HEALTH AND SAFETY PROGRAM

Tata Steel Minerals Canada

We are committed to the health and safety of our employees, sub-contractor employees and the community.

June 2015 v1.0

Document History

Version	Date	Reviewed by	
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Executive Approvals

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1.0 HEALTH AND SAFETY LEADERSHIP

1.1 TSMC Occupational Health and Safety Policy

TATA STEEL MINERALS CANADA LIMITED

TSMC Occupational Health and Safety

TSMC Health and Safety Vision

We are committed to the health and safety of our employees, sub-contractor employees and the community. We will lead our industry in creating a working culture where safety expectations are living choices. We believe that the only acceptable level of injuries or incidents is zero. To achieve this goal we will strive to create a workplace to continuously improve our processes, require individual accountability, and promote comprehensive safety awareness. We expect all employees to be constantly aware of potential hazards, faithfully adhere to our safety standards and actively participate in and support the advancement of our health and safety practices. Everyone shares in the responsibility of safety.

TSMC Health and Safety Mission

Protecting the health and safety of employees, sub-contractor employees and the community is the primary concern of all of us at TSMC. TSMC will make every reasonable effort to promote, create and maintain a safe and healthy work environment. This will be realized by everyone's adherence to safety principles, by adopting sound management practices and by complying with applicable local provincial and federal health and safety legislations.

<Original signed by>

Rajesh Sharma	Praveen Jha	Atul Agrawal	Jean-Marc Blake
CEO & MD	Chief Operations	VP Projects	VP Organizational Effectiveness

1.2 Assignment of Responsibility and Accountability for Safety

Tata Steel Minerals Canada is committed to clearly defining responsibilities and accountabilities required of all stakeholders for the accomplishment of desired safety program goals and maintenance of our safety management system.

All management and hourly employees are expected, as a condition of employment, to undertake their tasks and responsibilities in a manner that protects the health and safety of themselves and others in the workplace.

Corporate Health, Safety & Environment Steering Committee:

Under the chairmanship of the Vice-President, Human Resources, Health, Safety and Administration, the Steering Committee made up of: Vice President Operations; Vice-President Commercial and Procurement; Vice-President Projects; Superintendent Mining; Chief Administration; Senior Manager Health, Safety and Security; and, Manager Environment and Permitting, as members, provide the strategic TSMC direction to the Health and Safety Program.

More precisely, the Committee is responsible for:

- Providing visible leadership in health and safety;
- Maintaining overall control and direction of the Health & Safety Program;
- Ensuring that all safety policies are implemented and supported in all areas;
- Ensuring that all personnel are aware of, and effectively support, the policies and procedures set out in the Health and Safety Program;
- Reviewing safety statistics and incident summaries on a regular basis to evaluate performance and implement improvements as required;
- Setting annual objectives and targets for improvements in health and safety performance with assigned accountabilities.

Management Employees Shall:

- Lead by example;
- Do everything reasonably possible to ensure that activities are carried out in accordance with regulatory and organizational requirements and with utmost regard for worker health and safety;

- Conduct Tool Box and other safety meetings with employees at the required frequency and complete reports that detail the agenda, discussions, attendance and any action items requiring follow-up;
- Make daily observations of conditions and behaviours in the work locations and hold employees accountable for unacceptable performance in this regard;
- Ensure that new employees receive detailed job safety instructions and are limited in their work assignments until trained, tested and competent;
- Provide instruction to workers in safe work practices and procedures;
- Ensure compliance to personal protective equipment standards in all areas of the operation;
- Conduct and/or participate in planned workplace inspections;
- Provide employees with information about the hazards on the job and how to utilize existing controls to prevent injury;
- Support the TSMC Health and Safety Program by establishing personal goals and objectives for employees so that they may make direct contributions to the program's success.

Workers Shall:

- Actively participate in the Company Safety Program;
- Comply with safe work practices, procedures, and rules;
- Take all reasonable precautions in all circumstances to protect themselves and others in the workplace;
- Make proper use of safety equipment and personal protective devices and clothing required by the company;
- Report unsafe conditions or acts and assist with the aim of reduction and controlling of incident producing conditions and unsafe acts at work;
- Report all incidents, injuries and near misses immediately;
- Report any anticipated loss of work time to their supervisor as soon as possible after being treated by a physician;
- Promptly complete or assist in the completion, as necessary, of all forms, reports and investigations related to any incidents.

