

# Health, Safety, and Environmental Manual

National Steel Erectors Ltd.

Revised April 30, 2019

## Table of Contents

### Signed Acknowledgement of the HSE Management System

### Health and Safety Policy

### Signed Acknowledgement of the Drug and Alcohol Program

### Incident Management Policy

### Personal Protective Equipment Policy

### Preventative Maintenance Policy

### Communication and Training Policy

### Fall Protection Policy

### Inspection Policy

Organization and Responsibilities.....	19
Right to Refuse Unsafe Work .....	21
Hazard Assessment and Control.....	22
Emergency Preparedness.....	24
Incident Management.....	26
Communication and Training .....	29
Person Protective Equipment .....	32
Fall Arrest Systems .....	40
Alcohol and Drugs .....	45
Company Safety Rules .....	51
Preventative Maintenance Program .....	53
Records and Statistics .....	59
Safe Work Practices	
Changing a Tire .....	61
Compressed Air Power Tools .....	62
Fire Protection .....	63
Flammable and Combustible Substances .....	64
Grinder/Abrasive Wheels .....	68
Hand Power Tools .....	70
Lock out and Tag out of Hazardous Energy .....	72
Mechanical Lifting (Cranes, Hoists & Lifting Devices) > 2000 kg .....	78
Rigging .....	83
Tiger Torches .....	88
Temporarily Securing Steel Joist.....	89
Safe Guarding .....	90
Traffic Control.....	93

Transportation of Dangerous Goods (TDG).....95  
Vehicle Safety ..... 98  
Welding ..... 103  
Painting ..... 106  
Use of Metal Scaffolds ..... 111  
Use of Portable Ladders ..... 112  
Use of Force Air Heating Equipment ..... 114  
Pulling Hose or Cables across a Roof ..... 115  
Attaching Cable Clips and Clamping Wire Rope ..... 116  
Cutting and Burning ..... 117  
Exiting Elevated Boom Platform.....118

### **Signed Acknowledgement of the HSE Management System**

I acknowledge my responsibility to read and understand the contents of this HSE Booklet.

As an employee of National Steel Erectors Ltd., I agree to follow all rules, regulations and procedures to the best of my ability.

I will use this booklet as a guideline to help me work safely, and to identify and help correct any unsafe conditions in my work area.

I recognize everything I do reflects on the company, and that I alone am responsible for ensuring my actions and conduct, interactions with other employees, contractors, and owners/prime contractors.

I understand and accept that it is my responsibility to know and follow the HSE Management System. I hereby affirm I will comply with the intention of this program while conducting my work on behalf of National Steel Erectors Ltd.

Employee Name (Print)	
Employee Signature	

Senior Management	
Date	

### Health and Safety Policy

National Steel Erectors supports the health and safety program in addressing the physical, psychological and social well-being of all employees and is committed to protect and promote employee health, safety and wellness through compliance with the Occupational Health and Safety Act and regulations and the adoption of health and safety best practices.

The health and safety of our employees is the primary concern in all phases of our construction projects. National Steel Erectors Ltd. will make every effort to provide a safe and healthy work environment. All supervisors and workers must be dedicated to continuing to reduce the risk of injury.

**Safety shall never be compromised in the name of productivity.**

Supervisors will be held accountable for the health and safety of workers under their supervision. Supervisors are responsible to ensure that machinery and equipment are safe and that workers work in compliance with established safe work practices and procedures. Workers must receive adequate training in their specific work tasks to protect their health and safety.

Every worker must protect his or her own health and safety by working in compliance with current legislation and with safe work practices and procedures established by the company.

Employee Name (Print)	
Employee Signature	

Senior Management	
Date	

**Signed Acknowledgement of Drug and Alcohol Program**

National Steel Erectors is committed to promoting the health, safety and wellness of its Employees, Contractors and the public. National Steel Erectors Ltd. recognizes and accepts the responsibility to provide Employees with a safe, healthy and productive work environment. Employees have the responsibility to report to work capable of performing their tasks productively and safely. Being Unfit for Duty or under the influence of Drugs or Alcohol can have serious adverse impacts on the workplace. Workplace accidents resulting from Impairment can also result in liability under workplace safety legislation, and corporate and personal liability under the Criminal Code (Canada). National Steel Erectors Ltd. has established a comprehensive set of Drug and Alcohol Policy Guidelines which shall be read in conjunction with and as a supplement to this Drug and Alcohol Policy.

The purposes of this Policy are to;

- support workplace health and safety;
- to address and minimize the risks in the workplace associated with Drugs and Alcohol and to ensure Fitness for Duty;
- to establish Paramount's expectations for appropriate behavior;
- to describe the possible consequences for non-compliance;
- and to provide support and resources to Employees who are dealing with substance abuse or dependency problems.

This Policy outlines the expectations regarding Fitness for Duty, and the prohibitions against the use and possession of Drugs and Alcohol. This Policy supports National Steel Erectors Ltd.'s approach to risk mitigation and safety.

All Employees and all Contractors providing services to National Steel Erectors Ltd. are expected to report to work and remain Fit for Duty throughout their shift and when designated on-call.

The following are strictly prohibited:

- Consuming or being under the influence of Drugs or Alcohol;

- Possessing, distributing, offering or selling Drugs, Drug paraphernalia or Alcohol;
- Being Unfit for Duty as a result of consuming or improperly using any Medication;
- Possessing prescription Medication without a legally obtained prescription; and
- Distributing, offering or selling prescription Medication.

National Steel Erectors Ltd. has established this Policy in order to balance our respect for individuals with the need to maintain a safe work environment. Violations of this Policy will result in disciplinary action up to and potentially including termination of employment or termination of services.

Employee Name (Print)	
Employee Signature	

Senior Management	
Date	

**Incident Management Policy**

This Policy is to:

- Identify the method(s) used for recording incidents, accidents and near misses regardless of severity.
- Review and investigate all incidents, accidents and near misses to determine the primary and secondary causes.
- Implement control measures to reduce the possibility of reoccurrences.

All serious incidents/accidents (illness, near miss, injury, property damage, and equipment damage) will be recorded, documented and reported immediately using the applicable form. The form will be forwarded to the immediate supervisor. The supervisor is responsible for forwarding the completed form to senior management.

Employee Name (Print)	
Employee Signature	
Senior Management	

Date	
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### **Personal Protective Equipment Policy**

National Steel Erectors Ltd. is committed to ensuring all employees and contractors adhere to the Personal Protective Equipment (PPE) Policy as per occupational legislation and other regulatory requirements.

National Steel Erectors Ltd. is responsible for ensuring employees are aware of the necessity of PPE and appropriate clothing that is on accordance with CSA standards. PPE will be provided when considered necessary due to the specific demands of on-site job conditions.

Employees are responsible for adhering to the requirements for proper use, care/maintenance and storage of PPE, and training in these areas will be carried out. The supervisor will instruct employees to select and use equipment appropriate to the hazards on the worksite and to follow the manufactures specifications for fitting and wearing PPE.

National Steel Erectors Ltd. will supply additional personal protective equipment as required.

Employee Name (Print)	
Employee Signature	
Senior Management	

Date	
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### **Preventative Maintenance Policy**

National Steel Erectors Ltd. is committed to creating a safe working environment, including supplying the correct tools and/or equipment for the task. Employees will take full responsibility for the proper and safe use of tools and/or equipment. It is essential that all tools and/or equipment be operated in a safe manner and not be tampered with in any way.

All tools and equipment will be properly maintained in order to reduce injury to employees or damage to property. Supervisors will guarantee that only qualified, competent persons carry out all maintenance work.

Any tool or equipment found to be defective will be removed from service and clearly tagged “out of service” for either repair or disposal.

Employee Name (Print)	
Employee Signature	
Senior Management	

Date	
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### **Communication and Training Policy**

The purpose of this policy is to ensure that all employees of National Steel Erectors Ltd. receive adequate safety training.

National Steel Erectors Ltd. will provide the following safety training:

- Safety orientation for all new hires
- Job specific training
- as required
- Safety meetings involving all employees will be held on a regular basis.

Employee Name (Print)	
Employee Signature	
Senior Management	

Date	
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### **Fall Protection Policy**

National Steel Erectors is committed to providing a safe work environment for its employees and preventing occupational injuries due to falls.

Fall Protection is an integral part of our commitment to a safe work environment. Any time a worker is exposed to a fall hazard there will be a procedure and equipment to reduce and/or eliminate the hazard of working at height.

Fall Protection shall be achieved through a hierarchy of controls that will involve all levels of management, shop, supervisory and field personnel.

This hierarchy shall be:

- Identification of hazards
- Elimination of hazards through engineering (design) and procedural practices
- Control and mitigation of hazards through prevention and restraint systems
- The use of fall arrest

Workers shall be expected to assess the risks associated with a task and ensure that proper mitigation is in place to protect them while climbing and working at heights. Where a worker is unsure of the methods, equipment or procedures to reduce the risk they are to seek direction from their supervisor.

The application of this policy shall be outlined within the fall protection plan and shall be the responsibility of every worker within the company. This policy is supported by the highest levels of management and shall be enforced without exception.

It is the intention of National Steel Erectors Ltd. to reduce and ultimately eliminate any injuries resulting from working at height. It is the duty of all personnel employed by National Steel Erectors Ltd. to report to their supervisor, manager, safety representative, or member of the safety committee as soon as possible, any hazardous conditions, injury, accident, or illness related to the workplace. In addition, employees must protect their health and safety by

complying with applicable Acts and Regulations and to follow policies, procedures, rules and instructions as prescribed by National Steel Erectors Ltd. National Steel Erectors recognizes the employee's duty to identify hazards and supports and encourages employees to play an active role in identifying hazards and to offer suggestions or ideas to improve the health and safety program.

Employee Name (Print)	
Employee Signature	
Senior Management	

Date	
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### **Inspection Policy**

This policy is to implement measures to control and minimize losses of human and material resources. National Steel Erectors Ltd. will conduct site-specific inspections by documenting the following procedures:

- Compliance with occupational legislation
- Recognition and control of hazards
- Employee participation and motivation

Monitoring includes locating hazards that could cause injury or damage, and developing plans for corrective action. If inspection deficiencies are not analyzed for causes, core problems will usually not be addressed.

Inspections can either be “formal” or “informal”.

Informal Inspections – ongoing inspections (not following a schedule, plan or checklist) i.e. Personal Protective Equipment

Formal Inspections – Planned inspections that use established procedures and checklists and often follow a schedule.

Employee Name (Print)	
Employee Signature	

Senior Management	
Date	

## Discipline Policy

### Purpose

This policy is to ensure fairness and equality among National Steel Erectors Ltd.'s employees. Management will document all violations of company policies, safety rules and safe work practices and procedures by an employee.

### Documentation

Supervisors will ensure all non-compliance documentation is accurate and up-to-date. It is critical that the correct date, time and description of the violation have been documented clearly and accurately. All verbal warnings will also be documented since they provide support for action taken when follow-up written warning is given. Supervisors are responsible for ensuring that employees understand and comply with general safety and vehicle safety rules.

The first written warning provides the foundation for the second written warning. This second warning is to include a statement that clearly says a third warning could lead up to termination. Depending on the severity of the violation, however, termination could occur at the first warning.

A minor violation of a rule, instruction or direction will result in the following disciplinary action:

- 1<sup>st</sup> offense – Verbal warning (documented on employees file.)
- 2<sup>nd</sup> offense – Verbal and written warning
- 3<sup>rd</sup> offense – Suspension without pay or termination of employment.

A major violation of a rule, instruction or direction will result in the following disciplinary action:

- 1<sup>st</sup> offence – Suspension without pay or termination of employment (pending investigation)
- 2<sup>nd</sup> offense – Automatic termination of employment.

When discharged the employee is requested to gather personal belongings and is escorted from the work site.

Factors to consider when determining the length of suspension or discharge:

1. The employees attitude
2. Length of service
3. Quality of work
4. Probability of recurrence
5. Reason for the violation
6. Employees past record

Employee Name (Print)	
Employee Signature	
Senior Management	
Date	

## Fitness for Work Policy

### Purpose

National Steel Erectors Ltd. is committed to ensuring that all individuals are fit while they are on company projects or undertaking activities on the company's behalf.

The fitness for work policy defines responsibilities of employee. The policy promotes fitness for work and how to manage effectively and appropriately fitness for work issues.

The intent of this policy is to provide and promote a safe working environment by:

- Improving and maintaining fitness for work
- Improving and maintaining an awareness for fitness for work responsibilities
- Providing appropriate assistance to overcome problems that could impair fitness for work
- Monitoring compliance with and enforcement of this policy and its procedures, including the requirements of the drug and alcohol program and policy
- Providing effective, fair, and constructive procedures for dealing with people who are unfit for work

### Application

This policy and its procedures apply to all company sites and all the personnel there on the company's behalf.

### Definitions

**Fit For Work** – means that an individual is in a state which enables them to perform assigned tasks competently and in a manner which does not compromise or threaten the safety or health of themselves or to others.

It is everyone's responsibility to arrive at work fit for duty and must be able to carry out their duties without risk to themselves or others.

Employee Name (Print)	
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Employee Signature	
Senior Management	
Date	

**Safe Work Practice Policy**

National Steel Erectors Ltd. recognizes that safe work practices are a highly effective tool in the prevention of incidents. Whenever possible our safe work practices shall exceed regulatory requirements and continue to evolve and remain relevant with new methods in the construction industry,

Senior management and supervisors shall ensure employee compliance and actively communicate safe work information.

It is the responsibility of employees to conform to safe work practices for each job.

Employee Name (Print)	
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Employee Signature	
Senior Management	
Date	

**Safe Work Procedure Policy**

National Steel Erectors Ltd. will actively standardize job procedures to ensure uniformity in safety Practices, control loss and provide a high quality product. Non standardized job procedures will be developed as required.

National Steel Erectors Ltd. shall ensure all applicable regulations are adhered to in the development of job procedures.

Job procedure development shall be a cooperative effort between management, supervisors and tradesmen.

Employee Name (Print)	
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Employee Signature	
Senior Management	
Date	

## **Organization and Responsibilities**

### **Manager Responsibilities**

Manager responsibilities include, but are not limited to:

- Tour work sites to ensure a clean free of hazards area is being provided and to encourage safety discussions
- Provide appropriate well-maintained safety and other equipment required for each job
- Investigating incidents that result in serious losses or near misses that have the potential for serious loss, and determining the necessary action to prevent recurrence.
- Obtain documentation to confirming that all workers are qualified/certified to perform their assigned jobs.
- Ensuring inspections are conducted of premises, equipment and work practices/methods at regular/appropriate intervals, and that any hazardous condition found is corrected quickly.
- Provide information, instructions and assistance to all supervisory staff
- Understand and enforce our incident management policy as well as the occupational health and safety legislation
- provide ongoing safety education programs and approved first aid training courses
- monitor departments and projects and hold them accountable for their individual safety performance

### **Supervisor Responsibilities**

Supervisor responsibilities include but are not limited to:

- Leading, directing and instructing employees in how to carry out their work safely. This includes coaching and mentoring of new personnel.
- Ensure appropriate equipment is available and maintained.
- Ensure training needs are identified and met

- Make sure personal protective equipment is properly used, stored, maintained and replaced when necessary.
- Conducting hazard assessment and control, and managing hazards at levels as low as reasonably practical. If the hazard cannot be managed, work will be stopped immediately until appropriate control measures are in place.
- Assist in the investigation of accidents, incidents or near miss.
- Provide a good example for employees by always directing and performing working a safe manner.

## **Employee Responsibilities**

Employee responsibilities include but are not limited to:

- Required to provide copies of all job related tickets for review.
- Taking reasonable care to protect his/her health and safety as well as that of other employees when on the worksite.
- Adhering to National Steel Erectors Ltd. policies, safe work practices and procedures for all activities on worksites.
- Arriving at work on time, ready and fit for duty.
- Reporting all hazards, unsafe conditions, near misses and any other incidents immediately to the supervisor and filling out the appropriate report form.
- Obligation to refuse unsafe work when he/she believes the condition exists. If a refusal of work due to unsafe conditions occurs, the unsafe conditions will be reported to the supervisor immediately.
- Removing from service and tagging any defective tools, equipment, structures, and worn or defective personal protective equipment (PPE).
- Wearing required PPE and appropriate clothing.
- Operating machinery and equipment only if qualified to do so.

