has the property of being able to oxidize quickly. Oxygen shall not be used to run pneumatic equipment, clean tools, start a motor or create pressure in a container.
• Electrode stubs must be disposed of in provided receptacles.
• When welding from a service truck, compressed gas cylinders must be handled according to the MSDS and TDG regulations and storage compartments for compressed gas cylinders must meet legislative requirements.
• If identified during the Field Level Risk Assessment and Standard Operating Procedures, a fire watch shall be in place. Consideration shall be given to the following:
  o welding,
  o cutting,
  o grinding or
  o other similar hot work tasks
• EXCEPTION: if the FLRA Establishes the Hot Work of a minor task such as brazing or soldering and when the following conditions exist:
  o Non-combustible building constructions;
  o All combustibles (contents or equipment) are separated by non-combustible building construction including wall, floor, or ceiling openings; and
  o There are no combustible materials adjacent to or on opposite side of partition, walls, ceiling or roof likely to be ignited by conduction or radiation.
  o When performing hot work in confined spaces, employees shall comply with the Confined Space Entry

6.2.3 Completion of Hot Work Activities

On completion of the hot work task, NCSG employees, contractors shall, if a fire watch was used ensure the following:
• A watch or remain in the area for any minimum of 30 minutes or longer if necessary, to inspect the area to which sparks and heat may have spread and determine the area fire safe.
• After determining the area fire safe, the fire watch shall:
  o Notify the NCSG / Client supervisor that fire watch is leaving the fire area; and
  o The fire watch shall for a proof of not less than one (1) hour after leaving the permit area will periodically (not less than every 30 minutes) return and monitor the area as deemed needed to ensure the area remains fire safe
• All empty compressed gas cylinders shall be identified and stored in a secure manner separated from full or in service cylinders.

6.2.5 Service Vehicles

Procedures for handling cylinders and horizontal cylinder storage. Storage compartments for compressed gas cylinders must meet legislative requirements. Employees must also be trained in WHMIS and TDG for proper handling and transporting procedures.

6.2.6 Internal Combustion Engines

An internal combustion engine is any engine that operates by burning its fuel inside the engine. This includes include those fuelled by diesel, hydrogen, methane, propane, etc.
This requires an air intake and exhaust system with a flame arresting device to be in place to release to hazardous fumes and prevent fire and/or explosion. When possible, work with internal combustion engines should be done outside of the hazardous location.

6.3 Hot Taps

Hot tapping is a method of employing an under pressure drilling machine to cut a hole in an operating pipeline or storage vessel which allows for a new branch connection from the existing pipe or vessel without any interruption to the flow.

Virtually every hot tapping job is different. A detailed, written, job-specific hot tap plan must be available before starting each job to help ensure that appropriate measures are addressed.

6.4 Flares

Flares are continuously purged with a gaseous fluid to prevent air from entering the exit port and migrating which can present dangerous mixtures of air and unburned hydrocarbons. This purging usually consists of flowing a purge gas through the flare system at a rate sufficient to prevent backflow of air down the stack. The purge gas serves to keep air out of the stack, thus preventing formation of certain mixtures of air and gas which, when ignited, can result in explosions within the flare stack.

Because there is a high risk of fire or explosion with flares, a thorough hazard assessment must be conducted and ensure that open flames from flare pits, flare stacks or flares are not less than 25 meters beyond the boundary of a hazardous location.

6.5 Flammable Gas and Vapours

In the event proactive protection measure are insufficient to keep the concentration of flammable gases or vapours under the applicable exposure limits NCSG shall ensure that:

- Only the minimal amount of workers necessary to complete the work are exposed.
- Every worker exposed shall be adequately trained and equipped to work safely.
- The concentration of gases will not exceed 20% of LEL.
- In life threatening situations only emergency response workers shall be allowed to enter the area if the LEL exceeds 20%.

6.6 Flammable or Combustible Liquids

Under no circumstance will an NCSG employee or a contractor working on an NCSG location us gasoline or any other combustible fluid to start a fire. Nor shall an NCSG employee or contractor working on a NCSG location use gasoline as a cleaning agent.

No mobile equipment shall be refilled while that equipment is in operation or is hot enough to ignite a flammable fluid.

No NCSG Employee shall undertake any maintenance or service of a vehicle while flammable liquids or gasoline or any other explosive substance is loaded or unloaded from the vehicle other than the fluid normally stored in the vehicle fuel tank.
6.7  Piping Work

NCSG shall ensure that before any hot tapping, blinding or support welding on a section or piece of piping occurs that all personnel involved in the process receive specific training regarding that piping and pipe work in general.

7.0  TRAINING REQUIREMENTS AND MATERIALS

NCSG shall conduct an effective training program which ensures that everyone understands the hazards and safe work procedures related to their work. Training shall be provided for those who supervise workers, those who perform the work, tending workers and rescue personnel. NCSG training documentation shall include:

Requirements for worker competency identifying that workers shall be “competent” and have a thorough working knowledge of:
- Transportation of Dangerous Goods
- Workplace hazardous Materials Information Systems or HAZCOMM
- Company Standard Operating Procedures
- Hazardous Space Entry
- Safety equipment required for workers
- First aid requirements
- Emergency response and rescue including required equipment
- NCSG orientation

8.0  RESOURCES

- Alberta OH&S Code Part 10, section 162 - 171
- BC OHS Regulations Part 5, Sec 5.31
- BC OHS Regulations Part 5, Sec 5.43
- BC OHS Regulations Part 5, Sec 5.36
- Saskatchewan OHS Regulation Part XXV, Sec 366(1)
- Saskatchewan OHS Regulation Part XXV, Sec 368(1)
- Saskatchewan OHS Regulation Part XXV, Sec 366(2)
- Saskatchewan OHS Regulation Part XXV, Sec 372
- Saskatchewan OHS Regulation Part XXV, Sec 374(3)
- Manitoba OH&S Regulations Part 19 Sec 19.3(1)(a)
- National Fire Code
- NFPA
- OSHA 1926

NACG understands that there may be questions and concerns regarding the Fire and Explosion Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.
9.0 APPENDICIES

- None

10.0 SUPPORTING DOCUMENTS

- NCSG Code – Flammable and Combustible Storage and Handling
- NCSG Code – Personal Protective Equipment - Eye and Face Protection
- NCSG Code – Personal Protective Equipment - Respiratory Protection
REMEMBER!

- Keep work area free of garbage
- Keep aisles and access ways clear
- Use REACT
  - Remove those in immediate danger
  - Ensure doors are closed
  - Activate the fire alarm
  - Call the Fire Department
  - Try to extinguish (if small)
- If you are unsure – ASK your SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Fire Suppression Code to identify the proper level and type of protection against a potential injury / damage to employees, contractors, and the public / property regarding the use of fire extinguishers / suppression systems operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct selection / identification of fire extinguisher is crucial in the suppression of a fire and the ability to control and maintain a safe work environment. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Fire Suppression Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Fire Tetrahedron

The four elements of a fire, originally named the fire triangle (Oxygen, Fuel, and Ignition) the fourth element has been added and is defined as the chain reaction required between the other three elements to create fire. Dry chemical does not remove any of these 3 elements in sufficient quantity to extinguish fire. Some agents like dry chemical and clean agents interfere with the chemistry of fire of by breaking the chemical chain reaction.
3.2  **P.A.S.S.**

Acronym for: **Pull, Aim, Squeeze, Sweep**. – Primary action used with portable fire extinguishers

3.3  **Inspection**

An inspection is a “quick check” to give reasonable assurance that a fire extinguisher is available, fully charged and operable.

3.4  **Maintenance**

Maintenance is a “thorough check” of the extinguisher. It is intended to give maximum assurance that an extinguisher will operate effectively and safely. It includes a thorough examination and any necessary repair, recharging or replacement.

3.5  **Saponification**

A process which takes place when alkaline mixtures such as potassium acetate, potassium citrate or potassium carbonate are applied to burning cooking oil or fat

4.0  **EXPECTATIONS**

The Fire Suppression Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility. The Fire Protection Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0  **ROLES AND RESPONSIBILITIES**

5.1  **Employees**

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Be aware of the location / type of fire extinguishers and suppression systems within the employee’s workplace.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to fire and explosion resulting in fire.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment as required in accordance with the training and instruction received.
- Ensure, appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Ensure adequate and appropriate firefighting equipment is available on site.
- Ensure firefighting equipment is not obstructed (see General Housekeeping Code)
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Ingredients of a Fire

- The existence of fire requires four elements:
  - Oxygen
  - Source of Fuel
  - Source of Ignition
  - Free Radicals
6.2 Types of Fire Extinguishers

Fire extinguishers are divided into categories, based on different types of fires. Each fire extinguisher also has a numerical rating that serves as a guide for the amount of fire the extinguisher can handle. The higher the number the more fire-fighting power.

6.2.1 Fire Classification

- **A class** – used for ordinary combustibles, such as wood, paper, some plastics and textiles
- **B Class** – used for flammable liquid and gas fires such as oil, gasoline, etc.
- **C Class** – used on fires that involve live electrical equipment which require the use of electrically nonconductive extinguishing agents
- **D Class** – used on combustible metals such as magnesium, titanium, sodium, etc., which require an extinguishing medium that does not react with the burning metal.
- **K Class** – used on fires involving cooking media (fats, grease, and oils) in commercial cooking such as restaurants.

6.2.2 Fire Extinguisher Types

- **Water extinguishers** or APW extinguishers (air-pressurized water) are suitable for class A fires only.
- **Dry chemical extinguishers** come in a variety of types and are suitable for a combination of class A, B and C fires. These are filled with foam or powder and pressurized with nitrogen.
  - I. **BC** - This is the regular type of dry chemical extinguisher. It is filled with sodium bicarbonate or potassium bicarbonate. The BC variety leaves a mildly corrosive residue which must be cleaned immediately to prevent any damage to materials.
  - II. **ABC** - This is the multipurpose dry chemical extinguisher. The ABC type is filled with monoammonium phosphate, a yellow powder that leaves a sticky residue that may be damaging to electrical appliances such as a computer.
- **Carbon Dioxide (CO2) extinguishers** are used for class B and C fires. CO2 extinguishers contain carbon dioxide, a non-flammable gas, and are highly pressurized. The pressure is so great that it is not uncommon for bits of dry ice to shoot out the nozzle. They don't work very well on class A fires because they may not be able to displace enough oxygen to put the fire out, causing it to re-ignite.
- The following is a list of commonly used fire extinguishing systems and their corresponding classes of fire. The classes are indicated in parentheses such as (A, B, C):
  - o **Multi-Purpose Dry Chemical (A, B, C)**
    A dry chemical agent called mono ammonium phosphate. The chemical is non-conductive and can be mildly corrosive if moisture is present. In order to avoid corrosion, it is necessary to scrub and thoroughly cleanup the contacted area once the fire is out. A dry chemical fire extinguisher is usually used in schools, general offices, hospitals, homes, etc.
  - o **Regular Dry Chemical (B, C)**
    A dry chemical agent called sodium bicarbonate. It is non-toxic, non-conductive and non-corrosive. It is easy to cleanup, requiring only vacuuming, sweeping or flushing with water. Extinguishers with sodium bicarbonate are usually used in residential kitchens, laboratories, garages, etc.
  - o **Carbon Dioxide (B, C)**
    Carbon dioxide removes oxygen to stop a fire but has limited range. It is environmentally friendly and leaves no residue, so cleanup is unnecessary. Extinguishers with carbon dioxide are usually used in contamination-sensitive places such as computer rooms, labs, food storage areas, processing plants, etc.
HEALTH, SAFETY & ENVIRONMENT
FIRE SUPPRESSION CODE

- Halotron (A, B, C)
  A vaporizing liquid that is ozone friendly and leaves no residue. Because it requires no cleanup, fire extinguishers with halotron are ideal for computer rooms, telecommunication areas, theatres, etc.

- Foam (A, B)
  Foam floats on flammable liquids to tame the fire and helps prevent reflashes. To cleanup the affected area, it must be washed away and left to evaporate. Fire extinguishers with foam are usually used in garages, homes, vehicles, workshops, etc.

- Purple K Dry Chemical (B, C)
  A dry chemical called potassium bicarbonate. It is non-conductive and non-corrosive. Clean up requires vacuuming, sweeping or flushing with water. Extinguishers with potassium bicarbonate are usually used in military facilities, oil companies, vehicles, etc.

- Water (A)
  The most common agent is water; however, it cannot be used for class B or C fires because it is conductive. Water-based fire extinguishers are usually used in stockrooms, schools, offices, etc.

6.3 Inspections

- NCSG shall ensure that all fire extinguishers and suppression systems are inspected by designated competent, employees / contractors at minimum once per month or when the work site changes significantly.
- NCSG Fire Extinguisher Inspections shall be completed in a formal manner with signature and date of inspection / corrective action taken or needed for all extinguishers.
- NCSG Inspection shall include but is not limited to:
  - The extinguisher is not blocked by equipment, coats or other objects that could interfere with access in an emergency.
  - The pressure is at the recommended level. On extinguishers equipped with a gauge (such as that shown on the right), the needle should be in the green zone - not too high and not too low.
  - The nozzle or other parts are not hindered in any way.
  - The pin and tamper seal (if it has one) are intact.
  - There are no dents, leaks, rust, chemical deposits and/or other signs of abuse/wear.
  - Wipe off any corrosive chemicals, oil, gunk etc. that may have deposited on the extinguisher.
  - Invert and gently shake the dry chemical extinguishers once a month to prevent the powder from settling/packing.
  - Hydrostatic testing shall be verified as required for applicable extinguishers.

6.4 Minimum Emergency Response

- In the event of an unplanned fire, NCSG employees, contractors, visitors and general public shall consider the preservation of life as the first priority.
- In conjunction with site specific Emergency Response Plans, use the REACT acronym as outlined in Appendix B.
- Fire Extinguisher shall be used with the PASS acronym.
- IMPORTANT: Recharge all extinguishers immediately after use regardless of how much they were used.

6.5 Suppression Systems

- Suppression systems shall be checked as per NFPA and Building / Fire Code Requirements as per applicable legislation.
6.6 Vehicle Fires

- NCSG employees shall take immediate action in the event of a vehicle fire and ensure the safety of the occupants and the general public are the first priority.
- Stop – If possible, pull to the side of the road and turn off the ignition.
- The driver is responsible to ensure everyone gets out of the vehicle safely.
- Turn off the ignition to shut off the electric current and stop the flow of gasoline.
- Put the vehicle in park or set the emergency brake to prevent the vehicle from moving after occupants have left the vehicle.
- Keep the hood closed because more oxygen can make the fire larger.
- All Occupants are to muster at least 100 feet away and out of the flow of traffic to prevent being hit.
- Call for Help – Call 9-1-1 or the emergency contact number as applicable to the Emergency Response Plan.
- NCSG employees, contractors, visitors, and the general public shall not return to the vehicle to attempt to fight the fire.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- PPE Equipment specific training
- Fire Extinguisher familiarization training
- NCSG orientation

8.0 RESOURCES

- Alberta OH&S Code Part 10
- BC OH&S Code Part 4
- Saskatchewan OH&S Regulations XXV
- Manitoba OH&S Regulations Part 19
- Ontario Fire Protection and Prevention Act, Reg. 213/07
- National Fire Code

NCSG understands that there may be questions and concerns regarding the Fire Suppression Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Fire Classification Table
- Appendix B – REACT Emergency Response Table

10.0 SUPPORTING DOCUMENTS

- None

22/11/2011
Classification

Fire extinguishers are classified by the type of fire that they will extinguish.

- **A** Class A fire extinguisher is used for ordinary combustibles, such as wood, paper, some plastics and textiles. This class of fire requires the heat-absorbing effects of water or the coating effects of certain dry chemicals.
- Extinguishers that are suitable for Class A fires should be identified by a triangle containing the letter "A."
- If in color, the triangle should be green.

- **B** Class B fire extinguisher is used for flammable liquid and gas fires such as oil, gasoline, etc. These fire extinguishers deprive the fire of oxygen and interrupt the fire chain by inhibiting the release of combustible vapours.
- Extinguishers that are suitable for Class B fires should be identified by a square containing the letter "B."
- If in color, the square should be red.

- **C** Class C fire extinguisher is used on fires that involve live electrical equipment which require the use of electrically nonconductive extinguishing agents. (Once the electrical equipment is deenergized, extinguishers for Class A or B fires may be used.)
- Extinguishers that are suitable for Class C fires should be identified by a circle containing the letter "C."
- If in color, the circle should be blue.

- **D** Class D fire extinguisher is used on combustible metals such as magnesium, titanium, sodium, etc., which require an extinguishing medium that does not react with the burning metal.
- Extinguishers that are suitable for Class D fires should be identified by a five-point painted star containing the letter "D."
- If in color, the star should be yellow.

- **K** Class K fire extinguisher is used on fires involving cooking media (fats, grease, and oils) in commercial cooking such as restaurants. These fire extinguishers work on the principal of saponification. The alkaline mixture combined with the fatty acid create a soapy foam on the surface which holds in the vapours and steam and extinguishes the fire.
- These extinguishers are identified by the letter K.
Appendix B

REACT Acronym for Emergency Response in the event of a fire.

To be used in conjunction with NACG Emergency Response Plans.

R    Remove those in immediate danger
E    Ensure doors are closed (Particularly those in immediate fire area)
A    Activate the fire alarm
C    Call the Fire department (Dial 9 -1 – 1 ) or applicable Emergency Number as designated
T    Try to extinguish (if small and trained to do so)
REMEMBER!

- Be aware of the location of First Aid Kits / Stations within the worksites
- Inform appropriate individuals if First Aid Kits are not readily accessible or are in need of servicing
- Report any injuries at a work site
- Be aware of the designated First Aiders at the work site
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) has developed a First Aid Code to identify the proper level of protection required on work sites for First Aid and Medical Response for employees, contractors, and the public while operating within NCSG areas of responsibility. This code will aid employees in ensuring that adequate and satisfactory first aid materials, equipment and trained personnel are in place.

2.0 SCOPE AND APPLICATION

The correct identification of applicable quantity and type of first aid materials will enable NCSG employees who are properly trained to respond to first aid incidents within operational environments. Additional use of the training provided may also assist in minimizing the potential for time loss incidents due to Off Site activities involving NCSG employees. In conjunction with referenced legislation, clear and concise direction drives the standards, which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to the First Aid Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 First Aid

Immediate and temporary care given to an injured or ill person at a work site using available equipment, supplies, facilities or services, including treatment to sustain life, to prevent a condition from becoming worse or to promote recovery.
3.2 First Aider

An emergency first aider, standard first aider or more advanced first aider designated by an employer to provide first aid to workers at work site.

3.3 First Aid Attendant

See First Aider.

3.4 Low Hazard Work

Work that is performed at administrative sites, which are clerical or administrative in nature. Low hazard may also be a dispersal site where a worker is based, required to report for instruction or from which a worker is transported to a work site, where work is to be performed.

3.5 Medium Hazard Work

Work, which is neither defined as low hazard or high hazard.

3.6 High Hazard Work

Work, which involves construction or demolition, operation and maintenance, wood land operations, gas and oil well drilling and service operations, seismic operations, or detonation of explosives.

3.7 Musculoskeletal Injuries

All Musculoskeletal injuries shall be treated in the same manner as any first aid emergency. Which includes immediate response, treatment of the injured worker, investigation of the events leading up to the injury and implementation of necessary corrective actions.

4.0 EXPECTATIONS

The First Aid Code shall provide required and adequate criteria to ensure the correct number of trained personnel and equipment is located on all NCSG work sites as required to meet or exceed the legislation. The First Aid Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial/State/Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management System are updated a revision record will be posted to all employees notifying them of the update.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Be aware of the location of all first aid kits and stations within the work site area in use.
- After treatment or first aid provided, make record of the nature of first aid received and provide to your immediate Supervisor.
- Report any work related physical injury or sudden occurrence of illness experienced while at work.
- Render any and all reasonable assistance as trained to do so without putting yourself at risk.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure adequate first aid services, equipment, supplies that are required or defined by legislation are;
  - Readily available and accessible
  - Located at or near the worksite
  - Maintained in a clean, dry and serviceable condition
  - Clearly identified as first aid equipment, supplies and services (if applicable)
  - Known by all workers
- Ensure that a means to summon or request first aid is in place and communicated to all workers.
- Ensure that workers are made aware of their responsibility to report any work related physical injury or sudden occurrence of illness experienced while at work.
- Ensure that any work related physical injuries are recorded in a manner that will create and maintain an accurate written record on behalf of NCSG.
- Immediately correct any violations or infractions of this code, which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required ensuring compliance with this code and document said action appropriately.
5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code and all relevant legislation, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Compliance with Minimum Requirements – On Site First Aiders

NCSG shall make available at all work sites, at a minimum the required number of first aiders identified in the applicable legislation.

First Aiders shall be readily identified by a means, which is readily accessible to all employees who operate within the work environment.

NCSG shall be responsible to ensure the first aiders are:
- Over the age of 16
- Current and certified in the applicable First Aid training
- Aware of their designation to act as a First Aider on the work site
- Equipped with or have access to the adequate supplies to perform the duties required

6.2 Compliance with Minimum Requirements – First Aid Kits

NCSG shall ensure that all first aid kits on work sites or situated within company vehicles are located in readily accessible and identified locations. These kits shall meet or exceed all regulatory legislation.

NCSG (where applicable) shall be responsible to ensure the first aid kits are:
- Maintained in good working order
- Inspected on a scheduled routine
- Kept clean and sanitary
- Equipped with adequate supplies and re-stocked if required
- Clearly labeled and identified
In compliance with the applicable OH&S Regulations, First Aiders are not allowed to diagnose, prescribe or administer any medication. First aiders are allowed to assist individuals with their own prescribed medications if the casualty identifies the medication on his own and is unable to take it without assistance.

The inclusion of symptom relief medication falls outside of the scope of first aiders and should be left to individual choice and access. As a result, all NCSG first eight kits shall not include any over-the-counter medication designed for symptom relief. (i.e. Aspirin, ASA, Tylenol)

6.3 First Aid Review

NCSG shall ensure that there is a review of work scope to ensure that the legislative requirements are in place. Information to be reviewed or considered should include:

- type of work that is done
- hazards to which workers are exposed (hazard assessment)
- how close medical treatment services are to the work site
- medical transportation and accompanying injured workers
- what type of first aid treatment will be administered.

Reviews will be done prior to work commencing or when significant changes occur.

6.4 Transportation of Injured Workers

NCSG will ensure that before a worker is sent to a worksite, there is a way to transport an injured or ill worker from the work site to a health care facility. This will either be by an ambulance or a Supervisor or designated representative onsite who is able to provide transportation and is certified in first aid. Workers are given company cell phones which they will be able to use to contact an ambulance or the designated driver to the health care facility.

6.5 Records

- NCSG will record every acute illness or injury that occurs at the work site in a record kept for the purpose as soon as practicable after the illness or injury is reported to the employer.

- A record must include the following:
  - The name of the worker
  - The name and qualifications of the person giving first aid or the name of the treating facility
  - A description of the injury or illness
  - The first aid given to the worker
The date and time the illness or injury was reported
Where at the worksite the incident occurred
The work-related cause of the incident, if any.

The employer must retain the records kept under this section for 3 years from the date the incident is recorded.

All records of First aid must be secured and kept confidential so that no person other than the worker has access to the worker's records unless;
- The record is in a form that does not identify the worker
- The worker has given written permission to the person, or
- Access, use and disclosure of the information are in accordance with privacy laws and or the requirements defined under the applicable legislation.

Workers have the right to request a copy of their records.
REMEMBER!

- Use proper storage cabinets
- Ground and Bond equipment
- NO SMOKING in restricted areas
- Check MSDS for incompatible materials
- Place oily rags and waste material in approved covered containers
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group (NCSG) and its affiliated companies have developed a Flammable Combustibles - Storage and Handling Code to identify the proper level of protection against a potential injury / damage to employees, contractors, and the public / property regarding the storage and handling of flammable combustibles while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct storage of flammables is essential in maintaining a safe work environment and understanding of non compatible material storage will enable employees to ensure adequate protection from potential injury / property damage during operational environments. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

The following definitions are specific to Flammable Combustibles - Storage and Handling Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Flammable Material

Substances that can ignite easily and burn rapidly. They can be common materials that are at most work sites in gas, liquid and solid forms. Some examples of flammable materials include:

- Gases
  - propane,
  - butane,
  - methane,
  - acetylene,
  - carbon monoxide,
hydrogen sulphide. Flammable gases are usually gases with an LEL of less than 13% in air, or have a flammable range in air of at least 12%.

- **Liquids**
  - gasoline,
  - acetone
  - alcohols and toluene
  - paint and paint thinners
  - adhesives
  - degreasers
  - cleaners
  - waxes
  - polishes

Flammable liquids, have a flashpoint low 37.8° Celsius

- **Solids**
  - some types of coal
  - pyrophoric metals (metals that burn in contact with air or water, such as sodium and potassium)
  - solid wastes, which are soaked in flammable liquids (breaks, paper, spill clean-up products)
  - gunpowder
  - matches

### 3.2 Lower Explosive Limit

The lower value of the range of concentrations of the substance, in a mixture with air, at which the substance may ignite

### 3.3 Auto Ignition Temperature

The lowest temperature at which a flammable material will ignite on its own and burn without the introduction of an ignition source

### 3.4 BLEVE (Boiling Liquid Expanding Vapour Explosion)

A pressure release explosion occurring when liquid containers fail due to fire

### 3.5 Explosion

A very rapid build-up and release of pressure resulting from decommissioned a flammable gases or flammable liquid vapours in an enclosed container or space.

### 3.6 Flammable Range

The minimum and maximum concentration range of a flammable vapour in the air that can ignite on contact with an ignition source
3.7 **Flashpoint**
Lowest temperature at which a flammable or combustible liquid gives often enough paper to form any night table mixture with air which burns.

3.8 **Ignition Point**
Minimum temperature at which a flammable or combustible liquid gives off enough vapour to form a sustained ignitable mixture with air.

3.9 **Upper Explosive Limit**
Maximum concentration of a flammable vapour in the air that will burn.

4.0 **EXPECTATIONS**
The Flammable Combustibles - Storage and Handling Code shall provide required adequate process to ensure knowledge of flammable combustibles and the safe storage and handling of these materials at an NCSG worksite. The Flammable Combustibles - Storage and Handling Code will be reviewed at a minimum of every three years as outlined in the Health, Safety and Environment review schedule.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

5.0 **ROLES AND RESPONSIBILITIES**

5.1 **Employees**
It is the employee’s responsibility to:

- Ensure storage and handling of combustible materials is in accordance with the training received and the code requirements outlined herein.
- Ensure that all flammable combustibles are used in accordance with manufacturer’s specifications and only used for the intended purpose.
- Ensure the appropriate personal protective equipment required in the handling of flammable combustibles in accordance with the training and instruction received is used.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments due to the use of flammable combustibles.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:
- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:
- Ensure that workers use and wear properly the appropriate personal protective equipment required in the handling of flammable combustibles in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:
- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:
- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Development of Flammable Combustibles - Storage and Handling Code

NCSG shall ensure that in addition to the Flammable Combustibles - Storage and Handling Code, site specific Standard Operating Procedures and Field Level Risk Assessment shall if required expand on and address:
- Storage
- Dispensing
- Spill cleanup
HEALTH, SAFETY & ENVIRONMENT

FLAMMABLE COMBUSTIBLES AND STORAGE HANDLING CODE

- Incompatible Storage and Materials
- Primary Use of Engineering Controls
- PPE, specific for flammable product handling
- Emergency Response and Fire Protection /prevention
- Cross reference to any site specific NACG codes (e.g. Hot Work, Confined Space, etc)

6.2 Storage and Handling of Flammable Combustibles

NCSG shall not store the flammable materials near exits, electrical equipment or heating equipment.

NCSG shall make all reasonable effort to store flammable combustibles in separate, well ventilated storage areas, away from potential sources of ignition. If the material is removed from its original container, it must be placed into a container that is appropriate for flammable materials. All flammable liquids shall be stored in reasonable quantities and in approved safety vented containers.

6.2.1 Portable storage containers for flammable liquids

Only containers Approved for portable storage of a flammable liquid shall be used when a flammable liquid has been transferred from the original container (one they were purchased in), or from bulk storage such as a drum or tank. Containers that are approved for the use and storage of "portable quantities" are usually made of metal or plastic, are vapour-proof and have:
- welded seams,
- spark or flame arrestors,
- pressure relief valves or spring closing lives with spout covers

All portable containers used by NCSG employees, contractors, visitors and general public on NCSG worksites shall meet one of the following standards:
- Underwriter’s Laboratories of Canada, ULC/ORD-C30-1995, Safety Containers
- CSA, B376-M1980-R2003, Portable Containers for Gasoline and Other Petroleum Fuels

6.3 Use of Storage Cabinets

NCSG shall ensure all flammable liquids which are not in use, and are stored inside a building are stored inside certified storage cabinets that meet the requirements of Standard ULC-C1275-1984, Guide for the Investigation of Storage Cabinets for Flammable Liquid Containers. NCSG shall not store in excess of 500 L of flammable and combustible liquids in each cabinet and in addition shall ensure that no more than half of the total volume (up to 250 L) shall be flammable liquid.

6.4 Use of Storage Tanks / Rooms

If site specific storage tanks or rooms are used, NCSG shall ensure other types of chemicals which are not compatible are not stored near bulk containers of flammable materials and combustibles. Adequate space and distance shall be maintained of any bulk storage containers from potential sources of ignition, such as heat sparks or open flames and compressed gases shall not be stored beside flammable containers.
Bulk storage areas shall be equipped with adequate spill protection and shall be marked with appropriate signage indicating the contents and the restriction of smoking within the designated area. Adequate ventilation systems shall be designed and maintained on a regular schedule.

6.5 Bonding and Grounding

The application of bonding and grounding shall be used to prevent sparks from being created when liquids are transferred between containers.

6.6 Incompatible Storage Restrictions

- NCSG shall ensure that incompatible materials are not stored in a manner that may create a hazardous environment.
- MSDS information shall be used to ensure proper storage of flammable combustibles.
- All oily and flammable waste shall be disposed of in approved containers with lids.

6.7 Emergency Response Procedures

NCSG shall ensure that in addition to emergency response procedures as required by legislation. All employees, contractors, visitors are made familiar with site-specific hazards pertaining to flammable combustibles as applicable. Company Standard Operating Procedures shall ensure the following assessment information is compiled prior to any work beginning:

- Limit the amounts of flammable and combustible materials
  - keep only what is required on site
  - do not purchase excess volumes
  - ensure only task related flammable combustibles that are needed at the work site are exposed
  - minimize accumulation of hazardous wastes at worksites
  - store products in appropriate and certified containers
  - isolate flammable combustibles from other processes and storage areas
- Provide proper ventilation to ensure flammable vapours do not accumulate
  - ensure properly designed ventilation and storage areas
  - ensure processes, which use or make flammable materials do not exhaust back into the work site
  - ensure equipment exhaust and ventilation systems exhaust to the outside of the building and away from air intakes
  - all ventilation systems are properly maintained and comply with applicable building codes
- Control ignition sources
  - ensure grounding and bonding as required
  - ensure No Smoking restrictions are adhered to
  - ensure flammable combustibles are not stored near hot equipment, open flames, or other ignition sources
  - as required use non sparking tools

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Fire Extinguisher Familiarization and Training
- PPE Equipment specific training for Flammable Combustibles
8.0 RESOURCES

- Alberta Employment and Immigration – Workplace Health & Safety Bulletins – FEX002 Self Fire and Explosives
- Alberta OH&S Code Part 10
- BC OH&S Code Part 5
- Manitoba OH&S Regulations Part 19
- Ontario Fire Protection and Prevention Act, Division B, Part 4, Section 4.2
- Saskatchewan OH&S Regulations Part XXV
- National Fire Code
- Underwriter’s Laboratories of Canada, ULC/ORD-C30-1995, Safety Containers
- CSA, B376-M1980-R2003, Portable Containers for Gasoline and Other Petroleum Fuels

NCSG understands that there may be questions and concerns regarding the Flammable Combustibles - Storage and Handling Code.

Please direct any questions regarding the Code to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None

10.0 SUPPORTING DOCUMENTS

- None
REMEMBER!

- Use PPE – latex gloves, masks to prevent contact
- Watch out for broken glass, sharp edges, etc
- Dispose of hazardous material properly – Use SHARPS containers if required
- Know the First Aiders on site – They are properly trained for Bloodborne Pathogen exposure
- Wash after possible contact prior to eating / drinking with soap & water
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed a Bloodborne Pathogens Code to identify the proper level of protection against a potential exposure to employees, contractors, visitors and the public while operating within NCSG areas of responsibility.

2.0 SCOPE AND APPLICATION

The correct Standard Operating Procedures and education of Bloodborne pathogens will enable employees to ensure adequate protection from activities involving potential exposure to these hazards during operational environments. First Aid Responders and Emergency personnel are more likely to be exposed to bloodborne pathogens and shall be trained in the recognition and handling of bloodborne pathogens. In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Code applies, without exception, to all NACG Companies.

3.0 DEFINITIONS

The following definitions are specific to Bloodborne Pathogens Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company Standard Operating Procedures.

3.1 Bloodborne Pathogen

Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).
HEALTH, SAFETY & ENVIRONMENT
BLOODBORNE PATHOGENS CODE

3.2 Contaminated Sharp

Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires

3.3 Occupational Exposure

Reasonably anticipated skin, eye, mucous membrane, or potential contact with blood or other potentially infectious materials that may result from the performance of an employee's duties. The response of a company assigned first aider may be considered occupational exposure.

3.4 Other Potentially Infectious Materials (OPIM)

- The following human body fluids:
  - Semen
  - Vaginal secretions
  - Cerebrospinal fluids
  - Synovial fluid, pleural fluid
  - Pericardial fluid, peritoneal fluid
  - Amniotic fluid, saliva in dental procedures
  - Any body fluid that is visibly contaminated with blood
  - All body fluids in situations where it is difficult or impossible to differentiate between body fluids;
- Any unfixed tissue or organ (other than intact skin) from a human (living or dead);
- HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

3.5 Universal Precautions

An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

4.0 EXPECTATIONS

The Bloodborne Pathogens Code shall provide required and adequate guidelines to ensure knowledge of potential hazards to all employees, contractors, visitors and general public within NCSG areas of responsibility is minimized. The Bloodborne Pathogens Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

It is the employee’s responsibility to:

- Use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Inspect personal protective equipment before using it, and
- Not use personal protective equipment that is unable to perform the function for which it is designed.
- Identify immediately to the next level of authority the improper handling, staging or disposal of potentially infectious and/or sharps materials.
- Be responsive, through adequate training, to minimize the risk of exposure to potential work environments which may be prone to bloodborne pathogens.