Occupational Health & Safety Committee Members Shall:

- Attend scheduled Occupational Health & Safety Committee Meetings;
- Assist, as required, in incident/incident investigations, site inspections and policy/documentation review;
- Advise workers on matters pertaining to health and safety;
- Act as a liaison between employees and management on matters pertaining to health and safety;

Health and Safety Advisors Shall:

- Champion the day-to-day compliance to, and administration of, the Safety Program;
- Post bulletins, safety posters, safety rules and other relevant information in the workplace;
- Facilitate incident investigations in conjunction with the responsible supervision;
- Coach and mentor supervisors in the application of safety interactions, safety meetings and other responsibilities;
- Ensure that pertinent safety reports are submitted as required;
- Prepare descriptions of identified unsafe conditions and the steps taken to correct these conditions;
- Ensure that corrective actions have been taken whenever deficiencies have been identified;
- Facilitate delivery of safety seminars and training;
- Inspect the work area regularly to keep informed about on-going activities;
- Compile the necessary statistical and incident data;
- Monitor Material Safety Data Sheets (MSDS) to ensure that current copies are accessible to all employees;
- Conduct orientations for new employees, contractors and others as required;

1.3 Improvement Action Plans

General improvements in the Health & Safety Program include the following emphasis areas:

Safety Culture Promotion through safety initiatives, programs, and/or awareness campaigns to continue to foster an improving safety culture. Efforts will be communicated to all employees and tracked through monthly reports.

Key Performance Indicators are used to measure results achieved by individuals, departments and the organization as a whole.

Targeted Improvements will be introduced throughout the year with updates required on a quarterly basis. Additional focus areas will be added as needed to ensure continuous improvement. This information will be provided to all personnel through postings in field areas, tool box meetings and on the company website.

Annual organizational goals to promote continuous improvement in health and safety shall be established by the Executive Committee and communicated throughout the organization. Measurement of success in attainment of annual organizational goals shall be made quarterly.

Personal performance objectives for all levels of management are a part of the overall performance management system. Wherever possible, corporate goals shall be cascaded to all levels.

Personal health and safety goals shall be assigned to all non-management employees at the beginning of each calendar year. Supervisors are to review performance on a quarterly basis and provide feedback and direction as required for successful attainment of these goals.

1.4 Program Element Leadership

The Executive Committee shall approve the appointment of leaders for each element of the Health and Safety Program to champion the promotion and proliferation of the element and its purpose and intent. Element leaders may engage subordinates and others to promote teamwork and involvement in the Safety Program.

Names and photographs of element leaders are to be posted in all work areas.

1.5 Annual Program Evaluation & Review

Internal audits of all Health and Safety Program elements shall be conducted by persons designated by senior management, with results reviewed by the Steering Committee. To facilitate meaningful internal auditing, audit protocols are provided for use as the basis for evaluation, scoring and reporting.

Results of program evaluations are to be used in the goals and objective setting process for subsequent years.

1.6 Occupational Health and Safety Committee

1.6.1 Committee Membership, Training and Leadership

A Joint Occupational Health and Safety Committee shall be established at the DSO-Timmins operations in accordance with the Occupational Health and Safety Act and Regulations.

Members shall be selected from main areas of the operation and both rotations to ensure adequate representation within:

- Mining;
- Plant Operation;
- Plant Maintenance;
- Support Areas.

Committee meetings shall be held during working hours at least every three months or more frequently if deemed necessary. Minutes of all regular meetings and special meetings shall be recorded and posted in work areas.

All committee members shall be trained for their roles.

A worker and management representative shall co-chair the committee.

At least half of the members of a committee are to be persons representing the workers who are not connected with the management of the workplace.

The people representing the workers on the committee are to be selected by their fellow workers. Management representative are appointed.

1.6.2 Committee Terms of Reference

The Committee shall review and adopt a well-defined, clearly stated Terms of Reference outlining its structure and function. The adopted Terms of Reference provides clear direction in committee roles and responsibilities. Suggested components include:

- Function, purpose and scope of the Committee;
- Process for forwarding recommendations to the employer;
- Provisions for record-keeping;
- Frequency of meetings;
- Number of people required for a meeting;
- Protocol for worksite inspections and visitations;
- Specific responsibilities for members;

- Duration of membership.

The duties and functions of a Joint Health & Safety Committee are those identified in provincial regulations:

- Identify situations that may be unhealthy or unsafe for workers and advise on effective systems for responding to those situations;
- Consider and expeditiously deal with complaints relating to the occupational health and safety of workers;
- Consult with workers and the employer on issues related to occupational health and safety;
- Make recommendations to the employer for the improvement of the health and safety of workers;
- Advise the employer on programs and policies required under the regulation for the workplace;
- Advise the employer on proposed changes to the workplace or the work processes that may affect the health or safety of workers;
- Ensure that incident investigations and regular inspections are carried out as required by the company policies;
- Participate in inspections and investigations;

1.6.3 Decisions of the Committee

The committee should attempt to reach consensus on each decision it makes. If the committee cannot reach consensus then a vote may be taken. The committee will go with the majority vote, when a vote is needed.