## Right to Refuse Unsafe Work

National Steel Erectors Ltd. is committed to the protection of its employees, contractors, and visitors and will continue to maintain a safe work environment in order to prevent occupational injuries or illnesses.

**Everybody has the right and obligation to refuse unsafe work.** All employees, contractors and visitors are equally responsible for complying with requirements of the Alberta Occupational Health and Safety Act and its regulations.

### Procedure for a Complaint

In the event that a worker raises a health and safety concern or complaint to their supervisor, the supervisor will:

1. Investigate in the presence of the worker and establish with the worker whether health and safety issue exists and if it's a complaint or work refusal.
2. If determined to be a health and safety complaint and the task is unsafe the supervisor will undertake immediate corrective action.

### Procedure for a Work Refusal

In the event that a worker refuses work believing that he/she or another worker may be endangered by:

1. Equipment
2. The condition of the workplace
3. A procedure or process
4. Any contravention of government legislation, act, or regulation.

The following will apply:

1. Worker to report refusal to immediate supervisor
2. Worker to remain in a safe place near the work station
3. Supervisor to investigate and correct any unsafe condition.

## Hazard Assessment and Control

### Purpose

The hazard assessment and control process is used to protect personnel from injury and occupational illness, and prevent incidents in the workplace by identifying and correcting unsafe acts and conditions.

### Pre-Job Hazard Assessment and Control Steps

- List task to be completed.
- Identify hazards associated with the task or job.
- Identify any hazards associated with the worksite.
- Identify the required controls to be used to either eliminate or mitigate/reduce the hazard so that it will not result in loss
- Implement the required controls through:
  - Effective communication and training personnel on the location/type of hazards and the required controls.
  - Developing job-specific procedures.
  - Providing proper safety equipment
  - Eliminating, barricading and identifying hazards.

### Field Level Hazard Assessment

The FLHA card is a tool to assist the supervisor and his/her workers in identifying and controlling task specific hazards. FLHA's are to be used when a set of hazards are present that are not covered in the daily toolbox/tailgate meeting. The supervisor is responsible to fill out the card on site using input from his or her crew to ensure all job scope and hazards are identified.

The workers with the supervisor fill out a field level hazard assessment complete with tasks, hazards and controls. Each employee present is expected to sign the FLHA once the review has taken place with them. FLHA's are used for the following but not limited to:

- Daily activities outside the scope of the tailgate meeting.
- Any job scope changes or original daily tasks.
- Special equipment is being used in the course of work.

- Hot work, such as working in hazardous atmospheres.

### **Site Specific Hazard Assessment and Control Steps (Tailgate/Toolbox)**

- Involve employees who are doing the work
- Review the job to be performed
- Break job down into steps
- For each step, identify actual and potential hazards
- Develop appropriate controls for each hazard
- Review and communicate the assessment and controls at the toolbox/tailgate meeting with all present

### **Hazard Elimination and Control**

National Steel Erectors Ltd. is committed and obligated to control or eliminate a hazard that poses a danger to the safety and health of employees. Only competent, trained personnel are allowed to correct a hazardous condition, which could mean they are exposed to the hazard while carrying out the corrective work. Control of workplace hazards follows the hierarchy of controls as defined by occupational legislation.

Elimination of the hazard is always the best choice but if that is not possible then you implement the hierarchy of hazard controls as follows:

- Substitution of less harmful material
- Isolation or enclosure of employees or process
- Emergency shutdown devices
- Barricades or other restraining devices to prevent employees from being in contact with dangerous or hazardous operations
- Exhaust ventilation

If the hazard cannot be eliminated or controlled using engineering controls, National Steel Erectors Ltd. will use administrative controls to control the hazard to a level as low as reasonably achievable.

## Emergency Preparedness

### Purpose

The purpose of the emergency preparedness program is to provide management and employees of National Steel Erectors Ltd. with procedures, to follow in the event of an emergency at the worksite, for every task that is assigned.

National Steel Erectors Ltd.'s emergency response plan (ERP) will address emergencies that arise from within the workplace and from adjacent worksites. Each employee is responsible for understanding and participating in emergency response planning.

### Emergency Response Plan/Procedures

National Steel Erectors Ltd. is committed to the goal of zero workplace injuries and illness within the organization. Emergency response plans assist in the proper handling of an event or crises and deliver a prompt, effective response to the event. The ERP helps reduce the possible consequences of an emergency by minimizing/preventing injured, reducing damage to buildings and equipment, and allowing normal operations to be resumed as soon as possible. In the event of an emergency, only designated competent personnel will lead the procedures below:

- Confirm that personnel are safe and assess situation
- Use established alarm procedures
- Inform others of the emergency by means of:
  - Verbal communication
  - Air horn
  - Fire alarm
  - Public address or paging system
- Stop work where applicable, and shut down all sources of ignition
- Evacuate employees and confirm that all have been evacuated safely

Confirm that first aid is administered by a competent first aider.

Call appropriate emergency response agencies (i.e. 911 for fire, ambulance, notify police, utilities, etc.)

All employees are to proceed to the designated muster point where supervisors will conduct a head count to be certain that everyone is accounted for. If possible, isolate services of power/gas.

Where possible, extinguish any fires using fire extinguishers located in the designated areas.

**Evacuation and Rescue Personnel**

In the event of an evacuation order, personnel are to go to the designated muster point to await further instructions, or be evacuated out of the area as ordered.

- Employees performing rescue or evacuation operations will wear personal protective clothing and equipment appropriate to the hazards likely to be encountered.
- If a fatality has occurred, follow all standard first aid steps. Secure the scene and do not allow the scene or any evidence to be disturbed until authorities arrive.
- Do not make any statements or express opinions to the media
- Write down the history of the accident and include the first aid given

**Emergency Contact Information**

Emergency Service	Name	Location	Phone Number
Fire Department			
Emergency Medical Services			
Police Department			
Hospital			
National Response Center			
Hazard Materials Cleanup			
Disaster Restoration			

## Incident Management

### Purpose

The purpose of the incident management program is to carry out effective investigation. Each incident will be evaluated to determine the primary and secondary causes in order to establish and implement control measures to reduce the possibility of it happening again. These events are not random, but are preventable. All incidents will be investigated regardless of severity – the ultimate goal is prevention.

These two basic reasons for conducting incident investigations:

- To identify and determine factors contributing to incidents
- To prevent similar recurrences by instituting the actions necessary to correct unsafe conditions and/or unsafe practices

All classifications of accidents, incidents, including minor accidents, near-miss accidents, accidents causing property damage and/or personal injury, are all worthy of investigation. There are reasons why accidents happen, and these reasons must be determined.

To adequately protect employees from personal injury and to prevent material, equipment and property losses, it is imperative that we identify and correct contributing factors. The total working environments are subject to accidents contributions that must be investigated.

### Definitions

**Incident** – An unwanted and unplanned event that may result in damage and/or injury or illness.

**Accident** – An event/action that produces unintended injury, death or property damage.

**Near Miss** – An event/actin that could have result in personal injury, equipment or property damage if the circumstances were different.

### **Reporting Procedure**

The following types of incidents must be reported as per occupational legislation:

- Serious injury or accident that results in death
- Incident required by regulation to be reported
- Unplanned or uncontrolled explosion, fire or flood that causes or has the potential to cause serious injury
- Collapse or upset of crane, derrick or hoist
- Failure or collapse of any component of a building or structure that was necessary for ensuring stability
- Major release of a hazardous substance

National Steel Erectors Ltd. workers will not disturb the scene of an incident unless otherwise directed by a peace officer or under the following circumstances:

- To attend to a persons injured or killed
- To prevent further injuries or death
- To protect property that is endangered as a result of the accident

### **Serious Near Miss Reporting**

A serious near miss requires a detailed, accurate account of the occurrence to be written in the incident investigation report.

### **Injury Reporting Requirements**

Injuries and acute illnesses will be reported immediately and documented on the incident investigation report. Investigation reports will include:

- Name of the employee
- Name and qualifications and the first aider
- Description of the illness or injury
- Details of the first aid administered
- Date and time the illness or injury was reported
- Where the incident occurred on the worksite
- Unsafe conditions, procedures or hazards and work-related causes of the incident with corrective actions and measures identified.

### **First Aid Procedure**

Designated first aiders will meet the requirements for a certificate in emergency first aid, standard first aid, or advanced first aid that have been set by the director of medical services in consultation with the joint First Aid Training Standards Board, and will provide documentation of training/certification received from an accredited training agency in the following:

- Provide documentation of training received from accredited training agency
- Have first aid certificate in good standing at the required level

National Steel Erectors Ltd. will provide and maintain first aid services and supplies/equipment/facilities suitable for the workplace, potential hazards, and number of the personnel according to Alberta OH&S (Schedule 2). The requirements of this program apply to all company jobsites in accordance with occupational legislation.

## Communication and Training

### **Purpose**

The communication and Training Program is to provide all employees with consistent and accurate safety information and training to help them protect themselves and others from potential harm.

Following the safety orientation, and before starting work, the new employee will clearly understand all safety aspects of their work, including their duties and responsibilities. If they have any doubt, they will contact their supervisor before starting work. In addition to new employee training, employees will also receive on-the-job training from a competent person.

### **Definition**

**Competent** – Employee is qualified, suitably trained and either has enough experience to work safely without supervision or with only minimal supervision.

Work that may pose a danger to the employee is to be completed by another employee who is more competent in that particular task. Training is to be continued until the employee meets the above definition of “competent”. Employees are not allowed to operate equipment unless they have been identified as being competent.

### **General Safety Orientation**

The designated company trainer will conduct the general safety orientation, and will confirm that the new employees have the required qualifications (i.e. tickets, certification) before they go through the orientation.

This orientation includes a verbal presentation, which explains the applicable safety legislation, rules, practices and 39.

## **New Employee Orientation**

All new employees shall be orientated in policies, procedures and company rules. All new employees shall be trained in reference to this safety manual and WHMIS training.

### **1. Safety Program**

- Company Safety Policy
- General Rules
- Reporting incidents and near misses
- PPE employees expected to supply
- PPE the company will supply
- Emergency Response Plan
- Employees responsibility to safety
- Where to get information on Safety Regulations

### **2. Supervisors shall conduct job specific training, including:**

- Reviewing the company's safe work practices and procedures
- Bring all known safety hazards that may affect the employee to his/her attention
- Provide the employee all the information that is necessary for the employee to do the job safely and correctly

## **Communication**

Clear communication is essential in delivering HSE goals and objectives, with the goal of zero injury being the main focus. The following tools are used to help achieve zero injury:

- Daily Hazard Assessment and Control
- Toolbox/Tailgate Meetings
- Safety Meetings

## **General Toolbox/Tailgate Meeting Guidelines**

Toolbox/Tailgate meetings are used to provide current information on relevant safety issues related to onsite project/facility activities. General topics include:

- Designated first aiders as per occupational legislation

- Safety and loss prevention relating to hazard assessment and control on the worksite
- Review of emergency response plan and any concerns, comments and suggested changes.

All employees attending the toolbox/tailgate meeting are to sign the form. Any employee arriving late will review what has been covered during the meeting, including scope of work and associated hazards and controls. After reviewing this information, the employee will then sign the meeting form.

## Personal Protective Equipment

### Purpose

The purpose of this program is to provide all employees of National Steel Erectors with Personal Protective Equipment (PPE) that will comply with the requirements as per occupational legislation. Management is responsible for making employees aware of the necessity for PPE and clothing as well as their responsibility for its proper use, care and handling.

National Steel Erectors Ltd. will provide PPE when necessary due to the specific demands of the on-site conditions. The hazards assessment and control, as well as the safe work practices and procedures, can be used to determine the necessary type of PPE to be worn. PPE is the last line of defense in protecting employees from injury.

### Minimizing Hazards

PPE provides an additional degree of backup protection against injury. Supervisors will instruct employees to select and use equipment appropriate to the hazards on the worksite, and to follow the manufactures specifications for fitting and wearing PPE.

The following general statements apply to all types of PPE:

- Inspect all equipment before use
- Clean and store equipment according to manufactures specifications
- Use, maintain and repair equipment according to manufactures specifications
- PPE must comply with all occupational regulatory requirements and meets the appropriate standards

### **General PPE Requirements**

Where possible, worksite hazards will be eliminated or controlled through the use of engineering or administrative controls. Where hazards remain, all employees and visitors will be required to use appropriate PPE.

Employees will understand the situations that require personal protective clothing and safety equipment. Employees will also be trained in proper use, maintenance and storage of this equipment. Personnel will not use equipment that is not in safe condition to perform the function for which it was designed. If the PPE may potentially endanger an employee, National Steel Erectors Ltd. will provide alternate means of personal protection at all times.

### **Protective Headwear**

If required, personnel will wear protective headwear meeting CSA standards. Protective hard hats are designed to protect employees' heads from impact and penetration by falling/moving objects, flying particles or from high voltage electrical shock burns.

Most head protection is made up of two parts:

- Shell (light and rigid to deflect blows)
- Suspension (to absorb and distribute the energy of the blow)

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

Hard hats used by National Steel Erectors Ltd. personnel on worksites will meet CSA standard Z94.1-05, *Industrial Protective Headwear*

### **Inspection and Maintenance**

Proper care is required for headgear to perform efficiently. The condition of the is affected by many factors including temperature, chemicals, sunlight and ultra violet radiation. The usual maintenance for headgear is simply washing with a mild detergent and rinsing thoroughly.

**Do:**

- Replace headgear that is pitted, holed, cracked, brittle or out dated
- Replace headgear that has been subjected to a blow even though damage cannot be seen
- Remove from service any headgear if its serviceability is on doubt
- Replace headgear and components according to manufactures specifications

**Don't:**

- Drill, remove peaks, or alter the shell or suspension in any way.
- Use solvents or paint on shells
- Put chin straps over the brim of class B headgear
- Use any liner that contains metal or conductive material
- Carry anything in the hard hat while wearing it

**Eye and Face Protection**

Exposure to potential eye and face injury can be reduced by wearing proper protective face and eyewear. National Steel Erectors Ltd. will provide and maintain personal protective face and non-prescription eyewear for their employees. All employees will use eye and face protective equipment when operating machines or carrying out other tasks that present potential eye or face injury from physical, chemical or radiation agents.

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

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

CSA-approved safety glasses with fixed side shields are required at all times on worksites.

CSAA standard Z94.3-99, industrial eye and face protectors, is the minimum standard for eye and face protection. Full face shields, goggles or other types of eye protection will be worn when safety glasses with side shields are inadequate to protect against hazards. Prescription eyeglasses will be CSA-approved safety glasses with rigid shields or be worn under approved safety glasses.

**Do:**

- Ensure your eye protection fits properly
- Clean safety glasses daily, more often if needed
- Store safety glasses in a safe, clean, dry place when not in use
- Replace pitted, scratched, bent and poorly fitted PPE

**Don't:**

- Modify eye/face protection
- Use eye/face protection which does not have a CSA certification

**Eye Protection for Welders**

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

**Hearing Protection**

Earplugs are available for employees who may be exposed to noise from impact tools such as jack hammers or explosive actuated devices.

Earmuffs are provided for continuous exposure to noise levels of a higher frequency, such as constant running machinery in an enclosed space. For extended exposure to noise that requires the use of earmuffs, employees will be given earmuffs that can be attached to the hard hat.

If your hearing protection does not take the sharp edge off the noise, or if workers have ringing, pain, headache or discomfort in the ears, your operation requires the advice of a competent person.

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

## **Hand Protection**

Employees will wear work gloves to protect against cuts, burns, chemicals and exposure to elements. However, gloves will not be worn when working on moving machinery such as drills, saws or other rotating equipment.