5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- NCSG employees, contractors shall utilize standard precautions whenever working with potentially infectious materials. Under standard precautions all blood products, human/animal tissues and other potentially infectious materials are considered infectious regardless of the perceived status of the source animal/individual, and work practices are chosen appropriately under these assumptions.
- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers use and wear properly the appropriate personal protective equipment specified in this code in accordance with the training and instruction received.
- Ensure appropriate PPE as specified in this code is readily available for all employees, contractors, visitors within NCSG areas of operation or active worksites.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this Code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.5 Health, Safety and Environment Team

It is the Health, Safety and Environment team responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.

6.0 METHOD

6.1 Personal Protective Equipment

NCSG employees, contractors and visitors shall use personal protective equipment (PPE) whenever engineering controls and company Standard Operating Procedures (administrative) alone do not provide ample exposure protection. Selection of PPE shall be based on the anticipated level of exposure to potential blood borne pathogens. Appropriately selected PPE shall protect the employee from contact with potential blood borne pathogens via contact with skin, eyes, and mucus membranes and/or through aerosol inhalation under normal conditions throughout the period of exposure risk. Effective PPE should also prevent the clothing of NCSG employees, contractors, visitors from coming into contact with blood or other potentially infectious materials.

The following PPE items shall be considered the minimum acceptable level of protection and shall be worn during all activities involving potentially infectious agents:

- Gloves (latex, nitrile or other approved impervious material);
- Eye Protection (CSA approved safety goggles or glasses equipped with splash guards).

In conjunction with NCSG Code compliance for PPE – Footwear, the wearing of clothing which exposes skin on the legs (shorts, short skirts etc.) and feet (sandals, flip-flops, etc.) is strictly prohibited and shall not be worn when the potential for handling infectious materials exists.

Procedures which pose exposure risks that cannot be suitably managed by engineering controls and minimum level PPE (gloves and eye protection) shall require the implementation of a higher level of PPE.

Disposable clothing: procedures involving high potential for splashing/spattering of blood or other potentially infectious materials may also necessitate protection beyond standard work site clothing. Disposal clothing composed of impervious fabric shall be available if the Field Level Risk Assessment / Emergency Response Procedures identify the need.

6.2 Procedures During Contact

NCSG employees, contractors shall be familiarized with the location and operation of eye-wash stations and safety showers in anticipation of an exposure incident. All exposure incidents (i.e. needle sticks) must be reported to Health, Safety and Environment Team.
All needles, scalpels, blades, scissors and other items which pose laceration hazards shall be considered infectious "sharps" materials. Sharps materials shall be disposed of in the following manner:

- Sharps materials shall be placed in an approved "sharps" container which shall have the following properties:
  - All containers used for sharps disposal shall be rigid and puncture resistant;
  - Sharps containers shall be leak resistant;
  - Sharps containers shall be capable of being readily (without coming into contact with sharps materials) and securely sealed prior to disposal;
  - Sharps containers shall be clearly marked with the following labeling; "BIOHAZARD: INFECTIOUS SHARPS".

Fingers/hands shall never be placed inside of sharps container. In the unlikely event that an item would have to be retrieved or dislodged from a sharps container, forceps or another mechanical device must be utilized. Sharps containers shall not be overfilled: sharps materials must fit completely into container - portions of sharps materials must not be allowed to protrude from the top of the vessel. When containers approach being full, seal them securely, arrange for disposal and replace with new (empty) sharps containers. Note: full, properly sealed sharps containers shall be isolated for disposal in compliance with company and legislative directions.

Suitable sharps containers shall either be purchased from laboratory supply catalogues or be manufactured from sturdy plastic containers such as milk jugs. Improvised containers shall meet the labeling and handling requirements listed above.

Non-infectious broken glass shall include all broken glassware which has not come into contact with potentially infectious agents. These materials may include such items as: glassware broken during or after cleaning, glassware broken while containing non-infectious materials (water, buffers et. al.), broken coffee cups, broken soda bottles etc. NCSG employees, contractors, visitors who dispose of non-infectious broken glass shall take the following precautions:

- Place all non-infectious broken glass items into puncture resistant containers (a sturdy cardboard box is preferred);
- Do not fill above the top of the box, when approaching full, seal box and wrap box with several strips of packing or duct tape;
- Clearly label box "NONINFECTIOUS BROKEN GLASS" (indelible black marker preferred);
- Dispose of non-infectious broken glass box through standard NCSG housekeeping (or place in regular "domestic" trash dumpster).

6.3 Clean Up of Infectious Material / Spills

Response to spills involving materials suspected to be of a Bio- Hazardous Material shall only be conducted by specially trained and protected personnel. Any level of contamination outside of the scope of a first aid responder shall be outsourced to the appropriate personnel for disposal and containment. Any on-site Emergency Response Procedures shall be detailed to contain and minimize risk of exposure. The following shall be considered the minimum procedures to contain a spill on site:
NCSG employees, contractors shall use a 10:1 water to bleach solution (10% bleach solution) for the clean-up of contaminated surfaces.

The use of an Emergency Response Kit (for use by First Aid Responders / Spill Response Personnel) and shall contain:
- one gallon of premixed 10% bleach solution
- Absorbent materials, such as absorbent pads, vermiculite or disposable towels, for containing and treating spills
- Spray/mist bottles for bleach solution application
- A cache of unused "red bags" for receiving waste generated during spill response or for over packing leaking containers
- Rigid containers for receiving contaminated broken glass and other sharps materials
- Liquid impermeable disposable coveralls, gloves, boots, caps and "protective breathing devices such as N-95 respirators
- Eye protection gear, including splash resistant safety glasses
- Access to: A broom, heavy duty brush and dustpan (for spills involving sharps materials);
- Extra clothing to replace contaminated items (disposable coveralls).

The above listed material shall be maintained and checked regularly as part of NCSG Emergency Response Equipment. Quantity of kits and placement shall be established by the Regional Team Lead - Health, Safety and Environment Team in conjunction with Field Level Risk Assessments and Company standard Operating Procedures.

6.4 Post Exposure Follow – Up

NCSG employees, contractors involved in a potential exposure to bloodborne pathogens shall thoroughly wash hands with soap and water immediately upon the removal of gloves following the performance of tasks involving potentially infectious materials.

If required, all laboratory tests required in association to the exposure incident shall be conducted by accredited laboratories at no cost to affected employee(s). Employees shall receive a copy of the attending healthcare professional's written opinion within an acceptable timeframe of days of the completion of the exposure evaluation.

6.5 Recordkeeping

All exposure incidents shall be reported, investigated and documented using the applicable NCSG employee incident investigation forms. Employees shall report exposure incidents to their supervisor immediately.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- All employees who have the potential for coming into contact with bloodborne pathogens and/or other infectious materials shall be provided with training to eliminate / minimize the risk of exposure. This training may be part of the Standard First Aid Training provided through NCSG Training Programs.
Follow up refresher training shall be conducted on (at minimum) an annual basis after the initial training session.

- Training programs shall include the following elements:
  - Explanation of NCSG’s Bloodborne Pathogens Code and its contents discussion of the modes for the transmission of bloodborne pathogens and other infectious materials;
  - Discussion of methods for identifying tasks which involve the potential for exposure to blood products and other infectious materials;
  - Information regarding the use and limitations of engineering controls for reducing exposure risks;
  - Detailed information regarding the use and limitations of personal protective equipment (PPE) for reducing exposure risk;
  - Hands-on training detailing types, applications, and proper use.
- Standard First Aid / First Responder training
- PPE Equipment specific training
  - N95 Respirator
  - Disposable Rubber or Latex gloves
  - Disposable Coveralls
  - Eye / Face Protection to prevent infectious materials from coming in contact with eye membrane
- NCSG orientation

8.0 RESOURCES

- Alberta OH&S Code Part 18
- BC OH&S Regulation Part 8
- BC OH&S Regulation Part 5
- BC OH&S Guidance Part 5
- Saskatchewan OH&S Regulation Part VII
- Manitoba OH&S Regulations Part 5
- Ontario OH&S Reg. 851, Part 1
- Canadian Centre for Occupational Health & Safety
- OSHA Bloodborne Pathogen Regulations (29 CFR 1910.1030)

May all be used to reference additional information pertaining to bloodborne pathogens and control methods for minimizing potential exposure and risk.

NCSG understands that there may be questions and concerns regarding the Bloodborne Pathogens Code.

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- None
10.0 SUPPORTING DOCUMENTS

- NCSG Code – Personal Protective Equipment - Eye and Face Protection
- NCSG Code – Personal Protective Equipment – Respiratory Protection
1.0 PURPOSE

The purpose of this Process is to define a method to ensure NC Services Group or its affiliated companies (referred to as NCSG) Policy, Processes, Codes and Standards remain current with applicable legislation and proposed changes or amendments.

2.0 SCOPE AND APPLICATION

All changes in applicable legislation will be identified and reviewed to determine their potential impact on NCSG operations. Any changes in operational processes, codes and standards required to conform to the change in legislation will be developed and implemented and communicated to all interested or affected parties such as onsite contractors or senior management.

This process applies to all employees who are engaged in NCSG company business, including contractors.

3.0 DEFINITIONS

3.1 Applicable Legislation

Legislation which is in place at a provincial, state, or federal level which sets a standard or establishes a requirement for how NCSG will conduct operations.

3.2 Consensus Standards

Technical specification or other document drawn up with the cooperation and consensus of all interests affected by it. Aimed at the promotion of optimum community benefits and approved by a standardizing body. Often referenced in legislation as a standard which must be met in order to be compliant.

3.3 Industry Recognized Standard of Practice

Present practices of those organizations which are recognized practices thought to have the most effective safety programs. Often those practices exceed legislated requirements.

3.4 Group

A number of persons who congregate under the same: crew, site, job, supervisor, division, business unit, company or any combination of these.

3.5 Diligence

Legally, environmentally, and ethically correct, as well as timely and economical.
4.0 EXPECTATIONS

This process will identify health and safety compliance deficiencies within NCSG. As well, it will compare current NCSG processes, codes and standards against Industry Standards to identify shortcomings.

It must lead to the planning, implementation and subsequent verification of actions necessary to correct and prevent each deficiency or shortcoming identified. Each corrective and preventive action must be executed diligently.

5.0 ROLES AND RESPONSIBILITIES

5.1 Regional Team Lead HS&E

- Provide leadership and support in the implementation and management of this Process.
- Monitor changes and/or additions to the Regulations under which NCSG conducts business and make recommendations to the Vice President of HS&E for amendment of policy or practice.
- Monitor Industry Recognized Standard Practices for processes or procedures which NCSG utilizes and make recommendations to the Vice President of HS&E for amendment of policy or practice.
- Monitor changes and/or additions to the various Standards under which NCSG conducts processes and make recommendations to the Vice President of HS&E for amendment of policy or practice.
- Identify Regulatory nonconformance’s and/or Industry Standard shortcomings and make recommendations to the Vice President of HS&E for amendment of policy or practice.
- Determine, along with the applicable Group or Groups, resulting corrective/preventive actions in a consistent manner.
- Track the required corrective action(s) to ensure that they are completed and that they resolve the Regulatory requirement and meet or exceed Industry Standards.

5.2 HS&E Advisors

- Assist Regional Team Lead HS&E to identify changes in Regulations, Industry Standards and/or other Consensus Standards which they may become aware of.
- Forward copies of the proposed changes or additions to Regional Team Lead HS&E for review.
- Where an identified change or addition to a Regulation, Industry Standard or other Consensus Standard applies to only one Group, that Group along with Regional Team Lead HS&E shall determine what changes in process are required to comply with the change or addition.
- Where an identified change or addition to a Regulation, Industry Standard or other Consensus Standard applies and or will apply to more than one Group, the affected Groups along with Regional Team Lead HS&E will work jointly to determine changes in process that are required by the Groups or NCSCG as a whole to comply with the change or addition.
6.0 METHOD

6.1 Identify Applicable Requirements

Establish which OH&S Act, Codes, Regulations and Standards are applicable to NCSG facilities and operations, both existing and proposed.

6.1.1 Identify Legal Requirement

- All Provincial, State, and Federal legislative requirements which would apply to NCSG operations.
- Information will also be derived from subsequent compliance audits.

6.1.2 Identify Other Requirement

- Identify any external standard which may apply to NCSG operations which would be required under registration in external associations or programs such as Certificate of Recognition (COR) or CSA Z1000.
- Information will also be derived from subsequent compliance audits.

6.2 Obtain Specifics Regarding the Requirement

Obtain electronic or hard copies of regulations or standards by best available means for review.

6.3 Identify Compliance Tasks

Identify actions required to meet the Regulatory or other requirements and determine what actions are necessary to ensure compliance.

6.4 Identify and Track Changes in the Requirements

6.4.1 Regulatory Changes

Using a system of Legislation Monitoring software:
- Canadian Centre for Occupational Health and Safety (CCOHS) Canadian EnviroOSH Legislation;
- OH&S Legislation web site for the applicable jurisdictions;
- Audits;
- Notices by associations or like groups; and
- Health and Safety Newsletters or general mail outs.

6.4.2 Changes in Other Requirements

Using a system of Networking and/or Association memberships:
- Notices by associations or like groups;
- Health and Safety Newsletters or general mail outs;
- Networking; and
- Attendance at Health and Safety focused conferences.
6.4.3 Internal Process Changes

Using a system of Networking and/or Association memberships:
- Change management process;
- Authorization for the introduction of new chemicals into the workplace;
- Acquisitions; and
- Additions to existing facilities.

6.5 Implementation of Requirement Changes

To implement required changes, the HS&E team will:
- Review the proposed requirement change for impact on NCSG operations; and
- Determine if it impacts a single group or multiple groups or all of NCSG.

6.5.1 Single group impact
- Work with affected group to assist in determining required change(s) to meet change in Requirement
- In a collaborative manner determine procedural changes that are required.

6.5.2 Multiple group impact
- Work with affected groups to assist in determining required change(s) to meet change in Requirement
- In a collaborative manner determine procedural changes that are required.
- Develop a Corporate direction to ensure consistent and appropriate change in procedures.

6.5.3 All of NCSG
- Work with HS&E Team in determining required change(s) to meet change in Requirement
- In a collaborative manner determine procedural changes that are required.
- Develop a Corporate direction to ensure consistent and appropriate change in procedures.

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Legislation Tracking and Updating Process
- Canadian Centre for Occupational Health and Safety (CCOHS) Canadian EnviroOSH Legislation database
- OH&S Legislation web site for the applicable jurisdictions

8.0 RESOURCES

Contact Regional Team Lead HS&E for more information regarding this Process.
9.0 APPENDICIES

- Appendix A – Applicable Regulations

10.0 SUPPORTING DOCUMENTS

- CSA Z1000 Standard
- Health, Safety and Environment Management System Standard

Applicable Regulations

- British Columbia Occupational Health and Safety Regulations - July 30, 2004
- B.C. Workers Compensation Act
- B.C. Power Engineers and Boilers, and Pressure Vessels Safety Act and Regulations -
- Alberta Workers Compensation Act
- Alberta Regulation 292/95 Mine Safety
- Alberta Boiler Safety Association
- Ontario Workplace Safety and Insurance Act – 1997
- Ontario Regulation 220/01 Boilers and Pressure Vessels - 2001
- Hazardous Material Information Review Act
- Pest Control Products Act and Regulations
- Atomic Energy Control Act –
- General Nuclear Safety and Control Regulations
- Highway Traffic Act -
- Vehicle Administration Act -
- Motor Carriers Act –
- National Plumbing Code of Canada - 1995
- Canadian Electrical Code Part I - 2002
- Alberta Electrical Utility Code
- Alberta Fire Code – 1997
- British Columbia Fire Code
- American Council of Government and Industrial Hygienists (ACGIH ) - various
- American National Safety Institute (ANSI) Standards – various
- American Society of Mechanical Engineers (ASME) Standards – various
- American Society for Testing and Materials (ASTM) Standards – various
• European Committee for Standardization (CEN) Standards – various
• Canadian Standards Association (CSA) Standards – various
• International Standards Organization (ISO) – various
• National Resources Canada – various
• National Standards of Canada Standard - various
• National Fire Protection Standards (NFPA) Standards – various
• Society of Automotive Engineers (SAE) – various
• Underwriters Laboratories of Canada (ULC) Standards – various
• American Society of Heating, Refrigeration, and Air conditioning Engineers (ASHRE) – various
1.0 PURPOSE
NC Services Group and its affiliated companies (NCSG) has developed a Safety Meeting Code to define the role, responsibility and outline the expectations of Safety Meetings. Safety meetings are an integral part of NC Services Group’s (NCSG) Health, Safety & Environmental Program. The meetings afford effective ways to communicate hazards and suggest solutions to the hazards employees may encounter while performing their job duties. This Policy provides the mandatory requirements for conducting regularly scheduled safety meetings.

2.0 RESPONSIBILITY
It is the supervisor’s responsibility to communicate to employees all safety information that is necessary to complete their job duties in a safe manner. To accomplish this, the supervisor shall:

- Do everything within their control to assure a safe workplace for their employees;
- Ensure that employees are aware of and comply with NCSG’s Health & Safety Policies, Safe Work Practices and Safe Job Procedures;
- Discuss health and safety matters, NCSG’s goal to provide a safe work place, and encourage open discussions of employee concerns, including a safe and secure work environment;
- Discuss Safe Work Practices and Safe Job Procedures anytime it appears that an employee is not following safety policies, practices and procedures;
- Discuss health and safety issues at least annually at the time of issuing Individual Development Plans/Performance and Appraisals or probation evaluations.

To encourage a free-flow of ideas regarding improving employee safety, the supervisor should take every opportunity to exchange ideas on safety and incident prevention with employees, commend them for their efforts to perform their job safely, and invite employees to discuss safety suggestions. Supervisors should review and consider all employee suggestions and implement or arrange to implement them whenever possible. If a safety suggestion is beyond the authority of the front-line supervisor, he should arrange to have the suggestion reviewed by a higher level for consideration and implementation.

The supervisor shall have a discussion with employees, prior to beginning work, when a new job duty or process is introduced. They will instruct employees on how to recognize hazards, discuss specific procedures for avoiding injury or damage and discuss the reporting procedure and incident investigation policy in the event of injury or damage. Supervisor shall document these discussions as part of the regularly scheduled safety meeting.
It is the front-line supervisor’s responsibility to conduct safety meetings. HS&E Advisors can be utilized as a resource (i.e. preparing the meeting).

3.0 METHOD

3.1 Toolbox Talks for Field Personnel

Toolbox talks will be held prior to the commencement of work at the beginning of the job and for any new, unfamiliar, non-routine or potentially hazardous task. *All employees involved in the work shall attend a toolbox talk daily.* The contents of this meeting shall include, but not limited to:

- Method of performing the task;
- General safety requirements (PPE);
- Hazards likely to be encountered (determined from hazard assessment);
- Procedures to control the hazards;
- Contents and type of work permit required;
- Emergency response procedures;
- Incident investigation and reporting procedures;
- Communications and equipment requirements.

During these meetings, employees should be encouraged to discuss health and safety issues and inform the supervisor of any concerns that are perceived as a workplace hazard and/or potential workplace hazard.

Employees should be encouraged to discuss “near miss” incidents. It should be understood that near miss incidents are incidents that did not result in contact, injury, or damage. Near miss incidents are indicators that the operation or activity being performed/conducted may require a change or adjustment to prevent or eliminate the likelihood of injury or damage.

3.2 “Tailgate” Meetings for Transportation Personnel

“Tailgate” meetings are to be held and a record of the meeting maintained whenever the following (but not limited to) circumstances occur:

- A utility company escort is required.
- When the transport of a load requires the use of more than one pilot vehicle.
- When a crane(s) and/or “jack ‘n roll” equipment under the care and control of a NC Services Group Company are required for loading or unloading.
- When the transport of a load requires the use of a steering dolly.
On occasion there will be circumstances or other situations occurring outside these guidelines where it is evident a “Tailgate” meeting must be held. Those circumstances will be reviewed on their own merit. The company supervisor, or in the absence of a supervisor, the Lead Pilot Car Operator designated by dispatch will direct this meeting, as well as ensure minutes of the meeting are completed and forwarded to management.

Topics to be discussed in “tailgate” meetings include:
- Description of the job, including any possible interference.
- Expected time duration of the job.
- Specific responsibilities of personnel on site during normal operations.
- Availability and location of personal protective equipment on site.
- Specific responsibilities of personnel during an emergency.
- Location of a “Safe Assembly Area”.
- Emergency response procedures.

3.3 Weekly/Monthly Safety Meetings
Attendance records must be completed for all safety meetings and this record must be signed by the attendees and kept on file along with the minutes of the meeting. The agenda for the meetings conform to the following outline:
- Safety Topic – Safe Work Practice, Safe Job Procedure, Company Policy, or value added subject material pertinent to our business operation.
- Review of weekly (or monthly) incidents and/or near misses within the region, and any other significant incidents or learners from other regions within NCSG or other companies.
- Discussion of Old Business, i.e. review of outstanding issues from previous meeting
- New Business – any comments, concerns, suggestions from supervision and/or employees

3.4 Attendance
It is mandatory for all field supervision and employees to attend safety meetings. All managers, including senior management (when available), shall attend a scheduled safety meeting at lease once per month.
3.5 How to Document Safety Meetings
The safety meeting form satisfies the requirement of documenting safety meetings. The form includes space to record the date, location, names of employees in attendance, and topics discussed. Additionally, there is space to record information about suggestions for correcting unsafe conditions, and/or work practices, other health and safety concerns, and comments.

3.6 Monitoring the Safety Meeting Process
Management is responsible to monitor safety meetings conducted by their front-line supervision. Monitoring procedures shall include a review of previous safety meeting minutes, and ensure that appropriate actions are taken to correct any alleged unsafe conditions or acts in a timely manner. To ensure that safety meeting reports are monitored:

- The HS&E Advisor is responsible to ensure that the supervisor has signed off on the safety meeting minutes;
- The Branch Manager is responsible to review the safety meeting minutes for content, scope, and corrective actions, then sign the original report and return to the HS&E Advisor;
- The HS&E Advisor shall record “open” action items on the Corrective & Preventative Action form and file the minutes in the appropriate area.

4.0 CORRECTIVE ACTIONS
All alleged unsafe conditions and/or acts that are reported shall be investigated and corrected in a timely manner. The supervisor shall determine if the situation can be handled routinely or if the condition is crucial and requires immediate action.

If the recommended corrective action is beyond the ability of the front-line supervisor, the Branch Manager shall be consulted and an appropriate action plan shall be jointly developed to ensure that alleged or actual unsafe condition(s) are corrected in a timely manner. If the problems and/or deficiencies identified are beyond the ability or scope of responsibility of the front-line supervisor or Branch Manager, he shall take necessary action to inform appropriate levels of management to correct the problem.
5.0 WORKPLACE HEALTH & SAFETY COMMITTEE

NCSG requires all affiliated companies to establish a Workplace Health and Safety Committee. This committee is to meet a minimum of 9 times a year.

5.1 Responsibilities of the Workplace Health and Safety Committee

NCSG will ensure that the following responsibilities of the Workplace Health and Safety Committee will be met:

- Receiving, considering and addressing, in a timely manner, complaints related to the health and safety of all personnel.
- Maintaining records relevant to the nature of complaints related to the health and safety of all personnel.
- Cooperating with any Occupational Health Service established to serve the workplace.
- Establishing and promoting health and safety programs for the education of personnel represented by the committee.
- Participating in all inquiries and investigations pertaining to Occupational Health and Safety, including consulting, as necessary, with professional and/or technical people who are qualified to advise the committee on those matters.
- Developing, establishing and maintaining programs, measures and procedures for the protection and/or improvement of the health and safety of all personnel.
- Regularly monitoring programs, measures and procedures for the protection and/or improvement of the health and safety of all personnel.
- Ensuring adequate records, related to workplace accidents, injuries and health hazards, are maintained and will regularly monitor data relating to those accidents, injuries and hazards.
- Maintaining accurate records of all matters that come before the committee, including written minutes of meetings and making those minutes and records available to the Safety Officer, upon request.
- Cooperating with the Safety Officer.
The Workplace Health and Safety Committee members are expected to become involved in and deal with workplace health and safety matters, as the need arises. They are also expected to actively become involved with the development of prevention programs for the improvement of workplace health and safety. NCSG shall, in respect of every place controlled by NCSG and, in respect of every work activity carried out by an employee in the work place that is not controlled by NCSG, to the extent that NCSG controls the activity, consult the Workplace Health and Safety Committee in the implementation of changes that might affect occupational health and safety, including work processes and procedures.

The Workplace Health and Safety Committee will meet at least nine times per year, during regular working hours. Where meetings are urgently required as a result of an emergency or other special circumstance(s), the committee will meet as required whether or not during regular working hours.

Although the scheduled meetings are a major event in the safety program, it will not be the only time when members concern themselves with the health and safety program. All health and safety related problems and/or complaints will not be held over for resolution at the next meeting.

Committee members shall be expected to be actively involved in activities outside the regular meetings, including:

- Workplace inspections.
- Investigation of near-miss, injury, accident and/or collision incidents.
- Investigation of employee complaints.
- Investigation of cases of refusal to work because of hazards.
- Development of programs for the prevention of occupational injury and illness.
5.2 Incident Review Committee

NCSG and its affiliated companies will establish Incident Review Committee for the Transportation divisions.

This committee will be a part of the Safety Committee Meetings and consist of one member of senior management, the Regional Team Lead HS&E and a senior driver. The purpose of this committee will be to:
  o Become familiar with the details of incidents brought forward for review.
  o Determine the preventability of the incident.
  o Determine the nature of disciplinary action required, if any.
  o Establish the necessary action(s) in preventing future occurrence.

Drivers will be informed of the committee decision and have the option to appeal that decision, if they are not in agreement. Drivers are reminded of the importance in fully and accurately completing the written report, as it will have a definite effect in the committee decision.

6.0 RETENTION SCHEDULE

NCSG is required to maintain all documentation covering safety meetings for at least three years.
NC Services Group and its affiliated companies (NCSG) regards Environmental Protection as a vital component in the conduct of day to day business.

The company policy is to:

- Comply with all applicable environmental laws, regulations and/or standards
- Ensure that hazards to the public and damage to the environment, created by our company activities, are minimized
- Repair and remediate environmental damage created by our company activities
- Provide leadership in the reduction of waste generated by the company and/or industry by continuously becoming involved in researching alternative methods and/or materials
- Hold management and all employees including contractors, accountable for preserving the environment to which we conduct our business activities in.
- We will not tolerate actions or business activities that knowingly cause damage or unreasonable impact to the environment.

All personnel are encouraged to continuously be aware of the impact to their workplace and/or social activities may have on the environment and join the company in a determined effort to create a healthier, safer environment now and for the future.

NC Services Group and its affiliated companies (NCSG) takes all reasonable and practical steps to prevent any damage to the natural environment, with regards for all forms of wildlife and their habitat.

Management and employees support the reduction of hazardous waste through reuse, recovery, recycling or reclamation. This includes removal of refuse/debris on work sites and immediate clean up of all spills regardless of type and quantity.

Activities performed by our employees or contractors for business purposes shall endeavor to meet or exceed applicable Provincial/State/Federal Regulations together with Industry Best Practices.
REMEMBER!

- Identify in advance expected waste types and control strategies
- Set up adequate waste management disposal and recycling program at project site
- Ensure a proper spill management and response program
- Identify energy conservation opportunities
- Manage water issues related to Storm water, hydro test and dewatering.
- Identify and manage Air quality and Noise issues
- Identify any required soil management issues
- Ensure a WHMIS/ Controlled products management plan
- Ensure regulatory compliance and proper documentation
- If you are unsure – ASK YOUR SUPERVISOR!

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed an Environmental Code to identify the proper level of protection that will assist employees and contractors in performing their tasks effectively and efficiently on project work sites.

2.0 SCOPE AND APPLICATION

The guidelines and recommendations are provided to increase awareness of control measures to be used by NCSG employees and contractors where there may be potential to address such issues as environmental hazard assessments, spill containment and response, waste identification and management via recycling and disposal, environmental incident response, controlled products management.

In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG companies and subcontractors.

3.0 DEFINITIONS

The following definitions are specific to the Environment Code. This list is not to be considered exclusive and additional definitions may be required for specific application as outlined in company standard operating procedures.

3.1 Air Quality

The composition of air with respect to quantities of contaminants and is routinely compared with acceptable levels of maximum exposure.
3.2 Dewatering
The removal of water from solid material or soil.

3.3 Documentation
Records that are maintained and available for review. These include:
- Waste Records including manifests and recycle dockets
- Water Quality and Volume Records
- Soil Assessment and Handling Records
- Product Approval Applications
- Environmental Focus Inspection Reports
- Environmental Action Items List

3.4 Energy Conservation
The practice of decreasing the quantity of energy used. This may be achieved through efficient energy use, in which case energy use is decreased while achieving a similar outcome, or by reduced consumption of energy services.

3.5 Hydro Test Water
Water used in the pressure test of piping, pressure vessels, or pressure-containing parts; performed by pressurizing the internal volume with water at a pressure determined by the applicable code or to test the integrity of a process system.

3.6 Noise
Unwanted sound.

3.7 Regulatory Compliance
Systems or departments at corporations and public agencies to ensure that personnel are aware of and take steps to comply with relevant laws and regulations.

3.8 Soil Management
Operations, practices and treatments used to protect soil from contamination.

3.9 Spill prevention and Control
A plan that outlines how to prevent chemical spills, as well as how it plans to control and contain a spill.

3.10 Storm Water
A term used to describe water that originates during precipitation events.
3.11 Waste Management
The techniques and methods of waste prevention, reduction, recovery and disposal.

3.12 Water Management
The practices of planning, developing, distribution and optimum utilizing of water resources under defined water polices and regulations

3.13 WHMIS Controlled Products
Products, materials, and substances that are regulated by WHMIS legislation.

4.0 EXPECTATIONS
The Environment Code will be reviewed at a minimum of every three years.

This code shall supplement, but not supersede any regulatory Provincial / State / Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by HS&E as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employees
It is the employee’s responsibility to:

- Ensure a safe and hazard free work site is maintained throughout the entire shift.
- Abide by the Environment code requirements.
- If a hazardous condition is identified, all employees have a responsibility to correct the condition or have it identified to a person responsible to correct the condition.
- Be responsive, through adequate training and understanding, to minimize the risk of loss, damage of injury through keeping the work site safe, clean and free from materials or equipment that could cause workers to slip, trip, or come into unplanned contact with a body resulting in an undesired exposure.
5.2 Workers

In addition to 5.1, it is the worker’s responsibility to:

- Immediately inform the Supervisor of any violations or infractions of this code, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.

5.3 Supervisors

In addition to 5.1, it is the supervisor’s responsibility to:

- Ensure that workers understand and comply with the Environment code as specified in this code in accordance with the training and instruction received.
- Immediately correct any violations or infractions of this code which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, contractors, or general public within the area.
- Provide in accordance with NCSG programs any corrective action or discipline required to ensure compliance with this code and document said action appropriately.

5.4 Management

In addition to 5.1, it is the management responsibility to:

- Ensure compliance with this code, by all levels of the company including contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the HS&E Advisors.

5.5 HSE Advisors

It is the responsibility of HSE Advisors to:

- Take inventory of each delivery of waste to the approved hazardous waste storage area.
- Maintain documentation related to this code.

5.6 Regional Team Lead – HS&E

It is the Regional Team Lead – HS&E responsibility to:

- Develop and review as outlined in Health, Safety and Environment program this code to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this code within the defined review period.
6.0 METHOD

6.1 Waste Management

Recycling or disposal of project waste streams shall be via the client’s onsite approved management system and or offsite approved location as per Provincial / State / Federal guidelines. Exceptions or more specific disposal or recycling locations for waste materials are defined in Appendix A.

Hazardous waste generated by NCSG and NCSG subcontractors activities shall be stored in the existing client hazardous waste storage area and or a proper temporary approved waste storage location. The hazardous waste shall be labeled, handled and stored.

Non-hazardous waste shall be collected and disposed as per standard methods. Segregation of the waste into the appropriate containers shall be the responsibility of NCSG and subcontractor line supervision. The non-hazardous waste containers will be labeled with the waste they are to contain.

NCSG and subcontractors shall dispose of their non-hazardous waste into the designated project waste containers on site. Subcontractors shall notify the applicable Superintendent of planned work that will involve large volumes of non-hazardous waste. The Superintendent will then arrange for additional non-hazardous waste bins for the work activity. All subcontractors must provide a detailed waste management identification plan for their hazardous waste management prior to mobilizing to site. The plan must include the subcontractor’s hazardous waste generator identification number issued by Environment Agency if applicable. The proposed recycling facility or final disposal location shall be identified with all hazardous waste streams that will be generated by the subcontractor. An estimated monthly waste volume for each waste type shall also be included in the plan.

The Regional Team Lead - HSE shall review the plan to ensure all proposed recycling or disposal facilities are acceptable to NCSG and the client. NCSG and subcontractors shall be advised of any waste management facilities not acceptable for disposal or recycling of project wastes.

All contractors shall be responsible to update the waste management plan for any new wastes generated during project construction activities. Offsite disposal of any hazardous waste not identified in the subcontractor plan is not permitted.

Storage of hazardous wastes must be in accordance with the applicable Environment Hazardous Waste Storage Guidelines, and or Provincial / State / Federal guidelines as applicable.
Regular compliance audits will be completed by the HSE department to verify compliance to site waste management processes/practices.