1.6.4 Assistance in Resolving Disagreements within Committees

If the Health and Safety Committee is unable to reach agreement on a matter at the workplace, a co-chair of the committee may report this to a senior manager, who may investigate and attempt to resolve the matter. Unresolved issues may be referred to the Inspections Divisions, Workplace Health, Safety and Compensation Commission for resolution.

1.6.5 Support for the Committee

The company shall provide the reasonable equipment, space and support necessary for the joint committee to carry out its duties and functions.

1.6.6 Visibility and Communications

Names and photographs of committee members shall be posted in all areas of the operation in order to make members recognizable to the workforce.

Copies of minutes of committee meetings are required to be posted in all work areas, along with up-to-date information on outstanding issues of concern to workers.

1.7 Health and Safety Rules and Absolutes

1.7.1 Organizational Rules

The following rules apply to all employees of TSMC. All regulations and rules specify the minimum standards to be maintained.

- Standard practices, standing instructions, directives, codes, etc. shall also govern employees, which are supplementary but do not contravene this manual.
- All unsafe acts and conditions, including “near miss” incidents, are to be immediately reported to appropriate supervision.
- First aid treatment is to be obtained promptly for any injury.
- All work shall be carried out in accordance with appropriate Safe Work Practices, Job Procedures, Hazard Analysis and your supervisor’s direction.

Personal Conduct – Mandatory Requirements:

Employees shall:

- Wear personal protective equipment as specified in the workplace.
- Report all injury or damage incidents immediately;
- Perform all work in accordance with safe practices and the supervisor’s direction;
- Follow good housekeeping practices;
- Operate all vehicles and mobile equipment in accordance with Company rules and highway regulations (including the wearing of seat belts). Employees are not permitted to ride in the back of a pick-up, or in any mobile equipment that does not have a specified passenger seat.

1.7.2 Absolutes

The following are prohibited at all times on all Company property and job-sites. Failure to comply may result in disciplinary action up to and including dismissal:

- Possession or consumption of alcohol or illegal drugs;
- Possession of firearms without authorization;
- Fighting, horseplay, practical jokes;
- Theft or vandalism;
- Damaging, disabling or interfering with safety, firefighting or first aid equipment;
- Arriving for work or remaining at work when ability to perform the job safely is impaired;
- Participating in unsafe acts or contributing to unsafe conditions;
- Causing injury or equipment damage by neglect;
- Working at heights greater than 1.8 meters (6 feet) without proper fall protection;
- Working without a valid safe work permit where one is required;
- Violation of the company Isolation (Lockout/Tagout) Program.

1.7.3 Rule Education and Enforcement

Failure to enforce safety rules leads to unsafe behaviours and conditions in the workplace – both of which result in higher injury rates and lower productivity. Enforcement of safety rules shall be the responsibility of all levels of supervision and management.

2.0 COMMUNICATIONS & TRAINING

2.1 Policy

It is TSMC policy to ensure that ongoing and effective communications and the exchange of information is established and maintained regarding health and safety in our workplaces.

Health and safety training is the foundation of a successful program. Such training should give management, supervision, and workers an appreciation of their personal responsibilities for health and safety within the framework of the minimum standards outlined by legislation.

In addition to the transfer of knowledge and skills, training promotes positive attitudes and a culture in which all parties collaborate to establish and maintain a safe and productive workplace.

2.2 Scope

This section outlines the strategies and tactics through which the programs of ongoing and effective health and safety communications and training are to be maintained. Responsibilities are identified wherever possible so as to ensure clear accountabilities.

2.3 General Communications

2.3.1 Incident Communication and Lesson Sharing

Site Wide Alerts are to be issued to communicate important health and safety information to the general site population. Alerts are prepared by the designated health and safety advisor and communicated through e-mail so that they may be posted in each area or disseminated through safety meetings and one-on-one interactions. Topics may include wildlife sightings, new traffic signage or patterns and health concerns such as a flu outbreak.

The Health, Safety and Security Department shall evaluate reported incidents and, investigation reports for opportunities to communicate the details and any lessons learned to other areas of the operation.

2.3.2 Bulletin Boards

Health and Safety Bulletin boards that are strategically located throughout the DSO-Timmins site are intended to communicate current information to workers and contractors. Bulletin boards are to be inspected as part of the Planned General Inspection program to ensure that they are kept up-to-date, clean and used only as intended.

2.3.3 Medical and Health Information

The communication of medical and general health information is the responsibility of the site nurse who shall:

- Update bulletin board information;
- Distribute alerts and general information through e-mail;
- Promote general health and well-being amongst TSMC employees, contractors and service providers;
- Liaise with the local communities and public medical practitioners on health issues of mutual concern.

2.3.4 Off-the Job Safety & Health Promotion

Wherever practicable, health and safety advisors shall provide postings, safety meeting discussion topics and other media to promote safety and health of workers while away from the job site.

2.4 Orientations

Tata Steel Minerals Canada shall provide Employee Orientations to all employees and contractors prior to beginning work.