The glove material depends on the task, and the type of glove should be specific to the task:

- Light work or general duties – use cotton or canvas gloves
- Handling rough or abrasive material – use leather or leather palm gloves
- Handling chemicals or corrosive material – use plastic or plastic coated gloves made from neoprene or nitrile
- Exposure to elements – use insulated and weather resistant gloves
- Electric work – use specifically made and approved rubber gloves

## **Protective Footwear**

Footwear must be appropriate for the tasks being completed. If the hazard Assessment identifies the need; all employees at worksites will wear CSA standard Z195-02 Grade 1 safety footwear to provide adequate foot protection and to comply with legislative requirements. Footwear meeting the CSA Grade 1 requirements is identified by a green triangle on the outer side of the boot and/or on the tongue of the right boot. Footwear will be high-cut to be effective in providing adequate ankle support and protection. All safety footwear will:

- Be appropriate to the work condition, terrain and climatic conditions
- Be in good condition
- Have adequate tread
- Be high-cut and worn with laces tied

## **Protective Clothing**

Protective clothing will suit working conditions and provide protection from low temperatures, high winds, and wind chill factors. National Steel Erectors Ltd. will confirm that employees follow the protective clothing requirements below:

- Fire (flame) retardant clothing is to be worn at operating facilities or designated worksites where the potential for flash fires exist.
- Loose fitting clothing is prohibited near moving or rotating equipment
- Clothing is to be kept clean and in good condition

## **Respiratory Protection**

Employees will wear approved respiratory protection when required to protect against dangerous gases, fumes, chemical vapors, particulates and dust and lack of oxygen. Employees wearing respiratory protection will have training specific to the equipment. Potential users of this equipment will read, understand and comply with the appropriate manufactures specifications for the specific brand name and type of requirement used.

The air flowing to a person wearing a self-contained breathing apparatus (SCBA) or compressed air breathing apparatus (CABA) will be free from contaminants. In addition to harming the person breathing the air, contaminants may damage the breathing equipment being used.

Hazards regarding the use of respiratory protective equipment:

### **Airborne Hazards:**

#### **Welders**

Welding fumes – iron oxide, manganese, cadmium oxides, chromium, zinc oxides, nickel, copper, fluorides.

Welding gasses – ozone, carbon monoxide, nitrogen oxide

Welders Exposure: Potential concentration of welding fumes and gasses generated may exceed the occupational exposure limit s specified in the OHSA chemical hazards regulations.

#### **Painters**

Paint and Thinner – as shown in applicable MSDS. Chemical substances are too numerous to list in this procedure.

Painters Exposure: potential concentration of paint and thinner fumes and dust may exceed the occupational exposure limit as specified in the OHSA chemical hazards regulations

### **Ventilation:**

- Where possible ventilation should be utilized to reduce the concentration of welding fumes or paint thinner fumes

- Some forms of ventilation are mechanical systems, fans, air movers, smoke eaters or air exchanges
- Ventilation can be considered adequate if visible fumes clear within 30 seconds of after the welding or painting ceases

A fit test shall be performed on all new issue half mask dual cartridge respirators and full face respiratory protective equipment. The wearer shall receive fitting instructions, including demonstrations and practice on how to determine if equipment fits properly.

All new employees shall be trained prior to commencing work on any operation, which requires the use of respiratory protective equipment.

### **Cleaning and Maintenance**

Cleaning and maintenance of PPE shall be done in accordance to manufactures instructions. Worn or damaged valve straps, or other parts should be replaced exactly specified by the manufacturer. Whereas a respirator may be used by more than one person, it should be sanitized between uses. Cartridges and filters shall be replaced as required. Equipment, which is not in use, should be stored in ready to use condition and in clean, dry, easily accessible location.

### **Cleaning schedule and Procedures**

- Personal respiratory protective equipment shall be cleaned at least once per month
- Half mask type respirators shall be sanitized at least once per month as well prior to issuance to another person
- Cleaning/sanitizing can be done washing the respirator in mild detergent or cleanser/sanitizer, then rinsing it in warm water and air drying
- An alternative method of sanitizing would be the use of germicide spray

Preventative maintenance and inspection of respirators shall be in accordance to manufacturer's specifications to ensure proper use and care.

### **Fall Protection Equipment**

All components of personal fall arresting system (harness, lanyard, shock absorber) and the connecting components (carabineers, d-rings, oval rings, self-locking connectors and snap hooks) will meet approved CSA standards.

- Full body harness – CSA Z259.106
- Body belts – CSA Z 259.1-05
- Energy absorbers and lanyards – CSA Z259.11-05
- Connecting components for personal fall arrest systems – CSA Z259.12.01
- Fall arresters, vertical lifelines and rails – CSA Z 259.2.1-98
- Self-retracting devices for personal fall arrest – CSA Z259.2.2-98
- Descent control devices – CSA Z259.2.3-99

### **Inspection, Maintenance and Storage of Fall Protection Equipment**

Fall protection equipment will be inspected and re-certified in accordance with manufacturer specifications. All fall protection equipment will be kept clean, dry and stored inside away from chemicals, moisture, abrasives and sun. Fall protection equipment is very sensitive to certain conditions:

- Chemical substances can cause failure in the synthetic webbing material
- Dirt/mud can break down the synthetic fibers
- Sunlight is very damaging to synthetic components as the ultraviolet rays break down the synthetic composition of the material
- Metal components are affected by heat, welding slag, or severe impact.

Personnel will conduct a pre-use inspection before each shift. If equipment is defective, or has come into contact with excessive heat, chemicals or other substances that could corrode or damage any part, the equipment will be returned to the manufacturer or destroyed. When a fall arrest system has stopped a fall, it is to be removed from service. It will be returned to service only if a certified professional engineer or the manufacturer has cleared it for safe use.

## Fall Arrest Systems

### Definitions

"Anchor" means a component or subsystem of a fall protection system used to connect the other parts of a fall protection system to an anchorage, and includes an anchorage connector;

"Anchorage" means a secure connection point for a fall protection system;

"Fall arrest system" means a system that will stop a worker's fall before the worker hits the surface below;

"Fall protection system" means

- a fall restraint system,
- a fall arrest system, or
- work procedures that are acceptable to the Board and minimize the risk of injury to a worker from a fall;

"Fall restraint system" means a system to prevent a worker from falling from a work position, or from travelling to an unguarded edge from which the worker could fall;

"Full body harness" means a body support device consisting of connected straps designed to distribute the force resulting from a fall over at least the thigh, shoulders and pelvis, with provision for attaching a lanyard, lifeline or other components;

"Horizontal lifeline system" means a system composed of a synthetic or wire rope, installed horizontally between 2 anchors, to which a worker attaches a personal fall protection system;

"lanyard" means a flexible line of webbing, or synthetic or wire rope, that is used to secure a safety belt or full body harness to a lifeline or anchor;

"Lifeline" means 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;

"Personal fall protection system" means 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 anchor, an anchorage or a horizontal lifeline system;

"Safety belt" means a body support device consisting of a strap with a means for securing it about the waist and attaching it to other components;

### **Obligation to use fall protection**

Unless elsewhere provided for in this Regulation, an employer must ensure that a fall protection system is used when work is being done at a place

- from which a fall of 3 m (10 ft) or more may occur, or
- where a fall from a height of less than 3 m involves a risk of injury greater than the risk of injury from the impact on a flat surface.

The employer must ensure that guardrails or other similar means of fall restraint are used when practicable.

Before a worker is allowed into an area where a risk of falling exists, the employer must ensure that the worker is instructed in the fall protection system for the area and the procedures to be followed.

A worker must use the fall protection system provided by the employer.

## **Fall protection plan**

The employer must have a written fall protection plan for a workplace if

- work is being done at a location where workers are not protected by permanent guardrails, and from which a fall of 7.5 m (25 ft) or more may occur, or
- The fall protection plan must be available at the workplace before work with a risk of falling begins.

## **Selection of harness or belt**

A worker must wear a full body harness or other harness acceptable to the Board when using a personal fall protection system for fall arrest.

A worker must wear a safety belt, a full body harness or other harness acceptable to the Board when using a personal fall protection system for fall restraint.

## **Equipment standards**

Equipment used for a fall protection system must

- consist of compatible and suitable components,
- be sufficient to support the fall restraint or arrest forces, and
- meet, and be used in accordance with, an applicable CSA or ANSI standard in effect when the equipment was manufactured, subject to any modification or upgrading considered necessary by the Board.

## **Anchors**

In a temporary fall restraint system, an anchor for a personal fall protection system must have an ultimate load capacity in any direction in which a load may be applied of at least

- kN (800 lbs), or
- four times the weight of the worker to be connected to the system.

Each personal fall protection system that is connected to an anchor must be secured to an independent attachment point.

In a temporary fall arrest system, an anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least

- 22 kN (5 000 lbs), or
- two times the maximum arrest force.

A permanent anchor for a personal fall protection system must have an ultimate load capacity in any direction required to resist a fall of at least 22 kN (5 000 lbs).

### **Temporary horizontal lifelines**

A temporary horizontal lifeline system may be used if the system is

- manufactured for commercial distribution and installed and used in accordance with the written instructions from the manufacturer or authorized agent, and the instructions are readily available in the workplace,
- installed and used in accordance with written instructions certified by a professional engineer, and the instructions are readily available in the workplace, or
- Designed, installed and used in a manner acceptable to the Board.

### **Certification by engineer**

The following types of equipment and systems, and their installation, must be certified by a professional engineer:

- permanent anchors,
- anchors with multiple attachment points,
- permanent horizontal lifeline systems, and
- support structures for safety nets.

### **Inspection and maintenance**

Equipment used in a fall protection system must be

- inspected by a qualified person before use on each work shift,
- kept free from substances and conditions that could contribute to its deterioration, and
- maintained in good working order.

### **Removal from service**

After a fall protection system has arrested the fall of a worker, it must

- be removed from service, and
- not be returned to service until it has been inspected and recertified as safe for use by the manufacturer or its authorized agent, or by a professional engineer.
- after each use of the system no part of the system, including the anchorage, may be reused until a qualified person has inspected it and determined it is in serviceable condition and safe for reuse

## Alcohol and Drugs

### Statement

This program is to ensure a safe and healthy working environment that minimizes alcohol or drug use, while respecting the confidential nature and privacy of all individuals. National Steel Erectors Ltd. is committed to a workplace that is alcohol and drug free, and supports prevention. The commitment to the health and safety of employees is the top priority. National Steel Erectors Ltd. realizes that the misuse of drugs and alcohol impairs employee health, productivity and overall goal of maintaining a safe work environment. Substance abuse issues result in unsafe working conditions for all employees and guests. National Steel Erectors Ltd. is committed to maintaining a productive, safe, and environment, free of drug and alcohol.

### Purpose

The purpose of this policy is:

- To support the company's responsibility for and commitment to ensure a safe and healthy workplace
- to outline the company's expectations and requirements for creating and maintaining a drug and alcohol free work environment, and for dealing with substance abuse in the workplace

This program applies to employees working for National Steel Erectors Ltd. Each employee will comply with the terms and conditions of the entire program and the related administrative guidelines.

### Definitions

**Alcohol** – Refers to beer, wine, and distilled spirits and includes the intoxicating agent found in medicines or other products

**Alcohol Abuse** – Excessive use of alcohol and alcoholic drinks

**Drug** – Means any substance, including alcohol, illicit drugs, medications or other products including but not limited to solvents and inhalants where the use has the potential to change or adversely affect the way a person thinks or feels.

**Drug Abuse** – use of a drug, whether over the counter or prescription, for purposes other than those prescribed on the product label, often for recreational reasons. Continued or excessive use causes addiction or dependence. Any attempt to discontinue substance use results in specific reactions such as sweating, vomiting, and tremors which stop when the use is resumed.

**Drug Paraphernalia** – Any items or material created or modified for making, using or hiding illegal drugs. Items can include hashish pipes or bongs, crack cocaine pipes, smoking masks, cocaine freebase kits, syringes, roach clips, and items such as hollowed out cosmetic cases or fake pagers to hide illegal drugs.

**Illegal Drugs** – Drugs that are prohibited by law (i.e. heroin, cocaine). Note: Whether a substance is legal or illegal may have nothing to do with its potential for addiction or harm; for example, alcohol and nicotine are both addictive and harmful, and are legal in most countries.

### **Scope and Application**

Employers will ensure that National Steel Erectors Ltd. Fit for duty policies and procedures are clearly communicated to employees. The alcohol and drug program requirements apply to all National Steel Erectors Ltd. employees while on company worksites, property or facilities, and when in vehicles or equipment owned, leased or rented.

The alcohol and drug policy of National Steel Erectors Ltd. will assist in creating a safe work place for all employees and whose safety may be affected by the conduct of employees. The policy will also ensure that all employees are treated fairly and with respect.

National Steel Erectors Ltd. believes that occupational injury and property damage is preventable. The company recognizes that the use of illicit drugs and the misuse of alcohol, medications and other substances can limit an employee's ability to safely and effectively do their job.

## **Prohibitions**

### **1. Alcohol Use**

- a. An employee may not report to work or work with a prohibited alcohol level at a company workplace
- b. Any employee may not operate a company vehicle at any time, whether or not he or she is at work, with a prohibited alcohol level
- c. An employee may not use, possess or offer for sale alcohol while at a company worksite
- d. An employee who is required to submit to an alcohol test following an accident, near miss or other potentially dangerous incident may not use alcohol within 8 hours of an accident, near miss or other potentially dangerous incident

### **2. Drug Use**

- a. An employee may not report to work or work with a prohibited drug level at a company workplace
- b. Any employee may not operate a company vehicle at any time, whether or not he or she is at work, with a prohibited drug use
- c. An employee may not use, possess or offer for sale drugs or drug paraphernalia while at a company workplace.

### **3. Other**

- a. An employee may not refuse to immediately comply with a request made by a company representative
- b. Any employee may not tamper or attempt with a sample for an alcohol or drug test

## **Recreational Marijuana**

Recreational Marijuana at work shall be treated like any other controlled substance, such alcohol. National Steel Erectors is responsible for the safety of all employees, and practices zero tolerance against intoxication or impairment in the workplace.

The following will be subject to disciplinary action

- Smoking indoors

- Unsafe equipment handling
- Possession of cannabis at work
- Selling or exchanging of cannabis at work
- Any kind of action that makes other employees feel unsafe or uncomfortable

Patients with medical marijuana prescriptions will be accommodated to the point of undue hardship, just like any other medical need or disability. Employees with a prescription for medical marijuana have the same rights as employees using any other doctor-prescribed medication and will receive that same treatment.

### **Grounds for Requesting Proof of Compliance**

There are various types of alcohol and drug testing that workers may be subject to.

- Pre-Access Testing – Contractually Obligated
- Post-Incident Testing – Direct or Indirect Involvement
- Post Violating Testing – Return to Work

### **Pre-Access**

Testing may be required before gaining and/or maintaining access to National Steel Erectors Ltd. sites where safety is a concern. National Steel Erectors Ltd. employees, sent to different worksites may be required to complete pre-access alcohol and drug testing. Testing will be in accordance with the following requirements:

- The test results will show that no drug was detected in excess of the limits set out in the Canadian Alcohol and Drug Model for providing a safe workplace, and there will be no evidence of tampering with the sample.
- Test will be completed and results received before employee goes on site

### **Post Incident**

Alcohol and drug testing is required after a serious work related incident as part of an investigation into the circumstances. The responsibility to refer an employee for a test rests with management/supervision safety investigating the incident.

The following procedure will be followed:

- The need for a test will be documented as part of the preliminary investigation as soon as possible after the incident

- A test will not be necessary if there is clear evidence that acts or omissions of employees could not have been contributing factors (i.e. structural or mechanical)
- Employees to be tested will not use alcohol until after the test has been completed, or they are advised that a test is not required
- An incident requiring testing would be one that results in or may reasonably have resulted in, any of the following situations where employee performance cannot be eliminated as a possible cause of the incident
- Medical aid incident, lost time incident
- Property damage
- Vehicle collision in damages in excess of \$1000.00
- An unacceptable explanation for failure to follow critical safety rules or procedures
- A third party related vehicle incident deemed preventable
- A near miss with potential for more serious consequences

### **Consequences of a refusal to submit to an alcohol or drug test**

Employees will cooperate with all testing. If an employee refuses to submit to require testing, he/she will not be permitted access to the worksite. An employee who refuses to submit to a required test, tampers or tries with a test sample, or obstructs the testing process may be subject to disciplinary action that could include termination or employment. An employee who refuses to immediately comply with a request made by a company representative is deemed to be the subject of a positive test result.

### **Alcohol and Drug Testing Results**

- A report from the medical review officer or another person to the designated employer representative that an employee's sample produced a negative test result means that an employee has not consumed drugs and/or alcohol
- A confidential written report from the medical review officer or another person to the designated employer representative that an employee's sample produced a positive test result means that an employee has consumed drugs and/or alcohol

- The designated employer representative and any person to whom disclosure is permitted under this policy must not disclose a test result to any person other than person who needs to know the test result to discharge an obligation under this policy or who has legal authority to require disclosure of a test result.