6.1.1 Waste Collection and Handling

The key issue related to hazardous waste generated is the handling of the material on site. The waste must be handled correctly to minimize the health and safety risks to those involved. The following outlines the standard procedures for handling generated hazardous waste:

- Line supervision shall identify, during the task review, toolbox talk and FLRA, any hazardous or potentially hazardous wastes that may be generated during the task.
- Line supervision and workers shall review the MSDS for product or products that make up the hazardous waste to identify hazards associated with handling and storing the product(s).
- The crew foreman shall obtain storage containers for the waste. Designated 205 L (45 gallon) steel drums or bulk bags can be made available from several waste management suppliers for the purpose of storing hazardous waste. Contact NCSG HSE Advisor in order to make arrangements.
- Workers shall place the waste into storage containers as soon as possible after the waste is generated.
- The crews responsible for generating the waste must apply a project specific label and a WHMIS worksite label to the outside of the drum. Ensure the label is completed to identify the name of the waste, the Area or Unit where the waste was generated and the date that the waste was generated or contained. The Transportation of Dangerous Goods information shall be filled out if this information is available from the product MSDS.
- The WHMIS worksite label shall identify the name of the product (or waste) and the appropriate safety icons applicable to the waste (refer to MSDS) shall be highlighted.
- A copy of the MSDS for the product or products that make up the waste shall be made in preparation of transferring the waste out of the work area. The waste will not be transferred out of the work area without the proper MSDS included (unless there is no MSDS applicable to the waste).
- The foreman shall contact the HSE dept to ensure all waste handling and or disposals are inventoried and performed as per local regulations.
- The Area Manager or Supervisor will notify the HS&E Advisor of any proposed waste transfer to the client hazardous waste storage area so that proper notification may be given to the client.
- The person requesting the waste removal shall complete the ‘Waste Removal Log’, attached to this procedure. This form must be completed prior to pick-up and attached to the MSDS (if available).
- A copy of the Waste Removal Log must be provided to the HS&E Advisor for waste tracking purposes.
6.2 Spill Prevention and Containment

All reasonable means shall be used to prevent spills or leaks. However, accidental spills may still occur on the construction site as a result of a number of activities including:

- The transfer of fuel from tank trucks to storage tanks or construction vehicles/equipment.
- Collection and transport of sanitary sewage by vacuum truck.
- Use of hazardous liquid products, including concrete additives, hydraulic fluids, solvents and lubricating oils.
- Release of operating fluids from construction equipment.

Every worker associated with construction activities shall be responsible for taking action as required to prevent or mitigate spills and accidents.

6.2.1 Prevention

All reasonable means shall be taken to prevent spills or leaks.

Line supervision shall include appropriate spill containment and protective measures for activities that have the potential to release foreign substances into either the clean storm sewer system or the potentially contaminated water sewer.

This shall include temporary sealing of catch basins or manholes or provision of absorbents, booms, or socks to prevent spilled material from impacting the sewer systems. Under no condition shall oil or contaminants be discharged into drainage ditches or site sewer systems.

Drip pans shall be used under portable equipment where there is potential for leaks or spills during fueling operations. Drip pans shall be suitably sized for the equipment, constructed of impermeable material, and not be allowed to overflow.

Drip pans containing rain water or water from snow melt may be emptied to the ground surface only after visual inspection confirms there is no presence of hydrocarbons, i.e., oily sheen on the water surface.

Other spill prevention measures include:

- Leaking drums, hoses, or equipment will be repaired or removed from the work area to prevent spills of hydrocarbons, chemicals, or other materials.
- Oily equipment or materials shall not be stored in or near drainage areas where storm water runoff could become contaminated.
- Vehicle and equipment maintenance shall be confined to designated areas - fluids will not be discharged or spilled to land or drainage ditches.
- Drip pans shall be used under equipment where there is high use and/or a potential for leaks, including temporary generators and transformers, sampling lines, stop cocks, dispensing areas, etc.
6.2.2 Fueling

Fuel release can be a major source of ground or water contamination.

- Whenever possible vehicle fuelling shall occur in designated areas where the potential for contamination is minimized (e.g. on clay areas).
- As project activities progresses, permanent or semi-permanent fuelling areas that are bermed and paved, or impermeably lined areas shall be constructed.
- As equipment such as piling rigs and cranes will remain stationary in use for considerable periods of time, fuelling of this equipment must often occur at the location of use. In such cases, strict fuelling procedures shall be adhered to and appropriate spill containment devices shall be used.

6.2.3 Spill Kits

Spill kits complete with soaker pads; oil-absorbing materials and containment booms shall be required of all subcontractors. Absorbent mats, sand, clay or other absorbent materials shall be readily available for deployment to control or contain spilled material. For activities with a potential for a spill of a larger magnitude, vacuum trucks shall be readily available for immediate response to a spill event.

Spill Containment Kits for work activities will be located in designated areas and available by communicating with NCSG site mgmt for use with specific work activities.

6.3 Soil Management

A specific action plan for contaminated soil management might be required in relation to uncovering potentially impacted soils and or handling soils contaminated due to equipments spills.

- In certain instances geotechnical programs will be carried out for specific work scopes, in certain instances an environmental soil assessment might be conducted within the specific work areas. The overall purpose will be to characterize the soil quality and determine the soil's end-use prior to the excavation of the soil.
- The Environmental Soil Assessment will include field measurement of hydrocarbon vapor and laboratory analysis of soil samples for specific soil parameters to allow comparison against the CCME Soil Quality Guidelines for an Industrial Land Use.
- Additional boreholes, soil sampling and analytical work will be completed on planned excavation areas that exhibit definite soil contamination in an effort to properly delineate the extent of the contamination.
- Client historical soil assessment information within the proposed areas of development will also be reviewed and utilized to establish an accurate soil map.
- Based on the Environmental Soil Assessment, the soil in the excavation areas will be classified into Re-useable Fill; Contaminated Fill or Unsuitable Fill.
- Any construction debris or rubble encountered during excavation shall be segregated from the soil. Non-contaminated debris shall be disposed in the appropriate non-hazardous waste bin. Consult the HSE advisor for disposal of contaminated debris.
All contaminated debris to be placed in proper containers, labeled and stored in client approved hazardous waste storage area and as per direction/approval of client.

6.3.2 Unexpected Contaminated Fill Sampling and Disposal (Spill Response)

- The Area Manager or Supervisor will notify the HS&E Advisor when a particular contaminated fill stockpile (from same point of origin) is available for sampling. The Area Manager or Supervisor will liaise with the HS&E Advisor to determine when the piles from various points of origin have accumulated to volumes that would constitute an efficient load-out and haul exercise. This must be coordinated with the responsible client representative.
- The HS&E Advisor will confirm the source location of material placed in a stockpile. This shall be supported by a log report accounting for all loads placed in the management area from a specified location.
- The stockpile will be staked/flagged off by the HS&E Advisor to prevent removal of material or further addition of material after sampling. The staked area will be tagged to indicate the point of origin of the material.
- HS&E Advisor will collect 1 composite sample per 100 m$^3$ of soil in the stockpile. Each composite sample will consist of 5 sub-samples collected randomly within the area represented by the composite sample.
- The composite samples will be submitted to an offsite laboratory for the following parameters: basic salinity; flash point; CCME F1-F4 fractions including BTEX; ICP total metals; Leachable BTEX; and Leachable metals.
- HS&E Advisor will consult with the client representative to determine if additional parameters are required based on any previous known contamination in the source area of the soil.
- The HS&E Advisor will review the analytical results and develop a recommendation for the appropriate disposition of the stockpiled material. The recommendation will be sent to the client representative for approval.
- If the soil is deemed Re-useable Fill, the client representative will identify the appropriate stockpile location and the HS&E Advisor will advise the Area Superintendent of the soil disposition plan.
- If the soil is classified Contaminated Fill, the client representative will confirm the destination for the soil (landfill or landfarm) based on the analytical results.
- The client will arrange the necessary documentation for transfer of the Contaminated Fill off site.
- The applicable client Designate will sign off the waste manifests/bills of lading prior to any material leaving the project site.
- The removal of the Contaminated Fill from the site to the designated disposal/treatment location will be by client and or by client subcontracted contractor.

6.4 Controlled Products

NCSG and its subcontractors are required to identify all controlled products anticipated for use within the project prior to site mobilization and provide a list to NCSG HS&E Advisor in order to ensure client approval and proper management.
6.4.1 Workplace Hazardous Materials Information System (WHMIS)

WHMIS is designed to protect employees and the environment. A current Material Safety Data Sheet (MSDS) must accompany any controlled product brought on site or through the site warehouse. All WHMIS documentation, in particular MSDS, shall be readily available as follows:

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>MSDS FORMAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area in which the controlled material is being used</td>
<td>Hardcopy</td>
</tr>
<tr>
<td>Medical/first aid facilities</td>
<td>Electronic/hardcopy</td>
</tr>
<tr>
<td>HSE Department</td>
<td>Electronic</td>
</tr>
</tbody>
</table>

NCSG will maintain a site database of controlled products, including MSDS preparation information to ensure the site WHMIS documentation is current.

6.4.2 Subcontractor Documents

Subcontractors shall provide, at the site kick-off meeting, the list of controlled products that will be used during their construction activities. The list shall include controlled products used with their equipment, during maintenance activities and any products that will be permanently installed during their work. The associated MSDS for the identified products shall be provided to the HS&E Advisor prior to the commencement of work. The subcontractor shall be responsible for providing product MSDS at the location of the use of the product.

The HS&E Advisor will conduct spot checks to ensure that these MSDS are readily available.

6.4.3 Controlled Product Approval Process

In many instances a WHMIS-regulated product must be approved prior to use on a client’s site. The HS&E Advisor will review all controlled products, including subcontractor products, against the client approved products list if applicable. If the product is not on the client-approved list, the product will be submitted for approval to the client.

The approval process:

- Facilitates the provision of product health and safety risks summarized in plain language.
- Ensures that recommendations for handling and storage are documented.
- Ensures requirements for containment and disposal are established.
- Identifies regulatory reporting limits for spills.
6.5 Noise and Energy Management

High noise construction activities shall be limited to normal work-shift hours. Extended periods of high noise project activities shall be communicated to the Regional Team Lead – HS&E who will notify the client in order to ensure compliance to local by-laws.

6.5.1 Noise Energy and Monitoring

If you lose your hearing that is a Physiological effect, Pain and nausea sometimes accompany noise exposure.

Proper use of Hearing protection is crucial, ensure the ear plugs are properly inserted, and also ensure the muffs are sealing properly, while working or chewing, your earplugs can work loose, requiring them to be re-inserted from time to time. A properly designed, well fitted and clean ear protection device is no more difficult to wear than a pair of safety glasses.

6.5.2 Determining Noise Levels in the workplace

If you need to shout into the ear of a person to be understood, it is likely that the noise limit for exposure is being exceeded.

If you have head noises and ringing noises in your ears at the end of the workday, you are most likely being exposed to too much noise.

If normal speech or music sounds muffled to you after leaving work, but sounds fairly clear in the morning upon returning to work, you are being exposed to noise levels that can eventually cause a partial loss of hearing that can be permanent.

6.5.3 Noise monitoring

Noise surveys are conducted only with a properly calibrated and approved noise survey monitoring equipment and by a properly qualified or trained individual as per provincial regulations.

Noise surveys are performed at different distances in relation to varying types of noise types in order to assess the exposure and ensure current hearing protection measures are adequate. Following the site mandatory hearing protection policy will result in zero hearing loss.

6.7 Storm Water Contamination Prevention

6.7.1 Significant Inventory

Pollutants that result from clearing, grading, excavation, and building materials and have the potential to be present in storm water runoff are listed below. This table includes information regarding material type, chemical and physical description, and the specific regulated storm water pollutants associated with each material.
<table>
<thead>
<tr>
<th>Trade Name Material</th>
<th>Chemical/Physical Description</th>
<th>Storm Water Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pesticides (insecticides, fungicides, herbicides, rodenticides)</td>
<td>Various colored to colorless liquid, powder, pellets, or grains</td>
<td>Chlorinated hydrocarbons, organophosphates, carbamates, arsenic</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>Liquid or solid grains</td>
<td>Nitrogen, phosphorous</td>
</tr>
<tr>
<td>Plaster</td>
<td>White granules or powder</td>
<td>Calcium sulphate, calcium carbonate, sulfuric acid</td>
</tr>
<tr>
<td>Cleaning solvents</td>
<td>Colorless, blue, or yellow-green liquid</td>
<td>Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates</td>
</tr>
<tr>
<td>Asphalt</td>
<td>Black solid</td>
<td>Oil, petroleum distillates</td>
</tr>
<tr>
<td>Concrete</td>
<td>White solid</td>
<td>Limestone, sand</td>
</tr>
<tr>
<td>Glue, adhesives</td>
<td>White or yellow liquid</td>
<td>Polymers, epoxies</td>
</tr>
<tr>
<td>Paints</td>
<td>Various colored liquid</td>
<td>Metal oxides, stoddard solvent, talc, calcium carbonate, arsenic</td>
</tr>
<tr>
<td>Curing compounds</td>
<td>Creamy white liquid</td>
<td>Naphtha</td>
</tr>
<tr>
<td>Wastewater from construction equipment washing</td>
<td>Water</td>
<td>Soil, oil &amp; grease, solids</td>
</tr>
<tr>
<td>Wood preservatives</td>
<td>Clear amber or dark brown liquid</td>
<td>Stoddard solvent, petroleum distillates, arsenic, copper, chromium</td>
</tr>
<tr>
<td>Hydraulic oil/fluids</td>
<td>Brown oily petroleum hydrocarbon</td>
<td>Mineral oil</td>
</tr>
<tr>
<td>Gasoline</td>
<td>Colorless, pale brown or pink petroleum hydrocarbon</td>
<td>Benzene, ethyl benzene, toluene, xylene, MTBE</td>
</tr>
<tr>
<td>Diesel Fuel</td>
<td>Clear, blue-green to yellow liquid</td>
<td>Petroleum distillate, oil &amp; grease, naphthalene, xylenes</td>
</tr>
<tr>
<td>Kerosene</td>
<td>Pale yellow liquid petroleum hydrocarbon</td>
<td>Coal oil, petroleum distillates</td>
</tr>
<tr>
<td>Antifreeze/coolant</td>
<td>Clear green/yellow liquid</td>
<td>Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)</td>
</tr>
<tr>
<td>Erosion</td>
<td>Solid Particles</td>
<td>Soil, Sediment</td>
</tr>
</tbody>
</table>
6.7.2 Areas for Potential Contamination

The following are potential source areas of storm water contamination:

- Cleared and graded areas;
- Asphalt loading dock construction and building construction;
- Construction site entrance and asphalt parking area construction;
- Tree removal area; and
- All undisturbed areas.

6.7.3 Storm Water Contamination Controls

- Keep excavation and soil disturbing activities such as grading to a minimum.
- Install silt fence around all clay and topsoil stockpiles.
- Retain existing vegetation when possible.
- Silt fences need to be cleaned, replaced or supplemented when they reach 1/3 capacity (height of fence). These actions must occur within 24 hours of discovery or as soon as field conditions allow access to the site.
- Maintain construction entrances so that sediments are not tracked onto streets. Sweep any sediment tracked onto streets within 24 hours of discovery. This includes construction entrances to individual lots where home building is underway. Sweepers that “fling” material into the air rather picking up material will not be allowed.
- Have materials on-site to contain and cleanup any contaminants leaked onto the ground during construction.
- Cover or store materials (particularly fuels) so that they are not at risk to contaminate the project area during rainfall or storm water flow.
- Water will be used for dust control on this project.
- Good housekeeping measures are to be implemented to eliminate materials, materials packaging and other litter from leaving the project area. This is especially important during home construction.
- Inlet protection will remain in place until 70 percent of the lots are built upon and stabilized. Care will be taken to avoid disturbing protected inlets.
- Grass filter strips will be maintained adjacent to the curb line on all undeveloped lots.
- Care will be taken to avoid disturbing BMPs in place such as silt fence or grass filter strips along curb lines during home construction. A single rocked or gravel construction entrance will be designated and maintained into each lot under construction.
- De-watering of trenches or basins must be done in a manner that does not cause erosion, scour or deposit sediment in curbs, gutters, storm system inlets and temporary or permanent ditches that are directly connected to a “Water of the State”. The discharge must be dispersed over rock riprap, sand bags, plastic sheeting or other accepted energy dissipating measures. Use of a temporary sediment basin is preferred.
7.0 TRAINING REQUIREMENTS AND MATERIALS

All workers will be provided environmental education and awareness through the NCSG site orientation program. Subjects covered will include spill prevention, mitigation and containment. Personnel assigned to spill clean-up activities will receive spill response training.

- NCSG orientation
- Understanding for completion of FLRA
- WHMIS Compliance standards for storage of waste products and materials
- Consultation of applicable environmental work procedures

8.0 RESOURCES

- Alberta OH&S Code Part 12, Section 185
- Alberta OH&S Code Part 16, Section 216 – 221
- Alberta OH&S Code Part 29, Section 395 – 414
- Alberta OH&S Guidance Part 29
- Alberta Environmental Protection and Enhancement Act AR 192/96
- BC OH&S Code Part 7, Section 7.1 – 7.9
- BC OH&S Code Part 5, Section 5.3 – 5.19
- BC OH&S Guideline Part 5, Section 3.1
- Manitoba OH&S Regulations Part 12, section 12.1 – 12.12
- Manitoba OH&S Regulations Part 35, section 35.1 – 35.25
- Saskatchewan OH&S Regulations Part VIII, Section 109 – 114
- Saskatchewan OH&S Regulations Part XXII, Section 315 - 329

Please direct any questions regarding the Program to the Regional Team Lead - HS&E.

9.0 APPENDICIES

- Appendix A – Site Specific Waste Management
- Appendix B – Monthly/Yearly Waste Summary and Removal Log
- Appendix C – Activities for spill to land
- Appendix D – Activities for spill to water
- Appendix E – Soil management by soil type
### Appendix A
**SITE SPECIFIC WASTE MANAGEMENT**

<table>
<thead>
<tr>
<th>WASTE / SOURCE OF WASTE</th>
<th>HANDLING AND DISPOSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated Soil</td>
<td>Soil resulting from spill clean-up</td>
</tr>
<tr>
<td>Aerosol Cans</td>
<td>Spray paints; lubricants; adhesives</td>
</tr>
<tr>
<td>Plastic, Beverage</td>
<td>Lunchrooms, offices, trailers</td>
</tr>
<tr>
<td>containers, Glass</td>
<td>Lunch room waste; general garbage</td>
</tr>
<tr>
<td>General Refuse; Office</td>
<td>Printing; copying; document mgmt</td>
</tr>
<tr>
<td>Waste</td>
<td></td>
</tr>
<tr>
<td>Office Paper</td>
<td>Printing; copying; document mgmt</td>
</tr>
<tr>
<td>Cardboard</td>
<td>Shipping boxes; packaging, etc.</td>
</tr>
<tr>
<td>Scrap Metal</td>
<td>Structural steel; shoring; cladding; insulation jacketing</td>
</tr>
<tr>
<td>Used Oil Filters</td>
<td>NCSG Equipment Maintenance, Subcontractor etc.</td>
</tr>
<tr>
<td>Used Oil</td>
<td>NCSG Equipment Maintenance, Subcontractor etc.</td>
</tr>
<tr>
<td>Wood</td>
<td>Shipping crates; formwork; decking; dunnage</td>
</tr>
<tr>
<td>WASTE / SOURCE OF WASTE</td>
<td>HANDLING AND DISPOSITION</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Chemically treated wood</td>
<td>These items can be treated with PCP (Pentachlorophenol), CCA (Chromated Copper Arsenate), CN (Copper Hapthanate), ACA (Ammoniacal Copper Arsenate), and other treatments.</td>
</tr>
<tr>
<td>Sign posts, lumber for fencing</td>
<td>These items are located within the Canadian Pest control, products act, and therefore are not considered hazardous waste, although these items must be disposed of at Class I or Class II Landfill.</td>
</tr>
<tr>
<td></td>
<td>Never attempt to burn for disposal.</td>
</tr>
</tbody>
</table>
## Appendix B

**Monthly / Yearly WASTE SUMMARY AND REMOVAL LOG**

<table>
<thead>
<tr>
<th>DESCRIPTION OF WASTE MATERIAL</th>
<th>PROCESS THAT GENERATED WASTE</th>
<th>QUANTITY GENERATED (L or m³)</th>
<th>CONTAINER TYPE</th>
<th>AREA / UNIT</th>
<th>EQUIP. UNIT NO.</th>
<th>CONTAINER NO.</th>
<th>DESTINATION (Codes Below)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Picked Up From: ___________________________

Print Name ___________________________

Signature ___________________________

Received By: ___________________________

Print Name ___________________________

Signature ___________________________

**NOTES:**

# Activities for Spill to Land

<table>
<thead>
<tr>
<th>Activity</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take immediate action to stop or reduce the spill and contain it, without endangering the health and safety of the workers or local population (e.g. right tipped or fallen containers, plug holes or leaks, replace stoppers or lids, etc.).</td>
<td>Workers and/or supervisor</td>
</tr>
<tr>
<td>Immediately notify supervisor.</td>
<td>Workers</td>
</tr>
<tr>
<td>Notify HS&amp;E Advisor</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Notify client, and or regulatory authority as per site specific requirements</td>
<td>Regional Team Lead – HS&amp;E</td>
</tr>
<tr>
<td>Initiate chain of notification as per site, “Incident Management”.</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Take any actions necessary to prevent the spill from contaminating groundwater or offsite surface water (e.g. construct dirt berms) or from becoming airborne (e.g. cover with plastic sheeting).</td>
<td>Supervisor, after consultation with HS&amp;E Advisor and after checking MSDS</td>
</tr>
<tr>
<td>Barricade the area until corrective action is completed.</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Identify the spilled material.</td>
<td>Supervisor or HS&amp;E Advisor</td>
</tr>
<tr>
<td>Remove the spilled material, including any contaminated soil. Remove any free liquid through adsorption, baling, vacuuming, pumping, etc.</td>
<td>Supervisor, after consultation with HS&amp;E Advisor and client</td>
</tr>
<tr>
<td>Contain and dispose of the waste as described in the Waste Management Plan.</td>
<td>NCSG or Subcontractor after consultation with HS&amp;E Advisor and client</td>
</tr>
<tr>
<td>Within 24 hours, fill out a Loss control report Incident Investigation Report, following the</td>
<td>Supervisor with HS&amp;E Advisor assistance</td>
</tr>
</tbody>
</table>

**Notes:**

1. Specialized contractors or the client loss management team may be required in the event of a large spill.
2. Clean up of spills and disposal of the waste resulting from a spill due to a Subcontractor’s activities is the responsibility of that Subcontractor.
3. Spills less than one liter require immediate action to stop or reduce the spill and notification to supervision or the HS&E advisor but do not require further investigation.
# Appendix D
## ACTIVITIES FOR SPILL TO WATER

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take immediate action to stop or reduce the spill and contain it, without endangering the health and safety of the workers or local population (e.g. right tipped or fallen containers, plug holes or leaks, replace stoppers or lids, etc.).</td>
<td>Workers and/or supervisor</td>
</tr>
<tr>
<td>Immediately notify supervisor.</td>
<td>Workers</td>
</tr>
<tr>
<td>Notify HS&amp;E Advisor</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Notify client, and or regulatory authority as per site specific requirements</td>
<td>Regional Team Lead - HS&amp;E</td>
</tr>
<tr>
<td>Initiate chain of notification as per site, “Incident Management”.</td>
<td>Supervisor</td>
</tr>
<tr>
<td>Identify the spilled material.</td>
<td>Supervisor or HS&amp;E Advisor</td>
</tr>
<tr>
<td>Take actions necessary to prevent further contamination of onsite surface water (e.g. use booms, dikes, berms, skimmers, etc.).</td>
<td>Supervisor, after consultation with HS&amp;E Advisor and client</td>
</tr>
<tr>
<td>Take actions necessary to prevent contamination of offsite surface water (e.g. use booms, dikes, berms, skimmers, etc.).</td>
<td>Supervisor in consultation with the HS&amp;E Advisor and client</td>
</tr>
<tr>
<td>Clean up the spill.</td>
<td>Supervisor, after consultation with HS&amp;E Advisor and client</td>
</tr>
<tr>
<td>Contain and dispose of waste as described in the Waste Management Plan.</td>
<td>NCSG or Subcontractor after consultation with HS&amp;E Advisor and client</td>
</tr>
<tr>
<td>Within 24 hours, fill out a Loss Control Report Incident Investigation Report,</td>
<td>Supervisor with HS&amp;E Advisor assistance</td>
</tr>
</tbody>
</table>

**Notes:**

1. Client operating plant or site personnel must be notified if the spill impacts existing plant drainage systems.
2. Specialized contractors or the client loss management team may be required in the event of a large spill.
3. Clean up of spills and disposal of the waste resulting from a spill due to a Subcontractor's activities is the responsibility of that Subcontractor.
### Appendix E

<table>
<thead>
<tr>
<th>SOIL TYPE</th>
<th>SOIL MANAGEMENT / DISPOSITION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Re-useable Fill</strong></td>
<td>• Stockpiled in on-site area as designated by client</td>
</tr>
<tr>
<td></td>
<td>• Material excavated and hauled by NCSG or its subcontractor.</td>
</tr>
<tr>
<td><strong>Contaminated Fill</strong></td>
<td>• Client verifies location for soil disposition</td>
</tr>
<tr>
<td></td>
<td>• Material excavated and hauled directly off site by client contractor</td>
</tr>
<tr>
<td></td>
<td>• Client is responsible for securing applicable waste tracking documentation prior to removal of material from site</td>
</tr>
<tr>
<td><strong>Unexpected Contaminated Fill</strong></td>
<td>• Segregate piles from each source location</td>
</tr>
<tr>
<td></td>
<td>• Log and tag piles by point of origin</td>
</tr>
<tr>
<td></td>
<td>• Contact HS&amp;E Advisor to characterize and arrange disposal of material</td>
</tr>
<tr>
<td></td>
<td>• Re-useable Fill stockpiled in location designated by client</td>
</tr>
<tr>
<td></td>
<td>• Contaminated Fill managed as above</td>
</tr>
<tr>
<td><strong>Unsuitable Fill</strong></td>
<td>• Ensure fill is not contaminated – confirm by visual inspection for hydrocarbons or detection of hydrocarbon odors</td>
</tr>
<tr>
<td>&quot;Unsuitable&quot; in this case means extremely wet &quot;soupy&quot; material.</td>
<td>• Haul to pre-designated area</td>
</tr>
<tr>
<td></td>
<td>• Consult HS&amp;E Advisor if visual contamination is observed</td>
</tr>
</tbody>
</table>
1.0 PURPOSE

Recognizing environmental concerns and potential hazards and taking the necessary steps to control them is an important aspect of our safety program. NC Services Group and its affiliated companies (NCSG) believes it is imperative to implement safeguards that will assist in the protection of the environment. We are committed to the development and implementation of effective waste management. Our purpose is to create an environment as free of waste as possible within our daily operations. We strive to set ourselves as leaders in the reduction, recycling and proper disposal of our waste.

In fulfilling this commitment to protect the environment, management will ensure all waste material is disposed of in compliance with legislative requirements. Management will ensure all employees understand and adhere to the required disposal procedures for all waste materials.

All employees are responsible for adhering to the requirements of waste management and are encouraged to provide further suggestions for the reduction, reuse and recycling of such.

To be successful, this program requires full participation of all management, supervisors and workers. Each individual must act responsibly when disposing of waste products.

Waste poses a real threat to our environment; therefore, ensuring proper measures are in place will assist in the preservation of the environment.

2.0 SCOPE AND APPLICATION

Proper disposal of waste material will assist in the preservation of our environment. While performing our duties, we shall be conscious of the appropriate protection of humans, animals, plant life, air, water and soil. All materials must be stored, handled and disposed of in such a manner that will provide appropriate protection to the environment. Wherever possible, it is encouraged to recycle and utilize recycled products.

Hazardous goods must be handled safely in accordance with government regulations including, but not limited to Occupational Health and Safety, Transportation of Dangerous Goods and WHMIS.

This process applies to all employees who are engaged in NCSG company business, including contractors.

3.0 DEFINITIONS

There are no definitions for this process.

4.0 EXPECTATIONS

NCSG strongly committed to the protection of the environment and insists that all its employees and contractors working on any worksite conduct all work activities in an environmentally friendly way and responsible manner.
5.0 ROLES AND RESPONSIBILITIES

5.1 Management

- Records the time of the report, source of information and details on location, size, type of spill and any other information available on the Loss Control Report (LCR).
- Ensures that the spill is reported to the proper authorities.
- Oversees the cleanup operations until it is satisfactorily completed.
- Together with the Supervisor decides if additional equipment is required to contain and cleanup spills.
- Maintain contact with Supervisor to ensure final inspection and sign-off on spill site.
- Notifies internal company departments.
- Initiates Mutual Aid Agreements if so required.
- Oversees completion and distribution of Loss Control Report (LCR).
- Ensures investigation identifies measures to prevent similar spills.
- Provides cleanup advice to the Supervisor.
- Assists with preparation of press releases.
- Provides advice on storage and disposal options.
- Ensures that there are follow up reports prepared on the spill event, clean up and environmental impacts.
- Liaise with government agencies (as required)
- Notifies and Liaise with Project Client or Owners (as required)

5.2 Supervisor

- Assist in initial and ongoing response efforts.
- Supervise the spill response team.
- With work crew, take initial action to seal off the source and contain spill.
- Decide with Management if mobilization of additional equipment is required.
- Assess whether burning is a viable cleanup measure. Consult with Regulatory Agency.
- Ensure co-ordination of equipment and manpower as needed (company and contractors)
- Ensure expeditious response and clean up of spill site and impacted area.

5.3 Spill Response Team (composed of various personnel)

- Conduct the cleanup of spills under the direction of the Supervisor.
- Deploy booms, sorbent and other equipment and materials as required.
- Take appropriate response measures.
- Continue the cleanup as directed by the Supervisor or until relieved.

5.4 First Responders

- Assess and verify the initial severity of the spill and safety concerns.
- Gather, collect and confirm information on the spill-source, type, size, cause, etc.
- Notify the Site Supervisor.
- Conduct the initial containment and cleanup operations.
6.0 METHOD

6.1 WASTE MANAGEMENT

6.1.1 Reduce

Wherever possible materials will be purchased in bulk form. This will minimize additional packaging and unnecessary waste.

6.1.2 Recycle

All employees are encouraged to recycle wherever possible. Labelled containers have been provided for the collection of returnable beverage containers. When the confidentiality of material does not pose an issue, the use of waste paper is encouraged.

6.1.3 Reuse

All empty drums and pallets are to be stored in the designated areas or removed from site. Arrangements will be made with suppliers and waste management companies to have items gathered for reuse.

6.1.4 Vehicle and Equipment

Vehicles and equipment will be inspected for excessive omissions and leaks prior to being put into service. Should any piece of equipment be found to be non-compliant, all necessary repairs will be performed before the equipment is utilized.

6.1.5 Disposal

All materials must be disposed of in the designated, appropriately labelled containers. Do not discard hazardous materials in the garbage dumpster, in drains, in sewers or on the ground. Containers filled with waste material, hazardous and otherwise, will be disposed of by an external source, licensed for the proper disposal of such items.

All spills will be cleaned immediately and the supplies used (i.e. rags) must be disposed of in the appropriate manner.

A successful spill cleanup is one in which no one gets exposed or injured during the clean up.

*Remember to check the MSDS (Material Safety Data Sheet).

A Minor Spill is one in which ALL of the following conditions are met:
- the responsible party is at the scene; and
- the material spilled is known; and
- the material spilled is not highly toxic; and
- the quantity spilled is small; and
- there is no fire hazard present; and
- the spill is completely contained inside the work area; and
- available & appropriate personnel protective equipment is used (i.e., gloves, eye protection and a half-face respirator)
A **Major Spill** is one in which ANY of the following conditions apply:

- the responsible party is unknown (it’s an “orphan” spill); or
- the material spilled is unknown; or
- the material spilled is highly toxic; or
- a large (or undetermined) quantity was spilled; or
- a significant fire hazard may be present; or
- the spill is in a common area (e.g., hallway) or other area accessible to the general public; or
- advanced or unavailable personnel protective equipment (i.e. more than gloves, eye protection and a half-face respirator) is required to respond to the spill; or
- a responder is unsure whether the spill should be considered “Minor” or “Major”.

### 6.2  SPILLS

#### 6.2.1 Chemical Spills

Consult the Material Safety Data Sheets (MSDS) for the spilled material to determine the health effects and the requirement for PPE. Refer to the Spill Reporting Procedures in section 6.3.

#### 6.2.2 Medical Facilities

A medical facility is established at every project site.

Emergency response procedures may vary from one jurisdiction to the next. The site manager must ensure that the emergency response procedure is in place prior to the start of the project.

#### 6.2.3 Containment

All bulk fuel storage areas will include double walled storage tanks or have lined secondary containment dikes surrounding them. These dikes are constructed of either concrete or compacted earth with liners and have at least 110% containment capacity of the largest tank contained within them.

#### 6.2.4 Inspections

A weekly inspection program is established at each site to inspect all bulk storage tanks and containment dikes.

#### 6.2.5 Weather Conditions

Weather conditions have a significant impact when determining which environmental controls are required when developing an emergency spill response strategy.

Sub-zero temperatures and a constantly blowing wind make it difficult for employees to control and cleanup a hazardous spill especially on the ice surface.

#### 6.2.6 WHMIS

All employees are trained in the Workplace Hazardous Material Information System (WHMIS) and understand the hazards associated with the products used in the workplace or transported.
6.2.7 Fuel Spills

The possibility of a fuel spill on project sites will vary depending on a number of factors: human error, mechanical failure, road conditions, weather conditions, etc.

6.2.8 Spill Response

When responding to any spill, the safety of all employees is paramount, therefore the following steps are part of the procedures:

- Identify the spilled material and follow the appropriate procedure.
- Monitor the area for Explosive gases and Oxygen ($O_2$) to ensure a safe atmosphere.
- Determine the potential for fire, and eliminate any hazards.
- Ensure that all personnel are equipped with the appropriate Personal Protective Equipment.

6.3 SPILL CLEANUP PROCEDURE

1. Warn personnel in the immediate area. If a volatile, flammable, or highly toxic material is spilled, have everybody extinguish flames (if trained to do so) and turn off spark-generating equipment and evacuate the area immediately.

2. If clothing is contaminated, remove it and use the emergency shower to rinse the affected areas. If contaminates are in your eyes rinse for at least 15 minutes at an eyewash station.

3. If there are medical emergencies contact controller on site for assistance and an ambulance if required. Provide the following information:
   a. Your name and phone extension.
   b. Exact location of spill.
   c. Name of material spilled.
   d. Quantity of material spilled.
   e. Information on injuries to personnel.

4. Obtain the required spill supplies, put on appropriate protective equipment.

5. Remove other materials from around the spill area to prevent cross contamination and tripping hazards.

6. Work in teams. One person cleans the spill; the other should remain outside of the contaminated area and hand supplies to person cleaning.

7. If non-toxic, non-volatile, non-flammable material is spilled, start to place absorbent materials at the edge of the spill site.