The orientation shall include company policies, expectations, worker rights, general safe work practices/procedures and related topics. Employees shall sign off on topics covered in the orientation.

The purpose of any orientation is to educate employees on the expectations, hazards and any other information that may be required for the safe and smooth functioning in a new workplace. Orientations will provide consistency in communicating the rules, processes and expectations to all employees and contractors before they start work.

There are five types of orientations for TSMC employees, contractors and visitors:

- General orientation;
- Mine orientation;
- Work Site orientation;
- Visitors orientation;
- Contractor orientation.

2.4.1 General Orientations

New TSMC employees, contractors, or other persons who work at the DSC-Timmins site for more than 48 hours or who provide regular services at the site, are required to undergo a General Orientation.

General Orientations are facilitated by the Health, Safety & Security Department and consist of a presentation on the key elements of the TSMC Safety Program, site safety rules and absolutes and emergency procedures.

Upon completion of the General Orientation, TSMC employees are presented with a name tag and company logo to be affixed to their hard hats.

Records of orientations are maintained by the Health, Safety & Security Department.

2.4.2 Mine Orientations

Mine Orientations are required for all employees, contractors, visitors, suppliers and service representatives who work or drive in designated mining areas.

Mine Orientations are provided by the Health, Safety and Security Department. Hat decals are provided to people who have completed the Mine Orientation training so that they may be immediately identifiable.

2.4.3 Work Site Orientations

Site orientations are the responsibility of the immediate supervisor who shall ensure that new employees are adequately oriented to their work areas. A Worksite Orientation Checklist must be completed and signed by the supervisor and worker to verify that the orientation had been completed.

Contractors and subcontractors must provide their company orientation as well as a job specific orientation for the work and area covered by the contract. It is the contractor's responsibility to ensure that worker certifications are up to date and valid, do competency checks and have documentation available for review by TSMC prior to starting work. This information will be held by the contractor and is a condition of the contractor's continued employment. Contractors will have to continue competence evaluation and field training specific to the trade and update TSMC when workers advance to other trades. Contractors will also have to give a mine/plant tour to all new employees. No employee will start on night shift unless a daylight mine/plant orientation has been completed.

Contractors will submit their orientation package to TSMC Safety for review prior to any work contract starting. TSMC will audit the presentation of the orientation at any time to ensure effectiveness of delivery and content consistency.

2.4.4 Visitors Orientations

Abbreviated DSO-Timmins site orientations must be completed by visitors and a full-time escort is required for the duration of the visit. Where visits exceed 48 hours, a regular orientation is required.

Escorted visitors may receive the abbreviated orientation at the Security Office at the site entrance.

2.4.5 Contractor Orientations

Each contracting company is expected to formally orient their employees to the relevant details of their specific safety program, including rules and the system of discipline used for rule violations. TSMC rules shall apply where there is a conflict or inconsistency. The contractor employees must also be provided an orientation to their physical work area including locations of lunch and toilet facilities, first aid and other emergency equipment and any restricted areas.

2.5 Safety & Qualifications Training

TMSC is committed to taking necessary steps to ensure that employees receive training necessary to perform their duties in a safe and responsible manner.

Formal training required for safe and productive operation of mobile and plant equipment, as well as legislated training required for hazardous task execution, shall be coordinated for all TSMC employees through the on-site training advisor.

Annual Training Needs Assessments are to be completed to determine the specific courses required for the operation in order to ensure adequate numbers of trained and certified workers are available to cover rotation and shift schedules. Supervisors are accountable for ensuring that:

- Training needs identify which employees should be trained in specific areas and courses;
- Employees are able to attend scheduled training sessions;
- No untrained employee is permitted to do tasks for which training is required, either by provincial regulations or TSMC policies.

Training and certification records shall be maintained by the on-site training advisor. New employees are required to submit proof of completion of any current, relevant courses and certifications that they already have. Copies of certificates and similar documents shall be filed in company training records.

2.6 Tool Box and Group Safety Meetings

2.6.1 Pre-shift Tool Box Meetings

TSMC and contractor supervisors shall conduct and employees shall participate in, pre-shift tool box meetings that focus on completion of the Field Level Risk Assessment (FLRA) and, as a result, the work to be done and any relevant health and safety issues.

Where a Job Safety Analysis (JSA), a Standard Operating Procedure (SOP), permit or similar document is relevant to the work to be performed, the supervisor shall review the identified hazards and the mitigating steps to be taken.

Other discussion items may include:

- Weather conditions;
- Any other TSMC workers or contractors in the immediate area;
- A relevant Safe Work Practice review;
- Emergency preparedness / rescue plans and protocols.

No written reports are required for daily pre-shift meetings held by TSMC operations and maintenance teams other than the FLRA which must be completed by employees and handed-in at the end of the shift.

Contractors may be required to record all meetings and submit copies to the activity supervisor, depending on the terms of the contract.