### Confirmation Test Levels

Testing will be conducted to determine the screening concentration levels of:

<b>Controlled Substances</b>	<b>Cut Off Concentrations (Ug/L)</b>
<b>Class of Substance</b>	<b>Confirmation Level (Ug/L)</b>
Amphetamines	500
Cannabinoids (THC Metabolite)	15
Cocaine Metabolite	150
Opiate Metabolite	2000
Phencyclidine	25

## Company Safety Rules

### General

Breaches of regulations menace your safety of others, disrupt production and cause loss. Corrective action extending to dismissal may be taken against any employee who commits any of the following:

1. Nonobservant of general shop safety rules
2. Failure to observe shop working hours
  - a. By not being on the job at starting time
  - b. By leaving the job before quitting time
  - c. By abusing the use of 5 minute period at the end of a shift. It is intended for cleaning up, putting away tools and equipment.
3. Frequently reporting late for work
4. Ignoring or refusing to carry out instructions of your immediate supervisor
5. Leaving during working hours without proper cause or permission
6. Operating machines, tools and/or equipment without having proper training
7. Fighting, threatening, coercing or otherwise interfering with other employees at any time
8. Profound or abusive language
9. Smoking is prohibited in areas when working or handling flammable materials or liquids
10. Gambling or betting on the work site
11. Theft, abuse or misuse of company property, material, tools or equipment or the property of other employees
12. Reporting to work under the influence of, or suffering from the effects of drugs or alcohol
13. Consumption of any alcohol on company property
14. Use of company machinery, tools, or equipment for personal use during, before or after working hours without permission
15. Taking materials or other items without permission
16. Bringing visitors onto the jobsite without permission

17. Reason for any absence must be reported to the supervisor by phone. Any absence in excess of three days and not covered by permission of the supervisor or medical slip will be considered cause for dismissal.
18. Report all incidents, near misses and unsafe conditions to your supervisor immediately and inform employees who may be involved.
19. In all cases of injuries, no matter how slight, report to the supervisor immediately.
20. Wear all required PPE at all times in accordance to the job safe procedure
21. Loose or torn clothing, torn gloves, rings or jewelry must not be worn.  
Clothing with oil, grease or paint is a health and fire hazard
22. Welders must either wear a shield or goggles when removing flux
23. Always keep work area clean
24. Pre-inspect all equipment, machinery, tools and PPE
25. Do not ride on loads, hoist or crane chains
26. Always know the location of the nearest fire extinguisher and first aid kit
27. No employee may work on, operate or tamper with any machine or equipment unless having been authorized to do so by his/her supervisor
28. Defective equipment, machinery, and tools must be tagged out of service until fixed
29. Machines may be operated only when guards and protective devices are properly installed
30. Close valves after using torches. Close propane, acetylene and oxygen bottles at quitting time.

### **Safety Rules When Working in a Plant**

1. In all cases of injuries, no matter the severity, report to the first aid room immediately.
2. Running in the plant is strictly prohibited.
3. Unauthorized posting, removal or defacing of any bulletins, signs or notices upon plant property
4. Abuse of your privilege in the plant by frequently or unnecessary leaving your bench, machine or working area
5. Use of the company machinery, tools or equipment for personal use during, before or after working hours without permission of the plant manager.
6. Always receive the plant orientation before working on site
7. Know where the muster point is
8. Understand the meaning of plant alarms

9. Ensure there is a wind sock visible at all times to tell the direction of the wind
10. A gas detection monitor may be required when working inside the plant

### **Preventative Maintenance Program**

This program is to encourage the maintenance and inspection of all tools and equipment in order to reduce and/or eliminate the loss potential to National Steel Erectors Ltd. and client property, employee property, and the general public as per occupational legislation and regulatory agencies.

All elements of equipment purchases and/or rentals will meet the safety standards as per occupational legislation and regulatory agencies. Personal protective equipment will always be available in good working condition. Regular, scheduled maintenance/inspection is the most effective means of ensuring this. Maintenance/inspection schedules and procedures will be aligned with manufacturer's instructions and CSA standards.

#### **Definitions**

**Inspections** – can be one of two types: informal and formal. All formal inspections will be documented and the information kept on file for three years. National Steel Erectors Ltd. will identify deficiencies and implement corrective action.

- Informal Inspections – Ongoing inspections (not following a schedule, plan or checklist) I.e. Personal Protective Equipment
- Formal Inspections – Planned inspections that use established procedures and checklists and often follow a schedule.

#### **Methodology**

Loss results from changing weather conditions and day-to-day activities that cause equipment and facilities to wear out. At some point, wear and tear makes the risk of incidents too high. Inspections are needed to detect such exposures in a timely manner. They also provide feedback on whether equipment purchasing and employee training are adequate.

Every Inspection will be made in the presence of the supervisor responsible for the area. If the supervisor cannot be present, a qualified, competent person will be designated. This is necessary, as the inspection team may not be aware of

hazard controls implemented by the crew. In addition, the supervisor will be made aware of the deficiencies and be part of the team that addresses the hazards.

Unsafe actions/behaviors contribute to 80% of the incidents because personnel ignored or failed to recognize the hazard during work and/or through the inspection process. A target of zero injury can be achieved when unsafe actions/behaviors are identified and corrected. Deficiencies during inspection will be addressed within the following timeframe:

- High priorities – immediately
- Moderate priorities – within 48 hours
- Low priorities – as indicated on the inspection report

All observations are to be accurately recorded on the inspection report, including descriptions of any unsafe condition and/or action and the exact location. Each corrective action will be noted and dated as part of completing the inspection report, and then monitored/evaluated for effectiveness.

### Inspection Schedule

	Equipment	Worksite	PPE	Tools	Vehicle
Senior Managers		Quarterly	Daily Visual		Pre/Post Use
Supervisors	Weekly		Weekly		Pre/Post Use
Workers	Pre/Post Use	Pre-Job	Daily Visual	Daily Visual	Pre/Post Use

### Vehicle Maintenance and Inspection

All employees are responsible and accountable for the safety and loss prevention program as it applies to equipment and/or vehicles.

All equipment and/or vehicles, whether company-owned or leased, will be:

- Operated in good mechanical condition and with required safety equipment installed

- All field technicians and mechanics will be properly trained/instructed as to the equipment servicing and maintenance requirements.
- All operators of light road vehicles will be made aware of the servicing, maintenance schedule, and methods of maintaining company-owned or leased vehicles.
- Equipped with a fire extinguisher and first aid kit

### **Powered Mobile Equipment Maintenance and Inspection**

Powered mobile equipment will be inspected according to manufacturer's specifications. The operator will inspect this equipment each day before using it. The inspection will be documented on the vehicle inspection record form. If the inspection reveals a defect or unsafe condition, the equipment will be removed from service and if appropriate, measures put in place to protect the employee.

If the equipment is potentially hazardous but can be operated safely, National Steel Erectors Ltd. will inform the employee of the potential hazard. The company will repair the defective condition of the equipment as soon as reasonably practical. Records of inspections and maintenance of powered mobile equipment will be kept at the work site or in the equipment for the life of the equipment. These records will be available to the employee operating the equipment so that condition is realized.

### **Defective Tool or Equipment Reporting**

If you find that a tool is defective and that you are not qualified or assigned to repair it, follow this procedure.

1. Obtain a defective OUT OF SERVICE tag. Set the defective tool aside. Do not return the tool back into the tool crib or the supply room or even your toolbox. An accident may occur if other people attempt to use a damaged tool. Alert your supervisor that the item is damaged.
2. Fill out the defective OUT OF SERVICE tag. Wire the tag to the equipment/tool.
3. The supervisor will log the OUT OF SERVICE Tag into the maintenance records. And the tool will be repaired or replaced

If repaired the Foreman will have the repair made and the tool returned back to production.

### **Out of Service Tag**



## Lockout and Tagout Procedures

Workers who perform maintenance or repair work on air, gas, hydraulic or electrical equipment will be protected by applying an approved lockout device.

When working on or near machinery or moving equipment, no work shall be carried out until the following lockout procedure has been carried out.

1. Ensure all the equipment controls are in the OFF position
2. Turn off the appropriate disconnect switches
3. Apply lock and tag to disconnect switch
4. Test the equipment controls to ensure the equipment is inoperative

Where air or hydraulically operated equipment is in the vicinity of the work and may be inadvertently activated, the lines must be shut off and bled to release any pressure remaining in them. Equipment is blocked if gravity is a concern.

On completion of the job the worker shall check the equipment to ensure safe operation if re-established.

The worker shall be responsible for:

- Locking of the control device
- Trying the equipment prior to the commencement of work
- Removal of own lock and tag on completion of the job

A tag will accompany these locks stating:

- Who the tag belongs to (printed)
- Why it was applied
- What date the lock was applied
- Signature

No person shall remove a lockout device except in the event of an emergency or the condition arising when the worker who has installed the lock is unavailable to remove it. The lock may be removed by the superintendent.

## **Steps for Removing a Lock Out Tag**

### **Procedure**

After every attempt has been made to contact the person who applied the lock, the superintendent shall proceed as follows:

1. Ensure that all work has been completed and the equipment is in a safe operating condition
2. Ensure that powering up the equipment will not put any other worker in the area at risk
3. Cut the lock off with the bolt cutters; Do Not use a cutting torch.

## Records and Statistics

### Monthly Safety Summary

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

Number Of Workers Hired: \_\_\_\_\_

Completed Orientation: \_\_\_\_\_

Number Of Tool Box Meetings Scheduled: \_\_\_\_\_

Conducted: \_\_\_\_\_

Percentage Attendance: \_\_\_\_\_

Number Of Formal Inspections Scheduled: \_\_\_\_\_

Completed: \_\_\_\_\_

Total Unsafe Acts/Conditions Identified: \_\_\_\_\_

Corrected: \_\_\_\_\_

Outstanding: \_\_\_\_\_

Number Of Incidents: \_\_\_\_\_  
 Damage Only: \_\_\_\_\_  
 Injury Only: \_\_\_\_\_  
 Injury and Damage: \_\_\_\_\_  
 Near Miss: \_\_\_\_\_  
 Number Of Investigations Completed: \_\_\_\_\_  
 Outstanding: \_\_\_\_\_  
 Number Of Recommendations Made: \_\_\_\_\_  
 Completed: \_\_\_\_\_  
 Outstanding: \_\_\_\_\_

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

**Year End Injury Summary**

Year Dated: \_\_\_\_\_

<b>Month</b>	<b>Lost Time</b>	<b>Medical Referrals</b>	<b>Days Lost</b>	<b>Frequency</b>	<b>Severity</b>
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

**Frequency**

$$\frac{\text{Number of lost time accidents} \times 200,000}{\text{Number of man hours worked}}$$

### **Severity**

$$\frac{\text{Number of days lost} \times 200,000}{\text{Number of man hours worked}}$$

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

## **Safe Work Practices**

### **Changing a Tire**

#### **Purpose**

The practice provides the employee with information on safely and successfully changing a tire.

#### **Tools/Equipment Required**

- Chock blocks
- Proper jack to lift vehicle
- Hammer
- Wheel wrench
- Pry bar
- Hazard alert triangles (minimum 2 for front and back of vehicle)

#### **Personal Protective Equipment**

- Steel-toed safety boots
- Safety glasses
- Gloves

## **Steps**

1. Park vehicle in level location, apply parking(emergency) brake and shut the engine off
2. Block vehicle wheels and then jack the vehicle up
3. Loosen nuts, hammer wedges to loosed them, and remove nuts
4. Lift tire off and install good one
5. Put wedges and nuts back on and tighten
6. Test tires to see of straighten and then lower jack and remove blocks

## **Potential Accidents or Hazards**

- Traffic
- Vehicle movements
- Jack may fall
- Dirt may come off tires
- Wedges may fly off from the pressure
- Back strain
- Nuts and wedges may have not been tightened properly

## **Compressed Air Power Tools**

### **Purpose**

This practice provides guidelines for the safe use of all compressed air power tools.

Air powered tools in construction range from stapling guns to jack hammers. If not used as per manufacturer's specifications, these tools can cause extensive damage to the user.

### **Operation**

- Before using a tool that requires a lot of movement, ensure the Hazard Assessment and Control has addressed the potential for injury to other personnel
- Do not use compressed air to blow debris or to clear dirt from any equipment, structure or worker clothing
- Ensure the air pressure has been turned off and the lone pressure relived before disconnecting the hose or changing tools
- Ensure all hose connectors are of the quick disconnect pressure release type with safety chain/cable

- Wear personal protective equipment such as eye protection and face shields. Ensure other employees and contractors in the area are made aware of, or have restricted access to the hazard area.

### **Inspection**

- Check hoses on a regular basis for cuts, bulges or other damage. Ensure that damaged or defective hoses are repaired or replaced
- Make sure a proper pressure regulator and relief device is on the system to ensure the desired pressure are correctly maintained
- Use only the correct air supply hoses for the tool or equipment being used. Follow the manufacturer's general instructions such as the maintenance procedure and comply with legislated safety requirements

Report all defective tools to the supervisor; all damaged equipment or tools will be tagged out of use and removed service until repaired by a qualified competent person.

## **Fire Protection**

### **Purpose**

This practice sets out the process for the company in taking the necessary steps regarding fire protection.

Fire protection will be instituted at all workplace locations, and National Steel Erectors Ltd. will provide the necessary equipment for protecting personnel and property from damage. These procedures are considered temporary control measures only; in all situations, the nearest fire department and/or Alberta Sustainable Resource Development (Forestry Division) must be notified immediately.

### **Equipment – General**

- Selection of the appropriate fire extinguishers will be reviewed before starting work
- The location of firefighting equipment must be clearly visible, and open access to the equipment maintained at all times

- A qualified competent inspector must annually inspect all firefighting equipment. Monthly inspections will be conducted as part of the routine inspection process
- Personnel will be trained in the correct use of equipment as necessary based on their exposure

## **Flammable and Combustible Substances**

### **Purpose**

The purpose of this practice is to provide guidelines for the safe use of combustible and flammable substances

### **Definition**

**Competent** – employee who is qualified, suitable trained, and either has enough experience to work safely without supervision or with only minimal supervision. Work that may pose a danger to the employee is to be completed by another employee who is more competent in that particular task. Training is to be continued until the employee meets the above definition of “competent”.

**Risk Assessment** – used to evaluate the hazards of a work task that out employees at risk of injury or death

### **Fire and Explosion Hazards**

When a flammable gas or liquid is handled, used or stored, all sources of ignition shall be eliminated or adequately controlled (including open flame, spark producing mechanical equipment, welding and cutting processes, smoking, static discharge and any electrical equipment or installation).

### **Flammable Gas or Vapor**

Atmospheric testing should occur prior to working in an area that would risk worker exposure. If National Steel Erectors Ltd. encounters situations where the airborne concentration of a flammable gas is below the applicable exposure limit, the following conditions will apply:

- When an emergency situation exists, only a minimum number of employees will be exposed
- Personnel exposed to situations below the applicable exposure limit will be trained and equipped to safely perform the required duties.
- When an employee works in situations where the lower explosive limit (LEL) of the concentration exceeds 20% the employee must be trained and wear the required personal protective equipment
- When an emergency situation develops where airborne concentrations of a flammable gas or vapor exceed 20% of the LEL, only competent trained emergency personnel are allowed in to correct the unsafe condition, and every effort will be made to control the hazard

### **Cleaning Solvents and Flammable Products**

Cleaning solvents are used daily to clean tools and equipment. Special care must be taken to protect employees from hazards that may be caused by using these liquids. Whenever possible, solvents should be non-flammable and non-toxic.

Supervisors must be aware of all solvents and flammables used on the job, and ensure all employees are aware of any hazard they pose.

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

- Use non-flammable solvents for general cleaning
- If flammable liquids are used, ensure that no hot work is permitted in the area
- Check toxic hazards Material Safety Data Sheets (MSDS) for all solvents before using them

- Provide adequate ventilation where solvents/flammables are used
- Use goggles or face shields to protect eyes and face from splashes or sprays. Use rubber gloves (chemical resistant) to protect hands
- Wear protective clothing to prevent contamination of clothing
- Use the proper respiratory protection where breathing hazards exist
- Never leave solvents in open tubs or vats; always return them to storage drums or tanks
- Ensure that proper containers are used for transportation, storage and field use of solvents/flammables
- Where solvents are controlled products, ensure all employees using them or working near where they used or stored, are trained and certified in WHMIS
- Ensure all WHMIS requirements are met

### **Grounding of Bonding**

Metallic or conductive containers used to transfer flammable liquids must be electrically bonded to each other or electrically grounded while their contents are being transferred from one container to another.