8. Always pour the neutralizer or absorbent starting at the edges and moving toward the center of the spill site.

9. Neutralize any residue on the floor and work surfaces you are unable to pick up with appropriate absorbent.

10. Scoop up all absorbed material. Remember, if no neutralizer was used, the absorbed material is still hazardous.

11. Wash the affected area with an appropriate cleaning solution (soap and water).

12. Report the spill to your Supervisor.

13. Dispose of all cleanup materials as hazardous waste.
6.4 PRODUCT CATEGORIES

The materials in this Emergency Spill Response are generally divided into five categories:
- Flammable Immiscible Liquids
- Soluble Solids/Oxidizers
- Flammable Compressed Gases
- Soluble Liquids
- Toxic Solids

6.4.1 Flammable Immiscible Liquids

These substances are all hydrocarbon-based and will ignite under certain conditions. Gasoline poses the greatest fire and safety hazard and is not recoverable when spilled on water.

6.4.2 Action Plan Steps

1. Confirm that a spill has occurred. It may not be obvious if a spill has occurred - look for:
   - pooled liquid.
   - damage to equipment/tanks.
   - smell of fuel or chemicals and
   - leaks from hatches, valves or other fixtures

2. Assess The Situation. Before initiating response actions, take the time to determine the nature of a spill and to collect some or all of the following facts:
   - potential risk of fire, explosion and environmental damage.
   - extent of injuries to co-workers or the public.
   - source and approximate size of the spill.
   - possible methods to stop the flow of product; and
   - proximity to water.

3. Take Action
   - Eliminate ignition source(s) if safe to do so.
   - Shut off spill source if safe to do so.
   - Attend to any injured persons.
   - Restrict personnel to the spill site using road barriers or marker tape.
   - Warn others in the area of the spill.
   - Use an explosion meter to monitor atmospheric gas concentrations.
   - Report spill to Advance Coating Solutions management.
   - Transport spill response kit to the spill site.
   - Control spreading and minimize impacts.

6.4.3 Spill Containment and Recovery

Special care should be taken to ensure that spilled material does not reach water bodies where recovery is more difficult.
6.4.4 Waste Disposal

- All combustibles are incinerated on a daily basis. This includes food scraps, office garbage etc.
- Non-hazardous solid "inert" waste generated (i.e. Scrap metal, pipe, wood, plastics, liners, Styrofoam) will be disposed of at approved landfills on site.
- All hazardous wastes and waste items that cannot be incinerated are securely packaged and disposed of in designated locations off-site.
- Prior to disposal, the hazardous waste will be properly packaged, labelled, stored and manifested in a Transportation of Dangerous Goods (TDG) approved shipping container.
- The container will have the appropriate hazardous waste labels.
- All Federal, State, Provincial and Territorial regulations will be adhered to.

6.4.5 Used Container Disposal

- To ensure the proper disposal of used containers that have contacted, collected or contained a hazardous or regulated substance (e.g., paint cans, oil cans, acid containers, aerosol cans).
- Containers having contacted, collected or contained an acute hazardous material, corrosive or reactive substance must be triple washed with water prior to disposal.
- Metal containers can be disposed as scrap metal in the approved landfill after being triple washed and crushed.
- Any free liquid in the container must be disposed of properly, and the residual material allowed drying or solidifying.

6.4.6 Used Drum Disposal

During operations, drums will be used for storage of other "used" products (i.e. used glycol, used oil, cleaning of spills etc). These drums will have to be properly labelled and stored prior to acceptable removal and disposal usually off-site at an approved facility.

6.5 SPILL RESPONSE

6.5.1 Response Resources

A wide variety of spill control/recovery equipment and material exists for dealing with spills of petroleum products and chemical reagents. Heavy construction equipment is also available for use on demand.

6.5.2 Response Equipment

All equipment is stored in such a manner as to be readily available on short notice.

The Supervisor would immediately respond to a reported spill site by notifying his on-duty equipment operators to move equipment and material necessary to provide control and clean-up measures to the reported spill site.

Emergency spill containment and recovery materials and supplies are available for immediate mobilization at any time.
6.5.3 Planning & Logistics

The feasibility of containing and recovering a spill will largely be determined by its location and the rate of release, spreading, transport and evaporation. These rates should be compared with the total time needed to deploy response equipment in order to evaluate whether or not containment, and/or sorbent and skimming operations can be effectively implemented. The pre-assembly of spill cleanup kits will expedite response and reduce the total deployment time needed, including:

- Equipment and support material mobilization time.
- Personnel Mobilization, transit and assembly at spill site time.
- Actual equipment set-up and deployment time.
- Determine whether or not a spill has entered a waterway and whether or not access by land or water to control points is possible so that booms, sorbents and skimmers and vacuum trucks can be deployed. Check maps and consult with personnel familiar with the spill area.
- Establish priorities to optimize utilization of personnel and gear needed for all cleanup phases (containment, removal, storage, transfer and disposal) at selected sites.
- Allow additional time for adverse weather, flying or driving conditions.

6.5.4 Monitoring Spills

Monitor spills throughout the response to ensure safety and to direct cleanup efforts:

- Explosive gas concentrations in the atmosphere using an explosion meter.
- Spill movement and behaviour, in order to properly direct response efforts.
- All threats to the safety of people, property and the environment.

6.5.5 Spills On Land

Spills on land should be contained as close to the source as possible, if safety allows.

Every effort should be made to ensure that a spill does not reach water, where its containment and recovery are much more difficult and the potential environmental impacts are much greater. Containment can be achieved using:

- A berm or dyke around the spill source
- A trench or ditch down slope of the spill source
6.5.5.1 Earth Berm /Trench

If possible, locate the berm/trench sufficiently down slope of the release point to complete its construction before the spill arrives. Dig the trench along a natural drainage contour.

It should be approximately 0.5 m deep with a relatively flat bottom. The excavated material can then be combined with other available material to build the berm.

6.5.5.2 Sand Bag Berm/Trench

Sand bags can be used where available and if the earth is too hard or frozen and cannot be excavated or compacted. A plastic liner can be used to seal the trench and bags should be anchored with gravel or rocks and be woven between layers of bags.
6.5.6 Spills on Muskeg

Muskeg is generally poorly drained, wet and spongy. Internal drainage is usually slow and the depth of peat over mineral soil varies greatly. Muskeg is also highly acidic and low in nutrients, making biodegradation very slow, even during the summer months.

It is recommended that small oil spills in muskeg be mixed with peat moss and allowed to degrade during the summer months since more damage can be done by attempting cleanup using mechanical removal methods.

In the event of a small spill, it is important to weigh the advantages or cleanup versus the potential negative impacts on the terrain. Both personnel and equipment on wet or sensitive areas can cause considerable damage. In many cases, the best solution maybe to add nutrients to the contaminated area and monitor the site to ensure that the spill does not migrate to an adjacent sensitive area. In all cases appropriate environmental advisors and Regulatory Authorities should be consulted.

6.5.7 Spills in Water

Containing spills in water is often difficult because oil quickly spreads. In turbulent water, oil and chemicals are likely to mix into the water column, making recovery impractical. For these reasons, it is important that if the spill reaches water, that containment be attempted as close to the source as possible, and that the spill be prevented from reaching a flowing stream.

Spills in lakes should be contained, if possible, before reaching outlets where containment and recovery can be difficult and dangerous.

Efforts to contain spills in large streams should be limited to land based operations where the oil might pool in accessible back eddies. The recovery of water soluble chemicals is not possible.

In flowing streams, oil travels at the same speed as the surface current. On larger rivers or in open lake areas, slicks are also transported at 3.5% of the wind speed. Although a comparatively small effect, it can be an important factor if the wind is at right angles to the water flow and if the water surface is extensive. The wind can force the spill to the sides of the river where flows are slower or the shore of a lake. Long reaches of the river may become contaminated although containment and recovery might also be possible.

In smaller streams, the wind will have less impact and the slick speed can be easily estimated. Placing a small stick in the middle of the stream and determine the length of time required to travel a given distance, (typically 10m). This information can be quickly be converted to speed (36/time (sec) =km/h) to determine the estimated travel time to a confluence or other sensitive area.
6.6 Containment Strategies

Determine the best possible strategy for containment will depend on a number of factors:
- Speed of slick travel
- Location of possible containment sites
- Availability of personnel and equipment
- Location of sensitive areas
- Safety of operations

Spills on water can be contained by using floating booms (sorbent or non-sorbent) or by constructing a temporary berm or inverted weir. The objective is to build a barrier against which the (normally floating) oil will pool while allowing the underflow of water.

6.6.1 Booms

Booming with either sorbent or non-sorbent booms can also be an effective means of containing spills on slow-moving waters and in lakes. Effective containment using conventional booming techniques will be very difficult in streams or rivers where currents exceed 0.7 knots or 0.4m). At these speeds, oil will become entrained in the water flowing under the boom resulting in significant losses. Some improvements can be achieved in waters flowing at 1-2 (0.5-1 m/s) if the boom is deployed at an angle of less than 90 degrees to the direction of the flow.

6.6.2 Inverted Weir

6.6.3 Filter Fence

Sorbent booms or socks can also be used to provide a barrier to floating oil. These types of booms should be checked regularly to ensure that they do not become saturated with either water or oil since they will tend to float very low in the water or even sink and release oil downstream.
6.6.4 Spills in Ice and Snow

Oil can remain relatively fresh, in an unweathered state, under snow and ice for several months or more after a spill.

Evaporation rates will still be high when oil is ultimately exposed to the atmosphere except in very low temperatures. Oil can also move up and down small hills (several metres high) due to the capillary action of the snow.

6.6.4.1 Containment

Snow and ice can be used to create berms to keep spills from spreading. In frozen rivers angled slots about 1 metre wide or holes can be cut in the ice, where safety permits, to allow possible spill recovery. The oil will rise up into the openings where it will concentrated, and be available for recovery using skimmers or pumps.

6.6.4.2 Disposal

Oil spills in snow and ice can sometimes be burned if the spill can be isolated from the source. Although there is generally a reduced fire hazard, due attention to safety of operations is still required. If burning is not effective, recovered contaminated material will need to be collected and transported to a designated disposal/treatment facility.

6.6.5 Burning Snow Cone
6.6.7 Recovery

When large volumes of oil have been contained either through natural or mechanical containment, it will be necessary to remove or recover the accumulated oil. This will generally occur in excavated trenches or adjacent to berms or natural barriers and occasionally in slow running streams or quiet ponds.

Vacuum trucks are ideal at cleanup sites accessible by road and where a large volume of oil has pooled that is generally free of water. The truck must be positioned at a safe distance so that there is no possibility of fire or explosion.

Oleophilic devices, such as disc or drum skimmers, can selectively recover oil in water, and are better suited to applications where the oil has formed a distinct layer on top of quiet water. Accumulations adjacent to an inverted weir are an example. A vacuum truck would be largely ineffective in this instance since it would recover large amounts of water, particularly in a thin layer of oil with water flowing through the pipe or culvert.

When using disc or drum skimmers, ensure that small items of debris are periodically removed from the scrapers to ensure their efficient operation.

*Disc Skimmer*

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7.0 TRAINING REQUIREMENTS AND MATERIALS

- Workplace Hazardous Materials Information System Training
- Transportation of Dangerous Goods Training
- Emergency Response Training
8.0 RESOURCES

Contact Regional HS&E Advisors for more information regarding this Process.

9.0 APPENDICIES

- Appendix A – Risk Assessment and Preventive Measures
- Appendix B – Spill Response Actions
# Appendix A

<table>
<thead>
<tr>
<th>POTENTIAL PROBLEM</th>
<th>IMPACT</th>
<th>PROBABILITY</th>
<th>PREVENTATIVE MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel or Oil Major leak from storage tanks</td>
<td>High</td>
<td>Low</td>
<td>Daily inspections and monitoring will take place. Remote emergency shutoffs. Maintain additional fuel storage for emergencies.</td>
</tr>
<tr>
<td>A spill from a valve left open or a break in a pipe at the transfer facilities or at a pumping station</td>
<td>High</td>
<td>Moderate</td>
<td>Ensure all major valves are locked when not in use. Fuel transfer hoses will have a double locking mechanism. Concrete catchments basin at each station. Markers around all above ground fuel transfer pipelines.</td>
</tr>
<tr>
<td>A hydraulic hose breaking on a piece of heavy equipment</td>
<td>Low</td>
<td>High</td>
<td>Mechanics check all hoses and a nozzle for wear and leaks. Operators are required to complete daily equipment checklists for the mechanics; mechanics to service immediately or schedule downtime.</td>
</tr>
<tr>
<td>Pump Failure</td>
<td>Low</td>
<td>Low</td>
<td>Pumps are to be inspected weekly and -serviced monthly.</td>
</tr>
<tr>
<td>Power Outages</td>
<td>Low</td>
<td>Low</td>
<td>In case of long-term power outages, an emergency power supply</td>
</tr>
<tr>
<td>POTENTIAL PROBLEM</td>
<td>IMPACT</td>
<td>PROBABILITY</td>
<td>PREVENTATIVE MEASURES</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------</td>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Chemical Spills</td>
<td>Low – High</td>
<td>Low</td>
<td>Chemicals will be stored in drums, bottles, canisters or packages.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chemicals will be stored in such a way as to protect from the weather.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Training in the handling of chemicals will take place to ensure safe handling.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Regular inspections will take place of stored chemicals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Inventory controls in place.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All chemicals used in explosive formulations are stored in designated areas.</td>
</tr>
<tr>
<td>Flammables (paints,</td>
<td>Low to High</td>
<td>Low</td>
<td>Stored in fireproof storage facilities.</td>
</tr>
<tr>
<td>thinners, acetones,</td>
<td></td>
<td></td>
<td>All containers to be labelled.</td>
</tr>
<tr>
<td>etc.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Devran 201 K</td>
<td>Low to high</td>
<td>Low</td>
<td>Stored in designated site areas.</td>
</tr>
</tbody>
</table>
## Appendix B

### Hydraulic Oil

#### Typical Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Straw-Yellow Liquid</td>
</tr>
<tr>
<td>Flash Point</td>
<td>215°C (Minimum)</td>
</tr>
<tr>
<td>Odour</td>
<td>Petroleum</td>
</tr>
<tr>
<td>Pour Point</td>
<td>-25°C</td>
</tr>
<tr>
<td>Solubility</td>
<td>Generally Insoluble</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Medium (265 x ST, 15°C)</td>
</tr>
<tr>
<td>Vapour Density</td>
<td>Few Vapours Emitted</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Floats on Water (0.9)</td>
</tr>
</tbody>
</table>

#### Safety Measures

##### Warning

Vapours are heavier than air but are unlikely to form.
Toxic gas can form in fire and at high temperatures.
CO, CO₂, and dense smoke are produced upon combustion.
Oil mist or vapour from hot oil can cause irritation of the eyes, nose, throat and lungs.

##### Personal Protection

Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton are suitable materials (DO NOT USE NATURAL RUBBER).
Use of organic vapour cartridge respirator is highly unlikely.

##### Precautions

Avoid excessive heat, which can cause formation of vapours.
Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides.
Eliminate ignition sources.
Restrict access and work upwind of spill.

##### Response to Fires

Consider Action Only If Safety Permits!

Wear SCBA in confined areas.
Shut off fuel supply.
Extinguish fire with CO₂, dry chemical, alcohol foam or water fog.
NOTE: water or foam may cause frothing.
Use water to cool containers, exposed to fire.
Lube Oil

**TYPICAL PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>APPEARANCE:</strong></td>
<td>Amber Liquid</td>
</tr>
<tr>
<td><strong>FLASH POINT:</strong></td>
<td>190° to 2220°C</td>
</tr>
<tr>
<td><strong>ODOUR:</strong></td>
<td>Petroleum</td>
</tr>
<tr>
<td><strong>POUR POINT:</strong></td>
<td>-35° to -40°C</td>
</tr>
<tr>
<td><strong>SOLUBILITY:</strong></td>
<td>Generally Insoluble</td>
</tr>
<tr>
<td><strong>VISCOSITY:</strong></td>
<td>Medium (255 xST, 15°C)</td>
</tr>
<tr>
<td><strong>VAPOUR DENSITY:</strong></td>
<td>Few Vapours Emitted</td>
</tr>
<tr>
<td><strong>SPECIFIC GRAVITY:</strong></td>
<td>Floats on Water (0.9)</td>
</tr>
</tbody>
</table>

**SAFETY MEASURES**

**WARNING**

- Vapours are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO₂, and dense smoke are produced upon combustion.
- Oil mist or vapour from hot oil can cause irritation of the eyes, nose, throat and lungs.

**PERSONAL PROTECTION**

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton are suitable materials (DO NOT USE NATURAL RUBBER).
- Use of organic vapour cartridge respirator is highly unlikely.

**PRECAUTIONS**

- Avoid excessive heat, which can cause formation of vapours.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

**RESPONSE TO FIRES**

**CONSIDER ACTION ONLY IF SAFETY PERMITS!**

- Wear SCBA and eye protection when responding to lube oil fires.
- Shut off fuel supply.
- Extinguish fire with CO₂, dry chemical, alcohol foam or water fog.
- NOTE: water or foam may cause frothing.
- Use water to cool containers, exposed to fire.

**On Land**

- Prevent additional discharge of oil.
- Do not flush into ditch/drainage systems.
- Block entry into waterways.
- Contain spill by digging with earth, snow or other barrier.
- Remove minor spills with sorbent and/or peat moss.
- Remove large spills with pumps or vacuum equipment.
- Spill can also be mechanically removed if oil is too viscous to be pumped.

**On Water**

- Use booms to contain and concentrate spill.
- Remove spill using sorbent, skimmer or vacuum truck.
- Protection booming can be considered for water intakes.

**Storage & Transfer**

- Store closed, labeled containers in cool, and ventilated areas away from incompatible materials.

01/09/2011
**Disposal**
Segregate waste types.
Place contaminated materials into marked containers.
Consult with environmental authorities during final disposal.

**FIRST AID**

<table>
<thead>
<tr>
<th>EYES</th>
<th>Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. Remove contact lenses, if exposed to vapours or liquid. Get prompt medical attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKIN</td>
<td>Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention. Discard saturated leather articles.</td>
</tr>
<tr>
<td>INHALATION</td>
<td>Move victim to fresh air. Perform CPR if victim not breathing. Provide oxygen if victim is having difficulty breathing. Get prompt medical attention.</td>
</tr>
<tr>
<td>INGESTION</td>
<td>DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim’s head below hips to prevent aspiration. Get prompt medical attention.</td>
</tr>
</tbody>
</table>

**Waste Oil**

<table>
<thead>
<tr>
<th>ON LAND</th>
<th>Prevent additional discharge of oil. Do not flush into ditch/drainage systems. Block entry into waterways. Contain spill by digging with earth, snow or other barrier. Remove minor spills with sorbent pads and/or peat moss. Remove large spills with pumps or vacuum equipment. Spill can also be mechanically removed if oil is too viscous to be pumped.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON WATER</td>
<td>Use booms to contain and concentrate spill. Remove spill using sorbent, skimmer or vacuum truck. Protection booming can be considered for water intakes.</td>
</tr>
<tr>
<td>STORAGE &amp; TRANSFER</td>
<td>Store closed, labeled containers in cool, ventilated areas away from incompatible materials.</td>
</tr>
<tr>
<td>DISPOSAL</td>
<td>Segregate waste types. Place contaminated materials into marked containers. Consult with environmental authorities during final disposal.</td>
</tr>
</tbody>
</table>

**FIRST AID**

| EYES    | Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. Remove contact lenses, if exposed to vapours or liquid. Get prompt medical attention. |

### Environmental Process

| **SKIN** | Remove and launder contaminated clothing.  
Wash skin thoroughly with soap and water.  
Get medical attention.  
Discard saturated leather articles. |
| --- | --- |
| **INHALATION** | Move victim to fresh air.  
Perform CPR if victim not breathing.  
Provide oxygen if victim is having difficulty breathing.  
Get prompt medical attention. |
| **INGESTION** | DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink.  
If vomiting begins, keep victim's head below hips to prevent aspiration.  
Get prompt medical attention. |

### Gasoline

#### Typical Physical and Chemical Properties

| **APPEARANCE** | Colorless Liquid  
(Can Be Dyed) | **FLASH POINT**: -50°C |
| **ODOUR** | Gasoline/Petroleum | **POUR POINT**: -60°C |
| **SOLUBILITY** | Insoluble | **VISCOITY**: Not Viscous (<1 cSt) |
| **VAPOUR DENSITY** | Will Sink to Ground Level | **SPECIFIC GRAVITY**: Floats on Water (0.7 - 0.8) |

#### Safety Measures

| **WARNING** | Vapours form instantaneously, and are heavier than air.  
Empty containers can contain explosive vapours.  
Vapours can travel to distant sources of ignition and flash back.  
Eye contact causes irritation.  
Material can accumulate static charges.  
Inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness. |
| **PERSONAL PROTECTION** | Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; PVC, Nitrile, and Viton and PVC are suitable materials (DO NOT USE NATURAL RUBBER or NEOPRENE).  
Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA, if circumstances warrant. |
| **PRECAUTIONS** | Monitor for explosive atmosphere.  
Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides. Eliminate ignition sources.  
Restrict access and work upwind of spill. |
| **RESPONSE TO FIRES** | Wear SCBA in confined areas. |

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01/09/2011
### ONLY IF SAFETY PERMITS!

<table>
<thead>
<tr>
<th></th>
<th>Shut off fuel supply. Extinguish fire with CO₂, dry chemical, alcohol foam or water fog. Use water to cool containers, exposed to fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On Land</td>
<td>ELIMINATE IGNITION SOURCES. Do not flush into ditch/drainage systems. Block entry into waterways. Contain spill by diking with earth, snow or other barrier. Remove minor spills with peat moss and/or sorbent pads. Cover pools with foam to prevent vapour evolution if gasoline presents a fire hazard; otherwise allow vapours to dissipate.</td>
</tr>
<tr>
<td>On Water</td>
<td>ELIMINATE IGNITION SOURCES. DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS. Protection booming can be considered for water intakes.</td>
</tr>
<tr>
<td>Storage &amp; Transfer</td>
<td>Store closed, labeled container in cool, ventilated areas away from incompatible materials. Electrically ground containers and vehicles during transfer.</td>
</tr>
<tr>
<td>Disposal</td>
<td>Place contaminated materials into segregated marked containers. Consult with environmental authorities during final disposal.</td>
</tr>
</tbody>
</table>

### FIRST AID

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EYES</strong></td>
<td>Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. Remove contact lenses, if exposed to vapours or liquid. Get prompt medical attention.</td>
</tr>
<tr>
<td><strong>SKIN</strong></td>
<td>Remove and launder contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention. Discard saturated leather articles.</td>
</tr>
<tr>
<td><strong>INHALATION</strong></td>
<td>Move victim to fresh air. Perform CPR if victim not breathing. Provide oxygen if victim is having difficulty breathing. Get prompt medical attention.</td>
</tr>
<tr>
<td><strong>INGESTION</strong></td>
<td>DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim’s head below hips to prevent aspiration. Get prompt medical attention.</td>
</tr>
</tbody>
</table>
# Health, Safety & Environment

## Environmental Process

### Propane

<table>
<thead>
<tr>
<th><strong>Typical Physical and Chemical Properties</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance:</strong> Colourless Gas</td>
</tr>
<tr>
<td><strong>Odour:</strong> Natural Gas Odour</td>
</tr>
<tr>
<td><strong>Solubility:</strong> Insoluble</td>
</tr>
<tr>
<td><strong>Vapour Density:</strong> Will Sink to Ground Level</td>
</tr>
</tbody>
</table>

### Safety Measures

#### Warning

- Vapours form instantaneously, and are heavier than air.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

#### Personal Protection

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; Nitrile: and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Avoid frostbite burn to skin and eyes from contact with propane.
- Wear full-face organic vapour cartridge respirator where oxygen is adequate, otherwise wear positive pressure SCBA.

#### Precautions

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

### Response to Fires

- **Consider Action Only If Safety Permits!**
  - Wear SCBA in confined areas.
  - Shut off fuel supply.
  - Extinguish fire with CO₂, dry chemical, alcohol foam or water fog.
  - Use water to cool containers, exposed to fire.

- On Land
  - ELIMINATE IGNITION SOURCES.
  - DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS.

- On Water
  - ELIMINATE IGNITION SOURCES.
  - DO NOT ATTEMPT TO CONTAIN OR REMOVE SPILLS.

- Storage & Transfer
  - It is not possible to collect released material.

- Disposal
  - Consult with environmental authorities if the disposal of any
## First Aid

### Eyes
Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open. Remove contact lenses, if exposed to vapours or liquid. Get prompt medical attention.

### Skin
Remove and launder contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention. Discard saturated leather articles.

### Inhalation
Move victim to fresh air. Perform CPR if victim not breathing. Provide oxygen if victim is having difficulty breathing. Get prompt medical attention.

### Ingestion
DO NOT INDUCE VOMITING; if victim is conscious; give milk or water to drink. If vomiting begins, keep victim’s head below hips to prevent aspiration. Get prompt medical attention.

## Antifreeze (Ethylene Glycol)

### Typical Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Appearance: Colourless Liquid</th>
<th>Flash Point: 111°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour: Slight; Undetectable &lt;25 ppm</td>
<td>Pour Point: -13°C (48% Solution)</td>
</tr>
<tr>
<td>Solubility: Soluble in All Proportions</td>
<td>Viscosity: Not Viscous (=22 cSt)</td>
</tr>
<tr>
<td>Vapour Density: Will Sinks to Ground Level</td>
<td>Specific Gravity: Same as Water (1.0)</td>
</tr>
</tbody>
</table>

### Safety Measures

#### Warning
Vapours are heavier than air. Ingestion of significant quantities can be lethal. Eye contact causes irritation. Skin contact can cause intoxication due to absorption. Inhalation of vapours can cause intoxication, headache, vomiting, unconsciousness with convulsions, and even death. Avoid inhaling vapours, particularly in enclosed places.

#### Personal Protection
Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; neoprene, nitrile, PVC are suitable protective materials.
# Health, Safety & Environment

## Environmental Process

### Precautions

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monitor empty containers for explosive atmosphere.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozone, peroxides.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Eliminate ignition sources.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Restrict access and work upwind of spill.</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Response to Fires

<table>
<thead>
<tr>
<th><strong>Consider Action</strong></th>
<th><strong>Response to Fires</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Only If Safety Permits!</strong></td>
<td><strong>Wear SCBA in confined areas.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Shut off fuel supply.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Extinguish fire with CO₂, dry chemical, alcohol foam or water fog. (Note: Water or foam may cause frothing).</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Use water spray to cool containers exposed to fire.</strong></td>
</tr>
</tbody>
</table>

### On Land

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Block entry into waterways.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Do not flush into ditch/drainage systems.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Contain spill by diking with earth, snow or other barrier. Remove minor spills with universal type sorbent.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Remove large spills with pumps or vacuum equipment.</strong></td>
<td></td>
</tr>
</tbody>
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### On Water

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<tr>
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<tr>
<td><strong>Ethylene glycol sinks and mixes with water; contain spill by isolating contaminated water through damming or diversion.</strong></td>
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### Storage & Transfer

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<tbody>
<tr>
<td><strong>Store closed, labelled containers in cool, ventilated areas away from incompatible materials.</strong></td>
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### Disposal

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<tr>
<td><strong>Segregate waste types.</strong></td>
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<tr>
<td><strong>Place contaminated materials into marked containers.</strong></td>
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<tr>
<td><strong>Consult with environmental authorities during final disposal.</strong></td>
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### First Aid

<table>
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<th><strong>First Aid</strong></th>
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<tbody>
<tr>
<td><strong>Eyes</strong></td>
<td><strong>Flush eyes immediately with fresh, warm water (NOT HOT WATER) for 20 minutes, while holding the eyelids open.</strong></td>
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<tr>
<td></td>
<td><strong>Remove contact lenses, if exposed to vapours or liquid.</strong></td>
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<tr>
<td></td>
<td><strong>Get prompt medical attention.</strong></td>
</tr>
<tr>
<td><strong>Skin</strong></td>
<td><strong>Remove contaminated clothing.</strong></td>
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<tr>
<td></td>
<td><strong>Wash skin thoroughly soap and water.</strong></td>
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<tr>
<td></td>
<td><strong>Get medical attention.</strong></td>
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</table>
## INHALATION
Move victim to fresh air.  
Perform CPR if victim not breathing  
Provide oxygen if victim is having difficulty breathing.  
Get prompt medical attention.

## INGESTION
INDUCE VOMITING IMMEDIATELY if victim is conscious;  
Get prompt medical attention.
1.0 PURPOSE

NC Services Group and its member companies (NCSG) are committed to being industry leaders in Health, Safety and Environmental practices, to maintaining a safe and healthy workplace, and to protecting the environment. Excellence in Health, Safety and Environmental practices is vital to the well being of all people everywhere and essential to all aspects of our business. All employees and sub-contractors share in the responsibility to ensure that our worksites are safe and environmentally responsible.

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

Consistent with our Health, Safety and Environmental Policy, the Company has implemented this Alcohol and Drug Program to eliminate any negative effects of alcohol and other drug use in our workplace.

Note: NCSG’s Alcohol and Drug policy operates in the spirit of the Alcohol and Drug Guidelines and Work Rule of the Construction Owners Association of Alberta (COAA) and is subject to change based on amendments to the same.

2.0 SCOPE AND APPLICATION

The following provisions apply to all employees while they are engaged in company business, working on company premises or worksites, and operating company vehicles and equipment. All employees are responsible for their own and others’ health, safety and environmental performance and are expected to take appropriate action where they believe there is a safety risk or potential violation. Any violation of this Program will be considered a fundamental breach of the employment contract and employees will be subject to disciplinary action up to and including termination. Failure of supervisors to meet their additional responsibilities under this Program will be grounds for disciplinary action.

2.1 All contractors will be advised of the applicable provisions of this Alcohol and Drug Program, and will be expected to enforce these requirements for their employees, sub-contractors and agents. Any contravention will be considered a breach of their contract.

Details on the expectations around alcohol and drug use and possession, the procedures for implementation, and definitions of terms are found in the following sections of the Program. Education, awareness and supervisor training programs support it. This Program is subject to ongoing review and evaluation, and modifications will be made as deemed necessary to respond to current circumstances and evolving needs.
3.0 DEFINITIONS

3.1 Company Business

Refers to all business activities undertaken by employees and contract workers in the course of the company's operations, whether conducted on or off company premises or worksites. It includes those situations when an individual is representing, or could reasonably be perceived as representing the company in the performance of duties.

3.2 Company Premises

Includes but is not necessarily restricted to all land, facilities, mobile equipment and vehicles owned, leased or otherwise directly controlled by NCSG.

3.3 Company Worksite

Includes any site or location where an NCSG employee has been assigned to work.

3.4 Contractor

Refers to any person or entity, including their employees, that has been contracted, sub-contracted, or otherwise engaged to provide services to the company on a fee for service basis.

3.5 Drug

Means any substance, including but not limited to alcohol, illicit drugs, medications or other substances, the use of which has the potential to change or adversely affect the way a person thinks, feels or acts. For purposes of this Program, drugs of concern are those that inhibit a worker's ability to perform his or her job safely and productively.

- Alcohol means the intoxicating agent in beverage alcohol, ethyl alcohol, or other low molecular weight alcohols including methyl and isopropyl.
- Beverage Alcohol refers to beer, wine and distilled spirits.
- Illicit drug means any drug or substance which is not legally obtainable and whose use, sale, possession, purchase or transfer is restricted or prohibited by law (e.g. street drugs such as marijuana, cocaine, and methamphetamine).
- Medication refers to a drug obtained legally, either over-the-counter or through a doctor's prescription.

3.6 Drug Paraphernalia

Any personal property which is associated with the use of any drug, substance, chemical or agent, including any product or device that may be used to attempt to tamper with a testing sample.
3.7 Employee

Includes all regular full time, part time, temporary, and casual employees on the NCSG payroll or on the payroll of one of NCSG’s subsidiaries.

3.8 Fitness for Work

In the context of this Program means being able to safely and acceptably perform assigned duties without any limitations due to the use or after-effects of alcohol, illicit drugs, medications or other substances.

3.9 Risk Sensitive Operating Location

For purposes of this Program, all NCSG operating locations are considered risk sensitive except the Corporate office, Acheson office, or any similar office locations that may come into existence after the implementation of this Program.

3.10 Significant Incident

Any incident that results in, or may reasonably have resulted in, any of the following:

- An injury that results in an employee or contract worker:
  - Fatality;
  - Lost-time injury; or
  - Medical aid injury (As defined by Provincial Workers Compensation Board).
- An injury to a customer, member of public or other 3rd party not directly associated with, but injured as a result of, company business;
- An incident that is reportable under Provincial, State or Federal legislation;
- Significant loss or damage to property, equipment or vehicles;
- Any other significant work-related incident or a near miss considered to have had significant potential for more serious consequences.

3.11 Supervisor

The person who directs the work of others and may, depending on the nature of NCSG’s structure, include but not limited to; foreman, general foreman, supervisor, superintendent and team leader.
3.12 Hiring and Employment - Testing

NC Services Group and its affiliated companies (NCSG) maintain the following conditions for employment or hire with regards to Alcohol and Drug:

- In accordance with Section 4.8 of the COAA – Alcohol and Drug Guidelines and Work Rule, all new hires are required to submit to and test negative to an Alcohol and Drug Test prior to being hired with NCSG.

- In accordance with Section 3 of the COAA – Alcohol and Drug Guidelines and Work Rule, the concentration limits for said testing are defined and adopted in full. See appendix E of this policy.

- Appendix C of this program specifically outlines the Alcohol and Drug Testing process.

- All testing is conducted at a certified laboratory and testing procedures meet or exceed the requirements of the COAA – Alcohol and Drug Guidelines and Work Rule (referred to as the Canadian Model version 2)

- Continuity of Employment, any lapse in employment for any reason exceeding 30 days, submission to and test negative to an Alcohol and Drug Test prior to the employment relationship continuing is mandatory.

- Any individual who may have tested positive as described within and is allowed to return to work by arrangements as described within, must submit to and test negative to an Alcohol and Drug Test prior to the resumption of work.

- All person(s) who have violated this program will remain ineligible for rehire for a minimum of 365 days from the date of violation. Prior to consideration for rehire, the person(s) must show evidence of a an approved rehab program, agree in writing to a last chance agreement with enhanced testing and must have the approval of the Vice President of HS&E or Human Resources.

4.0 EXPECTATIONS

To minimize the risk of unsafe and unsatisfactory performance due to the use of alcohol or other drugs, employees are expected to comply with the following requirements, and to report fit for work and remain so throughout their workday or shift. The following requirements have been set for any activity undertaken while on Company business, premises or worksites or while operating a Company vehicle or equipment.
4.1 Illicit Drugs

The following are prohibited:

- The use, possession, cultivation, manufacture, distribution, offering or sale of illicit drugs or illicit drug paraphernalia;
- Reporting for or being at work under the influence of illicit drugs; and
- A positive test result for illicit drugs as determined through the testing program.