2.6.2 Weekly and Monthly Group Safety Meetings

Regular group safety meetings shall be held at least monthly at the DSO-Timmins site for all TSMC employees and contractors. Safety meetings for hourly employees are conducted by the crew supervisor with support from a safety advisor.

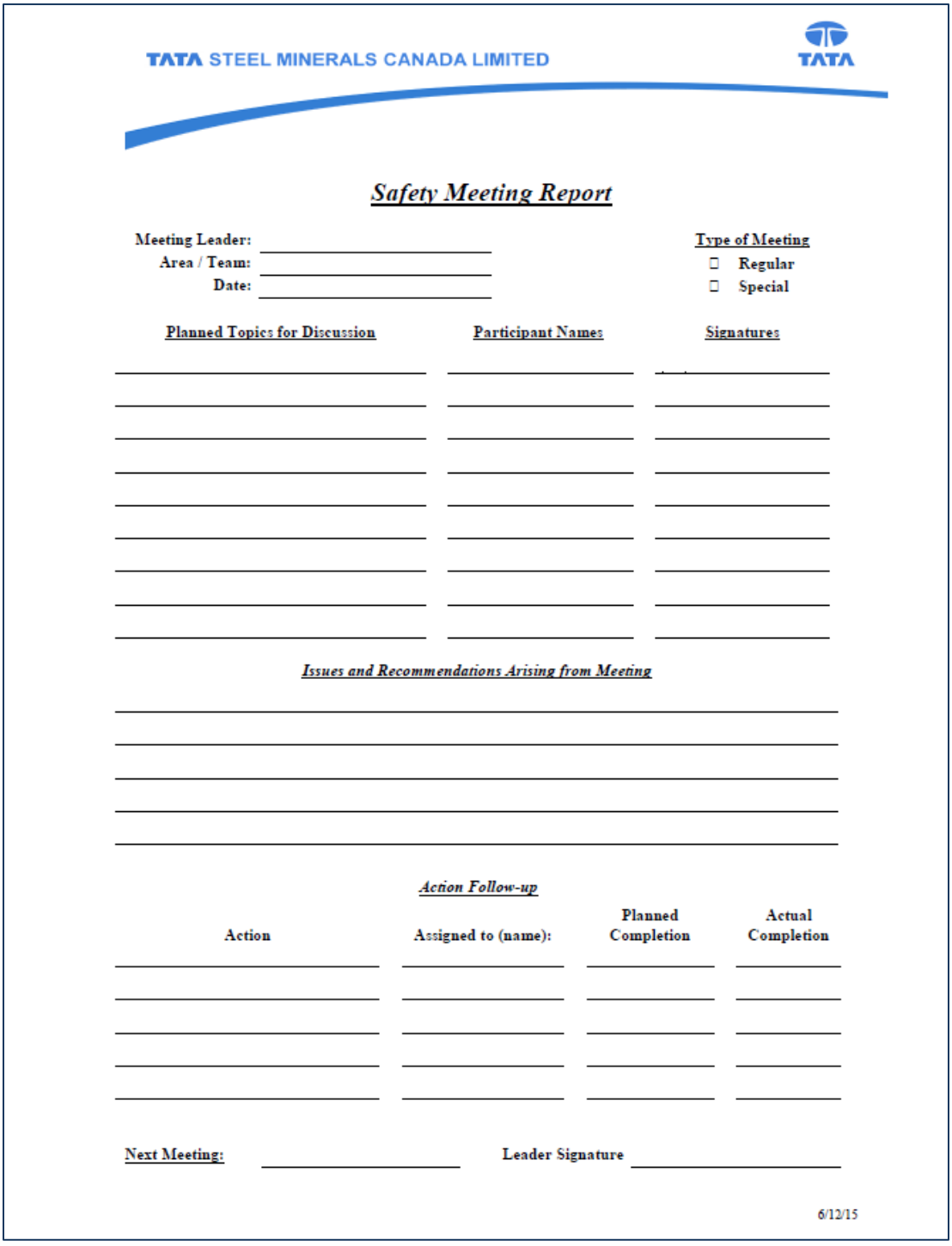
Meetings for staff employees are to be held weekly and facilitated by a safety advisor or a member of senior management.

The intent is to have every employee attend at least one formal group safety meeting each month.

The Health, Safety and Security Department shall provide support for all safety meetings by preparing suggested agenda topics, completing reports and facilitating meetings when requested.

Meetings shall be attended by senior site managers wherever schedules permit.

All attendees at group safety meetings shall sign the Group Meeting Report (Exhibit 2.5.2) to acknowledge attendance and understanding of the topics being discussed.