### **Storage Procedures for Combustible Materials**

Only approved, rated containers and portable tanks meeting the following standards are to be used for storing flammable, combustible liquids:

- CSA Standard B376-M1980, Portable Containers for gasoline and other petroleum fuels
- NFPA standard 30, flammable and combustible liquids code

The following guidelines apply to the handling and storage process:

- Flammable and combustible substances will not be stored in area used for exits, stairways or normally used for safe passage of people, and must be kept a minimum of 30m from an underground shaft
- Flammable and combustible substances must be stored away from the immediate vicinity of the air intake of a ventilation system or fire box of a furnace/heater
- No more than 113.6L (25 gallons) or flammable or combustible liquids can be stored in a room, unless it is stored within a CSA approved storage cabinet
- Ensure all aerosol containers are safely stored and kept away from direct flame

- Controlled products will be stored in a manner which conforms to MSDS requirements
- Store flammables and solvents in special storage areas and in large quantities, store in approved storage cabinet
- Storage areas must be kept free of all accumulation of materials which constitute hazards such as tripping, fire, explosion or pests (rodents, etc.)
- Materials must be stacked, racked or blocked, or otherwise secured to prevent sliding, tripping or collapse
- All storage platforms or upper floors inside the warehouse must be labeled to indicate the maximum load limit. This limit must never be exceeded

### **Contaminated Clothing and Skin**

Clothing contaminated with a flammable or combustible substance can be dangerous to the wearer. A person wearing contaminated clothing must avoid any activity where a spark may be created. Contaminated clothing must be removed as soon as possible and should not be used until they have been decontaminated. Flammable fabrics may burn if soaked with flammable or combustible liquid.

Flammable and combustible substances are often harmful to the skin. If skin contact is made, the employee will follow the MSDS guidelines for first aid and treatment procedures. Employees are responsible through the hazard assessment and control process to address hazards and MSDS of flammable and combustible substances with respect to products being used. Washing an affected area is the common prescribed method to remove flammable or combustible substances.

Clothing contaminated must be cleaned properly to remove flammable or combustible substances before employees are permitted onto the worksite, if a possible ignition source may be present.

## **Grinder/Abrasive Wheels**

### **Purpose**

The practice provides guidelines for the safe use of grinder/abrasive wheels. Tools that are supplied by National Steel Erectors Ltd. or the employee will be inspected and maintained in proper condition according to the manufacturers specifications.

### **Definitions**

Grinder – A mechanical tool that grinds and polishes metal.

Abrasive Wheel – Non-metallic disc that is infused with abrasive, and used in a power saw to cut masonry and metal.

### **Operation**

- Ensure the hazard assessment and control addressed potential injury to others before using a tool that requires a lot of movement
- Only qualified employees may operate the hand tools
- Wear safety glasses and a full-face shield when operating a grinder

- The shield and/or guards on the grinder must be in place before operation
- The largest guard opening will not exceed 90o.
- The guard opening above the horizontal line will not exceed 65o.
- Do not adjust the grinder while it is operation
- Move the piece being worked on back and forth across the rotating grinder wheel to minimize the potential for uneven wear
- Bench grinders are designed for peripheral grinding. Do not grind on the side of the wheel
- Do not operate grinders near flammable materials

### Inspection

- Check the grinder for cracks, chips or uneven wear before using. If damaged, do not use the grinder or abrasive wheel until it is replaced or resurfaced
- Each time a grinding wheel is mounted, the maximum approved speed stamped on the wheel blade should be checked against the shaft rotation speed of the machine to ensure the safe peripheral speed is not exceeded. A grinding wheel must not be operated at a peripheral speed greater than the manufacturer's recommendation.
- The flanges supporting the grinding wheel should be a maximum of 1/3 the diameter of the wheel, and must fit the shaft rotating speed according to the manufacturers recommendation
- Machines designated for a fixed location must be securely anchored to prevent walking or other movement
- All defective tools must be reported to the supervisor so they may be removed from service. All damaged equipment or tools will be tagged out of use and removed from service until they are repaired by a qualified competent person.
- Tools must be cleaned and inspected after use.

## **Hand Power Tools**

### **Purpose**

This practice establishes guidelines for the use of hand power tools.

Hand power tools will be used for the purpose in which they were designed. National Steel Erectors will not use any tools that are defective and therefore unsafe. Tools supplied by National Steel Erectors or the employee will be inspected and maintained in proper condition according to manufacturer's specifications.

### **General Tool Requirements**

- Only qualified employees may operate hand tools
- All guards provided for power tools must remain in place during operation. Guards must be supplied for isolating belts, gears, shafts, flywheels, spindles, drums, chains and any other rotating or moving parts.

- Personal protective equipment such as eye, face and hand protection must be provided if there is a possible hazard of flying or splashing objects
- Machines designated for a fixed location must be securely anchored to prevent them from walking or moving
- Proper training and maintenance will be provided on all tools before they are used
- Verify tools are in good working condition before use. Tools with burrs, cracks, mushroom heads, and loose or damaged handles will not be used. Damaged or defective tools will be removed from service for repair or replacement.
- Clean and inspect all tools after use
- Store tools properly after use to minimize the potential for tools falling or striking personnel or for causing a slip/trip hazard
- Edged or pointed tools will be properly sheathed or otherwise stored correctly to minimize the potential for cuts and punctures when not in use
- Screwdriver tips will be maintained in good condition to avoid slipping. Use the appropriate screwdriver for the task.
- Wrenches will not be altered by handle extensions
- Before using a tool which required a lot of movement, ensure the hazards assessment and control has addressed potential injury to others.

**To ensure safe use of hand tools, remember:**

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

**Tool Inspection**

All defective tools must be reported to the supervisor so it may be removed from service. All damaged equipment or tools will be tagged out of use and removed from service until repaired by a qualified competent person.

Air, gasoline or electrical power tools require skill and complete attention on the part of the user, even when they are in good condition. Do Not use power tools if they are defective in any way.

**Be aware of problems such as:**

- Chisels and wedges with mushroomed heads
- Split or cracked handles
- Chipped or broken drill bits
- Spanners or wrenches with worn mouth jaws
- Incomplete tools, such as files without handles
- Broken or inoperative guards
- Insufficient or improper grounding due to damage on double insulated tools
- No ground wire on plug or cords of standard tools
- The on/off switch not in good working order
- Tool blade is cracked or chipped
- The wrong grinder wheel is being used
- Grinder disc cracked or chipped
- The guard has been wedged back on a power saw

## **Lock out and Tag Out of Hazardous Energy**

### **Purpose**

This practice sets guidelines for preventing personal injury and/or property damage due to unexpected energy (movement of machinery during repair, maintenance or testing). It is important to isolate the energy source before work starts. A locking device performs the lock out and danger – do not operate tags identify the item.

National Steel Erectors Ltd. will ensure the work activity is performed safely. Work cannot be performed until the machinery, equipment or powered mobile equipment has come to a complete stop and all sources of hazardous energy have been isolated by the energy-isolating device which has been secured.

There are three approaches to use when securing energy-isolating devices:

1. By individual workers
2. By a group

3. By a complex group process

Appropriate procedures should be in place to ensure all communication requirements are fulfilled and safety precautions implemented for all instances requiring lock out and tagging.

**Definition**

Lockout/Tag Out – A safety procedure that is used to ensure dangerous machines are properly shut off and not started up again, before maintenance or servicing work is completed. It requires hazardous power sources to be isolated and rendered inoperative before any repair procedure is started. Lock and tag works in conjunction with a lock, usually locking the device or power source and placing it in such a position that no hazardous power source can be turned on. A tag must be affixed to the locked device indicating that it should not be turned on.

**Communication and Notification**

Employee must have advance of equipment shut down. Notice to the affected persons must include:

- Details of equipment and energy sources to be shut down
- Duration of time off-line
- Confirmation that locks and tags are applied
- Details of employees responsible for lockout/tag out.
- A toolbox meeting before shutting down, and prior to lockout/tagging of affected equipment

**Competency and Training**

Employees servicing and conducting maintenance on equipment must have thorough training relating to these standards and the contractors equipment-specific procedures.

Only trained, authorized and competent persons are to apply locks and tags and de-energize or isolate that particular equipment. Employees affected by the application of the lockout/tag out must be familiar with these standards,

particularly the meaning of locks and tags on operational controls. These personnel are referred to as affected employees/contractors.

#### Working on Equipment and Machinery

If machinery, equipment or powered mobile equipment is to be serviced, repaired, tested or adjusted, employees must follow the lockout/tag out procedure to ensure that it is inoperative and the person is assured that it is inoperative.

Rendering the equipment or machinery inoperative may involve removing vital parts, putting blocking in place, or pinning. When this occurs, the method used must provide a level of employee protection equal to or greater than that provided by isolation and securing. When isolation of the energy source has been completed, employees must be advised not to alter the control.

If machinery or equipment is shut down for maintenance, no work may be done until:

- All parts and attachments have been secured against unintentional movement
- Where the work will expose persons to energy sources, the hazard has been effectively controlled
- The energy isolating devices have been locked out as required

In some instances, it may be necessary to work on equipment while it is turned on. This approach is justifiable only if it required by the manufacturer. If there are no manufacturer's specifications, National Steel Erectors Ltd. will develop and implement written procedures for control of identified points of hazardous energy to ensure the work is performed safely. Employee involvement in establishing controls may be required.

The application of a lock is not required if:

- The energy isolating device is under the exclusive and immediate control of the person at all times while working on the machinery or equipment, or
- A tool, machine a piece of equipment that 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 person at all times while work is being done.

## Lockout/Tag Out Procedure

Before any repair, maintenance or testing of equipment or systems (where energy sources may cause unexpected energization, start-up, or movement), all authorized personnel will follow the minimum standards below:

- When lockout of energy isolating devices is required, the devices must be secured in the safe position using locks in accordance with procedures that are made available to all persons who are required to work on the machinery or equipment
- Apply specific company procedures for lockout and tagging requirements. All affected personnel of the lockout/tagging will be properly trained in its application
- Survey the job to determine appropriate isolation of energy sources before work starts on any equipment or system
- Notify supervisor of the requirement to isolate the energy source
- The supervisor must inform all affected employees of the necessary lockout/tagging, and of the meaning of the lockout device and tags on the operational controls. Conduct a toolbox meeting with all affected employees before work starts
- Remove the equipment or system from service in accordance with manufacturers specifications or safe operating procedures
- Before starting work, dissipate and verify any form of stored energy. Slowly release pressure gauge or physically disconnect lines between the isolation device and the equipment. Consider all energy sources and ensure all are blocked, isolated or de-energized.
- Ensure appropriate details are posted at all lockout points. Danger – Do not operate tag details should include:
  - Name and signature of employees installing the lock and tag
  - Current date
  - Estimated completion time
  - Name of the equipment to be serviced
- Install a proper lockout device to isolate all sources of energy in the inoperative position with the tag. Lock the reversing controls in both directions
- Ensure that not personnel are in danger. Then conduct a test-start to ensure the equipment will not energize
- Remove tools from the area and then remove the lockout and tag

- Ensure personnel and tools are clear before testing or returning equipment or system to normal service. Resume the energy source feed to the equipment, machinery or system. Test-start the equipment as a final check
- The lock is to be marked or an identification tag put on that identifies to whom the lock is assigned. While the lock is on place, the employee who placed the lock must be readily available during the time the equipment is locked out.

### **Isolation Securement**

The employee who is involved in isolating an energy source is required to attach his/her own lock to render the machine or equipment inoperable. By placing the lock on the machinery, equipment or powered mobile equipment, the employee has verified that the energy source has been isolated and a bump test has been performed and documented.

When multiple employees and are involved or multiple energy isolating devices must be secured, a group process can be used. National Steel Erectors Ltd. will ensure that a written procedure for a group isolating is in place before working on energized equipment, machinery or powered mobile equipment. This written procedure shall be clearly posted at the place where the system is in use.

The following steps will be followed:

1. Place a securing device on each energy-isolating device
2. Put the key to each securing device in a lockable key securing device
3. Complete, sign and post a list identifying the machinery or equipment that has been locked out or de-energized

### **Returning Equipment, Machinery and Powered Mobile Equipment to Operation**

Upon returning to work, National Steel Erectors Ltd. must ensure that if the person's lock has been removed, the person will be informed that their isolating device has been removed.

In most instances, only the employee who installed the lock is allowed to remove it. This is intended to prevent other persons from removing the lock and unknowingly creating a safety hazard.

Situations may arise in which the employee who installed the lock is unavailable and an emergency arises involving the equipment. In these situations, the matter must be referred to supervisor in charge. They will be responsible for its removal. Management must make every reasonable effort to contact the employee who installed the lock. Before removing the lock, ensure the machinery or equipment can be operated safely.

Before all securing devices are removed:

- Each employee involved in the work activity must be accounted for
- Any personal locks placed by employees must be removed, if they affect the operation of equipment, machinery or powered mobile equipment
- Before returning equipment to operation, it must be determined that other employees are not in danger. It may be necessary to personally contact employees in the area who might be at risk of injury in some circumstances, to let them know that the equipment, machinery or powered mobile equipment is being returned back to operation.

### **Work on Energized Equipment**

If it is not practical to shut down machinery or equipment for maintenance, only the parts that are vital to the process may remain energized. The work must only be performed by persons who:

- Are competent and qualified to do the work
- Have been authorized by National Steel Erectors Ltd. to do the work and
- Have been provided with and follow written safe work procedures

## **Mechanical Lifting (Cranes, Hoists and Lifting Devices) >2000kg Rating**

### **Purpose**

This practice provides guidelines for selecting and using mechanical lifting devices.

Mechanical lifting includes equipment such as hydraulic jacks, cranes as well as various lifting devices that include equipment designated to lift with proper rigging practices.

National Steel Erectors Ltd. will provide sufficient mechanical lifting devices for lifting lowering or pushing, pulling, carrying, handling or transporting heavy loads.

In each configuration, style or type, the manufacturer specifications such as load rating capacity, must be legible on each device. The manufacturer specifications and guidelines must be followed. The crane used should be properly identified by the manufacturers name, model, year of manufacture and serial number.

## Definitions

**Critical Lifts** – any lift in excess of 80% of the machines maximum rated capacity at the maximum required radius and

- Lifts requiring the coordination of multiple cranes working in unison

**Engineered Lifts** – any lifts over 95% of the machines maximum rated capacity. Engineered lifts require a lifting procedure prepared by a registered professional engineer

## Mechanical Lifting Procedure

- Accessible areas within the swing radius will be barricaded to limit the potential for unauthorized entry
- One person will be assigned to direct the operator when powered equipment is used to raise or lower materials. The crane operator will be directed to follow the signals from only that assigned person. The signal person will remain in visual contact with the operator while the load is being handled. The signal person will wear a high visibility vest that identifies him/her as the designated signal person. The operator must stop the operation of the equipment on receiving a stop signal from the signaler
- Signals used to direct crane/hoist operators will be those described by the applicable ANSI standard for the type of crane/hoist in use.
- Notify employees in the area before a crane or hoist is used to lift a load and if the crane/hoist will be moved from its current location.
- Check load for loose objects or material to reduce the potential for items to fall while suspended
- Do not stand or walk under suspended loads. Maintain a safe distance from ropes, cables and chains that are under tension. Suspended loads will not be left unattended. Allow the operator to be aware of your presence
- Do not stand between the load swing and objects or equipment that present a potential crush hazard
- Inspect the area where the load will be placed for potential hazards before the load is lifted
- Tag lines will be attached to loads before they are lifted to provide guidance and load control, as appropriate

- Place the load slowly and carefully to avoid injuring any assisting employees and to allow adequate time for people to move out of the way if the load begins to roll
- Before use, cranes and hoists are required to be inspected by a designated competent person to verify that the equipment is at an acceptable operating condition and that it is constructed/equipped within manufacturer standards. Additionally, lifting equipment is required to be periodically inspected as per manufacturer inspection recommendations. Damaged or defective equipment must be repaired before the equipment is returned to service
- Hoisting and lifting equipment must be equipped with load limit switches for vertical and horizontal travel
- The safe working load will be clearly marked on rigging, chains, slings, spreaders or other devices used for lifting loads
- Pinch points will be appropriately guarded. Keep hands and fingers away from pinch points, impact areas and connections
- Personnel are forbidden to ride on lifting equipment

## **Responsibility**

Supervisors are responsible to ensure that:

- All cranes and lifting devices arrive on site with up to date crane certifications
- Cranes and lifting devices are in acceptable operating condition, with no defects that would limit the crane/lifting device capacity or affect safety of site personnel

The operator/rigger is responsible for ensuring them:

- Are knowledgeable in rigging standards, practices and procedures for rigging safely and lifting loads
- Are competent to operate the assigned equipment and have been granted consent to operate it
- Operate in a safe manner and obey all safety/operating rules
- Obtain training as required by regulatory authority; certification may also be required. Operators of cranes must hold a current cranes operator's certificate. In a worksite environment, it is the operators

responsibility to know the weights to be lifted as well as the safe operating procedures

- Test controls, brakes and hoisting ropes before use
- Do not move any equipment or load unless they are assured the task can be conducted safely without endangering any person
- Are competent in using proper hand signals for lifting loads
- Keep the equipment clean, tidy and free of oil/grease build up
- Access the cab using three point contact
- Avoid distractions and refrain from talking to others; concentrate on the job
- Do not move a load over the heads of individuals or over the cab of an vehicle. At no time are people permitted to stand or pass under suspended loads. If there is no alternative workers will be warned of the hazard.
- Loads should be positioned as close to the ground as possible before unloading

### **Inspection, Repairs and Maintenance**

Each crane and hoist must be inspected and maintained at a frequency and to the extent required to ensure that every component is capable of carrying out its original design function with an adequate margin of safety.