4.2 Alcohol

The use, possession, distribution, offering or sale of beverage alcohol is prohibited when on company premises and worksites with the exception noted below. In addition, employees covered by this Program are expected to use alcohol responsibly in those situations it is permitted and to report and remain fit for work in compliance with this Program. Employees cannot:

- Have an alcohol test result of .04 Blood Alcohol Concentration (“BAC”) or greater;
- Transport or store beverage alcohol in a vehicle owned, assigned, or contracted by NCSG for NCSG business purposes; and
- Consume alcohol after an incident until tested or advised by the Company that a test is not required.

Risk Sensitive Operating Locations: In addition, because of the higher risk involved in most of our operations, anyone assigned to work in a risk sensitive operating location, or who is temporarily working in the location (including business visits) must comply with the following. Employees:

- Must not report for work or remain at work under the influence of alcohol from any source;
- Can not consume any product containing alcohol (including beverage alcohol) when at work including during meals or breaks; and
- Will be removed from the workplace at least until their next shift if they have an alcohol test result of .02-.039 BAC.

Employees at these locations may consume alcohol after the work day, for example, when on travel status, at a training event or seminar, or in any other similar business-related situation provided the formal business is completed, they use alcohol responsibly in compliance with the requirements set out above, and that they are not reporting for or returning to work. Anyone who attends a NCSG social event and consumes alcohol must not be returning to or reporting for work after the event.

Exceptions to Rule on Possession: Possession of alcohol is strictly prohibited on company premises, with the exception of factory sealed containers which may be stored in personal vehicles parked on Company premises, provided the alcohol is locked in the trunk of the vehicle or otherwise appropriately secured.

Alcohol received as a gift may be temporarily stored on Company premises, including in a vehicle, but must remain sealed and be removed at the earliest opportunity.
4.3 Social Situations

In the case of any NCSG social event, appropriate regard will be taken for the safety and well being of the individuals present and the community. Responsible alcohol use is permitted at off-site social functions with the prior approval of the appropriate Vice President, provided the expectations around alcohol use are observed (e.g. no use by someone at a risk sensitive location if returning to work), that alcohol consumption is controlled so there is no inappropriate behavior at the function or potential for impaired driving afterwards, and alternative transportation arrangements are made available. Additional guidelines are attached in Appendix A.

Consistent with the above, if alcohol is made available to NCSG guests in the course of conducting business (e.g. restaurant meetings), employees are expected to use judgment and be responsible in hosting others.

4.4 Medications

It is expected that prescribed and over-the-counter medications will be used responsibly in accordance with the physician’s or pharmacist’s instructions. Medications of concern are those that may inhibit an employee’s ability to perform their job safely and productively. A guideline on medications is attached in Appendix B. The following are prohibited while on company business, premises and worksites:

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

Employees are expected to:

- Investigate (through their doctor or pharmacist) whether a medication they are using will affect their ability to do their job safely; and
- Act responsibly and use a safe alternative medication choice when available (e.g. non-drowsy); however
- If the medication they are using will affect their ability to operate safely, advise their supervisor or designate of any need for modified duties.

In this situation, a medical work modification may be issued, and the employee may be assigned to alternate duties if available and at the discretion of the Company. The Company reserves the right through the Program Administrator to confirm the nature and duration of modified work requirements with the treating physician, without any breach in medical confidentiality.

4.5 Unscheduled Call in

If unexpected circumstances arise where an employee is requested to perform unscheduled services while under the influence of alcohol or medications that could impact safe operations, it is the responsibility of the employee to decline the call.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

Employees are expected to perform their job in a safe manner and in all ways consistent with established company practices. In addition, it is expected that everyone will:

- Read and understand this Program and their responsibilities under it;
- Report fit for work for any and all scheduled work and remain fit for work while on company business, premises and worksites;
- Seek advice and follow appropriate treatment if they have a current or emerging problem, and follow recommended monitoring programs after attending treatment;
- Co-operate with any work modification related to safety concerns;
- Intervene as appropriate to encourage a co-worker to access assistance before an alcohol or drug problem impacts performance or safety; and
- Co-operate with an investigation into a violation of this Program, including any requirement for testing.

Because all individuals working for NCSG have a shared responsibility for workplace safety, employees are encouraged to look out for other employees, contractor workers or visitors in terms of fitness for work. They are expected to take appropriate action to ensure no individual remains in an unfit condition on Company premises or a worksite such that they may endanger themselves or others, by ensuring their supervisor, Health, Safety and Environment, Human Resources, their Union Representative or any other appropriate individual is advised of the situation.

5.2 Supervisors

will be responsible for:

- Ongoing performance management to ensure safe operations and effectiveness of the program;
- Guiding employees who seek assistance for a personal problem to appropriate resources (e.g. Human Resources, Corporate Health, Safety and Environment, or other community resources) while maintaining confidentiality under the circumstances;
- Making arrangements for a Substance Abuse Professional assessment through the Program Administrator if an employee says they have a problem with alcohol or other drugs;
- Taking appropriate steps to investigate any violation of this Program;
- Making referrals for an alcohol and drug test in a post incident or reasonable cause situation as and when required to do so under this Program;
- Monitoring and ensuring the compliance of contract workers.
5.3 The Program Administrator

will be responsible for:

- Consistent administration of this Program;
- Resolution of any questions of interpretation;
- Supporting supervisors in meeting their responsibilities;
- Coordinating delivery of employee education and supervisor training programs, including refreshers as required;
- Making arrangements for a Substance Abuse Professional assessment as required;
- Overseeing implementation of modified work, return to work agreements, or similar accommodation situations; and
- Ongoing management of the alcohol and drug testing program.

6.0 METHOD

6.1 Prevention, Assistance, Rehabilitation, Aftercare

6.1.1 Prevention

This Program stresses the importance of prevention and early identification of potential problem situations. The company will make information available on health and safety hazards, recognizing related performance problems, and the process to access assistance.

Employees are encouraged to access the company Employee Assistance Provider (EAP), their personal physician, or appropriate community services for help with an alcohol or drug problem, or any other problem that may be affecting work performance.

6.1.2 Assessment/Rehabilitation

NCSG recognizes that alcohol and drug dependencies are treatable illnesses and that early intervention greatly improves the probability of a lasting recovery. Individuals who suspect they have a substance dependency or emerging alcohol or drug problem are expected to seek advice and to follow appropriate treatment promptly before job performance is affected or violations of this Program occur.

Employees who come forward voluntarily for help with an alcohol or drug problem will be referred to a Substance Abuse Professional (SAP) for assessment and supported through a treatment and aftercare program consistent with the Substance Abuse Professional’s recommendations and the applicable benefit coverage. The company will work in conjunction with the employee and SAP to find an appropriate community based treatment program/facility. Employees should understand that accessing assistance or declaring a problem does not eliminate the requirement for maintenance of satisfactory performance levels. Discipline or testing cannot be avoided by a request for assistance with a problem or by disclosure that the individual is already involved in a treatment program.

Where a medical professional, substance abuse professional, or other counseling professional advises that there may be a risk that would prevent an employee from doing their job safely, a medical work modification may be issued, and the individual may be assigned to alternate duties if available and at the discretion of the company.
6.1.3 Aftercare

All employees who complete primary treatment (e.g. residential or out-patient treatment) for alcohol or drug problems as a result of a referral will be required to participate in an aftercare program recommended by the SAP or appropriate addictions professional when returning to work in order to help them maintain recovery. They will be expected to enter into a written agreement, which will outline the conditions governing their return to the job, and the consequences for failing to meet those conditions.

6.1.4 Confidentiality

Confidentiality will be maintained to the extent possible, except where limited disclosure is necessary for related health and safety concerns. (e.g. there is deemed to be a potential for risk to self, others or the company). That is, only the information strictly limited to the level of functionality of a worker (e.g. fitness for work and any restrictions that may apply) may be shared with management for purposes of determining fitness for work, appropriate work accommodation, and/or work re-entry initiatives.

6.2 Investigative Procedures

6.2.1 Performance Management

The normal process of job performance management will continue to be emphasized. Through this process, individuals with apparent performance problems will be reminded that they should access assistance should a personal problem be affecting their job performance.

6.2.2 Unfit for Work Situations

In all situations when there are grounds to believe an employee is unfit to be on the worksite, responsible escort procedures will be followed. The employee will be escorted to a safe place and given an opportunity to explain why they appear to be in a condition unfit for work. If the supervisor conducting the interview still believes the employee is in a condition unfit for normal work, and after consultation and agreement of a second supervisor or one up whenever possible, they may take any of the following actions as appropriate:

- Referral for medical attention if there are immediate medical concerns (health center, local hospital or clinic); or
- Referral for an alcohol and drug test if there are grounds to believe alcohol or drug use may be a factor in the situation; or
- Any other action appropriate to the situation.

Transportation will be provided to the sample collection site, or hospital/clinic depending on the circumstances, and then to their place of residence or the care of another person. The employee may be temporarily held out of service or reassigned pending completion of an investigation.
6.3 Alcohol and Drug Testing

All employees will be subject to testing in the following circumstances. Procedures for testing are found in Appendix C.

6.3.1 Reasonable Cause

Alcohol and drug testing will take place whenever the company has reasonable grounds to believe that the actions, appearance or conduct of an individual while at work are indicative of the use of drugs or alcohol. The decision to test shall be made by the supervisor, with concurrence of a second supervisor or one up wherever possible. The referral for a test will be based on specific, personal observations resulting from, but not limited to such indicators as:

- Observed use or evidence of use of a substance (e.g. smell of Liquor);
- Erratic or atypical behavior or changes in behavior of the employee;
- Changes in the physical appearance or speech patterns of the employee;

Individuals tested in this circumstance will be removed from work until the investigation is complete. Depending on the test result, a fitness for work assessment may also be required.

6.3.2 Post Incident Testing

Alcohol and drug testing may be required after a significant work-related incident as part of an investigation into the circumstances. The supervisor investigating the incident, after consultation with another supervisor or one up whenever possible, will refer an employee, or a group of employees, for a test. Reasonable cause to believe alcohol or drug use was a factor is not required when making a decision to test.

Reporting of an incident:

- Employees are expected to report a situation to their immediate Manager as soon as possible after the incident;
- Employees are expected to participate fully in any subsequent investigation; and
- Failure to report an incident is a violation of this Program.

The following procedures apply:

- A supervisor or manager of an employee must request an employee to submit to an alcohol and drug test if the supervisor or manager and the next level of management present at the workplace, if any, have reasonable grounds to believe that the employee was involved in an incident or near miss;
- A supervisor or manager of an employee must provide to the employee the reason for the request for test;
- A supervisor or manager must make the request immediately following an incident or near miss unless it is not practicable or reasonable to do so until a later time (within 8 hrs max);
- A supervisor or manager of an employee need not request the employee to submit to an alcohol and drug test if the supervisor or manager in consultation with the Vice President of HS&E and/or Human Resources conclude that there is objective
evidence to believe that the use of alcohol and drugs did not contribute to the cause of the incident or near miss;

- Arrangements for testing should be made as soon as possible unless this is impossible because medical attention is required;
- The need for a test must be documented as part of the preliminary investigation as soon as practical after the triggering event;
- A test will not be necessary if there is clear evidence that the acts or omissions of employees could not have been a contributing factor (e.g. structural or mechanical failure, or environmental factors) and must be documented;
- Employees referred for a test will only be those who are identified, with reasonable grounds, as having been directly involved in the chain of acts or omissions leading up to the event;
- Employees must not use alcohol after an incident until tested or advised by the company that a test is not required.
- If there is any reason for delay the supervisor will stop attempting collection at 8 hours after the incident for alcohol testing and 32 hours for drug testing. In addition to the testing circumstances set out under this employee program, testing may also be required in additional circumstances as part of an investigation into an incident on a client site at that client’s direction. In the case of a less significant incident, if the supervisor concludes that alcohol or drug use may have been a factor, a reasonable cause test would be required.

### 6.3.3 Return to Work - Post Treatment

Unannounced testing may be used as a monitoring tool as determined on a case by case basis to support the recovery of any individual returning to work after primary treatment for an alcohol or drug problem.

### 6.3.4 Return to Work – Post Violation

In those situations where employment is continued after a violation of this Program, individuals will be required to pass a return to work test and may be subject to unannounced testing for a minimum of two years.

### 6.3.5 Customer Sites

Site access or random testing of NCSG employees may be required as a contractual condition of doing business with certain customers and/or as a condition of being allowed on certain sites or locations.

### 6.3.6 Failure to Test

Failure to report directly for a test, refusal to submit to a test, refusal to agree to disclosure of a test result to the Program Administrator, a confirmed attempt to tamper with a test sample, or failure to report involvement in an incident which may require testing, are a violation of this policy.
6.3.7 Possession of Alcohol or Drugs

NCSG reserves the right to investigate any situation when there are reasonable grounds to believe that alcohol or illicit drugs are present on Company premises in violation of this Program.

Supervisors are responsible for identifying situations where an investigation is justified based on a combination of indicators, which could include behavior, odour, or presence of drug related paraphernalia. They will be responsible for advising the next level of management of the situation, who will make the decision as to whether to initiate an investigation, and who will conduct it.

6.3.8 Loss of License/Impaired Driving Charge

All employees who regularly or periodically operate any motor vehicle on behalf of NCSG must maintain a valid driver's license. Any loss of license must be reported to their supervisor immediately and the individual will no longer be qualified to drive on behalf of the company.

In addition, employees must inform their supervisor immediately if they have been charged with an impaired driving offense when operating a Company vehicle or driving on behalf of NCSG. Impaired driving would include but not be restricted to testing over the legal BAC in that jurisdiction, driving while impaired, or refusal to blow into a breath analyzer or provide a sample for testing. Receipt of a charge will result in a full investigation, and resulting disciplinary action appropriate to the situation. Failure to report the charge will be grounds for discipline up to and including termination of employment.

6.4 Consequences

6.4.1 General Expectations

Any violations of the provisions of this Policy and Process are grounds for discipline up to and including termination of employment. In all situations, an investigation will be conducted and documented to verify that a violation has occurred before disciplinary action is taken.

Management has the authority and discretion to hold out of service any individual who is believed to be involved in an incident that could lead to disciplinary action pending the results of the investigation. The appropriate discipline in a particular case depends on the nature of the violation and the circumstances surrounding the situation; the severity of the violation will warrant entering the discipline process at different levels.

Possession of illicit drugs on company premises or worksites, possession of any product which may be used to tamper with the testing process and failure to complete the testing process are grounds for termination of employment.

A positive drug test and an alcohol test result of .04 BAC or higher are considered a violation of this policy. At a risk sensitive operating location, an alcohol test result of .02 to .039 BAC will result in removal from the workplace until at least the next shift, and is
grounds for progressive discipline.

6.4.2 Conditions of Continued Employment

Should the company determine that employment will be continued in a specific circumstance, the individual shall be required to enter into an agreement governing their continued employment which may require any or all of the following actions, or any other condition appropriate to the situation:

- Temporary removal from their position;
- Assessment by a Substance Abuse Professional (SAP) to determine the need for a structured treatment program;
- Adherence to any recommended treatment and aftercare program;
- Maintenance of sobriety and satisfactory performance on return to work;
- Successful completion of a return to work test;
- Ongoing unannounced testing for a period determined on a case by case basis; and
- No further violations of the Program.

Where applicable, the employee’s union will be involved in this process. The company will work in conjunction with the employee and SAP to find an appropriate community based treatment program/facility. Consequences for failure to meet the requirements of the agreement during the monitoring period will be set out in the individualized agreement.
7.0 TRAINING MATERIAL

- Employee Alcohol and Drug Program - Awareness Training Course / New Employee Orientation
- Supervisors Alcohol and Drug Program - Training Course

8.0 RESOURCES

Contact the Program Administrator or a representative of the Health, Safety and Environment team for more information regarding this Program.

9.0 APPENDICIES

- Appendix A – Guideline on Hosting Events
- Appendix B – Guideline on Medications
- Appendix C – Alcohol and Drug Testing Procedure

10.0 SUPPORTING DOCUMENTS

10.1 General

- NCSG Alcohol and Drug Requirements for Contractors and Contract Workers
- Wallet Card

10.2 Procedures

- Performance Management Procedures
- Investigation Procedures
- Testing Procedures
- SAP Referral Procedures
Appendix A
Guidelines for Business and Social Hosting

Company Social Events: The use of alcohol in conjunction with any off site company social event is permitted with the prior approval of the appropriate Vice President and in accordance with the following guidelines:

1. Professional/trained servers will work at each event and/or will supervise the use of untrained servers.

2. Each event will have a designated "chief host/hostess" (with assistance from others) with responsibility for:
   - Obtaining appropriate permits;
   - Establishing the general tone of the event;
   - Acting as the sole contact with the servers during the function regarding opening and closing times, food and beverage arrangements, etc.);
   - Ensuring bars are attended at all times;
   - Ensuring alcohol is not served to individuals who appear to be intoxicated;
   - Taking steps to prevent abusive or unsafe behaviour;
   - Taking steps to prevent an apparently intoxicated attendee from driving after the function;
   - Providing alternate transportation or accommodation where necessary; and
   - Contacting the police if an incident occurs or an attendee disregards advice and attempts to drive in an intoxicated state.

3. In all situations, events will be managed in a way that avoids the potential for accidents, including identifying and eliminating potentially harmful situations.

4. Responsible serving practices will include providing food and non-alcoholic drinks throughout the event, as well as coffee and tea after the bar has closed, establishing a firm time to end the event, and stopping service of alcohol at least one hour prior to the event being over.

5. Any hosting situation that results in inappropriate behaviour or risk to health and safety of attendees or the community will result in a review of these guidelines and active steps to ensure the problems do not occur again.

Business Hosting: Consistent with the above standards, if alcohol is made available to NCSG guests in the course of conducting business (e.g. client lunch or dinner, conference/seminar situation) employees are expected to use judgment and be responsible in hosting others.

Note: additional information can be found at:
- [http://www.camh.net/About_Addiction_Mental_Health/Drug_and_Addiction_Information/having_party.html](http://www.camh.net/About_Addiction_Mental_Health/Drug_and_Addiction_Information/having_party.html)
- [http://www.madd.ca/english/research/liability.html](http://www.madd.ca/english/research/liability.html)
Appendix B
Guideline on Medications

All employees are expected to manage potential impairment during working hours due to the legitimate use of medications. The following drug categories have been associated with performance impairment and are provided as a guideline to employees in assessing their own situation. The list is not exhaustive; there are numerous other over-the-counter and prescription drugs which when taken may impact negatively on performance.

Therefore, employees are expected to consult with their physician or a pharmacist to determine if use of the medication will have any potential negative impact on job performance. If the medication they are using will affect their ability to operate safely, they are to advise their supervisor or designate of any need for modified duties.

NCSG reserves the right, through the Program Administrator, to confirm the nature and duration of modified work requirements with the treating physician, without any breach in medical confidentiality.

Medications that could negatively impact safety or work-performance include the following:

a. Antihistamines – are widely prescribed for hay fever and other allergies (e.g., Allegra, Dimetane). They are also found in many cold medications. These medications may cause drowsiness.

b. Motion Sickness Drugs – are used to prevent motion sickness and nausea (e.g., Gravol, Antivert). Side effects may include drowsiness.

c. Barbiturates, Sedatives, Hypnotics, Tranquilizers, Antidepressants – are used to treat sleep disorders and depression (e.g., Ativan, Imovane, Paxil). Potential side effects may include mild sedation, hypnotic state, dizziness or drowsiness.

d. Narcotics – (e.g., Demerol, Codeine, OxyCotyn, Percoset). Codeine is often found in combination drugs such as 222s or 292s or Tylenol 1,2,3s. Drowsiness, dizziness, and light-headedness may be side effects.

e. Stimulants – Medication used for central nervous system stimulation and for appetite suppression can produce sensations of well-being which may have an adverse effect on judgment, mood and behavior (e.g., amphetamines or medications sold as “diet pills”).

f. Anticonvulsants – are used to control epileptic seizures and can cause drowsiness in some patients (e.g., Dilantin).

g. Muscle Relaxants – are used to treat musculoskeletal pain. Most common side effects are sedation and drowsiness (e.g., Flexeril, Robaxisal).

h. Cold Tablets/Cough Mixtures – in particular, nighttime remedies can cause drowsiness (e.g., Sinutab, Contac, Triaminic, Tussionex and preparations containing dextromethorphan (DM) or codeine).

The foregoing list is not intended to be exhaustive.
Appendix C
Alcohol and Drug Testing Procedures

The procedures outlined within this appendix are specifically defined in the COAA - Canadian Model for Providing a Safe Workplace.

ALCOHOL TESTING

General

1. The donor is the person from whom a breath or saliva sample is collected
2. The donor is directed to go to a collection site/lab in order to give a breath or saliva sample
3. The breath alcohol technician (BAT) or the screening test technician (STT) as appropriate establishes the identity of the donor. Photo identification is preferable. Positive identification by a company representative who holds a supervisory position is acceptable
4. The BAT or STT as appropriate explains the testing procedure to the donor
5. The company must securely store information about alcohol test results to ensure that disclosure to unauthorized persons does not occur
6. Breath testing and saliva testing devices are used to conduct alcohol screening tests and must be listed on the National Highway Traffic Safety Administrations (NHTSA) conforming products list

Breath Testing

1. The BAT and the donor complete those parts of the alcohol testing form that are to be completed before the donor provides a breath sample
2. The BAT opens an individually wrapped or a sealed mouthpiece in the presence of the donor and attaches it to the breath testing device in the prescribed manner
3. The BAT explains to the donor how to provide a breath sample and asks the donor to provide a breath sample
4. The BAT reads the test result and ensures that the test result is recorded on the alcohol testing form after showing the results to the donor
5. The BAT completes the part of the alcohol testing form that is to be completed after the donor provides a breath sample and asks the donor to do so as well
6. If the test result shows an alcohol level that is less than 0.020 grams/210 litres of breath, the BAT informs the donor that there is no need to conduct any further testing and reports the result in a confidential manner to the company’s designated representative. While the initial communication need not be in writing, the BAT must subsequently provide a written report of the test result to the company’s designated representative
7. If the test result shows an alcohol level that is equal to or greater than 0.020 grams/210 litres of breath, the BAT informs the donor of the need to conduct a confirmation test
Saliva Testing

1. The STT and the donor complete those parts of the alcohol testing form that are to be completed before the donor provides a sample.
2. The STT checks the expiration date of the saliva testing device, shows the date to the employee and uses a saliva testing device only if the expiration date has not passed.
3. The STT opens an individually wrapped or a sealed package containing the saliva testing device in the presence of the donor.
4. The STT invites the donor to insert the saliva testing device into the donor’s mouth for the time it takes to secure a proper specimen. If the donor does not wish to do this, the collection site person offers to do so.
5. The STT reads the result the saliva testing device produces and records the test result on the alcohol testing form after showing the results to the donor.
6. The STT completes the part of the alcohol testing form that is to be completed after the donor provides a saliva sample and asks the donor to do so as well.
7. If the test result shows an alcohol level that is less than 0.02 grams of alcohol in 100 millimetres of saliva or an equivalent concentration in other units, the STT informs the donor that there is no need to conduct any further testing and reports the result in a confidential manner to the company’s designated representative. While the initial communication need not be in writing, the STT must subsequently provide a written report of the test results to the company’s designated representative.
8. If the test result shows an alcohol level that is equal to or greater than 0.020 grams of alcohol in 100 millilitres of saliva or an equivalent concentration in other units, the STT informs the donor of the need to conduct a confirmation test.

Confirmation Test – (completed as required)

1. If a breath alcohol testing device was used for the screening test, an evidential breath alcohol device must be used to conduct the alcohol confirmation test, should the test be required. If a saliva testing device was used for the screening test, the confirmation test will use an evidential breath alcohol testing device.
2. The BAT advises the donor not to eat, drink, put anything in their mouth or belch before the confirmation test is complete.
3. The confirmation test must start not less than fifteen minutes after the completion of the screening test and not more than thirty minutes after the completion of the screening test.
4. The BAT and the donor complete those parts of the alcohol testing form that are to be completed before the donor provides a breath sample.
5. The BAT opens a new individually wrapped or sealed mouthpiece in the presence of the donor and inserts it into the breath testing device in the prescribed manner.
6. The BAT explains to the donor how to provide a breath sample and asks the donor to provide a breath sample.
7. The BAT reads the test result on the device and shows the donor the result displayed. If the confirmation test result is equal to or in excess of 0.040 grams per 210 litres of breath, the BAT will do an external calibration check (accuracy check) to ensure the device is in working order. The BAT ensures that the test result is recorded on the alcohol testing form. The BAT verifies the printed results with the donor.
8. The BAT completes the part of the alcohol testing form that is to be completed after the donor provides a breath sample and asks the donor to do so as well.
9. The BAT immediately reports in a confidential manner the test results to the company's designated representative. While the initial communication need not be in writing, the BAT must subsequently provide a written report of the test result to the company's designated representative.

**DRUG TESTING**

**Urine Testing**

1. The donor is the person from whom a urine specimen is collected.
2. The donor is directed to go to a collection site in order to give a urine specimen.
3. The collection site person must establish the identity of the donor. Photo identification is preferable. Positive identification by a company representative who holds a supervisory position is acceptable.
4. The donor must remove coveralls, jacket, coat, hat or any other outer clothing and leave these garments and any briefcase or purse with the collection site person.
5. The donor must remove any items from his or her pockets and allow the collection site person to inspect them to determine that no items are present which could be used to adulterate a specimen.
6. The donor must give up possession of any item which could be used to adulterate a specimen to the collection site person until the donor has completed the testing process.
7. The collection site person may set a reasonable time limit for providing a urine specimen.
8. The collection site person selects or allows the donor to select an individually wrapped or sealed specimen container. Either the collection site person or the donor, in the presence of the other, must unwrap or break the seal of the specimen container.
9. The donor may provide his or her urine specimen in private, in most circumstances. The specimen must contain at least forty-five millilitres.
10. The collection site person notes on the custody and control form any unusual donor behaviour.
11. The collection site person determines the volume and temperature of the urine in the specimen container.
12. The collection site person inspects the specimen and notes on the custody and control form any unusual findings.
13. If the temperature of the specimen is outside the acceptable range or there is evidence that the specimen has been tampered with, the donor must provide another specimen under direct observation by the collection site person or another person if the collection site person is not the same gender as the donor.
14. The collection site person splits the urine specimen into two specimen bottles. One bottle is the primary specimen and the other is the split specimen.
15. The collection site person places a tamper-evident bottle seal on each of the specimen bottles and writes the date on the tamper-evident seals.
16. The donor must initial the tamper evident bottle seals to certify that the bottles contain the urine specimen the donor provided.
17. The donor and the collection site person complete the custody and control form and seal the specimen bottles and the lab copy of the custody and control form in a plastic bag.
18. The collection site personnel arrange to ship the two specimen bottles to the lab as quickly as possible.
19. The lab must be the holder of a certificate issued by the Substance Abuse and Mental Health Administration of the United States Department of Health and Human Services under the National Laboratory Certification Program.

20. The lab must use chain of custody procedures to maintain control and accountability of urine specimens at all times.

21. Laboratory personnel inspect each package along with the enclosed specimens for evidence of possible tampering and note evidence of tampering on the specimen forms.

22. Laboratory personnel conduct validity testing to determine whether certain adulterants or foreign substances were added to the urine specimen.

23. Lab personnel conduct an initial screening test on the primary specimen for the drugs set out in 3.1 using established immunoassay procedures. No further testing is conducted if the initial screening test produces a negative test result.

24. Lab personnel conduct a confirmatory test on specimens identified as positive by the initial screening test. The confirmatory test uses approved mass spectrometry techniques.

25. A certifying scientist reviews the test results before certifying the results as an accurate report.

26. The lab reports the test results on the primary specimen to the company’s medical review officer (MRO) in confidence.

27. The MRO, if satisfied that there is no legitimate medical explanation for a positive test result, will inform the company’s representative in a confidential written report that an employee tested positive. Prior to making a final decision on whether a test result is positive, the MRO must give the employee an opportunity to discuss the results. The MRO shall report to the employer whether the test result is negative, tampered, invalid or positive, or, if positive, whether or not there is a legitimate medical explanation.

28. An employee who has received notice from the MRO that he or she has tested positive may ask the MRO within 72 hours of receiving notice that he or she has tested positive to direct another lab to test the split specimen. The employee is responsible for reimbursing the company for the cost of the second test.

29. The lab reports the test results on the split specimen to the company’s MRO in confidence.

30. The MRO will declare the test results negative if the test results for the split specimen are negative and the failure to reconfirm is not due to the presence of an interfering substance or adulterant.

**Oral Fluid Testing**

1. The donor is the person providing their oral fluid for the purposes of a drug test.

2. The donor is informed of the requirement to test in private and escorted to the collection site for the purpose of providing an oral fluid suspension.

3. The collector must establish the identity of the donor. Photo identification is preferable. Positive identification by a company representative who holds a supervisory position is acceptable.

4. The donor must clear any foreign material from the mouth i.e.: food, gum, tobacco products, lozenges etc.

5. The collector observes donor for a minimum of ten (10) minutes prior to providing the specimen. Donor may not eat, drink smoke or put anything in their mouth during the observed waiting period.

6. The collector checks and records the lot number and expiration date of the device.
7. In the presence of the collector, the donor opens the sealed device and the specimen is collected according to the manufacturer’s specification.

8. The collected specimen should be kept in view of the donor and the collector at all times prior to it being sealed and labelled for shipment to the lab.

9. The collection site person places a tamper-evident bottle seal on the specimen identifying it as specimen A. If a second oral fluid specimen is to be collected, steps 6 through 8 should be repeated and the second specimen should be labelled specimen B.

10. The collector records the date, and has the donor initial the seal(s) on the specimen(s).

11. The donor and the collection site person complete the custody and control form and seal the specimen(s) and the lab copy of the custody and control form in a chain of custody bag.

12. The collection site personnel arrange to ship the two specimen bottles to the laboratory as quickly as possible.

13. The lab must be the holder of a certificate issued by the Substance Abuse and Mental Health Services Administration of the United States Department of Health and Human Services under the National Laboratory Certification Program.

14. The lab must use chain of custody procedures to maintain control and accountability of specimens at all times.

15. Lab personnel inspect each package along with the enclosed specimen(s) for evidence of possible tampering and note evidence of tampering on the specimen forms.

16. Lab personnel conduct validity testing to determine the suitability of the specimens.

17. Lab personnel conduct an initial screening test on the specimen for the drugs set out in 3.1 using established immunoassay procedures. No further testing is conducted if the initial screening test produces a negative test result.

18. Lab personnel conduct a confirmatory test on specimens identified as positive by the initial screening test. The confirmatory test uses approved mass spectrometry techniques.

19. A certifying scientist reviews the test results before certifying the results as an accurate report.

20. The laboratory reports the test results on the primary specimen to the company's medical review officer (MRO) in confidence.

21. The MRO, if satisfied that there is no legitimate medical explanation for a positive test result, will inform the company's designated representative in a confidential written report that an employee tested positive. Prior to making a final decision on whether a test result is positive, the MRO must give the employee an opportunity to discuss the results. The MRO shall report to the employer whether the test result is negative, tampered, invalid or positive, or, if positive, whether or not there is a legitimate medical explanation.

22. An employee who has received notice from the MRO that he or she has tested positive may ask the MRO within 72 hours of receiving notice that he or she has tested positive to direct another lab to retest the specimen. The employee is responsible for reimbursing the company for the cost of the second test.

23. The lab reports the results of the retest to the company’s MRO in confidence. The MRO will declare the test results negative if the test results for the split specimen are negative and the failure to reconfirm is not due to the presence of an interfering substance or adulterant.
Appendix D
FAILURE TO PARTICIPATE IN DRUG AND ALCOHOL TESTING

Refusal to Submit to Testing

- Failure to submit to Alcohol and Drug pre-screening for safety or risk sensitive work positions as a condition of the “New Hire” process or positions requiring Alcohol and Drug pre-screening (Pre-Access Testing) by customers to facilitate access to site, will result in the withdrawal of any and all offers of employment from NC Services Group and its member companies (NCSG), rendering the offers null and void

- Should an employee refuse to submit to Alcohol and Drug testing when involved in an incident, accident or near miss situation as mandated by this policy and/or by customer site regulations;
  - HS&E, supervisor, or the branch manager as applicable will ensure that the employee refusing to submit to testing fully understands their requirements according to NCSG Alcohol and Drug Policy, as to why they are specifically being required to submit to testing and the potential ramifications of refusing the test
  - Should the employee continue to refuse to submit, human resources or a senior manager shall be contacted immediately. An employee that refuses testing is to wait at the site to speak with senior management and is not under any circumstances to return to work. Should the employee leave the site, they are refusing a direct request to remain on site and the employee is to be made fully aware that their departure could be viewed as a formal resignation from employment

- Should a manager, supervisor or member of the HS&E have reasonable cause to suspect an employee is “Unfit for Duty” and under the influence of Alcohol or Drugs; the employee will be required to submit to a Alcohol and Drug Test. In order to require a test for reasonable cause, at least two employees of NCSG, with one (1) employee in a minimum of a supervisory position with NCSG; must believe the employees’ behaviour, actions or speech are such that the employee is “Unfit for Duty”
  - If the determination is made that “Reasonable Cause” exists to suspect the employee may be under the influence of Alcohol or Drugs; and the employee has refused to submit to a required Alcohol and Drug Test, the employee will not be allowed to return to work and;
  - HS&E, supervisor, or the branch manager as applicable will ensure that the employee refusing to submit to testing fully understands their requirements according to NC Services Group and its member companies Alcohol and Drug Policy and why they are specifically being required to submit to testing and the potential ramifications of refusing the test.
Should the employee continue to refuse to submit to testing, human resources or a senior manager shall be contacted immediately. Should the employee leave the site, they are refusing a direct request to remain on site and the employee is to be made fully aware that their departure could be viewed as a formal resignation from employment.
Appendix E

DRUG AND ALCOHOL TESTING RESULTS

Alcohol Testing Results

- Should an employee participate in Alcohol Testing as outlined in Appendix A – Alcohol and Drug Testing Procedures and receive a positive result for alcohol with a reading in the range of 20 – 40 milligrams in 100 millilitres of blood. NC Services Group and its member companies will impose a 24 hour suspension without pay and a written warning will be placed in the employees file for the first infraction or positive result of this level. The written warning will remain in the employees file for a period of 24 months from the infraction date, due to the nature and severity of the violation.