TATA STEEL MINERALS CANADA LIMITED

Safety Meeting Report

Meeting Leader: _____
Area / Team: _____
Date: _____

Type of Meeting
☐ Regular
☐ Special

Planned Topics for Discussion	Participant Names	Signatures

Issues and Recommendations Arising from Meeting

_____
_____
_____
_____
_____

Action Follow-up

Action	Assigned to (name):	Planned Completion	Actual Completion

Next Meeting: _____ Leader Signature _____

6/12/15

Exhibit 2.5.2: Group Safety Meeting Report

3.0 INCIDENT MANAGEMENT

3.1 Policy

Tata Steel Minerals Canada is committed to ensuring that undesired events are adequately reported and investigated and that corrective actions are undertaken to prevent similar events in the future. To this end,

- All incidents that did or could have resulted in jury, property damage or other form of loss shall be reported and investigated in a timely manner;
- Investigations shall identify root causes and contributing factors;
- Corrective or preventive measures shall be identified and implemented in order to prevent recurrence.

3.2 Scope

This Policy applies to all incidents on TSMC property that result in time lost from work; medical aid, property damage, fire and environmental release, as well as incidents that had the potential to result in any of the above.

The standard for investigations specifies:

- What is to be reported;
- To whom it will be reported;
- How it is reported;
- Which incidents are investigated and to what degree;
- Who will investigate them;
- What forms are to be used;
- What records are to be kept;
- What summaries and statistics are to be developed;
- How often statistical reports are to be prepared.

The incident investigation process involves the following steps:

- Report the incident occurrence to a Health, Safety and Security Department representative within 30 minutes of occurrence;
- Investigate the incident;
- Identify the causes;
- Report the findings to the Health, Safety and Security Department within 24 hours;

- Develop a plan for corrective action;
- Implement the plan;
- Evaluate the effectiveness of the corrective action;
- Make changes for continuous improvement.

3.3 Incident Reporting

All incidents resulting in, or having the potential to have resulted in, lost time, medical aid or property damage in excess of $5000 must be reported on the TSMC Incident Investigation Form (Exhibit 3.2A) within 24 hours, unless extenuating circumstances dictate otherwise.

Minor incidents resulting in or having the potential to have resulted in first aid treatment or property damage less than $5000, shall be reported by the supervisor using the TSMC Minor Incident Report form shown in (Exhibit 3.2B)

An injury becomes reportable to the Workplace Health, Safety and Compensation Commission (WHSCC) when:

- An employee advises his/her immediate supervisor that a workplace injury has occurred and that medical attention has been, or will be, obtained and/or,
- An employee advises his/her immediate supervisor of lost time beyond the day of injury.

Workplace injuries and incidents, whether reportable to the legislative authorities or not, will be reported internally to the Health, Safety and Security Department.

Serious Incident Reporting:

An incident becomes immediately reportable under the OHS Act and Regulations, NL 70/12, as referenced below, whenever the severity of an injury or the potential severity is as described in the legislation.

Reporting Incidents

54. (1) Where an incident takes place at a workplace

(a) that results in serious injury to a person or results in the death of a person; or

(b) that had, or continues to have, the reasonable potential of causing serious injury to or the death of a person

the employer, or principal contractor shall immediately notify the assistant deputy minister of the incident.

(2) Where an incident is reported under subsection (1), notification shall immediately be given to the committee, the worker health and safety representative or the workplace health and safety designate.

(3) In this section […] "serious injury" means

a. *a fracture of the skull, spine, pelvis, femur, humerus, fibula or tibia, or radius or ulna;*
b. *an amputation of a major part of a hand or foot;*
c. *the loss of sight of an eye;*
d. *a serious internal haemorrhage;*
e. *a burn that requires medical attention;*
f. *an injury caused directly or indirectly by explosives;*
g. *an asphyxiation or poisoning by gas resulting in a partial or total loss of physical control; or*
h. *another injury likely to endanger life or cause permanent injury,*

but does not include injuries to a worker of a nature that may be treated through first aid or medical treatment and the worker is able to return to his or her work either immediately after the treatment or at his or her next scheduled shift.

Such incidents must be reported immediately to the regulatory authorities through the Injury Reporting Hotline. It is the responsibility of the Manager, Health, Safety and Security to determine the reporting requirements and to see that the reporting is done.

TSMC will conduct investigations using both individual investigators and/or investigation teams, depending on the type of investigation required (determined by the severity of the incident and the potential for recurrence). All those with investigation responsibilities will be trained in incident investigation procedures, legislative requirements, and investigation techniques. The Health, Safety and Security Department will support and participate in investigations as described in this procedure.

Department Head Responsibilities

- Ensure that completed Incident Investigation reports are forwarded to the Health, Safety & Security Department within twenty-four hours of the incident. In cases where the investigation cannot be concluded within twenty-four hours, a preliminary report can be submitted, indicating that a thorough report will follow.
- Critically review all investigation reports submitted by supervisors.
- Ensure that immediate and underlying causes are found, recommendations are pertinent to the seriousness of the incident, the supervisor has signed off the investigation, and that corrective measures are taken to prevent recurrence.