In order to ensure equipment is operating safely, reliably and efficiently, it is essential that maintenance be conducted on lifting devices:

- Repairs shall be performed before use
- Defective equipment will not be operated. Defects found during inspection or use of a crane or hoist must be recorded in the logbook and reported immediately to the supervisor, who will then determine the course of action to be taken
- Repairs and maintenance will only be performed on equipment that is stopped and locked out
- All maintenance will be recorded in the equipment logbook

Mobile cranes and boom trucks must be inspected at least once every 12 months in accordance with good engineering practices, to ensure it meets:

- The crane or boom truck manufacturers specifications
- The requirements of the applicable design or safety standard
- The requirements of the occupational regulations

A mobile crane or boom truck must not be used after an inspection unless a certified engineer certifies that it is safe for use on the basis of that inspection

## Rigging

### Purpose

This practice provides guidelines for selecting and using rigging.

National Steel Erectors Ltd. will ensure that when lifts are required, proper rigging equipment will be made available to perform proper rigging techniques. To guard against failure of a rigging competent due to shock load, overload, wear etc., the load being lifted should not exceed the safe work load:

- 10% of the breaking strength of the weakest part of the rigging
- 20% of the ultimate breaking strength of the weakest part of the rigging
- If the rigging is fatigue rated and a worker is not being raised and lowered the maximum weight must not exceed 25% of the ultimate breaking strength.

Rigging shall comply with manufacturer specifications, CSA standards, as well as occupational legislation. All maximum load ratings must be clearly marked on the rigging. If this is not possible the information must be readily provided to the workers at the worksite.

### Definitions

**Breaking strength and load rating** – the average force at which the product (as new) has been found to break after representative testing. The tests are conducted when applying a constant and direct in-line force to the product at a uniform rate of speed

**Rigging** – fiber ropes, wire ropes, chains, slings, attachments, connecting fittings and associated components. Rigging is the process of safely attaching a load to a lifting device with adequately rated hardware.

**Safe work load (SWL)** – the load a crane or hoist may safely lift in a particular situation taking into account such factors as wind load, extreme of temperature and load sail area. The SWL may equal to or less than the rated capacity or rated load.

**Shock Load** – A load resulting from rapid change of movement, such as impacting, jerking or swinging of a static load. Sudden release of tension is another form of shock loading. Shock loads are generally significantly greater

than static loads. Any shock loading must be considered when selecting the item for use in a system.

**Working Load Limit (WLL)** – The maximum load that should be applied to the item being lifted, even when the load is uniformly applied – straight line pull only. Determination of the working load limit (WLL) of a sling assembly must ensure the WLL of any individual component of the assembly is not exceeded.

#### Factors When Choosing Proper Rigging

Personal involved in hoisting and rigging must exercise care when selecting and using slings. The selection should be based on the size and type of the load, and the environment conditions of the workplace. Slings and attachment shall be visually inspected before use on each shift to ensure they are functional and safe. Defective equipment must be immediately removed from service. Improper use of hoisting, equipment including slings, may result in overloading, excessive when choosing the proper rigging for a task are:

- Size
- Weight
- Shape
- Temperature
- Sensitivity
- Environmental conditions

In addition to selection facts, the breaking strength and load rating must be considered for rigging any equipment or machinery. Never exceed the working load limit.

Wire rope, alloy steel chain, synthetic fibre rope, metal mesh slings and synthetic fiber slings must meet the requirements of ASME standards, safety standard for cableways, cranes, derricks, hoists, hooks, jacks and slings.

#### **Rigging Fittings**

Rigging fittings must be marked with the manufacturer's identification, product identifier and the working load limit (WLL), or sufficient information to readily determine the WLL. The WLL of existing fittings not identified must be determined by a qualified person marked on the fitting, and such fittings must be removed from service.

## **Wire Rope**

Wire rope is composed of individual wires that have been twisted to form strands. Strands are made up of individual wires that are cold drawn to a pre-determined size and breaking loads according to required grades. Once a grade of wire has been determined, the wire then load together to form a wire rope in a geometrical arrangement.

When wire rope has a fiber core, it is usually more flexible but less resistant to environmental damage, When selecting a wire rope sling to give the best result, there are four characteristics to consider:

1. Strength
2. Ability to withstand fatigue
3. Ability to withstand abrasive wear
4. Ability to withstand abuse

## **Wire Rope Inspections**

Wire rope slings must be visually inspected before use. Slings with excessive broken wires, severe corrosion and localized wear damage to end-fittings (e.g. hooks, rings, links, or collars), or damaged to the roper structure (kinks, bird caging and distortion) must be removed from service and discarded.

## **Chains**

Alloy steel chains are strong and able to adapt to the shape of the load. The safety of a chain sling assembly depends on the following factors:

- Kind of material used
- Strength of the material for the load
- Method of fastening the chain to its fittings
- Proper inspection and maintenance

An alloy steel chain sling will be permanently identified with:

- Size
- Manufacturers grade and the WLL
- Length and number of legs
- Name or mark of the sling manufacturer

Care should be taken when using chain slings because sudden shocks will damage them. This may result in sling failure and possible injury to persons or damage to the load.

## **Chain Sling Inspections**

Chain slings will be visually inspected before use. During the inspection, pay particular attention to any stretching, nicks, gouges and wear greater than what is allowed by the manufacturer.

## **Fiber Rope**

Fiber rope is used extensively in handling and moving materials. Natural fibre ropes are generally made from manila, sisynthetic ropes are made from nylon, polyetene or polyolefin.

Fiber rope and synthetic web slings are used when there is a requirement to move expensive loads, highly finished in fragile parts and delicate equipment.

Synthetic fiber web slings will be permanently identified with the:

- Manufacturer name or mark
- Manufacturer code or stock number
- Working load limits for the types of hitches permitted
- Type of synthetic web material

## **Fiber/Synthetic Rope Inspections**

Fiber roper slings deteriorate on contact with acids and caustics, and will not be used around these substances. Fiber rope slings that show cuts, gouges, worn surface areas, brittle or discolored fibers, melting or charring will be discarded. A build-up of power-like sawdust on the inside of a fiber rope indicates excessive internal wear and shows the sling is unsafe.

## **Safety Latches**

- When performing rigging operations, make certain all safety latches attached to lifting hooks are functional before any loads are attached.
- If a hook us used in any circumstances where possible dislodgement could injure persons, the hook will be replaced with:
  - A hook with safety latch
  - An anchor style shackle with a bolt, nut and retaining pin
  - The hook will be moused (I.e. a method of covering the throat opening of a hook by wrapping it with soft wire, rope or heavy tape).
- A safety latch is not required where a hook is used in a task where manipulation of the latch may pose a hazard to the individual.

- A safety latch is not required if a sorting hook is used to lift components of a skeleton steel structure.

### **Rigging Equipment Procedures**

- All rigging and slinging activity will be performed under the direct supervision of qualified persons who are familiar with the rigging to be used and with the code of signals authorized by the Board from controlling hoisting operations
- Rigging equipment will be inspected each day before use
- Equipment will not be loaded in excess of recommended safe working load as outlined in occupational legislation
- Riding the lift hood or load is strictly prohibited
- When not in use, rigging equipment will be removed from the area
- Alloy chains, wire ropes, synthetic ropes, shackles and hooks will be used as outlined in occupational legislation
- A sling with a knot will not be used
- When a sling is applied to a sharp edge of a load, the edge or the sling will be protected to prevent damage to the sling
- Taglines are to be used to control the load
- Loads to be unlocked will be safely landed and supported before the rigging is detached

### **Inspection/Rejection**

Upon inspection, when synthetic fibre web slings are considered damaged by cuts or abrasions, the sling is to be cut and made unusable. All components used in rigging practices can be marked by stamping, etching, embossing or tagging. If markings are not legible, the sling will be removed from service and/or replaced.

Arid and caustic heat burns, broken stitching in load splices, damaged eyes and end fittings all affect the load-carrying capability of slings. Slings meeting this criteria are considered damaged and will be permanently removed from service and then altered to prevent further usage. A sling with damaged end fittings will not be used.

A wire rope sling with a swaged or poured socket or a pressed fitting will be permanently identified with:

- Its working load limit

- The angle upon which the WLL is based
- The name or mark of the sling manufacturer
- A worn or damaged hook will be permanently removed from service if:
- The throat opening, measured at the narrowest point, has increased by more than 15% of the original opening
- The hook has twisted more than 10° from the original plane of the hook
- The hook has lost 10% or more of its cross-sectional area
- The hook is cracked or otherwise defective or
- Wear or damage exceeds any criteria specified by the manufacturer

## Temporarily Securing Steel Joist

### Purpose

This practice provides guidelines for temporarily securing steel joists until bolt up can be completed.

- When steel joists are lifted onto beams, there may be deficiencies in the prefabrication that prevents bolt up at that time. If the joists cannot be lifted back down to the ground, they must be secured so they do not fall.
- The joists will be secured to nearest joist or beam that is bolted directly into the structure.
- Tie the loose joists to the nearest beam or joists using a ratchet strap at both ends of the joist. If there is more than one loose joist, strap them in a bundle to the same secured joist.
- There must be a designated person to ensure that all the steel is either bolted or strapped to another joist before it is left unattended.
- If there is no location to secure the loose joist too, it must be lifted back down to the ground
  - **NO UNSECURED STEEL WILL BE LEFT UNATTENDED FOR ANY LENGTH OF TIME!!**

## Safeguards

### Purpose

This practice provides guidelines for the use of safeguards.

National Steel Erector Ltd. shall provide safeguards that eliminate personnel from coming into contact with:

- Any equipment, rotating motors, engines or electrical panels required to be worked on
- Sharp edges for cutting, boring or shaping
- Surfaces that may cause harm to skin by burning, freezing or blistering
- Material, debris or objects being thrown from machinery
- Machinery or equipment which poses a hazard due to its operation

A hazard assessment and control shall be conducted prior to starting work.

A design, installation, operation and maintenance of safe guards shall meet the requirements of CSA standard Z432-04, safe guarding of machinery. Fixed guards shall not be readily removable without tools.

### Definition

**Safeguard** – a precautionary measure to ward off impending danger, damage or injury.

### Work Activity Involving Mechanical Hazards

Dangerous moving parts involve these three basic areas:

1. **The Point of Operation** – the point where work such as cutting, shaping or boring is done to material
2. **Power Transmission Apparatus** – all components of the mechanical system that transmit energy to the part of the machine performing the work. These components include flywheels, bull wheels, pulleys, belts, connecting rods, couplings, cams, spindles, chains, cranks, gears, etc.
3. **Other Moving Parts** – all parts of the machine that move while the machine or equipment is working. These can include reciprocating, rotating and transverse moving parts, as well as feed mechanisms.

## **Removing Safeguards**

Before using tools/equipment/machinery, personnel must complete an inspection (prior to operation) of the tool or equipment to ensure that all guards are in place and functioning as designed. If safe guards have been removed, the equipment must be locked out and tagged out of service. Supervisor must be made aware that the guard has been removed, requiring the equipment to be rendered out of service.

Employees and contractors are not to remove any guard or barrier until the machine or equipment has been locked out and tagged. At no time is a machine to be operated when a safeguard has been removed. An employee must not remove a safeguard or make it ineffective to perform maintenance, tests, repairs or adjustments on machinery or equipment while in operation.

An employee who removes a safeguard or makes it ineffective must replace the safeguard or barrier once the work has been completed.

## Tiger Torches

### Purpose

This practice provides guidelines for the use of tiger torches. Although valuable on the work site, tiger torches are sometimes misused in a manner that can make them dangerous. This practice provides guidelines for the safe use of tiger torches.

### Definition

**Tiger Torch** – A tiger torch is a tool used to preheat piping systems prior to welding.

### Operation

- Before using a tool that requires a lot of movement, ensure the hazards assessment and control has addressed potential injury to others
- Tiger torches must only be used to preheat piping prior to welding
- When a torch is used, an appropriate fire extinguisher must be present
- Torches are not used for heating of work areas or thawing lines and equipment, etc.
- Ensure that propane cylinders are properly shut off
- Fuel lines are to have regulators
- Propane cylinders are to be secured in an upright position

### Inspection

All defective tools must be reported to the supervisor so they may be removed from service. All damaged equipment and tools shall be tagged out of use and removed from service until repairs are made by a qualified, competent person.

## Traffic Control

### **Purpose**

This practice provides guidelines for performing traffic control work.

### **Definition**

Traffic control means the use of signs, flashing arrow boards, sign boards, buffer or shadow vehicles, barricades, cones, barriers, detours, traffic lights, traffic control persons or other techniques and devices to manage the flow of traffic.

### **Responsibility**

When traffic control must be implemented to protect personnel, the company will determine the most effective traffic control techniques and devices and ensure these devices and techniques are properly deployed before starting work.

### **Compliance with Requirements**

When traffic control is required the company will, by way of pre job meetings, tailgate meetings or other means, ensure that:

- All employee, contractors and visitors to the site are aware of the control features
- Traffic control devices and procedures are fully deployed prior to start of work and are removed after completion of the work
- Where traffic control persons are used, signs advising the motorists that there are traffic control persons ahead will be deployed, and will be immediately removed if the traffic control person is no longer on duty
- Personnel designated as traffic control persons are adequately trained, effectively perform their role in the traffic control are equipped with high visibility clothing. If the light is limited or traffic control is being conducted in the dark the worker will be equipped with retro reflective clothing and a hand held signal light.
- Personnel designed as traffic control persons are placed in position in a safe location preferably on the driver's side of the lane under control and away from potential environmental hazards such as avalanches of slides. Traffic control employees will be placed no less than 25m from

the beginning of the work area unless the physical properties of the worksite prohibit such placement.

- If two or more traffic control persons are assigned to work as a team, they will be equipped with 2-way radios or other suitable means of communication and a team leader responsible for the coordination of traffic flow will be assigned.
- A supervisor working at the site will be responsible for ensuring the traffic control activities are carried out in a manner consistent with the requirements

### **Placement of Traffic Control Devices**

Traffic control signs and devices will be placed, used and located so as to ensure traffic moves by or through the work area in a controlled manner, and if necessary, to come to controlled stop due to weather and road conditions.

When removing traffic control devices and signs, the cones and channelizing devices are removed first, followed by the signs.

Flashing arrow boards, high level warning devices and/or traffic control persons and/or flashing vehicle lights will be deployed during the removal process.

On low volume roadways, the sequence for removing traffic control devices and signs is in reverse of the placement sequence.

On high volume roadways the same process at low volume roadways can be used or the devices and signs may be removed in the direction of the flow of traffic as long as a buffer vehicle is deployed between the traffic and the workers.