- Should an employee receive a second offence or similar positive test result (between 0.02 and 0.04 mg/ml) they will receive an immediate 5 day unpaid suspension. This suspension will include a second and **FINAL** written warning that will remain in the employees file for a period of 24 months due to the nature and severity of the violation.

- If an employee receives a third offence for the same violation within 24 months of the most recent occurrence of the offence, the infraction will result in the employees’ immediate dismissal.

- An employee that tests positive for a blood alcohol level in excess of 40 milligrams per 100 millilitres of blood will be subject to immediate dismissal. Should an employee be dismissed for a positive blood alcohol level in excess of 0.04 mg/ml they will not be eligible to work with NC Services Group of companies for a period of not less than 24 months.

- As NCSG is committed to safety; an employee that has been dismissed as a result of a Drug and Alcohol infraction will not be eligible for re-hire for a minimum of 24 months and will be required to have completed a recognized and relevant rehabilitation program. Including an in-house rehabilitation program and successful completion of the out patient treatment or counselling services.

- In the event the employee meets these conditions and is rehired, the employee will be required to sign NCSG’s Zero Tolerance Agreement. The Zero Tolerance Agreement outlines the employees agreement to participate in random or unannounced screening and their acceptance of immediate dismissal should they test positive for alcohol or drugs.

NC Services Group and its member companies will support the efforts of any employee that may be aware they have an issue with alcohol should they request assistance in their endeavours to seek the appropriate medical and addiction counselling. NCSG will assist the employee in their efforts to meet with a qualified professional for an assessment of their alcohol use and will work with the employee to return them to gainful employment pending successful completion of a substance abuse program. NCSG further recognizes an employees’ right to privacy and any and all problems of this nature will be handled with discretion and confidentiality will be maintained.
Drug Testing Results

- Should an employee participate in Drug Testing as outlined in Appendix A – Drug and Alcohol Testing Procedures and receive positive results equal to or in excess of the concentrations or drug levels itemized within the charts below; the employee will be subject to immediate dismissal:

**Urine Drug Concentration Limits:**

<table>
<thead>
<tr>
<th>Drugs or Classes of Drugs</th>
<th>Screening Concentration Equal to or in excess of Ng/ml</th>
<th>Confirmation concentration Equal to or in excess of Ng/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana metabolites</td>
<td>50</td>
<td>15</td>
</tr>
<tr>
<td>Cocaine metabolites</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>Opiates</td>
<td>2000</td>
<td>2000</td>
</tr>
<tr>
<td>• Codeine</td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>• Morphine</td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>6-Acetylmorphine</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Amphetamines/Methamphetamines</td>
<td>500</td>
<td>250</td>
</tr>
<tr>
<td>• Amphetamine</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>• Methamphetamine</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>MDMA</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>• MDMA</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>• MDA</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>• MDEA</td>
<td>250</td>
<td>250</td>
</tr>
</tbody>
</table>

**Oral Fluid Drug Concentration Limits:**

<table>
<thead>
<tr>
<th>Drugs or Classes of Drugs</th>
<th>Screening Concentration Equal to or in excess of Ng/ml</th>
<th>Confirmation concentration Equal to or in excess of Ng/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana metabolites</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Cocaine metabolites</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>• Cocaine or Benzoylegonine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opiates</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>• Codeine</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>• Morphine</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>6-Acetylmorphine</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Phencyclidine</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Amphetamines/Methamphetamines</td>
<td>500</td>
<td>50</td>
</tr>
<tr>
<td>• Amphetamine</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>• Methamphetamine</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>MDMA</td>
<td>50</td>
<td></td>
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<tr>
<td>-------</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>MDMA</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>MDA</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>MDEA</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

NC Services Group and its member companies will support any employee that may be aware they have an issue with drugs should they request assistance in their effort to seek the appropriate medical and addiction counselling. NCSG will assist the employee in their efforts to meet with a qualified professional for an assessment of their drug use and will work with the employee to return them to gainful employment pending successful completion of a substance abuse program. NCSG further recognize an employees’ right to privacy and any and all problems of this nature will be handled with discretion and confidentiality will be maintained.
HEALTH, SAFETY & ENVIRONMENT

DISABILITY MANAGEMENT PROCESS

1.0 PURPOSE

NC Services Group and its affiliated companies (NCSG) have developed an Occupational Disability Management Program to ensure an expedient and safe recovery of employees who sustain a work-related injury or illness. Our approach will ensure employees are supported and treated fairly to provide an effective strategy for return to pre-injury level work.

It is important that all NCSG employees recognize that:

- Employment at NCSG includes a commitment to and active participation in the Occupational Disability Management Program, should it be required;
- The efforts put forward by employees enables us to successfully meet the high standard of service our customers expect and deserve as well as meeting our corporate objectives;
- Legitimate occupational injuries and illnesses may result in entitlement to benefits under the Workers' Compensation Board; and
- The company will provide support and assistance to help employees overcome the effects of a workplace injury or illness.

The Occupational Disability Management Program at NCSG is a workplace strategy aimed at preventing injury, managing absence and reintegrating the injured employee into the workplace. The Occupational Disability Management Program provides a coordinated, cost-effective, caring approach to disability management and rehabilitation. It reflects our commitment to employee wellness by creating a supportive environment for employees with functional work limitations, believing that – when it is approved and supported by the injured employee’s Health Professionals – work is healthy.

The Occupational Disability Management Program involves the coordination of a number of different processes and programs. It could potentially involve the HS&E Team, Human Resources and Operations departments, the employee and their Health Professional(s) and external claims managers and adjudicators. In every instance the distinctive nature of the employee and the injury will be considered in the development of a customized approach to managing that specific injury.

Early intervention is critical when returning an employee to the workplace from an absence as a result of an occupational injury or illness. NCSG’s Occupational Disability Management Program helps to identify and capitalize on opportunities to ensure the employees’ safe and early return to work.

The management of disability can incorporate two separate approaches. The medical approach focuses on the disability and the restrictions associated with the particular injury or illness. The functional approach recognizes the injury or illness and identifies the employee’s residual (i.e. remaining) abilities.

NCSG has adopted the functional approach to disability management. While recognizing the disability and its associated restrictions and rehabilitation requirements, NCSG focuses efforts on the employee’s abilities in an effort to facilitate a safe and early return to work.

NCSG’s Occupational Disability Management Program’s goal is to create a work environment where employees are motivated to return to work as soon as medically possible because of the support they have received and because they know that their skills and experience are valued.
Experience has proven that early intervention is highly effective in:

- Minimizing the impact of illness or injury;
- Reducing the length of absence;
- Encouraging the best possible recovery outcome;
- Preventing depression; and
- Maintaining self-esteem.

2.0 SCOPE AND APPLICATION

NCSG has implemented an Occupational Disability Management Program that is timely, consistent, effective and fair. Employees who become injured and/or ill during the course of work are required to actively participate in the program.

This document is not intended to modify, change and/or supersede Management/Union rights as detailed in Collective Agreements. The intention of this program is to meet or exceed any applicable Provincial / State / Federal legislation. Should a conflict with any legislation be identified, the applicable legislation will be the standard and will be followed.

Recognizing the focus of reducing the human and financial cost of a workplace injury or illness and further, recognizing that legislation changes, this Program is subject to ongoing review and evaluation. Modifications will be made as deemed necessary to respond to current circumstances and evolving needs.

3.0 DEFINITIONS

3.1 Accident

Term used in the usual and ordinary sense, and means an unexpected mishap or event. The meaning of accident is satisfied when it can be shown that an employee's job duties have contributed to personal injury, occupational disease, or death.

3.2 Accommodation

Includes assistive devices or equipment, modifications to the work environment and/or modification of job duties to enable employees to perform the essential duties of a job.

3.3 Ad-hoc Committee

Committee assembled for the specific purpose of addressing a program issue.

3.4 Adjudicator

Employed by WCB or applicable insurance plan holder, refers to the employee who determines a claimant's eligibility for disability benefits.
3.5 Aggravation

An aggravation is the clinical effect of a compensable accident on a pre-existing condition, resulting in temporary or permanent clinical impairment and/or loss of earning capacity.

3.6 Assistive devices/technology

Any special clothing, devices or equipment that modify the limitations caused by physical impairments. For example, voice recognition technology for employees having challenges using their arms on the keyboard.

3.7 Case Manager

Employed by WCB or applicable insurance plan holder, refers to the employee who determines a claimant’s eligibility for disability benefits and coordinates efforts to return an injured employee to work in a safe and timely manner. Also handles complex claims.

3.8 Case Management

A collaborative process for assessing, planning, implementing, coordinating, monitoring and evaluating the options and services available to promote cost effective outcomes. An insurance case manager and/or the Disability Management Team can complete elements of case management.

3.9 Claims Management

A process of collecting the necessary documentation and information about a claim to determine if benefit eligibility requirements have been met. This responsibility lies with the WCB adjudicator or case manager.

3.10 Clinical

Related to or based on observation or treatment of a patient.

3.11 Clinical Impairment

The loss of, loss of use of, or derangement of any body part, system or function. The presence and extent of impairment is determined by medical (clinical) means.

3.12 Confidentiality

Spoken to in confidence; entrusted with information. It is the right of employees to have all medical & personal information held in confidence and released only to those to whom they have consented.

3.13 Compensable

Entitling an individual to compensation. Example: a compensable job-related injury.
3.14 Compensable Work Restrictions

Compensable work restrictions are based on an assessment of medical conditions (physical and/or psychological) which resulted from the work-related injury. Work restrictions impair an employee’s ability to perform pre-injury work duties or to adapt to some other employment. For example, the employee's compensable condition prevents a return to pre-injury or comparable employment, or the employee suffers from a disabling or potentially disabling occupational disease and continued exposure would be harmful. The Workers Compensation Board (WCB) identifies work restrictions based on medical and vocational information about the employee. The restrictions may be temporary or permanent.

3.15 Course of Employment

One of a number of criteria used by the Employees’ Compensation Board to establish whether a claim of injury or illness is attributable to the workplace and/or work duties. Refers to the fact that the injury must have occurred at a time and place consistent with job duties. Although, commonly, the injury would occur on the employer’s premises and during work hours, the intent here is that there must be proof of a relationship between the job responsibilities and the resulting injury. (See also “employment hazard”)

3.16 Disability

Any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being.

3.17 Disability Management

Disability management refers to the use of available services, resources and processes to:

- Minimize or prevent the impact and/or costs of workplace absence due to injury or illness; and
- Encourage a safe and early return to work.

An effective disability management program uses resources in the most efficient manner and helps employees perform to their greatest potential and satisfaction. Simply put, disability management encourages a healthy workforce, offers protection from hardship, and promotes long-term corporate success.

3.18 Disability Management Team (DMT)

The Disability Management Team is responsible to provide quality, proactive services to an employee who requires injury management. The objective is to attain a safe and early return to productive employment for the injured employee. The team is comprised of a: Lead HS&E Advisor and a Human Resources representative, who are jointly responsible for managing the disability claim and coordinating, with the employee’s supervisor, effective and timely return to work plans, including modified work if appropriate.
3.19 Duty to Accommodate

Employers and unions have a duty to take all reasonable measures short of undue hardship to accommodate the particular needs of employees who are members of classes of persons protected under human rights legislation.

3.20 Early Rehabilitation

Tailored for the treatment of injuries or conditions primarily in the early stages of recovery to minimize complications. Early rehabilitation can be obtained in the community physiotherapy clinic, onsite or contracted through an outside service provider.

3.21 Early and Safe Return to Work

Returning to employment in a capacity that assists in rehabilitating the employee back to the pre-injury level. This accommodation is primarily temporary, however, permanent accommodation may be considered depending on the circumstances.

3.22 Employee

The employee is one who experiences a work-related injury or illness that impacts their ability to perform job tasks.

3.23 Employee and Family Assistance Provider (EFAP)

An external provider of professional services including clinical psychologists, psychiatrists, social employees and other providers to address the human aspect of change and challenges by offering employees the opportunity and expertise to effectively solve problems, whether work related or personal. The provider is usually contracted and paid by the employer and the services provided to employees are confidential.

3.24 Employment Hazard

One of a number of criteria used by the Workers' Compensation Board to establish whether a claim of injury or illness is attributable to the workplace and/or work duties. Refers to the fact that there must be something that caused a risk of injury. The hazard(s) may be directly related to the industry or occupation; for example, machinery, chemicals, work site ergonomics. The hazard(s) may also be incidental to the industry or occupation but, nevertheless, present a hazard in the workplace; for example, insect bites or weather conditions. (See also "course of employment")

3.25 Ergonomics

The study of the relationship between human beings and their work environment. It addresses work content and work context for both office and industrial settings. Organizational, personal, physical, psychosocial and environmental risk factors may be evaluated in an ergonomic assessment. Changes in pacing, technique, work organization, tasks and equipment may be recommended.
3.26 Ergonomic Hazard

Hazards associated with the interface between person/machine and environment. Typical concerns include workstation design, work posture, manual materials handling work/rest cycles and seating.

3.27 Essential Job Functions

Essential functions are the basic job duties that the employee who holds the position must be able to perform unaided or with the assistance of reasonable accommodation. Factors to consider in determining whether a function is essential include:
1) Whether the position exists to perform that particular function;
2) The number of other employees available to perform that job function or among whom the performance of that job function can be distributed;
3) The degree of expertise or skill required to perform the function.

3.28 Exercise Therapist/Kinesiologist

Specializes in fitness evaluations and program development as well as return to work program development/monitoring and education.

3.29 Exposure

An instance where an employee is, or was, subject to some effect, influence or safety hazard or was in contact with a hazardous chemical or physical agent at a sufficient concentration, duration and intensity to produce an injury/illness.

3.30 First Aid Injury or Illness

An injury or illness that is the result of a work-related incident which requires minor treatment by a trained first aid provider.

3.31 Functional abilities

An employee’s physical and/or mental capabilities as they relate to the employee’s job tasks.

3.32 Functional Capacity Evaluation (FCE)

An assessment of the physical, and/or mental capacities of an injured/ill employee carried out by doctors, specialists, occupational or physical therapists. An FCE includes a medical history, a musculoskeletal examination and a standardized set of functional tests (i.e. push/pull, lifting, walking, coordination, etc). Functional Capacity Evaluations are widely used to assess an employee’s physical work abilities; the results of the evaluation are used to investigate and determine appropriate, safe return-to-work opportunities.
3.33 Graduated Return to Work (GRTW)

A medically-monitored return to work plan where an employee performs regular and/or modified work duties for less than pre-injury regular hours of work. The primary purpose of GRTW’s is to allow the employee to build stamina to return to their pre-injury job responsibilities on a full-time basis. GRTW’s typically take the form of reduced days of work and/or hours per shift and/or staggered hours or job duties.

3.34 Health Professional

An organization or person who is licensed and trained to provide medical treatment to an employee, such as a hospital, physician, chiropractor or physiotherapist.

3.35 Independent Medical Examination (IME)

A second opinion by a qualified physician to determine the extent of impairment resulting from injury or illness and to secure recommendations regarding physical restrictions, future treatment, medications and prognosis for return-to-work. An IME is designed to address specific referral questions, such as “What are the resulting limitations and/or restrictions?”; “Please comment on any other factors that may be affecting the employee’s recovery?”; “Is the employee capable of returning to pre-accident employment?” etc. The IMEs provide a general guideline and for more specific information, the Functional Capacity Evaluation may be completed as well.

3.36 Insurable Earnings

The gross earnings of each employee up to the annual maximum insurable amount specified by the WCB. Insurable earnings include, but are not limited to:

- Wages, salaries and commissions;
- Labour portion of contract earnings;
- Bonuses, holiday pay and taxable benefits;
- Recorded tips and gratuities;
- Pay in lieu of notice;
- Value of service;
- Earnings paid to workers participating in the WCB's Vocational Rehabilitation Training on the Job Program;
- Any other remuneration or allowance the WCB determines is insurable.

3.37 Lost Time Injury or Illness

An injury or illness that is the result of a work-related incident which results in missed time from work beyond the day of injury or illness.
3.38 Maximum Insurable Earnings

Maximum Insurable Earnings refers to the maximum gross annual earnings prescribed by the WCB. The WCB does not levy premiums or pay benefits on the portion of employee's earnings which exceed the maximum amount.

3.39 Measurable Permanent Clinical Impairment

A permanent clinical impairment is determined by a physician, and is expressed as a percentage of total impairment. It is considered measurable if it is equal to or greater than 0.4% based on the approved WCB rating schedule.

3.40 Medical Aid Injury or Illness

An injury or illness that is the result of a work-related injury which requires medical treatment by a Health Professional.

3.41 Medical Advisor

Physician who serves as a resource in assessment and making recommendations to injured or ill employees. Medical advisors may also communicate with other physicians in the community. Typically employed by WCB or insurance companies but may also be an independent resource in the community.

3.42 Medical Plateau

The medical plateau is normally reached when the employee's medical condition has stabilized, further significant medical improvement is unlikely, and permanent work restrictions can be confirmed.

NOTE: In cases of permanent clinical impairment, the medical plateau and medical assessment for permanent clinical impairment need not occur at the same time. Depending on the nature of the injury, the WCB may recommend an additional period of time for minor changes to occur before assessing the permanent clinical impairment.

3.43 Medical Status Exam (MSE)

Completed by a physician, the MSE determines an employee's current medical status including diagnosis and work restrictions. Any requirements for further medical investigations, consultation and treatment will also be identified.

3.44 Medical Treatment

Treatment provided by a Health Professional recognized by the applicable WCB jurisdiction as authorized to provide such care (i.e. physician, chiropractor, etc.).
3.45 Modified Work

May consist of, but is not limited to, the employee's normal work that has been changed, redesigned, or physically modified, including reductions in time or volume. It may also encompass a training opportunity, work which is normally performed by others, or work which has been specifically designed or designated as a modified work program. The goal of modified work is to provide the injured employee with the opportunity to utilize the work site as part of their treatment program. The work acts as a bridge, enabling an employee to work toward a return to their normal job and the normal activities of their life. The work will be appropriate, meaningful and productive. All work will be performed safely and without undue risk of re-injury and without undue risk to others or NCSG property.

3.46 New evidence

New evidence is new information that may affect the outcome of an employee's compensation decision. It must meet two basic criteria:

1. The evidence is material (relevant) to the issue in question;
2. The evidence is substantive – it gives new information that was not previously available to the decision maker and could affect the outcome of the decision.

Information is not new evidence when it simply summarizes or reformats information that was considered by the decision maker when the decision was made. For example, a medical report is not new evidence if it consists of the same clinical findings, by the same or another physician, already taken into account by the decision maker. A medical report may be new evidence if, for example, new clinical findings lead to a change in diagnosis. New evidence includes:

- Health information;
- Work-relatedness;
- Fitness to work earnings information;
- Information about employer operations;
- Administrative review findings that identify previous errors or omissions;
- Various other relevant facts.

3.47 Occupational Illness or Disease

Any abnormality caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion or direct contact (e.g. repetitive stress).

3.48 Occupational Injury

Any injury such as a cut, fracture, sprain, or amputation which results from a work-related event or from a single instantaneous exposure in the work environment.
3.49 Occupational Therapist

Specializes in the functional aspects of living or occupation, which addresses the whole person. Occupation refers to the activities and tasks of daily life that have value and meaning to a person. Occupations can include self-care (i.e. personal care, mobility), leisure (i.e. social activities, sports) and productivity (play, school, employment, home-making). Services may include:

- Work reintegration;
- Health promotion and prevention;
- Return-to-work program development and monitoring;
- Worksite modifications, assistive technology and ergonomics;
- Functional capacity evaluations;
- Education;
- Work site analysis.

3.50 Permanent Disability

An employee is considered to have a permanent disability when a work injury results in a permanent measurable clinical impairment or a permanent impairment of earning capacity due to compensable work restrictions, or both.

3.51 Physical Demands

The physical demands of the job that the employee performs, referring to required working postures and mobility, manual handling, and hand dexterity.

3.52 Physical Demands Analysis (PDA)

Outlines all aspects of a position and includes the job description, critical job demands (i.e. lifting, push/pull), typical workday processes, environmental factors, other items specific to an employer’s worksite. Used to orient employees to the worksite, communicate to health care providers the essential components of a job so that they can determine more accurately what the limitations may be, provide more information on possible modified duties (decrease lost time), form basis for occupational rehabilitation/work hardening programs. PDA’s can be performed by a physical, occupational or exercise therapist.

3.53 Physical Therapist

Specializes in evaluating, restoring and maintaining physical function through a variety of hands-on treatments, education and exercise prescription. Physical therapists offer assessment of movement, strength, endurance and other physical abilities; assessment of the impact of an injury or disability on your physical functioning; assessment of physical preparation for work and sports; program planning and education to restore movement and reduce pain; and individualized treatment of an injury or disability based on scientific knowledge, a thorough assessment of the condition, environmental factors and lifestyle. Services may include:

- Return-to-work program development and monitoring;
- Hands-on treatment;
- Exercise prescription;
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- Ergonomics;
- Functional capacity evaluations;
- Education.

3.54 Pre-existing Condition

A pre-existing condition is any pathological condition which, based on a confirmed diagnosis or medical judgment, pre-dated a work-related injury.

3.55 Reasonable Accommodation

The term "reasonable accommodation" means:

1) Modifications or adjustments to a job application process that enable a qualified applicant with a disability to be considered for the position such qualified applicant desires
2) Modifications or adjustments to the work environment, or to the manner or circumstances under which the position held or desired is customarily performed, that enable a qualified employee with a disability to perform the essential functions of that position
3) Modifications or adjustments that enable an employee with a disability to enjoy equal benefits and privileges of employment as are enjoyed by employees without disabilities.

An accommodation may include but is not limited to: making existing facilities used by employees readily accessible to and usable by employees with disabilities; job restructuring; part-time or modified work schedules; reassignment to a vacant position; acquisition or modifications of equipment or devices; appropriate adjustment or modifications of examinations, training materials or policies; the provision of qualified readers or interpreters; and other similar accommodations. Reasonable accommodation is required unless it can be demonstrated that the accommodation would impose an undue hardship on the business operation.

3.56 Report Only Injury or Illness

An injury or illness that does not result in first aid or medical treatment and is the result of a work-related injury or illness.

3.57 Restricted Work

An injured employee is able to return to the workplace but is unable to perform what were previously considered "normal" work assignments. It includes the detailed medical information outlining the employee’s physical restrictions and medical requirements that are to be accommodated in a modified work plan.

3.58 Return-to-Work

An organized effort by an employer to assist an injured employee in resuming pre-injury job duties.

3.59 Supervisor

An employee who is directly responsible for the performance of employees.
3.60 Undue Hardship

An undue hardship is an action that requires significant difficulty or expense in, or resulting from, the provision of providing a reasonable accommodation. Undue hardship includes any action that is unduly costly, extensive, substantial, disruptive, or that would fundamentally alter the nature or operation of the business.

3.61 Worksite Visit

A worksite-based assessment of an employee’s ability to perform work tasks that takes into consideration the job requirements and the employee’s abilities, limitations and restrictions. This assessment helps to determine which tasks the employee can perform safely without risk of injuring himself/herself or co-employees. It also identifies risk factors and suitable modified work tasks. This may also include a musculoskeletal screen, job coaching and problem solving to help the employee perform job tasks safely. A physical or occupational therapist can perform the Work Ability Assessment.

3.62 Working Conditions

A description of potential chemical, physical, biological, ergonomic and psychosocial hazards and the risk of exposure are directly related to an employee’s job duties or tasks. The working conditions also include a description of the personal protective equipment to be worn to conduct the employee’s job duties or tasks.

3.63 Work Hardening

A series of carefully designed, controlled job tasks used to build strength and endurance to assist an injured/ill employee to return to work.

4.0 EXPECTATIONS

All NCSG employees are expected to comply with the Occupational Disability Management Program. Active participation in the program is an occupational requirement that promotes expedient recovery and appropriate compensation.

Complying with these requirements includes:

- Participation in appropriate modified work programs;
- Following return to work and modified work guidelines;
- Not exceeding approved limitations/restrictions; and
- Reporting any further problems or concerns immediately to the appropriate supervisor.
5.0 ROLES AND RESPONSIBILITIES

5.1 Employees

In addition to the requirement detailed under “Expectations” (Section 4), it is the employee’s responsibility to:

- Immediately report a work-related injury to the supervisor;
- Seek appropriate medical treatment immediately following a work-related injury or illness;
- Participate in the incident investigation;
- Cooperate and participate with medical treatment and recommendations as well as requests for medical assessment/reassessment;
- Accept and actively participate in the Modified Work Program as recommended by the Health Professional;
- Maintain regular communication with the supervisor, DMT, and WCB, including completion of forms and submission of documentation
- Take personal responsibility for successful return to work and recovery from injury/illness; and
- Provide medical confirmation of clearance to return to work following an injury or treatment.

5.2 Operations

5.2.1 Project & Department Managers

It is the manager’s responsibility to:

- Offer complete and effective implementation and support of the Program;
- Provide the resources to successfully implement and manage the program; and
- Provide support and guidance to Supervisors.

5.2.2 Supervisors

It is the Supervisor’s responsibility to:

- Ensure the provision of immediate, appropriate medical attention following a work-related incident (i.e. transportation to a medical clinic or hospital);
- Ensure accurate and timely reporting of incidents;
- Investigate all opportunities to provide suitable, safe modified work to the injured employee;
- Liaise with the DMT on a regular basis to provide updates regarding the employee’s progress (i.e. compliance with modified work, absenteeism, progress, and return to pre-injury job duties);
- Ensure the DMT receives copies of all documentation relating to the claim (i.e. the LCR, Modified Work Offers, medical updates, etc.) by fax or email as soon as they are available AND all original copies are forwarded to the DMT by interoffice mail;
- Maintain regular contact with an employee who is away from work or participating in modified work;
- Take appropriate steps to investigate any non-compliance with the Program; and
- Ensure ongoing implementation and effectiveness of the Program.
5.3 Human Resources

It is Human Resources responsibility to:

- Ensure support for the Program;
- Provide interpretation of collective agreements;
- Assist with Duty to Accommodate issues; and
- Manage Labour Relations issues.

5.4 Disability Management Team (DMT)

It is the Disability Management Team’s responsibility to:

- Obtain the required information and/or documentation of a disability claim within the established timeframes and to forward these to the appropriate WCB;
- Liaise with the appropriate Supervisor as required to assist in the facilitation of return to work strategies (i.e. modified work, GRTW’s, etc.);
- Liaise with WCB to ensure the claim is adjudicated in a timely fashion and according to applicable legislation and/or policy;
- Communicate, as appropriate, with Health Professionals to obtain regular updates regarding the employee’s recovery process, functional abilities and readiness to resume pre-injury level work;
- Arrange health care solutions with external providers as required. This may include, but is not limited to: functional capacity evaluations, independent medical examinations, ergonomic consultations, specialty consultations, expedited medical investigations, work site analysis, etc;
- Ensure the confidentiality of the employee’s medical information is maintained;
- Communicate with all stakeholders as necessary; and
- Prepare for and represent NCSG on claim appeals.

5.5 Lead Health, Safety and Environmental Advisor

It is the Lead HS&E Advisors’ responsibility to:

- Actively participate in the initial response and investigation of the injury;
- Provide support to supervisors in the document completion and follow-up;
- Participate in identifying meaningful and productive modified work;
- Immediately address problems reported with respect to the modified work being performed; and
- Assist the Supervisor in ensuring that the DMT receives all original copies of documentation relating to the claim.

5.6 Health Professional(s)

Health care providers include occupational therapists, physical therapists, kinesiologists, exercise therapists, chiropractors, massage therapists, nurses, physicians or any health care professional providing services to assist the injured employee return to work in a safe and timely manner. The Health Professional(s) involved in the rehabilitation of the injured employee:
Assess the employee’s injury or illness and provide effective recommendations with respect to treatment and recovery;
Assess the impact of the employee’s injury or illness on his/her ability to resume work;
Make recommendations for return-to-work planning by providing information with respect to the employee's functional abilities as well as any restrictions and/or limitations. This may involve participation in meeting to discuss return-to-work planning and progress;
Communicate with the employer and WCB by providing verbal reports and/or completing documentation as requested (i.e. Employer Restrictions Form, WCB Physician’s Reports); and
Serve as an advocate to the injured employee during involvement in the program.

The Health Professional(s) may also be requested to perform clinical and functional capacity evaluations or ergonomic-safety assessments of jobs, as needed, on a timely basis and provide written documentation to the DMT.

5.7 Employee and Family Assistance Program (EFAP)

Under the Occupational Disability Management Program, the services provided through the EFAP would only be utilized to facilitate a safe and timely return to work for the injured employee. The injured employee may sign a Release as provided by the EFAP provider authorizing stakeholder(s) (i.e. Disability Management Team) to communicate with the EFAP provider with respect to issues affecting the injured employee’s return to work.

The EFAP provider will:

- Provide the injured employee with the opportunity and knowledge to effectively solve problems, whether work related or personal.
- Provide the stakeholder(s) involved in the Occupational Disability Management Program with strategies to effectively assist the injured employee while respecting the employee’s right to confidentiality.

5.8 Workers’ Compensation Board

Each jurisdictional Workers’ Compensation Board is responsible for the adjudication of work-related injuries or illnesses. WCB legislation specifies the following employer obligations:

- Submit the Employer’s Report of Injury in all cases where an employee alleges a work-related injury or illness (i.e. the employer does not have to agree that an injury occurred for it to be obligated to file) and:
  - The employee seeks medical attention from a Health Professional (see Definitions); and/or
  - The employee is assigned modified duties post the day of injury; and/or
  - The employee loses time from work as a result of a work-related injury or illness; and/or
  - The employee requires dental treatment and/or repair of glasses or prosthesis as a result of a work-related injury that occurred as a result of an employment hazard and at a time and place consistent with the employee’s work obligations.
• Provide first aid and arrange for (including payment of) transportation of an injured employee to a medical facility, if required;
• Pay the employee regular wages for the day of injury; and
• Provide a means for injuries to be recorded.

Some Provincial / State / Federal government departments responsible for Occupational or Workplace Health & Safety require an employer to notify it immediately in the event of critical injuries such as:

• Life threatening injuries;
• Unconsciousness;
• Substantial loss of blood;
• Fracture of arm or leg but not finger or toe;
• Amputation of limb;
• Major burns;
• Loss of sight in one or both eyes; or
• Hospitalization over 2 days.

NOTE: The Lead HS&E Advisor will be responsible for providing such notifications.

6.0 METHOD

6.1 Principles

6.1.1 Case Management

NCSG will take a “case by case” approach to the management of each disability. This will ensure that the needs of the employee and the employer are met while, at the same time, ensuring consistency and fairness. The NCSG Disability Management Team and Operations will collaborate to ensure the desired outcome of successful resolution to the employee’s injury.

NCSG will make reasonable efforts to ensure early intervention for an employee who sustains a work-related injury or illness. This will require timely utilization of internal and community-based services. Early intervention may take place before an employee sustains an injury and/or requires accommodation.

NCSG will make every reasonable effort to control the personal and economic costs of injury. This means that NCSG will attempt to ensure the injured employee receives the financial, medical and rehabilitative benefits to which they are entitled. While this document does not address the cost of disability to the employer, it is recognized that there are both direct costs (i.e. WCB premiums) and indirect costs (i.e. modified work, labour costs for replacement employees) which impact the business.
6.1.2 Confidentiality & Protection of Personal Health Information

It is understood that confidentiality is an integral component of this Program. An employee’s rights to confidentiality will be respected. Any medical information obtained by the Supervisor, Branch Manager, Lead HS&E Advisor or Disability Management Team through this program will be used solely for the purpose for which it was provided. Medical information obtained through the program will be kept in a locked, secure location apart from the employee’s personnel file.

Information requests will be limited to information concerning the functional abilities of the employee. The intent of obtaining this information is to assist in enabling the work site to be used as part of the treatment and to aid in arranging an early and safe return to work.

Where it is deemed that the injured employee’s personal health information must be shared with a third party, the third party will be required to follow this Program and ensure the confidentiality of the employee. The information may only be used by the third party for the purpose it was provided. Functional abilities information may be shared with the appropriate stakeholder to enable return to work plans to be developed.

With respect to the employee’s personal health information, the intent of this Program meets or exceeds any legislation that is in effect in the jurisdictions that NCSG has operations. All laws pertaining to the freedom of information and the protection of privacy and any other applicable legislation are considered to be part of this Program and must be adhered to by all employees.

NCSG will make every effort to ensure that:

- Collection of personal health information is only used for purposes of managing the disability;
- The employee’s disability file will be stored separately from the human resource personnel file and kept in a secure area;
- Only authorized employees will have access to the disability file;
- The employee has the right to access the disability file by contacting a member of the DMT during regular business hours.

6.1.3 Duty to Accommodate

Amendments in 1998 to the Canadian Human Rights Act require all Canadian employers to accommodate employees with special needs to the point of undue hardship. This includes employees with temporary or permanent disabilities.

The intent of NCSG’S Program is to meet or exceed any legislation that is in effect in the jurisdictions that NCSG has operations. All laws pertaining to “Duty to Accommodate” and any other applicable legislation are considered to be part of this Program and must be adhered to by all employees. Any legal action requiring “Duty to Accommodate” requires at a minimum the involvement of the Vice President – HS&E, Technical Training and Quality.