- Assist or work in cooperation with the Health, Safety & Security Department and/or the Occupational Health and Safety Committee as needed, to implement the recommended actions to prevent recurrence of a similar incident.
- Include in departmental meetings, the review of action item status until closure.

Supervisor Responsibilities

- The supervisor's first priority is to ensure the well-being of his/her employees. Upon first becoming aware of an incident, evaluate the seriousness and nature of the incident.
- Where circumstances warrant an urgent response, ensure that medical attention is provided to any injured employees.
- Where circumstances and severity warrant, secure equipment to prevent further injury or damage and secure the area to ensure that evidence is not disturbed before an investigation is completed.

Employee Responsibilities

- Immediately report any work-related injury/illness. This includes immediate incidents (acute injuries) such as cuts, puncture wounds, sprains and burns as well as those that are of a gradual onset (chronic) i.e., back pain, repetitive strain.
- Immediately report any "near-miss" events and/or unsafe work situations and provide necessary details to the supervisor.
- Assist with the investigation and completion of the necessary reports when requested.

Health, Safety & Security Department Responsibilities

- Review all investigation reports to ensure information is complete, understandable, and based on factual evidence.
- Maintain copies of investigation reports for each incident and enters the details of incidents into a database as reports are received.
- Distribute reports to all areas requiring information for subsequent follow-up of additional corrective action.

- If an incident results in a serious injury as defined under the Occupational Health and Safety Act, Section 54 referenced above, the senior manager, health, safety & security will immediately notify the provincial authorities through the Serious Incident Hotline.

3.4 Incident Investigation Protocols

As little time as possible should be lost between the reporting of an incident and the beginning of the investigation. In this way, those responsible for the reporting and investigation are most likely to be able to observe the conditions as they were at the time, prevent disturbance of evidence, and identify witnesses.

The severity of the incident and potential for recurrence determines the level of investigation to be undertaken. The following protocol determines the type of investigation required:

Level 1 Investigation (Low Risk Category) – First-aid treatment injuries not resulting in lost time, damage to property greater than less than $5000, or the potential for the aforementioned shall be investigated by the area supervisor using the Minor Incident Report Form.

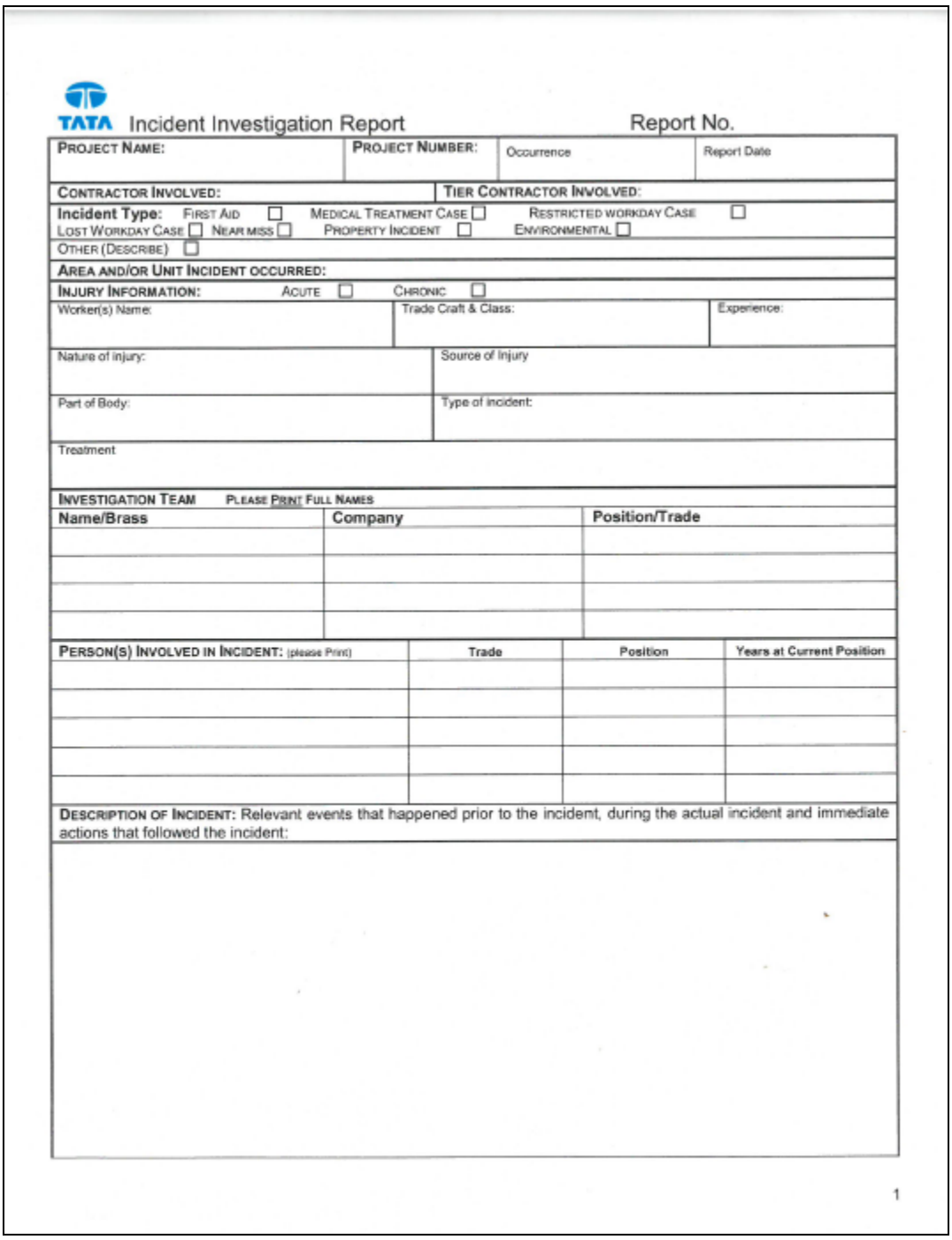
Level 2 Investigation (High Risk Category) – Required when there is a lost-time injury requiring medical aid treatment, damage to property greater than $5000 but less than $100,000, or had the potential for the aforementioned shall be investigated by the superintendent or manager of department in which injury occurred and a representative of the Health, Safety & Security Department who has been trained in incident investigation techniques.