### **Maintenance of Equipment**

All traffic control equipment, devices and signs, including traffic control paddles and personal protective equipment, will be kept clean and in good working order or will be replaced if cleaning is insufficient or inadequate.

## **Transportation of Dangerous Good (TDG)**

### **Purpose**

This practice provides guidelines for the transportation of dangerous good (TDG).

The TDG and regulations are designed to protect the public through safe handling and containment of dangerous good and to protect emergency response personnel with the information about hazards of dangerous goods in the event of an accident involving a spill or release.

Where an accidental release of a dangerous good has occurred, the person in charge will manage or control the release as reasonably practice and report the occurrence to the proper regulatory agencies.

### **General Responsibilities**

The following standards will be followed in all National Steel Erectors Ltd. operations with respect to TDG when applicable:

- Every container containing dangerous goods will be labelled by the consignor for proper classification before being transported
- Vehicles that transport dangerous goods must display the applicable placards
- Proper shipping documents and manifest must accompany every shipment
- All personnel who handle, transport and/or ship dangerous goods must be trained and certified in the process, or working directly under a supervisor trained and certified in TDG
- A person must not handle, offer for transport, or transport dangerous goods unless the means of containment is designed, constructed, filled, closed, secured, maintained and labelled so that under normal conditions of transport, including handling, there will be no accidental release of dangerous goods that could endanger worker or public safety.
- A consigner must be able to produce a copy of any shipping document for up to two years after the date the shipping document (or electronic copy of it) was prepared or given to carrier by the consigner; for dangerous goods imported on Canada, for a period of two years after

the date the consigner ensured that the carrier, on entry into Canada, had an electronic copy which can be produced within 15 days upon receiving a written request from an inspector.

- Dangerous goods must be loaded and secured in a means of containment in such a way as to prevent (under normal conditions of transport) damage to the means of containment that could lead to an accidental release of dangerous goods.

### **Driver Responsibilities**

- Ensure the consigner/shipper has complied with their responsibilities
- Ensure the cargo is securely loaded, properly segregated and free of leaks prior to departure
- Obtain a bill of lading/manifest from the consignor/shipper and ensure it has been properly completed with all required information, including proper classification of the dangerous goods
- Display the appropriate safety marks (placards and labels) in the proper manner and at proper locations
- Replace any marks that are damaged or lost while in transport
- Refuse consignments of dangerous goods that are offered for transport that do not meet the requirements of the regulations
- Inspect for TDG compliance as part of vehicle inspections
- Ensure that training certificates are valid and readily available when handling or transporting dangerous goods
- Report all dangerous goods spills/leaks or discharges to dispatch, supervisor and/or safety advisor
- Follow dangerous goods routes
- Provide consignee/receiver with the copy of the TDG bill of lading/manifest

Supply copies of the TDG bills of lading/manifests for filing at the district offices for retention of up to two years

## **Dangerous Goods Reporting Requirements**

The immediate reporting requirements for spills, releases, loss, theft or misplacement of dangerous goods depend on the quantities or levels of the dangerous goods.

The reporting requirements, as specified in legislation, vary according to the class of the goods spilled, released, lost, stolen or misplaced. In most circumstances, the primary contact is the local police.

In the event of any of the following situations, immediately contact dispatch, supervisor and/or the safety advisor with respect to dangerous goods being lost, misplaced, stolen or spilled in the quantities equal to or greater than specified in the regulations:

- Any damage to a bulk container
- Any accident involving class 7 dangerous goods
- A fire or explosive involving dangerous goods

In the event of an accidental release of dangerous goods from a means of containment, a person who has possession of the dangerous goods at the time of the accidental release must make an immediate report to the appropriate provincial authority as well as the employer, the consignor of the goods and the owner of the vehicle if the accidental release consists of a quantity of dangerous goods or an emission of radiation that exceed quantities set out for each class of dangerous goods.

In the event of the release of dangerous goods, a person in charge will take all reasonable emergency measures to reduce or eliminate any danger to public safety that results or may reasonably be expected to result from the release.

## **Incident Reporting and Classification**

When a vehicle incident occurs, the incident must be classified as preventable or non-preventable.

An incident is deemed preventable if the driver fails to exercise sound judgment in his driving practices or does not comply with all regulatory requirements and company policy and/or fails to do everything reasonably possible to prevent the incident.

An incident is deemed preventable if a driver exhibits sound judgment in his driving practices, complies with all regulations and company policy, and does everything reasonable to prevent the incident.

The primary objective of National Steel Erectors Ltd. is to eliminate injury and reduce monetary loss through the prevention of incidents. All vehicle damage is preventable.

All incidents must be reported and investigated according to the requirements of National Steel Erectors Ltd. investigations policy.

A driver's response following a vehicular incident should be to:

- Stop the vehicle and shut off the engine
- Care for the injured and provide necessary first aid, if trained
- Protect the scene from further mishap by placing reflective triangles or reflectors 30m to the front and rear of the collision
- Ensure witness names, vehicle and insurance information and third party information is collected
- Ensure all information reported to National Steel Erectors Ltd. and the investigating authorities are factual; do not offer an opinion.

### **Investigations and Follow-Up**

Sound investigations provide National Steel Erectors Ltd. with the tools necessary to identify root causes of incidents and to implement appropriate corrective measures for prevention.

## Vehicle Safety

### Purpose

This practice provides guidelines to ensure safe and proper vehicle operation for when operating a vehicle and when occupants are using transportation provided by National Steel Erectors Ltd.

This applies to all personnel operating vehicles on National Steel Erectors Ltd. worksites

### Application

Unless otherwise required in this rule which may exceed legislated or jurisdictional regulatory requirements (e.g. seat belt and cellular phone use), the following applies:

All provincial rules of the road shall apply to operating, using or occupying National Steel Erectors Ltd. vehicles both on and off site.

### Rules

- All licensed vehicles shall only be driven by authorized operators who have a valid driver's license for that class of vehicle. Employees have an obligation to declare their ineligibility to drive if their license to drive has been suspended or expired. All documents and abstracts will be viewed prior to a driver operating National Steel Erectors Ltd. vehicle.
- All vehicle operators and occupants shall obey all laws and safety requirements in the jurisdiction they are traveling whether it is by air, ground or water.
- National Steel Erectors Ltd. vehicles are used only to transport National Steel Erectors Ltd. personnel on company business and other people who are pertinent to an effective operation.
- All posted speed limits and traffic signs will be observed, and the right of way yielded to pedestrians.
- The maximum number of persons permitted in a motor vehicle will be one per seat belt available, and no passengers will be allowed to ride in a truck box. Seat belts must be worn.
- Headlights or running lights must be turned on when operating a vehicle on all roads. Headlights (including tail lights), shall be turned on

½ hr before dusk until 1/2hr sunrise and also during conditions of poor visibility; e.g. smoke, fog and rain.

- A bus will not be passed when the four-way flashers are activated during passenger loading and unloading.
- Obey all flag persons, posted signs and warnings when driving on public roads, public/private roads, property, sites or plants.
- All slow-moving vehicles must comply with the Department of Transportation and provincial requirements
- Back-up alarms are mandatory on all vehicles over five tons.
- Turn off the engine and set the parking brake in unattended vehicles.
- Park vehicles away from congested work areas and within the defined work boundaries. Always pull through or back vehicles into parking stalls. This allows for the vehicle to face outwards which provides a faster escape in case of an emergency.
- As per the smoke free law, smoking is not permitted in National Steel Erectors Ltd. owned, leased or rented vehicles on or off site as such vehicles are considered a public work place.
- Employees are strictly prohibited from National Steel Erectors Ltd. vehicles while under the influence of alcohol or drugs. This includes a blood alcohol level above the legal limit, illegal drugs and prescription medications that cause drowsiness or other compromising conditions.
- National Steel Erectors Ltd. employees will not work beneath any vehicle, between any two vehicles, or between any vehicle and any other object, unless all such vehicles are properly secured.
- The safe working load of load-rated equipment shall not be exceeded.

Fluid levels must be checked at every fill-up. This includes oil and water.

- In case of a breakdown, vehicles should be parked with all wheels off the main roadway when possible.
- Do not attempt to shift gears when descending a steep hill.
- Personally owned or rented trailers used for personal reasons must not be attached to, or drawn by company vehicles.
- Hitchhikers are not permitted to ride in vehicles.
- All motor vehicles, operated on main plant roads, shall meet the Department of Transportation and jurisdictional certification standards.
- All cargo will be adequately stored and secured in a position that will prevent movement or hazards.

### **Cellular Phones and Hands Free Devices**

Hand held cell phones and/or hands free devices will not be used while operating any National Steel Erectors Ltd. owned vehicles.

### **Personal Electronic Devices**

Personal electronic devices (e.g. iPod) that are used to listen to music through the installed sound system of vehicles are allowed at the discretion of the company. The use of headphones and inserts into ears for listening to music is prohibited.

- The usage and/or operating of portable electronic devices, while operating National Steel Erectors Ltd. vehicle, is strictly prohibited.

### **Enforcement**

Traffic violations that vary in severity are subject to progressive discipline up to and including termination of employment. Supervisor/management is accountable to follow up and provide corrective feedback immediately upon being notified of the infraction.

If more than one rule is violated during a single incident:

- The most serious transgression will be dealt with via the disciplinary process (Non-Compliance), which shall include corrective actions.
- The incident will be treated as a single traffic violation.

Corrective action will be administered as follows:

- The employee's immediate supervisor is responsible for administering the appropriate corrective action.
- National Steel Erectors Ltd. management is responsible for notifying all contract company management. This notification must include the details of the violation and the required corrective action.

In case of an accident:

- Pull off the road if possible
- Place warning reflectors where necessary
- Render first aid if required
- Do not enter into any argument or discussion with other people involved
- Make no admission of liability or offer any statement of claim or opinion. Complete an incident investigation report.

- In the event of an incident, vehicle collision or traffic violation, the vehicle operator must ensure they notify the supervisor and participate fully in providing information necessary for insurance and investigation purposes.

### **Traffic Control**

From time to time, work in which National Steel Erectors Ltd. may be involved required protecting employees from traffic hazards. Examples of such work conditions include, but are not limited to:

- Individuals at a construction site assisting with positioning, loading or unloading of dump trucks.
- Persons at a road construction project where work takes place within an area protected from public traffic by barricades.

Determine the presence and degree of danger from traffic to people through the hazard assessment and control process, which identifies the speed of moving vehicles, and locating of individuals relative to vehicles.

To control risk of injury from traffic hazards, it should first be controlled or eliminated through the use of engineering or administrative controls.

Highly visible apparel such as traffic vests should be considered as a second line of defense. Individuals on foot and exposed to the hazards of moving vehicles are required to wear highly visible apparel that is clearly distinguishable. Depending on conditions at the worksite, highly visible apparel may be fluorescent, retro-reflective or a combination of both.

### **Vehicle Towing Practice**

The purpose of this practice is to prevent possible injury to persons, and damage to National Steel Erectors Ltd. owned, leased or personal fleet vehicles through the proper use of towing techniques.

All personnel will comply with the following:

- Do not attempt to tow or pull any vehicle with a higher GVW than the tow vehicle. A tow truck should be called.
- Before attempting to pull any vehicle, both drivers must meet face-to-face to discuss the best method of towing. Look for all hazards that may exist such as slope of the ditch, brush, trees, signs, ruts, other vehicles, uninvolved personnel, etc.

- All persons involved must wear a reflective vest or have reflective striped coveralls.
- To reduce the sling shot effect, a proper tow strap must be used. Do not use a chain, towrope with metal eyes or hooks, or nylon tow ropes.
- Ensure no slack is left in the tow strap before pulling the vehicle (do not back up bumper-to-bumper).
- Hook tow straps directly to the frame either by the trailer bitches on the rear of the vehicle or engineered tow hooks on the front.
- If the vehicle cannot be pulled out safely, a tow truck, winch truck, cat, etc., should be used.

### **Refueling**

Fuel vapors can create an explosion hazard if an ignition source is present.

While vehicles are being refueled:

- Ignition systems must be turned off
- No smoking

### **Training**

All necessary measures will be taken to ensure the safe operation and maintenance of mechanized equipment. National Steel Erectors Ltd. shall ensure that all employees are properly trained and aware of the hazards and control methods required to safely operate equipment.

Supervisors must ensure that personnel are trained in the safe operation of the functioning equipment. The training shall consist of the following as a minimum:

- Mandatory certifications when required
- Selection of appropriate equipment
- Equipment limitations
- Equipment use
- Operator skills required (as per the manufacturers' equipment specifications)
- Basic mechanical and maintenance requirements of equipment
- Loading and unloading the equipment (if job requirement)
- Hazards specific to equipment operation at the worksite.

## Welding

### Purpose

This practice provided guidelines to protect and educate personnel on welding safety procedures in the workplace, and ensure the health and safety of personnel at the worksite.

### National Steel Erectors Ltd. Responsibility

National Steel Erectors Ltd. personal shall ensure welding is done in a safe and efficient manner, regardless of the complexity of the job and potential at the worksite.

### Requirements

Hot work must not begin until:

- A welding hot work checklist is completed
- A hot work permit is issued that indicates:
  - The nature of the hazard
  - The type and frequency of atmospheric testing required
  - The safe work procedures and precautionary measures to be taken, and
  - The protective equipment required.'
- The hot work location is:
  - Cleared of combustible materials, flammable materials, explosive, dust, gas or vapor, or
  - Suitable isolated from combustible materials.
- Procedures are implemented to ensure continuous safe performance of hot work.
- Testing shows that the atmosphere does not contain:
  - A flammable substance, in a mixture with air, in an amount exceeding 20% of that substance's lower explosive limit for gas or vapors, or
  - The minimum ignitable concentration for dust

### Welding, Cutting and Burning

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

- Compliance with the requirements of CSA standard W117.2-06, *safety in welding, cutting and allied processes*.
- Ensure that welding or allied process equipment is erected, installed, assembled, started, operated, used, handled, stored, stopped, inspected, serviced, tested, cleaned, adjusted, carried, maintained, repaired and dismantled in accordance with the manufacturer specifications.
- Ensure that before a welding or allied process is started, the area surrounding the operation is inspected and:
  - All combustible, flammable or explosive material, dust, gas or vapor is removed, or
  - Alternate methods of rendering the area safe are implemented
- Ensure that adequate ventilation is supplied since hazardous fumes and gases can be created during welding, cutting or burning operations.
- Have firefighting or prevention equipment on hand before starting welding, cutting or burning.
- Where other personnel may also be exposed to the hazards created by welding, cutting and burning, they must be alerted to these hazards or protected from them by use of screens and general ventilation.
- Welder should never work alone. A fire or spark watch should be maintained.
- Check hoses and cables to protect them from slag or sparks
- Never weld or cut lines, drums, tanks, etc. that have been in service without making sure that all precautions have been carried out and permits obtained.
- Never enter, weld or cut in a confined space without proper gas tests and the required safety lockout.
- When working overhead, use fire resistant materials (blankets, tarps) to control or contain sparks, debris and other falling hazards, to protect employees below the operation.

### **Oxygen and Fuel Gas**

Because of the exceedingly hot fumes they produce, oxygen and acetylene are used in welding and cutting metals. (Propane may, in some cases, be substituted for fuel gas).

### ***Acetylene***

A colorless gas with a slight garlic-like odor. Flammable gas combining with air over a wide range forms explosive mixtures. Flammable limits are 2.5% and 100%, Minimum ignition temperature is 571 degrees Fahrenheit. It is lighter than air with a vapor density of 9.0. Distribution through hose and piping should be maintained at less than 15psi. It forms explosive compounds with copper, silver and mercury. Keep acetylene cylinders away from heat sources and the surrounding temperature should be kept below 54 degree Celsius (130 degrees Fahrenheit).

### ***Oxygen***

Oil, grease or similar materials should never be allowed to come in contact with any valve, fitting, regulator or gauge of oxygen cylinders because of the spontaneous explosive hazard.

### **Oxy-Fuel Gas Equipment Precautions**

- Supply hoses must be protected from traffic
- Open all cylinder valves slowly. The spanner/wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use.
- Employees should never force connections that do not fit, nor shall they tamper with the safety relief devices of the cylinder valves.
- Pressure regulators, required by provincial regulations, shall be in place and used on all compressed gas cylinders. Back flash prevention devices shall be installed at the regulator end of all fuel/oxygen supply lines.
- Do not use regulators, hoses or torches unless they are working properly.
- Use only a spark lighter to ignite torches. Never use matches or cigarette lighters or carry butane lighters.