NCSG is committed to investigating every opportunity to accommodate and assist an injured employee to return to their pre-injury job. If this is not possible, other suitable, meaningful job opportunities within NCSG will be investigated. Where a feasible and appropriate job is not available within the business, NCSG will support efforts by the applicable Workers’ Compensation Board to assist the injured employee in obtaining retraining and/or alternate employment. In both cases, the Return to Work hierarchy will be followed:

2/29/2012
6.1.3.1 Hierarchy of Return-to-Work Options

1. Return-to-work with the same employer
   a) same job—no restrictions—no accommodations necessary
   b) same job—minor restrictions—some accommodations necessary
   c) different job or modified job—no additional training—some job accommodations
   d) same job – permanent accommodation
   e) different job or modified job—additional training—some job accommodations
   f) new job created by employer—additional training—additional accommodations

1a) RTW Goal: Same Job / Same Employer
    RTW Option: No modification or accommodation

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<th>WHEN TO CONSIDER</th>
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<td>No restrictions</td>
<td>• Return to regular employment (not part of the formal Program)</td>
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1b) RTW Goal: Same Job / Same Employer
    RTW Option: Short term temporary modified work

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<th>WHEN TO CONSIDER</th>
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<td>The employee is unable to perform regular job duties but is expected to return within a short time frame (i.e. 5 days).</td>
<td>• Obtain objective information re functional abilities.</td>
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<td>• Arrange temporary modifications or alternate duties for a few days.</td>
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<td>• Return to regular employment.</td>
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1c) RTW Goal: Same Job / Same Employer
RTW Option: Different or modified job with no additional training and some job accommodation

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<th>WHEN TO CONSIDER</th>
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<td>▪ When 1a and 1b are not possible or not feasible.</td>
<td>▪ Assist the Health Professional by providing information on the types of jobs available (use job banks).</td>
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<tr>
<td>▪ When reasonable time frames for recovery have been exceeded.</td>
<td>▪ Obtain objective information re functional abilities.</td>
</tr>
<tr>
<td>▪ Entry criteria for modified work should be decided and agreed upon in advance.</td>
<td>▪ Identify the type of work to be performed:</td>
</tr>
<tr>
<td>▪ With Program, participation criteria were outlined to include the following.</td>
<td>– Modified tasks</td>
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<tr>
<td>▪ The employee has an injury and:</td>
<td>– Alternate tasks</td>
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<tr>
<td>– Is expected to be unable to perform essential job duties for one scheduled work week.</td>
<td>– Gradual RTW (hours and work duties)</td>
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<tr>
<td>– Has been off work for one week.</td>
<td>– Safe work training and job skills</td>
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<td>– Progressive physical conditioning</td>
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<td></td>
<td>▪ Identify the accommodations that may be made. For example, ergonomic adjustments made to job tasks.</td>
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<td>▪ Set time limits.</td>
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<td>▪ Regular onsite assessment of the employee’s progress.</td>
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<td>▪ Regular communication with the Health Professional, WCB case manager, etc. to work toward the program goal, as the injured employee progresses.</td>
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1d) RTW Goal: Same Job / Same Employer
RTW Option: Permanent Accommodations

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<th>WHEN TO CONSIDER</th>
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<td>▪ When the injured employee is unable to achieve a successful transition back to full job duties within a reasonable time frame but would be able to perform essential job duties with reasonable and financially feasible job accommodations.</td>
<td>▪ Obtain objective functional information to justify the accommodation.</td>
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<td>▪ Consider the use of a Functional Capacity Evaluation to quantify the functional restrictions and abilities.</td>
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<td>▪ Determine if the required accommodation is practical, and financially feasible.</td>
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<td>▪ Ensure that the accommodation will remove the task barrier in question.</td>
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**HEALTH, SAFETY & ENVIRONMENT**

**DISABILITY MANAGEMENT PROCESS**

1e) **RTW Goal:** Different Job / Same Employer  
**RTW Option:** Different or modified job with additional training and some job accommodations

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| - When the injured employee has been unable to achieve successful transition back to original job.  
- Where job accommodations in the original job are not practical or feasible.  
- When the injured employee is unable to perform the different or modified job without some additional training and/or accommodation.  
- Participation criteria are the same as previous. | - In addition to the previous strategies, identify training requirements and include training in the modified work plan.  
- Obtain objective functional information to justify the accommodations.  
- Consider the use of a Functional Capacity Evaluation to quantify the functional abilities of the referred employee.  
- Reassignment to a vacant position or identify alternate position.  
- Work with Human Resources.  
- Determine what skills the employee needs to obtain to perform this position. Consider the employee’s transferable work skills, qualifications and safety issues. Provide on-the-job training or courses to upgrade skills.  
- Determine if the accommodation is practical, and financially feasible.  
- Determine that the accommodation will remove the task barrier in question. |

1f) **RTW Goal:** Different Job / Same Employer  
**RTW Option:** Different Job and Some Job Accommodation

<table>
<thead>
<tr>
<th>WHEN TO CONSIDER</th>
<th>STRATEGIES</th>
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| - When the injured employee has been unable to achieve a successful transition back to original job.  
- Where job accommodations in the original job are not practical or feasible.  
- Where the injured employee would be able to perform an alternative job with modifications, but no additional retraining or job skills are required. | - Obtain functional information to justify the accommodations.  
- Consider the use of a Functional Capacity Evaluation to quantify the functional abilities of the injured employee.  
- Reassignment to a vacant position or identify alternate position.  
- Work with Human Resources.  
- Determine that the injured employee has the suitable work skills to perform this position (explore transferable skills).  
- Determine if the accommodation is practical, and financially feasible.  
- Determine that the accommodation will remove the task barrier in question. |
6.1.4 Conflict Resolution

Sometimes, it may be necessary to resolve difficult or sensitive disability management issues. This may occur in the following situations:

1. Employee raises concerns about the fairness of the Modified Work Program;
2. Conflict occurs between the employee and the supervisor;
3. The job modifications are complex, expensive or permanent.

In such cases, it may be appropriate to form an Ad-hoc Committee, comprised of representative(s) from the Disability Management Team, Executive, as well as the injured employee and his/her representative(s).

6.2 Managing the Disability

6.2.1 Initial Response

**Operations**

- Ensure the provision of immediate, appropriate medical attention.

  - With the assistance of the HS&E Advisor and based on the extent of injury, determine whether the employee requires an ambulance, transportation to a medical clinic, or first aid. Always err on the side of caution in making this determination.
  - If the injured employee requires an ambulance, the applicable cost is the responsibility of the employer as per WCB legislation.

- Pay the employee’s regular wages for the day of injury.

- Advise the Disability Management Team (DMT) that an injury has occurred.
  - If by telephone or email, notice should be provided to Human Resources

6.2.2 Information and Documentation

**Operations**

- If, immediately following the incident, the supervisor has concerns regarding the claim; these should be documented and discussed with the DMT (by telephone or email).
- Ensure the employee completes employee report of injury as applicable to the WCB or appropriate insurance carrier.
- Within 24 hours of becoming aware of the injury, the Management Report of Injury form must be completed and forwarded to the DMT.
- If the employee was assessed and/or treated by a Health Professional, the completed WCB Physician’s Report (employer’s copy) should be received from the injured employee and forwarded to the DMT.
- Complete the Loss Control Report and forward to the DMT.
HEALTH, SAFETY & ENVIRONMENT
DISABILITY MANAGEMENT PROCESS

- Gather completed “Incident Statements” and other applicable documentation and forward to the DMT.
- Each time the employee is assessed by the Health Professional, a completed WCB Physician's Report (employer's copy) should be received from the injured employee and forwarded to the DMT.
- Other documentation, such as the WCB Occupational Readiness Report or the NCSG Restrictions Form, when received from the employee, should be forwarded to the DMT.

Note: All documentation may be forwarded by fax or email. The originals should be forwarded for retention in the employee’s disability file.

Disability Management Team (DMT)

- Ensure the concerns expressed by the supervisor are documented for further follow-up, if appropriate.
- Review the employee’s disability file(s) (occupational and non-occupational) so that a determination regarding the potential impact of pre-existing or non-occupational factors may be reported to WCB, if appropriate.
- Ensure copies of all documentation (Worker's Report, medical reports, LCR, Incident Statements, etc.) are placed in the employee’s disability file as well as copies of notes, emails, etc.

6.2.3 Filing the employer’s report with WCB

Operations

- None

Disability Management Team (DMT)

- Within the applicable WCB deadline, file the WCB Employer’s Report.
- For each jurisdictional deadline, see Appendix

6.2.4 Protesting the Claim

Operations

- None

Disability Management Team (DMT)

- There may be times when it is appropriate to file a protest with WCB. Caution should be exercised to ensure that all protests are made based on facts which can be supported.
- All protests should be made in writing to the applicable WCB adjudicator. The letter should outline events in chronological order and all information should be presented as concisely as possible. Attach witness statements, signed and dated, if applicable.
- See Appendix C for sample protest letters re:
  ➢ Disputing that the injury occurred as alleged based on witness statements.
6.2.5 Monitoring the Claim

Operations

- None

Disability Management Team (DMT)

- Liaise with WCB to ensure the claim is adjudicated in a timely fashion and according to applicable legislation and/or policy.
- Communicate, as appropriate, with Health Professionals to obtain regular updates regarding the employee's recovery process, functional abilities and readiness to resume pre-injury level work.
- Arrange health care solutions with external providers as required. This may include, but is not limited to: functional capacity evaluations, independent medical examinations, ergonomic consultations, specialty consultations, expedited medical investigations, work site analysis, etc.
- Ensure the confidentiality of the employee's medical information is maintained.
- Communicate with all stakeholders as necessary.
- If required, prepare for and represent NCSG on WCB claim appeals.

6.2.6 Staying in Contact with the Injured Employee

Operations

Maintain regular contact with an employee who is away from work.

While an employee is absent from work, there is an ongoing need to maintain communication. This positively reinforces the organization's support of the employee, encourages their return to work and can identify the need for additional support. Employers often feel hesitant to contact an absent employee. It is falsely believed that this could be construed as harassment. In fact, it is an employer's right and responsibility to maintain contact with an employee throughout an absence to ensure ongoing support. The following is a recommended schedule of communication with the injured employee; however, each situation should be determined on a case-by-case basis and coordinated between the supervisor and the DMT.
Employee reports injury and communication will be on a regular basis to ensure paperwork is completed, the injury investigation is conducted, modified work opportunities are investigated, etc.

Supervisor to contact absent employee once a week, or as appropriate.

If the employee's absence will continue on a long-term basis, a schedule should be developed whereby contact is made every 2 - 3 weeks or at certain milestones (i.e. significant medical appointments).

When the employee is expected to return to work within 2 weeks, weekly contact should be maintained to ensure that:
- the employee understands that they are a valuable asset to NCSG,
- any outstanding issues and requirements have been dealt with, and
- they are able to safely and successfully return to work.

All information provided by the employee should be treated with utmost confidentiality. The communication should be documented by the Supervisor and forwarded to the Disability Management Team for placement in the employee’s disability file.

Assistance with communicating with the employee can be provided with the appropriate stakeholder, whether the Disability Management Team or Human Resources. Below are some general guidelines that may be helpful:

<table>
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<tr>
<th>DO</th>
<th>DON’T</th>
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<tbody>
<tr>
<td>Ask the employee about their general condition.</td>
<td>Ask them their medical diagnosis.</td>
</tr>
<tr>
<td>Ask about upcoming medical appointments.</td>
<td>Ask them about medical treatments or medications.</td>
</tr>
<tr>
<td>Discuss any plans to return to work, including our commitment to accommodate them when they are ready to return to work.</td>
<td>Confront them with suspicions.</td>
</tr>
<tr>
<td>Let them know they are a valuable employee of NCSG and they are welcome back at work once their recovery is complete.</td>
<td>Complain about work issues in their absence.</td>
</tr>
</tbody>
</table>

Disability Management Team (DMT)

- Whenever possible, the supervisor should maintain contact with the employee regarding their recovery progress, etc.
- It is appropriate for the DMT to be available to the employee to address concerns regarding the status of their claim with WCB as well as concerns regarding their medical treatment plans, appointments, etc.
6.2.7 Assigning Modified Work

Modified work is temporary and should not exceed eight consecutive weeks. The goal of modified work is to provide the injured employee with the opportunity to increase their functional abilities while in the workplace. The work acts as a bridge, enabling an employee to work towards a return to their regular job and the normal activities of their life. Modified work is to be offered on a non-discriminatory basis and in keeping with the restrictions and/or abilities identified by the Health Professional. Modified work must be meaningful, productive, and value-added to the business. The employee must be able to perform it safely and without undue risk of re-injury and without undue risk to co-workers or property.

There are different types of modified work:

1. Alternate job duties;
2. Re-training;
3. Change in days or hours of work (i.e. graduated return to work program).

If an employee who has sustained a workplace injury requires modified work, the following guidelines will apply:

1) For the day of injury, assignment of modified work can be based on recommendations made by the onsite health care centre, after a medical assessment of the employee and determination of the employee’s restrictions & abilities. The restrictions & abilities should be documented and a copy provided to the employee’s supervisor. The assigned modified work will be:
   a) Within the employee’s functional abilities.
   b) Performed for the duration of the employee’s regularly scheduled work hours.

2) Subsequent to the day of injury, assignment of modified work will be based on recommendations made by an attending physician (or other Health Professional), after a medical assessment of the employee and determination of the employee’s restrictions and abilities. The restrictions & abilities should be documented on the WCB Physician’s Report and/or the NCSG’s Restrictions Form and a copy provided to the employee, who will forward to his/her supervisor. The assigned modified work will be:
   a) Within the employee’s functional abilities.
   b) Documented on the Modified Work Offer.
   c) Performed within the regularly scheduled work hours for the first three (3) regularly scheduled shifts following the date of injury.
   d) Thereafter, performed for a maximum of eight (8) hours per shift until the employee has been cleared to return to pre-injury job duties.
   e) On an exception basis, the employee’s supervisor may offer additional hours of work provided that the work performed is essential to the operation of the project/worksite, remains within the employee’s functional abilities, and assists with the employee’s ongoing recovery.

3) Coincident with receipt of updated medical documentation during the period of modified work, attempts will be made to assign progressively more demanding work within the employee’s restrictions & abilities and up to the functional demands of the employee’s pre-injury job duties. This will assist the employee in their rehabilitation and eventual fitness to return to their pre-injury job duties.
If an employee declines modified work, the Workers’ Compensation Board may cease to pay compensation wages. The decision with respect to compensation entitlement and the interpretation of the requirement to perform modified work rests with the Workers’ Compensation Board. Active participation in the program is an expectation of employment within NCSG.

**Operations**

- Investigate all opportunities to provide suitable, safe modified work to the injured employee.
- Complete the Modified Work Offer, noting the job tasks, the functional requirements of the tasks, as well as any other accommodations available to the employee (i.e. “able to take micro-breaks as appropriate for stretching”, “assistive device to keep leg elevated is available”, etc.) Ensure all stakeholders sign the Modified Work Offer.
- Prior to commencing modified duties, the employee’s supervisor should communicate to the employee’s co-workers that the employee will be participating in the Modified Work Program in an effort to rejoin the team at full capacity as quickly as possible, and that any and all support they give to the injured employee will assist in their recovery and ensure the program’s success.
- If, subsequent to the original Modified Work Offer, the employee’s functional abilities change as per documentation received from the Health Professional and this results in the assignment of new modified duties, an updated Modified Work Offer will be prepared (as per #2 above).
- Follow-up with the employee on a regular basis regarding progress. If concerns or problems arise, contact the DMT to determine appropriate follow-up.
- Liaise with the Disability Management Team on a regular basis to provide updates regarding the employee’s progress (i.e. compliance with modified work, absenteeism, progress, and return to pre-injury job duties).
- Take appropriate steps to investigate any non-compliance with the Program.

**Disability Management Team**

- Liaise with the appropriate Supervisor as required to assist in the facilitation of appropriate return to work strategies.
- Provide WCB with copies of the signed Modified Work Offers.
- Obtain regular updates from Operations regarding the employee’s progress while participating in the Modified Work Program.
- Take appropriate steps to identify, investigate, and address concerns by communicating with all stakeholders (i.e. Health Professional(s), Operations, the employee, Human Resources) as necessary.

**6.2.8 Return to Pre-Injury Work**

**Operations**

- Confirm with the DMT that the employee has returned to pre-injury job duties (i.e. regular job duties and full-time hours of work).
- Follow-up with the employee, as appropriate (i.e. periodically throughout the first shift, at the end of the following two or three shifts and again after a few shifts) to ensure the employee is managing well and there are no issues. If a concern or problem arises, contact the DMT to determine appropriate follow-up.
Disability Management Team (DMT)

- Advise WCB, in writing, of the employee’s return to pre-injury job duties (i.e. pre-injury job duties and full-time hours of work) based on either:
  - Submission of documentation by Operations (see #1, above);
  - Notice received directly from the Health Professional.
- Follow-up, periodically, with Operations to ensure the employee is managing well. If concerns or problems arise, follow-up accordingly.

6.3 CAPTIVE EMPLOYEE

Injuries that are the result of an employee making reasonable and permitted use of facilities provided by the employer will be adjudicated by WCB. The same standards as for all work-related injury applies - the injury must arise from a hazard of the premises or the equipment provided. Hazards include any employer-provided equipment such as furniture, utensils, etc. and any food or drink provided by or purchased from the employer or employer's agent and consumed on the premises. Food, equipment, or other hazards introduced by the employee are not considered to be employment hazards.

If the employee is considered to be a "captive worker" in a residential facility (i.e. camp), the WCB may include other hazards, based on the individual merits of the claim. WCB defines a "captive worker" as an employee who, because of the circumstances and nature of their employment, has no reasonable alternative to living in a camp.

The extension of coverage is intended to cover an employee while they live in facilities operated by or for the employer, which by their nature, gives an employee less control over the environment and their activities than is the case in a normal home environment. The hazards of the premises are not considered hazards of employment if an employee lives in employer-provided premises with the same rights and privileges as those which normally exist between landlord and tenant. An exception may be made if the employer directs the worker to perform maintenance on the premises.

6.4 MISCONDUCT

If an injury is the result of an employee’s serious and willful misconduct, the WCB will examine whether or not the injured employee’s action has removed themselves from employment. The claim will be denied if there is a substantial deviation from employment. “Substantial deviation” includes the following scenarios:

- A criminal act with gainful intent;
- Intoxication, when drinking is not permitted or condoned by the employer and intoxication is the sole cause of the accident;
- An intentional self-inflicted injury;
- Fighting, when the issue is purely personal with no employment relationship;
- Horseplay, if the worker is the instigator and it is a serious deviation from or abandonment of employment duties;
- Activities which are exclusively personal and have no relationship, directly or indirectly, to the employee’s employment duties or the employer's operations.
**Example:** Employee plays a joke which requires a significant part of the working time and concentration of energies to the extent that the employment duties are neglected.

An example of “non-substantial” deviation would be an employee who walks over to chat with a co-worker and accompanies this with a flicking of elastic bands, causing injury to an employee.

WCB will judge each case on its own merits.

### 6.4.1 Horseplay

The WCB applies the following guidelines to determine eligibility of benefits to an employee who is injured as the result of horseplay:

- If the injured employee had not removed themselves from the course of employment (as per #1 above) AND was a non-participating employee in the incident, the WCB will generally provide compensation.

With respect to employees involved in horseplay, through instigating or participating, the WCB will review all the circumstances surrounding the incident to determine eligibility for compensation:

- An injury may still be compensable if:
  - The interruption of productive activity is too brief to be considered a substantial deviation from the course of employment;
  - The horseplay is a common occurrence at work and is condoned by the employer;
  - The horseplay is initially harmless then escalates into a dangerous activity, and the employee is not a willing participant in the escalation;
  - The employee is still participating in productive activity or some other activity of the employment even though the task was performed in an unbusinesslike manner.

### 6.4.2 Fighting

The WCB applies the following guidelines to determine eligibility of benefits to an employee who is injured as the result of fighting. If the injured employee had not removed themselves from the course of employment (as per #1 above) and was a non-participating employee (i.e. an innocent bystander) to the fight, the WCB will generally provide compensation.

With respect to employees involved in fight, the WCB will review all the circumstances surrounding the incident to determine eligibility for compensation:

- If the fight was over a personal matter, the employees involved will not be eligible for WCB benefits;
- If the fight was over a work-related matter and occurs at a time and place that is consistent with employment (i.e. the employees have not removed themselves from the course of employment), the claim(s) may be eligible for WCB benefits.
Example: A foreman and a labourer were involved in a dispute over whether or not the labourer should finish the job before the end of the work day. Both parties were injured as a result of the fight. In this case, the foreman and the worker would be eligible for WCB benefits since the injury arose out of and occurred in the course of employment.

6.5 TRAVEL

6.5.1 To and From the Work Site

Employees are not covered during routine travel to and from the worksite.

Travel to and from the worksite is only covered when it is under the direction and control of the employer such as when:

- The means of transportation is operated by, or for, the employer. For example, employees are covered if they commute to work in an employer-provided or operated bus. Coverage begins from the point that employees board the bus;

6.5.2 Medical Appointments

If an employee who has sustained a workplace injury is required to travel to a WCB-directed medical examination, the following guidelines will apply:

Travel Arrangements
- Will be made by NCSG.
- Will use the most economical mode of transportation within the injured employee’s medically-recommended restrictions & abilities.
- Hotel accommodation will only be arranged if it is not possible, or not economical, to return to the originating city the same day. If hotel and meals are required, reimbursement will be on the basis of WCB’s subsistence allowances in effect at time of travel.

Medical appointments and lost time wages
- NCSG will pay the employee his/her regular wages for the time missed to attend a WCB-directed medical examination.
- NCSG will pay the employee his/her regular wages for the time missed to attend WCB approved medical treatment(s).

Medical examinations and impact to lost time statistics
- Absence from work due to a WCB-directed medical examination will not count towards “lost time” statistics – not by WCB and not by NCSG.
- Absence from work due to WCB approved medical treatment(s) will not count towards “lost time” statistics – not by WCB and not by NCSG.
6.6 SHUTDOWNS

6.6.1 Weather

An employee on modified duties is subject to the same guidelines as employees who are performing regular job duties – if the job is shutdown for the remainder of the shift and employees performing regular job duties are sent home/to camp, the employee performing modified duties may also be sent home/to camp. The payroll guidelines that apply to employees performing regular duties will also apply to the employee performing modified duties. In other words, there is no obligation to continue providing modified duties for the disabled employee for the remainder of the shift. Not doing so will NOT result in the employee becoming eligible for wage-loss benefits from WCB.

6.6.2 Christmas

An employee on modified duties is subject to the same guidelines as employees who are performing regular job duties – if the job is shut down for a period of time during the Christmas/New Year's holiday period and employees performing regular job duties are laid-off for a period of time, the employee performing modified duties may also be laid-off. The payroll guidelines that apply to employees performing regular duties will also apply to the employee performing modified duties. In other words, there is no obligation to continue providing modified duties for the disabled employee for the applicable period of time. Not doing so will NOT result in the employee becoming eligible for wage-loss benefits from WCB.

6.6.3 Project Completion

An employee who still has medically-recommended restrictions & limitations when the work project is complete, will be entitled to wage-loss benefits from WCB unless the employee can continue to be accommodated with suitable, meaningful modified duties, either at the same worksite or at an alternate worksite. Note that if modified work is offered at an alternate worksite, it must not cause the employee 'hardship' to accept work in the alternate location. If WCB determines that it will cause hardship (i.e. financial because of increased transportation costs, child-care costs), the employee is not obligated to accept the modified work assignment and, therefore, may become entitled to wage-loss benefits from WCB.

It is recommended that the DMT be contacted as soon as possible should an employee participating in the Modified Work Program potentially be impacted by lay-off. This will ensure appropriate coordination with those involved in the employee’s rehabilitation (i.e. Health Professionals), the WCB, and other internal stakeholders.

6.7 PERMANENT ACCOMMODATION

NCSG will make every reasonable effort to provide suitable modified or alternate employment to employees who are permanently unable to return to their regular job duties as a result of an occupational injury or illness. This will include training and/or modification of workstations or equipment provided that any extended accommodation does not create undue hardship to the company. When it becomes clear that an employee needs permanent accommodation, an ad hoc committee will be formed and NCSG’s ability to accommodate will be determined involving all the stakeholders within the injured worker’s operational division. The injured employee will be responsible for participating in the program to the best of their ability and capacity.
NCSG will take a “case by case” approach to the management of each permanent accommodation. This will ensure that the needs of the employee and the employer are met while, at the same time, ensuring consistency and fairness.

Permanent accommodation will be offered on a non-discriminatory basis and be in keeping with the restrictions and/or abilities identified by the Health Professional. The work provided as permanent accommodation must be meaningful, productive, and value-added to the business. The employee must be able to perform it safely and without undue risk of re-injury and without undue risk to co-workers or property. The employee will be requested to provide updated information from the Health Professional on an annual basis to confirm the need for ongoing accommodation as well as the specific restrictions and/or abilities.

6.8 EMPLOYEE AND FAMILY ASSISTANCE PROGRAM (EFAP)

The Family Services Employee Assistance Program provides free, confidential assessment, referral, and short-term counseling services to employees and family members who are experiencing personal problems that interfere, or have the potential to interfere with their work performance, health, or overall life. The EFAP provides assistance with a wide range of personal and family problems. In addition to providing assessment, referral, and short term counseling services to employees and family members, the EFAP also provides consultation and support to the organization’s managers and supervisors who have employees with job performance and/or personal problems.

7.0 TRAINING REQUIREMENTS AND MATERIAL

- NCSG Occupational Disability Management Program

8.0 RESOURCES

In accordance with our Values, NCSG will ensure the fair and equitable treatment of our employees. NCSG understands that there may be questions and concerns involving the Occupational Disability Management Program.
Incident Occurs

Employee
Report incident to Supervisor

Supervisor
Ensure employee safety

Supervisor
Determine injury severity

*Report Only

*First Aid Only
*First Aid with Modified duties (day of injury only)

*Medical Aid Only
*Medical Aid resulting in Lost Time
* Medical Aid with Modified duties (Beyond date of injury)
Occupational Disability Management Process – Report Only

1. Incident Occurs
2. Employee: Report incident to Supervisor
3. Supervisor: Ensure employee safety
4. Supervisor: Arrange for treatment
5. Supervisor: Monitor Employee Recovery
6. HSE Advisor: Complete LCR with Supervisor and Employee
7. Employee: Return to regular duties
8. Yes: Supervisor: Monitor Employee Recovery
9. No: HSE Advisor: Forward completed documents to HSE Analyst
10. Medical Aid Treatment: Reference Medical Aid Process
11. First Aid Treatment: Reference First Aid Process
12. Report Only
Occupational Disability Management Process – First Aid

Incident Occurs

Employee
Report incident to Supervisor

Supervisor
Ensure employee safety

Employee
Receive First Aid Treatment

Supervisor
Arrange for treatment

Medical Aid Treatment Reference Medical Aid Process

Supervisor
Complete First Aid Log

Employee
Return to regular duties

No

Yes

Modified duties required beyond day of incident

On Site Treatment Provider
Recommend appropriate restrictions

Employee
Work within assigned Modified Duties

Employee
Return to pre-incident job duties (beyond day of incident)

Supervisor
Monitor Employee recovery

HSE Advisor
Forward report to HSE Advisor

HSE Advisor
Complete LCR with Supervisor and Employee

HSE Advisor
Forward completed documents to HSE Analyst

Employee
Receive First Aid Treatment

Supervisor
Complete Modified Work Offer Form with Employee

Reference Medical Aid Process
HEALTH, SAFETY & ENVIRONMENT  
CLASSIFICATION STANDARD

Purpose
To ensure uniform recording, classification and reporting of injuries, illnesses, damage and other applicable events, throughout NC Services Group (NCSG) and its affiliated companies.

Scope
This standard applies to:
- All companies, employees and contractors injured in the course of employment at NC Services Group (NCSG) and its affiliated companies.
- Provides direction for the classification of injuries, illnesses, damage and other applicable events.

Classification
An event as described herein, shall be classified according to its most serious consequence. For example, if there are multiple injuries as a result of an accident, the most severe consequence shall determine its classification.

The Team Lead HS&E will be the adjudicator for the HS&E interpretation of the policy. All appeals will be directed to VP of HS&E.

Recordable
Recordable deals with the allocation of whether the event as described herein is classified as work related or not and how it will be applied against the company/division’s monthly Loss Management statistics.

The Team Lead HS&E will determine the recordable frequency by reviewing the following:
Events will be reviewed to determine whether they occurred in the work environment and arose out of and in the course of employment while acting in the interests of the company. If there is a question as to whether the event is work related, the case will revert to work related until such time as there has been a review to necessitate a change to non-work related. (Examples are noted in Appendix II)

All injuries/illnesses will be reviewed to determine whether or not the employee actually received medical treatment as opposed to simple first aid, diagnostic or precautionary measures for injuries/illnesses.

The Team Lead HS&E will identify any changes to the injury/illness classification with the management in the appropriate company/division, advising them of the rationale for change.
Classification Appeal Process

All appeals against the classification of an event will be made in writing to the VP of HS&E, with any new information to support the stated appeal. The VP of HS&E will review the case with the Team Lead HS&E. Any changes to the classification will be made after the review and consultation.

Fatality (FAT): Any death as a resulting from a work related or on the job event.

Days Away (DA): Any work-related injury or illness that prevents the worker from reporting to work on the next scheduled work day.

Observation Period, if a worker is injured on the job and the physician places them in a hospital (or at home) for observation only and the worker misses a scheduled work day, it is classed as a Days Away incident.

Medical treatment, when a worker loses part or all of a work day following the day of injury due to medical treatment, it is classed as a Days Away incident.

Fatalities of workers resulting from occupational injury or illness are Days Away regardless of the time between the injury or illness and the expiration.

Medical Aid (MA): Any work related injury or illness that requires treatment outside of the definitions defined below under the First Aid, by a physician or by registered professional personnel under the standing orders of a physician. (defined as; Physician’s Assistants, RN, Paramedic, Chiropractors, and Physio-therapists)

All diagnosed occupational illnesses are considered at least Medical Aid (MA) cases; no illnesses are considered First Aid (FA). Loss of consciousness due to an injury or exposure in the work environment is a MA and must be recorded as such until it meets the requirements of Days Away (DA).

Modified Work (MW): Any work related injury or illness that prevents a worker’s ability to perform their regularly assigned duties, but are medically able to perform alternate, modified or restricted work.
First Aid (FA): Minor injury requiring usually a one-time treatment, regardless of the professional status of the person providing the treatment. Even when a physician or other registered medical professional provides these treatments.

First Aid includes the following:

- Using an over-the-counter medication at non-prescription strength.
- Administrating tetanus immunizations (other immunizations, such as hepatitis B Vaccine or Rabies Vaccine, are considered Medical Aid (MA))
- Cleaning, flushing, or soaking wounds on the surface of the skin
- Using hot or cold therapy
- Using wound coverings such as bandages, band-aids, gauze pads, etc or using butter-fly closures or steri-strips. (other wound closures such as sutures, staples are considered Medical Aid (MA))
- Using non-rigid means of support, such as elastic bandages, wraps, back belts. (devices with rigid stays or other systems designed to immobilize parts of the body are considered Medical Aid (MA))
- Removing foreign objects from the eye using only irrigation or a cotton swab
- Using eye patches
- Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs, or other simple means
- Using finger guards
- Using massages (physical therapy or chiropractic treatment is considered a Medical Aid (MA))
- Drinking fluids for relief of heat stress.
MVI (motor vehicle incident): Any incident involving a licensed motor vehicle in the care of, while performing work for, or for the purpose of NC Services Group (NCSG) or its affiliated companies. (Non MVI classes would be; ATV’s, crawler cranes, powered mobile equipment, side booms, loaders, and are included in property damage)

Use of a vehicle covers driving a company or contractor owned, leased or rented vehicle for business use, or use of a personal vehicle for which the operator is eligible for reimbursement for the mileage driven.

Non-collision incidents of the upset, rollover, jackknife, or run-off-the-road types that cause fatality, injury or damage are MVI’s.

Shifting cargo, when abnormal driving causes the shifting of cargo, which results in a fatality, injury or damage is considered a MVI. (examples are materials coming off trailer while in transit)

Towing or Pushing; Damage resulting from towing or pushing actions is considered Property Damage. A towed vehicle while in transit causes a fatality, injury or damage is classed as a MVI.

Contact with animals, birds, rocks, gravel and tar while in motion that cause fatality, injury or damage is considered a MVI.

Environmental (ENV): Spill, leak, release or loss of means of containment which results in a potential impact to soil, water or air.

Near Miss (NM): Any potential event (incident or injury) that could or would have occurred. The potential must have been significant.

Security (SC): Theft, fraud, unauthorized entry or vandalism of any amount.

Property Damage: Incident involving contact by machinery or energy other than MVI that results in damage.

Significant: Having or likely to have a major effect, example; fatality, third party involvement, dollar value >$10,000.00, or regulatory notification.

TRIR: Total Recordable Incident Rate, formula defined by the number of medical aids + modified work cases + days away cases + fatalities multiplied by 200,000 and divided by the total number of man hours worked.
Appendix I

Definitions

Occupational Injury
Any injury such as a cut, fracture, sprain, amputation etc., which arises from an accident or from a single instantaneous exposure in the work environment (i.e. insect bites, one-time exposure to chemicals).

Occupational Illness
Any abnormal condition or disorder of an employee, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. These illnesses or diseases may be caused by inhalation, absorption, ingestion or direct contact with contaminants.

The following are some typical examples of recordable occupational illnesses and disorders:

- **Occupational skin diseases and disorders** – such as contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous materials, chemical burns or inflammation, etc.
- **Dust diseases of the lungs (pneumoconiosis)** – such as silicosis, asbestosis, byssinosis, etc.
- **Respiratory conditions due to toxic agents** – such as pneumonitis, pharyngitis, rhinitis, acute congestion due to chemicals, dust, gases, exhausts, mists, fumes, etc.
- **Poisoning** – such as acute and chronic toxic effects from lead, mercury, arsenic and other metals, hydrogen sulphide, sulphurdioxide, etc., solvents and pesticides, etc.
- **Disorders due to physical agents** – such as heat stroke, sun stroke, heat exhaustion, frost bite, welding flash, ultraviolet rays and effects of ionizing radiation.
- **Other occupational illnesses** – such as diseases caused by infectious substances, food poisoning, malignant and benign tumors, etc.

On-Site Occupational Injury/Illness
Any injury/illness occurring on a NC Services Group (NCSG) or its affiliated companies work site, arising out of and in the course of employment and while acting in the interests of NC Services Group (NCSG) will be considered work–related and therefore occupational.
Off-Site Occupational Injury/Illness
Illnesses/Injuries which occur during off-site training programs, schools, conventions or meetings while acting in the interests of NC Services Group (NCSG) or its affiliated companies, during the employee’s normal hours of work or after hours at the request of the company will be considered occupational. All off-site occupational illnesses/injuries will be considered non-recordable.

Non Occupational Injury/Illness
Non occupational injuries/illnesses do not arise as a direct result of employment, but rather have their origins outside of the workplace. Non occupational injuries are neither recordable nor non-recordable.

Work Environment
The work environment is defined as all physical locations, equipment and materials processed or used and the operations performed by employees in the course of their assigned duties, irrespective of location.
Appendix II

Clarification, Exceptions and Special Cases

- Injuries/Illnesses which occur while making “reasonable use” of a site cafeteria or eating area shall be considered occupational, but not recordable.