## Painting

### **Purpose**

This practice provides safety precaution guidelines when painting.

### **Health and Safety Guidelines for Painting**

In industry, the most popular method of applying paint is to spray it on, using compressed air, a high velocity airless spray or an electrostatic applicator. Paint can also be applied with brushes. The material itself is the primary hazard when painting. Painting may expose you potentially dangerous chemicals which may damage your health. This guide outlines some of the hazards associated with painting and provides information on how to work safely while painting.

Choose paint materials with safety in mind. Never use materials which are unlabeled their contents cannot be determined. Always follow the safety recommendations for the material being used.

### **Health hazards**

Overexposure to a substance means too much has been breathed in, swallowed or absorbed through the skin. The possible effects of overexposure to paint and the chemicals it contains vary according to the type of paint. Some health problems caused by overexposure to paint material are:

- drowsiness;
- dizziness/light headedness;
- disorientation;
- nausea/vomiting;
- eye and throat irritation;
- dermatitis;
- general allergic response such as hives;
- asthma-like wheezing with tightness in the chest;
- heavy metal poisoning (lead, chromium, nickel and cadmium); or
- nerve, kidney or liver damage.

A wide variety of ingredients are used in paints and thinners. These chemicals are not found in all paints, but you have probably come into contact with some of them at one time or other. The following is a list of common ingredients of paints and thinners:

- Pigments
- white lead
- red/brown iron oxide
- chromium oxide
- iron blue
- cadmium yellow
- lead powder

#### Solvents – thinners

- toluene
- xylene
- carbon tetrachloride
- perchloroethylene
- isopropyl alcohol
- cyclohexanol
- n-amyl acetate
- methyl ethyl ketone
- cyclohexanone
- methylene chloride

#### Resins

- isocyanates (contained in urethane resins)
- epichlorohydrin (contained in epoxy resins)
- 

### **Spray Painting Safety**

Spray painting is a common and effective way to protect and beautify parts, products, vehicles, and buildings. Spray painting allows coverage of large areas with even coats of primer, paint, sealers, and other coatings. However, workers in spray painting operations need to recognize and guard against the hazard associated with spray painting processes.

Hazardous chemicals in coatings and solvents can enter the body several ways. Workers can inhale chemical vapors from spraying, absorb the chemical by skin contact or inject the chemical with high pressure spray painting equipment.

As proper ventilation is important when working with paint coatings, a spray booth is an excellent way to remove spray paint vapors and debris from a worker's breathing zone. Many coatings contain flammable substances that

are aerosolized when sprayed through powered equipment and without proper ventilation, such as in a spray booth, these vapors can build up and create an explosion and fire danger. But to provide maximum protection, the spray booth must be properly maintained, including regular cleaning of filters and overspray. And to prevent sparking a flammable substance, smoking and other sources of flame near spray painting operations should be prohibited and tools should be properly rated and grounded for work in a spray painting area.

Because much of the equipment used for spray painting and surface preparation uses compressed air, workers should be aware that noise can be a risk, so should wear hearing protection when working with air powered tools.

### **How to Control Health Hazards**

Following a few sensible rules can help to reduce exposure to chemical hazards.

### **Environmental Control**

Whenever possible, painting or priming operations should be done in a spray booth or room. These areas have been designed to reduce exposure to paint vapors and additives – use them correctly. You should make sure that the ventilation in the spray booth or room is adequately maintained and working properly.

Before using the spray booth or room:

- turn on the ventilation system,
- check the spray booth filters and change if necessary, and
- turn on the make-up air unit.

When painting in an enclosed space (a room):

- provide outside ventilation air with fans or open windows,
- turn off ignition sources like wall heaters

When painting:

- follow the equipment manufacturer's instructions,
- avoid using plastic drop cloths on the floor (slip hazard)
- never point a spray gun at yourself or anyone else,
- position yourself so the piece you are spraying is between you and the exhaust fan,
- do not over spray, and
- use appropriate personal protection.

## **Personal protection**

One positive step you can take to ensure continuing good health is to use personal protective equipment. Here is a brief description of some of the protective equipment available.

### **Respirators**

Two types of respirators, the air-purifying and the atmosphere supplying, are commonly used in spray painting. **IMPORTANT** – you **MUST** use the correct type of respirator for the job being done and the chemicals being used.

The air-purifying type of respirator should be used only during exposure to those specific chemicals, or groups of chemicals, described on the respirator cartridge. These cartridges are good only for a limited time and must be replaced with new ones when:

- you can smell vapors in the mask,
- they become difficult to breathe through, or
- they have been used for their specific lifetime

The atmosphere-supplying type of respirator must be used in some paint spraying operations, particularly with urethane paints or when painting in a confined space e.g. inside a tank.

**REMEMBER** — whichever respirator is used, it must **FIT** properly to ensure adequate protection (check the manufacturer's instructions). Respirator maintenance and cleaning is important. No one wants to use a dirty, leaky respirator which has been worn previously by someone else. Keep your respirator in good condition by cleaning and sanitizing it regularly. Store it in a clean place. Check it for pliability and signs of deterioration before you wear it. If the respirator needs repair, use only the manufacturer's recommended replacement parts. With a little thought, and a small amount of effort, your respirator will protect you for a long time.

### Things to do and not to do before painting

- **DO** Post "No Smoking" and "No Welding" signs
- **DO** Remove portable lamps and heaters from the area
- **DO** Make sure painting is done away from naked flames, sparks, non-explosion proof motors or any other source of ignition.
- **DO** Check the ventilation system to make sure it is on and working correctly.

- DO Electrically ground all spraying equipment
- DO Make sure approved respirator, eye goggles and any other protective equipment required for the job are worn
- DON'T Smoke
- DON'T Take more paint out of the store room than you can use in one day.

## Use of Metal Scaffolds

### General

There are various types of scaffolds and they all have a right and wrong way to be erected.

The misuse of scaffolding may result in serious injury. Every worker who designs or constructs a scaffold should be competent and know what the manufacturers specifications are for that type.

The scaffold type that would be best suited for the job and capable of withstanding the loads to be imposed on it must be determined before the job commences.

Ensure that:

- The scaffold you intend to use is the correct one for the job.
- Scaffolds must be inspected and marked with a green tag by National Steel Erectors Ltd. supervisor prior to use. Do not use scaffold if it has been marked with a red or yellow tag.
- The location in which the scaffold is to be constructed is level or is capable of presenting secure footing by use of mudsills or some other device.
- The scaffold will be erected by a competent worker
- Legislative and manufacturers requirements have been complied with.
- Safe access and egress to both the scaffold and the general work area has been provided
- Leveling adjustment screws have not been overextended;
- Tower scaffolds have outriggers or are guyed and have all component parts secured in place ( i.e. cross braces, pins, lateral braces);
- Scaffold work platforms have perimeter guardrail –
  - Horizontal Rail – 0.92 meters above the platform
  - Intermediate Rail – Horizontal rail midway between scaffold platform and top rail
  - Toe Board – Horizontal member at platform level no less than 140 mm in height above the platform level.
- Scaffold planks are of number one grade materials with maximum spans of 3.1 meters on light duty and 2.3 meters on heavy with a maximum projection beyond the ledger of no more than 300mm.

## Use of Portable Ladders

### Purpose

This practice provides guidelines for selecting, setting up, maintaining and using ladders in a safe manner.

Ladders are the most common type of access equipment and personnel have significant exposure to ladder hazards on a regular basis. Training alone will not yield a sufficient reduction in ladder-related accidents. Any significant reduction on the number of such accidents requires regular supervisory reinforcement of training as well as improved site control of operations involving ladders.

### Ladder Safety

All employees shall make sure the following requirements are met when using ladders:

- Personal must not use a ladder if there is another safe recognized way to enter or exit a raised/elevated work area.
- Use each ladder only for the purpose it was designed, constructed and maintained to ensure safer function.
- Check the condition of the ladder before use. Anything that might endanger personnel must be repaired/remedied before the ladder is used. Never use broken or damaged ladders.
- If work cannot be done safely from a ladder, a work platform must be provided.
- When servicing energized or potentially energized electrical equipment, use ladders made of non-conductive material.

### Portable Ladders

The CSA standard for portable ladders specifies design and performance requirements and tests for common types of portable ladders. Portable ladders used by National Steel Erectors Ltd. employees will meet the CSA standard.

The following procedures are to be followed when using portable ladders:

- Ensure the base of an inclined ladder is no further from the base of the wall or structure than one quarter the length of the ladder. Measure from the point at which the ladder contacts the wall or structure,

- Secure the ladder against movement and place it on a level and stable base. Always secure the ladder or assign a person to hold the ladder to prevent it from slipping or falling.
- At a minimum overlap on an extension ladder should be 1m or 3 rungs, unless the manufacturer specifies the overlap
- Always face the ladder when using it. Grip the side rails (not the rungs) firmly and use the three-point contact method when climbing or descending. Use a hand-line to raise or lower objects.
- Use a tool belt and pouch for holding small tools while working on a ladder.
- Do not overreach while on the ladder; instead, climb down and move the ladder to a new position.

## Use of Force Air Heating Equipment

### General

Force air heating can be a fire and explosion hazard. Forced air heaters should be used on a stable level surface or hung securely by a competent tradesperson. All flammable material should be kept well away from the heater.

The following general recommendations apply to forced air-heating equipment:

- Determine if the fuel supply is propane or gas.
- Provide clean fittings to fuel supply with CSA approved hoses.
- Use Teflon tapes on fitting threads and secure male and female ends. DO NOT OVER TIGHTEN.
- Open fuel supply valve briefly and shut off. Use liquid soap to check for leaks.
- Press pilot switch and ignite fuel supply burner of heater.
- Hold pilot switch until thermal coupler is red-hot and release. If adjustable, trim, adjust to desired level.
- Check that no combustibles are near open flame prior to ignition.
- Check heater periodically to monitor fuel supply and air supply.

## **Pulling Hose or Cables across a Roof**

### **General**

The amount of pulling or dragging of cables or hose across a roof should be minimized at all times. A snagged cable or hose is falling or tripping hazard.

- Ensure there is no knots in the cable or hose before you pull the cable up on the roof.
- Take the hose or cable from the ground as close as possible to the work area to minimize the amount of actual dragging across the roof.
- If you have to move across the roof with the torch or welder stinger, pull enough cable or hose up from the ground to reach the new work area before you start to walk across the steel.
- If your cable or hoses does get snagged, walk over to the snag and free it. By whipping the cable to dislodge a snagged cable, you run the risk of pulling yourself off the building.

## Attaching Cable Clips and Clamping Wire Rope

### General

As these cables are used for guy lines or lifelines, it is imperative that they are clamped properly.

Every worker should be familiar with the following procedures:

- Wire the thimble to the rope at the desired point, then bend the rope around the thimble and secure temporarily by wiring the roper members together.
- 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.
- 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 equalize the tension on both sides of the clip. Do not apply too much stress of the clip attached in the first step will not hold. Tighten all clips.

Diameter of Rope	Number of Clips	Spacing Between Clips Center to Center
$\frac{1}{4}$	2	1 $\frac{1}{4}$
$\frac{5}{16}$	2	2
$\frac{3}{8}$	2	2 $\frac{1}{4}$
$\frac{7}{16}$	2	2 $\frac{1}{2}$
$\frac{1}{2}$	3	3
$\frac{5}{8}$	3	4
$\frac{3}{4}$	4	4 $\frac{1}{2}$
$\frac{7}{8}$	4	5 $\frac{1}{4}$
1	4	6
1 $\frac{1}{8}$	5	7
1 $\frac{1}{4}$	5	8
1 $\frac{1}{2}$	6	9
1 $\frac{3}{4}$	7	10 $\frac{1}{2}$

## Cutting and Burning

### General

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

- Always ensure that adequate ventilation is supplied since hazardous fumes can be created during cutting or burning.
- Where other workers may be exposed to the hazards created by the cutting and burning they must be alerted to these hazards or protected from them by the use of “screens”.
- Never start work without proper authorization.
- Always have firefighting or prevention equipment on hand before starting cutting or burning.
- check the work area for combustible material and possible flammable vapors before starting work.
- Never work alone. A fire of spark watch should be maintained.
- Check hoses to protect them from slag or sparks.
- Never cut lines, drums, tanks, etc. that has been in service without making sure that all precautions have been carried out and permits obtained.
- Never cut in a confined space without proper gas tests and required safety lookout.
- When working overhead use fire resistant materials (blankets, tarps) to control or contain slag and sparks.
- Cutting must not be performed where sparks or cutting slag will fall on cylinders (move all cylinders away to one side).
- Open all cylinder valves slowly. The wrench used for opening the cylinder valves should always be kept on the valve spindle when the cylinder is in use.

## Exiting Elevated Boom Platform

### Warning:

Failure to comply with all restrictions, instructions and warnings contained in this letter, the Operators Manual and the applicable safety or owner's manual could result in death or serious injury.

### Application Description

An operator/worker exiting an elevated boom platform an adjacent surface/structure.

### Requirements

1. Operators must be trained and qualified how to safely operate the equipment and be familiar with specific model of Genie equipment as follows:
  - a. Be familiar and comply with the equipment operating and safety manuals.
  - b. Understand all control functions, decals and warnings.
  - c. Be aware of and understand all safety devices specific to the equipment being used.
  - d. Be instructed regarding the specific hazard associated with using the Genie equipment in the application, and utilize all means, including those provided by the user/employer, to avoid them.
2. The user/employer and the operator shall comply with all applicable jobsite, local, provincial and federal rules, regulations, and standards related to the use of the equipment and its modification.
3. The Genie must be in proper working condition and configuration
4. Applications using the Genie outside of its intended purpose are not allowed beyond the approval; criteria contained herein after.
5. The boom must be operated in accordance with all restrictions, instructions and warnings contained in this procedure, the operators manual, decals and the responsibilities and safety manuals contained in the machine.
6. Operators must comply with all applicable local, provincial, federal, jobsite and manufacturer's requirements for the use of personal fall protection equipment on Genie booms and when exiting or entering an elevated boom platform.

- a. The use of an approved full body harness and lanyard is required at all times while in the platform
7. If a self-retracting lifeline/lanyard is used while exiting the platform it shall not allow a free fall greater than 6 ft.
8. The machine must be located on a firm level surface capable of supporting its full weight prior to elevation and during operation.
9. Operators must only enter and exit through the sliding mid-rail entry or gate provided on Genie Boom Platforms. Operators must not climb on the platform guardrail to enter or exit the platform.
10. Employers and operators must be aware of and plan for potential vertical and horizontal platform movement while exiting or entering an elevated boom platform.
11. Before moving from the platform to an adjacent roof surface, be sure that the roof surface is firm and capable of supporting the weight of the platform, operator(s), tools and equipment.
12. The platform entry step shall be positioned as close to the roof surface as possible prior to entering or exiting the platform but not be more than 12 inches away from the roof surface.
13. Operators should not exit the platform in winds exceeding 30 km/h

**Additional Requirements – Maintaining 100% tie-off to an approved structure**

1. Operators are required to wear approved personal fall protection equipment at all times and must use a lanyard designed to allow 100% tie-off when exiting or entering an elevated platform. Operators must attach a lanyard to an approved adjacent structure anchorage before detaching the primary lanyard from the platform anchor.
  - a. Note: operator may exit boom with the primary lanyard still attached to the platform only for the purpose of attaching another lanyard to an adjacent structure.
2. When re-entering the platform, achieve 100% tie-off by attached to the boom platform anchor before disconnecting the other lanyard from the adjacent structure anchor. Do not operate the boom while a lanyard is attached to the adjacent structure anchor.
3. The operator must achieve 100% tie-off to an approved attachment point when exiting the platform and/or transition to an approved structure that incorporates approved fall protection measures.

**Additional Requirements – using a Boom Platform as Fall Restraint Device**

1. Operator/worker exiting the platform shall maintain 100 % tie-off to the boom platform anchor.
2. The platform shall be extended beyond the edge of the structure surface sufficiently such that an operator using an appropriate lanyard, as determined by a qualified person, and will always be a minimum of 4 feet from any edge.
3. A person trained in the operation of the Genie boom shall remain on the ground near the machine base controls to prevent unauthorized use and to prevent the machine from being used.
4. Do not operate the boom once an operator has tied-off and exited the platform.