- Injuries/illnesses which occur as a result of employer provided equipment such as knives, forks, etc., or food or drink provided by or purchased by an employee are occupational, but not recordable. However, injuries/illnesses arising from food, equipment or other hazards introduced by the worker are non-occupational.

- If an injury occurs while boarding or exiting a bus on a worksite property, while walking from a designated on-site bus drop off point or while making reasonable and permitted use of the company parking lot, it shall be considered occupational but not recordable.

- Injuries sustained during employment regardless of the area or duty, inflicted by or arising out of horseplay while in the work environment are considered occupational.

- Injuries occurring to employees driving to and from work on a special assignment or as a result of being called out for an emergency situation are occupational and non-recordable.

- Injuries occurring to employees traveling to and from their regular place of employment during routine travel in their own transportation, including travel at irregular hours due to late shifts or overtime are not considered occupational as workers are not in the course of employment while commuting. This includes injuries occurring while driving private or company vehicles to and from work on a regular basis.

- Injuries occurring to employees going to/from their house from/to a designated bus stop where employees board buses are not considered occupational.

- Employees injured during a specifically defined off-duty period in such areas as cafeterias or camp facilities, or while using any such facilities or their buildings or equipment therein in an off duty period will not be considered occupational. If, however, at such time, an injury should occur arising out of a hazard of the facility in question, it would be considered occupational, but not recordable.

- In the event that an illness/injury occurred solely because of a pre-existing physical deficiency with no distinct accident involved (an employee falls down because of his “trick knee” giving out although the ground was smooth and level) it would not be considered occupational. However, should the ground be icy or wet and the employee was to fall, spraining their “trick knee” this would be considered occupational.

- Aggravation at work of symptoms resulting from non-occupational injury may be considered recordable only if a new accident or unusual occurrence at work has transpired.
Appendix III

Examples of Medical Aid

In the event that x-ray examination for fractures is required, this procedure would be considered a diagnostic procedure and as such not considered medical aid or first aid.

- **Common Medical Aid Treatments**
  - All cases involving loss of consciousness, caused by the industrial injury or illness unless more severe consequences dictate another classification.
  - Butterfly or steristrip sutures, only if used in lieu of standard sutures.
  - Sutures and closures, by or on the advice of a physician.
  - Compress, hot or cold, multiple soakings and drainage of collected blood on a second or subsequent visit if prescribed by a physician.
  - Administration of prescription only medicines, if exceeding one single dose. (See definition of Medical Aid).
  - Cutting away of dead tissue. (Surgical deportment, debridement).
  - Aspiration (draining) of blood or fluids from damaged areas using suction or temporary implants.
  - Application of non-temporary casts, splints or other immobilizing procedures following need diagnosis by a physician or registered professional.
  - Diathermy treatment on second or subsequent visit if prescribed by a physician.
  - Removal of EMBEDDED foreign objects, if removal from wound requires surgical means, including the use of prescription medication to treat the condition.
  - Removal of EMBEDDED foreign bodies from the eye, if removal requires surgical means.
  - Treatment of 2nd degree burns. The determining factor in classifying 2nd degree burns as medical aid will be primarily based on the actual size of the burn (2.5 cm x 2.5 cm or larger). In addition, if the injury requires a series of treatments including soaks, use of whirlpool and surgical debridement, the injury should also be considered a medical aid.
  - Treatment of 3rd degree burns including multiple treatments (dressing changes, soakings, whirlpool treatments and surgical debridement).
  - Treatment of fractures, other than hairline.
  - Treatment of infections.
  - Treatment of secondary infections.
  - Ultrasound treatment, on the second or subsequent visit if prescribed by a physician.
  - Whirlpool or similar physical therapy treatment, on the second or subsequent visit if prescribed by a physician.
- Application of Skin Glue in lieu of sutures, if the wound have required sutures due to the location and severity of the affected area.
- Dental injury requiring dentistry and/or oral surgery.
NC Services Group and its affiliated companies (NCSG) are committed to providing and maintaining a safe and healthy workplace for all its employees. Part of our commitment includes the availability of a Modified Work Program for workers who are injured on the job. The primary objective of the modified work program is to provide the employee with an opportunity for rapid and full recovery following a work related injury.

NCSG recognizes the effect an injury can have on the physical and mental well being of any one of its employees. It is NCSG’s intention to minimize the consequences endured by the employee who has suffered an injury. The modified work program has been designed to ensure the injured worker is placed into a temporary but appropriate work situation that provides value to both the employee and the company. Years of experience has proven that the rehabilitation process and overall well being of an injured worker is dramatically improved when meaningful modified work has been provided to a worker. NCSG benefits through reduced claim costs, while the injured worker continues to draw an uninterrupted wage.

This program requires the full participation and cooperation of company management personnel and all employees. It is company policy to implement a modified work program for any injured worker, who by nature of their injury can legitimately be assigned other suitable employment.

NCSG will facilitate the rehabilitation process by providing the following benefits:

- Suitable and meaningful employment for employees unable to perform their normal work duties as a result of a work related injury;
- Timely medical intervention resulting in better care and a more rapid recover with no risk of worsening the injury; frequent communication with the injured employee and regular contact with medical service providers and Worker’s Compensation Board (WCB) personnel;
- Continuous wages with no waiting period.
1.0 PURPOSE

As transportation companies all NCSG business entities are required to satisfy certain regulatory elements and operate within standards established locally and federally. These standards are a minimum guideline and will serve as the benchmark of basic compliance. NCSG will always strive to exceed the minimum standards set out by law, wherever possible. To this end, the Transportation Compliance Code is a living document and will be subject to review and updates on an annual basis.

2.0 SCOPE AND APPLICATION

The Transportation Compliance Code applies to all NCSG business activities that would involve commercially registered and regulated vehicles and equipment.

3.0 DEFINITIONS

- **Authorized** – Deemed, either by express or implied consent, to be competent and capable of operating an NSC regulated vehicle on behalf of the company.

- **Carrier Profile** – A documented record of all safety inspections and convictions for a carrier over a 12 month period.

- **Company** – NCSG and wholly owned subsidiaries as well as business units thereof. Represented by an employee, contractor or agent.

- **Competent** – The term by which to describe someone who has been found capable of safely and soundly operating a tool or piece of equipment. Competency is determined through the evaluation of measured knowledge and observable skills. *Competency is acknowledged by a direct employee of the Company only.*

- **Driver** – Any authorized individual, required to operate an NSC regulated motor vehicle on behalf of the Company.

- **Drivers Abstract** – A documented record of all traffic safety convictions incurred by an individual. Abstract can contain information on convictions going back 60 calendar months or more.

- **Commercial Drivers Abstract** – will contain all the info a normal driver's abstract contains, PLUS the driver's commercial information on CVSA inspections and convictions.
• Drivers Vehicle Inspection Report (DVIR) – Document completed by a Driver, prior to commencement of a journey.

• Hours of Service (HOS) – The term used to encompass all regulation/legislation that governs the permissible hours a driver may drive within any given period.

• National Safety Code (NSC) – The standards, established by industry and government, to regulate the safety practices of all carriers within Canada. Not all standards have been adopted as law.

• NSC Vehicle - A truck, tractor, trailer or any combination thereof, possessing a gross vehicle weight in excess of 4,500 kg, or a bus with a manufactured seating capacity of 11 persons, including the driver.

• Operating Authority – A permit issued by the licensing jurisdiction to allow operation of a bus.

• Operating Status – The term is used to identify whether a Carrier is classified as a Federal or Provincial entity. The status is shown on the Safety Fitness Certificate. Carriers have a defined set of obligations depending on whether they are a Federal or Provincial Carrier. TransTech Contracting Inc and Northern Crane Services Inc. are both Federal Carriers and must follow the appropriate rules.

• Safety Fitness Certificate – Document issued by the jurisdiction in which the carrier’s commercial vehicles are licensed. Alberta Transportation issues the Safety Fitness Certificate to the NC Services Group of Companies. Currently TransTech Contracting Inc and Northern Crane Services Inc. each have their own Safety Fitness Certificate.

• Violation
  • Near Miss – Any violation that is discovered through routine audits or inspections, initiated by the Company and not resulting in a fine, warning or any other action on part of an officer.
  • Actual – Any violation that is discovered through audit or inspection, not initiated by the company, and issued by an officer or duly appointed representative thereof.
4.0 ROLES AND RESPONSIBILITIES

4.1 CEO / Executives / Vice Presidents are responsible for:

- Providing the necessary resources and leadership to ensure the requirements of this code are adequately established, communicated and enforced.
- Providing directives and holding accountable direct reports, such as Branch Managers / Assistant Branch Managers for compliance with this code in their departments.

4.2 The Vice President, Health Safety & Environment is designated as being responsible for:

- Maintaining and implementing the safety program, and ensuring compliance with safety laws.
- Produce reports regarding achievements of compliance objectives.
- Various aspects regarding the program may be delegated.

4.3 Branch Managers / Assistant Branch Managers are responsible for:

- Ensuring the resources provided to develop and implement this code are being utilized in the most effective manner possible.
- Ensuring that those within their respective reporting chains have been determined competent prior to being expected to utilize this code and be held responsible for non-compliance.
- Communicating expectations and providing the necessary leadership to all levels of the organization, to allow for success in the development and implementation of this code.
- Monitoring those aspects of this code that apply to their branch.
- Holding accountable, any direct report that fails to meet the requirements set forth within this code.

4.4 Branch Level Supervisors are responsible for:

- Communicating the expectations of this code to all levels of field staff as well as applicable branch staff, under their direct supervision.
- Monitoring those aspects of this code that apply to their position.
- Providing the necessary leadership to all staff under their direct supervision to ensure that they are capable of executing the requirements within this code.
- Assisting Field Supervisors and Field Employees with the implementation of this code in their daily activities.
HEALTH, SAFETY & ENVIRONMENT
TRANSPORTATION COMPLIANCE CODE

- Holding accountable, any direct report that fails to meet the requirements set out within this code.

4.5 Field Level Supervisors / Dispatchers are responsible for:
- Monitoring those aspects of this code that apply to their position.
- Actively utilizing and enforcing the requirements of this code throughout daily business activities.
- Encouraging those whom they supervise, through means of effective leadership and communication, to perform within the bounds of this code at all times.
- Reporting issues of non-compliance with this code to the respective manager.
- Participating in any training required within this code.
- Not requesting or requiring an individual, held accountable to this code, to commit to work in a manner that would place them in a situation of non-compliance.

4.6 Drivers are responsible for:
- Consistently operating within the bounds of this code.
- Providing a positive example to their peers and encouraging compliance.
- Ensuring that all documentation requirements are met as a function of their continuing employment with the Company.
- Participating in all required training.

5.0 POLICY
The Company will ensure that the administration and execution of our transportation activities are compliant with the requirements set out by prevailing local and federal legislation. The Company will ensure the provision of all necessary training and support to any affected worker to ensure that they are given the best opportunity for success in compliance on our behalf. Where violations are identified, The Company will actively encourage effective performance management, up to and including termination, based on the requirements of The Company’s Disciplinary Action Policy.

6.0 GUIDELINES
The following guidelines are in place to assist in the effective development and execution of the Transportation Compliance Code.
6.1 FIELD LEVEL PROCESSES
The term “field level processes” is used to define any document or control that is generated by a driver or field level supervisor. Within this scope is Driver Authorization, Daily Log and DVIR.

6.1.1 Process Detail
- Document is completed
- Document is submitted
- Document is reviewed
- Variances are documented
- Variances reports are completed
- Variance reports are reviewed
- Variances are investigated
- Corrective actions are implemented and recorded
- Further monitoring to ensure corrective actions effective
- Summary non-compliance reports are generated for senior management
- Documents are filed

7.0 Driver Authorization
Employees have been hired through the appropriate operations department. An employee may or may not have been authorized as a driver upon hire. It is essential that only persons who have been authorized as a NSC driver ever drive a NSC vehicle.

7.1 Driver Designation
Once a person is designated as a NSC driver they must comply with all of the defined requirements for each day. This includes drivers that would only drive occasionally, such as mechanics or supervisors.

Before a person can be authorized as a NSC driver, the proper documentation must have been completed.

7.1.1 Workers who have been:
- Hired as a non-NSC driver and are re-classified as a NSC driver
- Laid off and re-hired.
- Un-authorized as a NSC driver.
- Must complete the “Current Driver Status” form.

This Code does not address all the requirements of Driver Authorization.
8.0 Drivers Daily Log

The content and application of this log report are governed by the Federal Commercial Vehicle Drivers Hours of Service Regulation SOR/2005-313. Detailed instructions for completing Log Books are provided through initial as well as ongoing training. Questions can be directed to supervisors, managers and the HS&E Department representative for your area.

8.1 Drivers Responsibility

8.1.1 Every Day

Every driver must have a completed driver's log for every day commencing the day they became classified as a NSC driver.

- Multiple, sequential days, occurring within the same month, of Off–Duty may be recorded on one log page.

8.1.2 Previous 14 Days

Drivers that are driving a NSC vehicle for the first time must have a record of on duty and off duty hours for the past 14 days.

- This includes new employees as well as those becoming an “Authorized Driver”, whether for the first time or when returning from being “Un-authorized”
- Logs accounting for the previous 14 days from a previous employer are acceptable. Copies must be also be submitted to the Company
- Record in the “Remarks” section of the current daily log, the number of hours of off-duty time and on-duty time that were accumulated by the driver each day during the 14 days immediately before the beginning driving for the first time.

8.1.3 Company Issued Log Books

The driver will use the log sheets provided by the company. It is not acceptable to use logs other than company logs.

- Drivers will complete the documents as indicated in the applicable section.

8.1.4 Submitting Documents

- Records are to be submitted at the end of each day or trip as the driver returns to their respective area office.
  - In situations where the driver is not able to return in a timely manner to submit the documents a suitable solution will have to be made with the
supervisor to arrange for transfer of information, with no more than 20 days of back log.

- Log/Timesheet forms are to be submitted to the driver’s assigned home terminal. In the case there was no home terminal assigned, this would normally be the dispatch office they have been dispatched from, or where they would submit their time records for payroll.

- Drivers who are unable to submit a record every day are to phone in to their dispatcher every day they work and report the required information.

- Submitting proper records as requested is a condition of employment.
  - Payroll may not be able to be processed until all the required documents are submitted.

8.1.5 Supporting Documents

Any supporting documents the driver received during the trip are to be submitted with the record. Examples of supporting documents include:

- Fuel Receipts
- Motel Receipts
- Weigh Slips
- Enforcement Documents

Additional Training and/or Disciplinary actions may/will be taken for deviation from any requirement.

8.2 Dispatcher or Other Designated Person Responsibility

Dispatchers are to record the information on the provided spreadsheet.

- The spreadsheet to be used will be housed on the “S Drive”.
- Dispatchers are not to maintain a spreadsheet other than the one on the “S Drive”
  - The purpose for this is to ensure that there is only one information source for each driver.
  - When a driver is dispatched from more than one dispatch area the information is always current.

- Information on the spreadsheet will include:
  - Drivers name
  - Date
  - Number of hours on duty today.
• If any prior days information is not completed on the spreadsheet the dispatcher is to obtain that information also.
• Was there any driving time today?
• Did the driver have 8 consecutive hours off duty immediately prior to working today?
• Has the driver had 36 consecutive hours off duty prior to driving today?
• The spreadsheet will indicate to the dispatcher how many hours the driver has available.
• Dispatchers are not to dispatch drivers that do not have enough hours available to complete the trip.
• When the record(s) has been submitted the dispatcher is to review the document to ensure all the required fields have been completed properly.
• Dispatchers are to compare the submitted fuel receipts to the spreadsheet.
  • Check the box to indicate if a fuel receipt is attached and verifies the information on the log book.
• Dispatchers are to compare the submitted logs to the spreadsheet.
  • Check the box to indicate whether or not the hours on the spreadsheet match the log.
  • Check the box to indicate whether or not the hours on the log match the timesheet.
  • Check the box to indicate whether or not the hours on the log match the supporting documents.
  • Make comments on any discrepancy in the provided information.

8.1 ADMINISTRATIVE PROCESSES

8.1.1 All logs are to be forwarded to the primary location of business, as indicated on the Safety Fitness Certificate, at the end of each week.
• Log information to be updated on the spreadsheet prior to sending.
• Log book portion may be photocopied, scanned or otherwise duplicated and stored at the Home Terminal
• Logs and supporting documents sent to Acheson Office “Attention: HS&E Administrator NC Services Group”.

8.1.2 Fuel report information gathered by designated administration clerk.

8.1.3 HS&E Administrator selects logs to be audited.
8.1.4 Logs not audited, or returned from audit, are filed in a chronological order by driver.
   - Logs are to be maintained at the Acheson location for a period of at least 6 months from the date generated. (See 6.2.1 bullet 5)
   - Logs over 6 months old are to be disposed of in a secure manner.

8.1.5 Logs and audit report returned from auditor to HS&E Administrator NC Services Group
   - Administrator identifies drivers with deviations based on audit report.
   - Audit report and photocopy of logs with violations sent to appropriate Branch Manager.

8.1.6 Branch Manager reviews violations with driver.
   - Both parties sign audit report.
   - Audit report returned to Acheson.
   - Signed report placed in driver file

8.1.7 HSE Admin tracks log violations by driver and identifies opportunity for additional training or disciplinary/corrective actions.

8.1.8 HSE Admin tracks disciplinary/corrective action compliance.

8.1.9 HSE Admin generates Violation reports by Branch and forwards reports to appropriate Branch Manager and Regional Team Lead HS&E.

8.1.10 HSE Admin tracks disciplinary action compliance.

8.1.11 HSE Admin generates Monthly Violation and Disciplinary Action summary reports and submits to VP HSE.

8.2 AUDIT

All logs should be audited for correct information. As the logs are submitted they are to be reviewed against the dispatcher’s spreadsheet to confirm accurate information was relayed.

Reviewing Hours of Service Logs

8.2.1 A 4-step process is recommended for reviewing an Hours of Service log to determine if it is in compliance. All steps must be in compliance:

1. Check the Day;
   - Graph is completed for all 24 hours
   - No driving after 13 hours driving
   - No driving after 14 hours on-duty
• At least 10 hours off-duty
  • before the driver can drive, at least 8 hours of this time must be consecutive
  • must be 2 additional hours off-duty in no less than 30 minute periods that do not form part of the 8 consecutive hours
• Deferred Time:
  • Deferred time must be indicated in the log book as either day 1 or day 2
    • Day 2 must follow day 1
  • Driver has option of moving 2 hours of required off-duty time to second day;
    • Not part of the 8 consecutive
  • Total driving time in 2 days not more than 26 hours;
  • Total off-duty time in 2 days not less than 20 hours;
  • At least 8 consecutive hour’s off-duty in Day 1 and 10 consecutive hours plus 2 additional hours off-duty in Day 2.
    • Note: All required off-duty hours for each day must be taken wholly within that day.
    • Note: This exemption can not be used with split sleeper exemption or an hours permit.

2. Check the Work Shift (period between end of one period of 8-hours or more off-duty and start of next period of 8 hours or more off-duty):
• No sleeper berth used:
  • No driving after 13 hours driving;
  • No driving after 14 hours on-duty;
  • No driving after 16 hours elapsed time.
    • Note: Elapsed time includes all time in work shift.
• Single driver using sleeper berth:
  • No driving after 13 hours driving on either side of eligible sleeper period;
  • No driving after 14 hours on-duty on either side of eligible sleeper period;
  • No driving after 16 hours elapsed time on either side of eligible sleeper period
    • Excluding eligible time in sleeper.
Note: Eligible sleeper period is no less than 2 hours long and 2 consecutive sleeper periods total no less than 10 hours.

3. Check the Cumulative Cycles (Cycle 1 is selected by default – Cycle 2 by exception):
   - Cycle 1 (default cycle for NCSG):
     - Verify cumulative on-duty time is not more than 70 hours in 7 consecutive days;
     - Verify cycle properly "reset" by taking at least 36 consecutive hours off-duty (if needed).
   - Cycle 2:
     - Verify cumulative on-duty time is not more than 120 hours in any 14 consecutive days;
     - Verify driver did not accumulate more than 70 hours at any time during the cycle without taking 24 consecutive hours off-duty;
     - Verify cycle properly "reset" by taking at least 72 consecutive hours off-duty (if needed).
   - Day Off: Verify that driver did not drive without taking at least 24 consecutive hours off-duty in the preceding 14 days
     - Regardless of day or cycle they are working.

4. Check the Form and Manner
   - Drivers should all be using Company issued logbooks.
     - It would be a violation if a driver was not using an issued logbook.
   - Date
     - Date is correct and legible.
     - Each day is accounted for.
       - Days off duty require a separate log indicating off duty
       - Multiple days off duty can be shown on one log.
   - Drivers Name
     - Printed and legible
     - Actual name
       - Acceptable forms of name
         - e.g. “Bill” if name if “William”
       - Nick names not acceptable
         - e.g. “Swifty”
• Cycle
  • Cycle 1 is default
  • Driver must indicate if working under Cycle 2
• Unit Number
  • For each vehicle operated that day
• Odometer Reading
  • For each power unit driven that day
  • At the start of driving
• Principal Place of Business
  • The correct company name must be checked.
• Home Terminal
  • Check off the correct Branch
  • Another location entered if starting and stopping at the same location
• Deferral – If used
  • Must have a Day 2 immediately following a Day 1
• Personal Use – If used
  • Record odometer readings
  • Unit must be “bob-tailing” without trailer
  • Maximum 75 km’s per day
  • Must be personal use
• Locations identified correctly
  • At every duty status change
  • Full name of city or proper highway location
  • LSD accepted if nearby identifiable location indicated
• Correct hour totals
  • Each status
  • Total for day
• Driver Signature
  • Do not sign log until end of shift

8.2.2 Drivers Daily Logs are required to be true and accurate. An audit needs to do more than just look at the logbook page. Supporting documents are required by law to be submitted and need to be compared to the information on the log to determine accuracy.
8.2.3 A 50% rotating sample of logs from each company are to be reviewed using supporting documents. 100% of the log and fuel receipts would be verified in the dispatcher review, however they should still be included in the audit.

- All new drivers’ logs will be audited for 3 months to ensure our Hours of Service training is producing the desired level of competency.
- Any new drivers with violations will be provided with a review of the log requirements and deficient items addressed individually as required.
- Any existing drivers with high violation rates will remain in the full audit rotation to ensure violations are addressed affectively.
- Any issues found will be discussed one on one with the driver in violation. To ensure understanding, the corrective action required will be identified. Subsequent logs will be scrutinized to ensure the issue is addressed.
- Continued violations will result in the driver being retrained in the application of the Hours of Service Regulations. Drivers that are retrained will have their logs subjected to a full audit to ensure the problem has been addressed.
- A monthly violation report will be generated by the HSE Department based on the audit scope. All violation instances found will be used anonymously as learning opportunities and relayed to the entire NCSG driver pool. As well, trends will be identified to allow the training program to be fine-tuned to address high occurrence issues.

8.2.4 Any document that has a time stamp should be used to verify the information. For example:
- Fuel Receipts
- Hotel Receipts
- Enforcement documents.


The DVIR is required in accordance with Standard 13 or the National Safety Code. Schedule 1 of Standard 13 is included as an appendix to this code. Items may be added to the existing inspection schedule, or removed if not applicable. A copy of the inspection schedule is required to be kept with each unit and to be provided to a peace officer upon request.

NCSG provides DVIR books to each authorized driver upon hire. New books can be found in each branch’s dispatch office or other designated location.
It is not permitted to use any other companies Driver Log or DVIR form.

9.1 Document Completion

- A separate DVIR is required for each power unit.
- One DVIR is required for each power-unit and trailer configuration.
  - Addition or substitution of trailer units will require completion of a new DVIR.
- DVIR’s must be completed prior to departure from home terminal or starting location for the day of work.
- DVIR’s must be handed into Dispatch with all relevant paperwork for the job, upon return.

9.2 Documentation Review

- Dispatch will review all submitted DVIR’s for noted deficiencies.
  - DVIR’s with noted deficiencies/repairs are to be copied to the relevant maintenance department.
  - Original DVIR’s are to be forwarded to the Edmonton HS&E office, care of the HS&E Administrator, for filing.
- Maintenance department will review DVIR’s received and complete repairs on a priority basis, placing the DVIR in the units file with the evidence of repair (work order, invoice, etc.).
- DVIR’s are to be maintained at the Edmonton HS&E office in Acheson for a period of no less than 6 months, after which they may be disposed of securely.
- Monthly random auditing will be completed on unit files to ensure that DVIR’s are being completed and stored as per the requirements of this code and the prevailing legislation.
  - Auditing will be completed using the NCSG Unit File Audit document.
  - Deficiencies or areas of non-compliance will be documented and provided to the respective branch manager for corrective actions to be applied.
  - Upon completion of corrective actions, the issued report is to be signed-off by the respective branch manager and provided to its issuer for filing.
Legislation

Federal Hours of Service (SOR 2005-313)
Commercial Vehicle Safety Regulation (AR 121/2009)

National Safety Code

http://www.ccmta.ca/english/producstandservices/publications/publications.cfm

Standard 9 – Hours of Service
Standard 13 – Trip Inspection
1.0 Purpose

NC Services Group and its affiliated companies (referred to as NCSG) has developed a Subcontractor Management process to ensure adequate and proper management of all Subcontractor’s in order to prevent potential injury to employees, Contractors, and the public and prevent potential damage to property while operating within NCSG areas of responsibility. In the role of prime Contractor and or general Contractor or when engaging a subcontractor, NCSG has a responsibility to ensure selected Subcontractors are competent to perform the contracted work in a safe manner and comply with the established project requirements. NCSG has established a Subcontractor Management process for identifying the criteria for Subcontractor selection, compliance monitoring criteria, and post contract evaluation.

It is a management priority for NCSG to only select Subcontractors who can safely deliver a quality job, on time and within budget constraints. NCSG accomplishes this task through a thorough evaluation and selection process.

2.0 SCOPE AND APPLICATION

The scope of this process is to provide a consistent and standardized process for evaluating, selecting and managing Subcontractors to NCSG. Subcontractors are treated just like an employee, all the same applicable rules/policies/training requirements and procedures apply. This involves managing the Subcontractor prior to site mobilization to ensure all Subcontractors meet, as a minimum, the certification requirements through to NCSG performing a pre-qualification evaluation involving the review of the Subcontractor Health and Safety history, through to reviewing the Subcontractor’s HS&E program and leading to monitoring the Subcontractor’s performance during project activities and a post project evaluation.

In conjunction with referenced legislation, clear and concise direction drives the standards which are to be viewed as the minimum requirements identified by NCSG.

This Process applies, without exception, to all NCSG companies.

3.0 DEFINITIONS

3.1 Pre-Contract Phase

Period prior to assigning a contract or direct service agreement, during which the Subcontractor is evaluated and verified as being competent to safely deliver quality work within schedule and requirements.

3.2 Contract Supervisor

The individual within NCSG deemed responsible for supervising and administering this contract or direct service agreement.
3.3 Contract Phase

Period when the contract or direct service agreement is deemed active and the Subcontractor executes the work. NCSG monitors Subcontractor compliance to established HSE standards, monitors against NCSG HS&E Expectations and initiates corrective action as required.

3.4 Post-Contract Phase

When contracted work or direct service agreement has been completed and Subcontractor performance is evaluated to determine suitability for future work.

3.5 Risk Reduction Plan

A plan prepared when awarding to a risk rated Subcontractor, this plan must be approved by the applicable NCSG Manager and by the applicable NCSG Regional Team Lead HS&E.

4.0 EXPECTATIONS

The Subcontractor Management process shall provide required and adequate guidelines to ensure knowledge of current NCSG processes related to HS&E management of Subcontractors from the pre-contract phase through the site work execution and post control phase evaluation. This process will ensure mitigation of all potential hazards to the client, employees, Subcontractors, visitors and the general public within NCSG areas of responsibility. This Subcontractor Management process will be reviewed at a minimum of every three years.

This process shall supplement, but not supersede any regulatory Provincial/State/Federal legislation within the operational areas of responsibility of NCSG.

Legislative changes shall be monitored by Health, Safety and Environment as per the Legislative Tracking and Updating Process.

Health, Safety and Environment documents will be made available to all personnel.

When the Health, Safety and Environment Management system is updated a revision record will be posted to all employees notifying them of the update.

5.0 ROLES AND RESPONSIBILITIES

5.1 Contract Supervisor

- Facilitate Subcontractor evaluation process.
- Monitor compliance to the established HS&E management system. (ensure appropriate subcontractor agreement is signed, WCB coverage and clearance is in place, adequate insurance in place, applicable training certifications in place, verify copies of driver abstracts, criminal record checks – as applicable, and ensure Alcohol and Drug testing program in place)
- Lead a post contract review of the Subcontractor project performance.
- Chair all meetings with subcontractor.
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- Advise Subcontractor of site hazards that may have an impact on their work.
- Verify implementation of the Subcontractor site specific HS&E plan where applicable.

5.4 Regional Team Lead HS&E

- Conduct evaluation of Subcontractor pre-qualification documents as supplied from the Contract Supervisor and classify Subcontractor as approved or risk rated.
- Verify contractors Alcohol and Drug Program and audit application.
- Verify where applicable the driver's abstracts of the contractors.
- During pre-contract phase, assess strength of Subcontractor's HS&E management system.
- Conduct ongoing Subcontractor compliance evaluations and advise Contract Supervisor of findings.

5.5 Subcontractor Management

- Comply with the requirements as identified in NCSG HS&E management system.
- Submit weekly or monthly HS&E summary report as agreed to at pre-award meeting etc.

5.6 Supervisor

- Immediately correct any violations or infractions which have been brought to the attention of the supervisor, which did or could result in an incident or injury to the worker, employees, Contractors, or general public within the area.
- Provide in accordance with NCSG programs, any corrective action or discipline required for ensuring compliance with this process and document said action appropriately.

5.7 Management

- Ensuring compliance with this process, by all levels of the company including Contractors, visitors and the general public within NCSG areas of operation or active worksites.
- Adequate training and monitoring for compliance is established through the use of the Health, Safety and Environment team.

5.8 Health, Safety and Environment Team

- Develop and review as outlined in Health, Safety and Environment program this process to ensure current compliance with all regulatory legislation and company practices.
- Amend and maintain this process within the defined review period.

6.0 METHOD

6.1 Subcontractor Control Requirements

Subcontractor Management will take place at three phases from an HS&E point of view: pre-contract, active, and post contract.
6.2 Pre-Contract Phase

6.2.1 Subcontractor Pre-Qualification

The HS&E department upon receipt of information from the Contract Supervisor will review and classify Contractor submissions. Based on submissions, contractors or direct service providers will be classified as approved or risk rated Contractors.

The contractor or direct service provider will forward applicable copies of HS&E documentation, including but not limited to:

- Driver abstracts
- GST Number
- Training records and certifications
- Copies of insurance
- WCB clearance letters
- Safety statistics and records (if applicable)
- Vehicle or equipment safety fitness certificates (if applicable)

6.2.2 Awarding to a Risk Rated Contractor

If after review there is no suitable approved Contractors, then a risk rated Contractor may be selected. If a risk rated Contractor has been selected, then a Safety Contingency Plan such as a Risk Reduction Plan must be developed to ensure adequate consideration has been given to HS&E issues and this plan must be approved/signed off by the applicable Manager and Regional Team Lead HS&E.

The Risk Reduction Plan must be developed in advance of award and will likely require some additional Contractor commitments.

The Vice President HS&E must be advised of all risk rated Contractors used.

6.2.4 Pre-Award Meeting

The Pre-Award Meeting is an opportunity for NCSG to meet with the prospective Contractors to review and clarify HS&E issues. The NCSG representative chairs the Pre-Award Meeting.

As well as clarifying HS&E requirements, the pre-award meeting allows NCSG and/or Contractor the opportunity to ensure that negotiated requirements are incorporated into the final subcontract.

6.2.5 Subcontractor Written Program

Subcontractor (where applicable) shall provide NCSG for review a copy of their company HS&E program.

The Contractor’s written HS&E program (at a minimum meets NCSG’s standards) will be required to address the following:
Leadership Issues: policy, audit, authority
Specific HS&E Responsibilities Assigned (E.g. site manager, line supervisor, HS&E advisor, worker etc.)
Planned Inspection & Audit Guidelines
HS&E Communication Requirements
Incident Management (reporting, recording & investigation)
Training (company, project and skill specific requirements)
Environment;
Subcontractor Controls (i.e. selection, monitoring and post-contract evaluation)
Hiring & Placement
Security
Recordkeeping
Work Procedures & Methods (specific standards and procedures for work activities that the Subcontractor will conduct on site)
General Rules
Office Safety
Recognition & Awareness
Emergency Response Planning
Occupational Health Services

The Subcontractor will supply a copy of their company HS&E program to both the Contract Supervisor and Regional Team Lead HS&E prior to starting work on site.

6.3 Active Contract Phase

This is the phase of the project where work is ongoing. The NCSG Contract Supervisor has a responsibility to ensure Subcontractor’s continue to comply with company requirements.

6.3.3 Subcontractor Weekly Report (as applicable)

On a weekly basis or as per NCSG Direction, Subcontractors will submit an HS&E summary report detailing their activities for the past week to the Contract Supervisor. This report will include the following:

- Number of personnel on site
- Number of hours worked, including Subcontractor’s of Subcontractor’s
- Number of incidents by type
- Training program delivered and number of attendees
- Number of Orientations conducted
- Number of HS&E Communications Meetings conducted
- Number of Pre-Job Instruction meetings
- Number of Planned Inspections conducted
- Details of outstanding actions from inspections, investigations, and HS&E communications meetings.
6.4 Post Contract Phase

After the completion of a project, the applicable NCSG HS&E advisor and NCSG Contract Supervisor will review the Subcontractor’s project performance.

The result of the evaluation will be forwarded to the applicable NCSG Manager for their reference. This information will be used to determine future suitability of a Subcontractor.

6.5 Compliance Monitoring

The following actions will take place while monitoring Subcontractor compliance to the plan:

- Verify Subcontractor’s compliance to the established HS&E management system
- Verify Subcontractor’s compliance to their own HS&E program
- Verify all issued "Confirmation of Violation of Contract HS&E Requirements" have been followed up and closed out.

6.7 Documents

The following documents will be filed in the subcontract:

- Copies of Subcontractor pre-qualification
- Contractor Information Form
- Weekly HS&E Summary Report
- Copies of "Confirmation of Violation of Contract HS&E Requirements" issued to the Subcontractor
- Risk Reduction Plan for Risk Rated Subcontractor’s
- Signed Subcontractor agreement

7.0 TRAINING REQUIREMENTS AND MATERIALS

- Subcontractor Management Process