Level 3 Investigation (High Risk Category): Required when there is a fatality, serious injury as defined by Section 54 of the NL Occupational Health and Safety Act, damage to property greater than $100,000, or had the potential for the aforementioned shall be investigated by a team consisting of:

- Head of the department in which the incident occurred;
- Senior manager of health, safety & security;
- Co-chairs of the OHS Committee;
- Technical specialists as required.

3.5 Follow-up Action Tracking

All actions resulting from incident investigations are to be assigned to individuals who will have prime responsibility for their completion. The Health, Safety and Security Department shall track actions to completion and report on the status of each until completed and signed-off.



TATA Incident Investigation Report Report No.

PROJECT NAME:	PROJECT NUMBER:	Occurrence	Report Date

CONTRACTOR INVOLVED:	TIER CONTRACTOR INVOLVED:

Incident Type: FIRST AID ☐ MEDICAL TREATMENT CASE ☐ RESTRICTED WORKDAY CASE ☐
LOST WORKDAY CASE ☐ NEAR MISS ☐ PROPERTY INCIDENT ☐ ENVIRONMENTAL ☐
OTHER (DESCRIBE) ☐

AREA AND/OR UNIT INCIDENT OCCURRED:

INJURY INFORMATION: ACUTE ☐ CHRONIC ☐

Worker(s) Name:	Trade Craft & Class:	Experience:

Nature of injury:	Source of Injury
Part of Body:	Type of Incident:

Treatment

INVESTIGATION TEAM PLEASE PRINT FULL NAMES

Name/Brass	Company	Position/Trade

PERSON(S) INVOLVED IN INCIDENT: (please Print)	Trade	Position	Years at Current Position

DESCRIPTION OF INCIDENT: Relevant events that happened prior to the incident, during the actual incident and immediate actions that followed the incident:

1

Exhibit 3.2A: TSMC Incident Investigation Report

Minor Incident Investigation Report Report No.

DSO TIMMINS	Date of Incident	Time of Incident	
CONTRACTOR(S) INVOLVED:			
Incident Type: FIRST AID ☐ NEAR MISS ☐ PROPERTY DAMAGE ☐			
LOCATION INCIDENT OCCURRED:			
PERSON(S) INVOLVED IN INCIDENT: (please Print)	**Trade**	**Position**	**Years at Current Position**
DESCRIPTION OF INCIDENT: Relevant events that happened prior to the incident, during the actual incident and immediate actions that followed the incident:			
INJURY INFORMATION:			
Worker(s) Name:	Trade Craft & Class:	Experience:	
Nature of Injury:	Nature of Injury:		
Part of Body:			
Treatment			
PROPERTY DAMAGE INFORMATION:			
Equipment Type/No:	Serial No:		
Equipment Leased from:	Leasor Notified: ☐ Yes ☐ No	Name:	
Cost of repair:	☐ Est. ☐ Actual		

CORRECTIVE ACTIONS	**Who**	**WHEN**

Contractor Safety - PRINT	SIGNATURE	(YY/MM/DD)
Contractor Manager - PRINT	SIGNATURE	(YY/MM/DD)

Exhibit 3.2B TSMC Minor Incident Report Form

4.0 WORKPLACE INSPECTION PROGRAM

4.1 Policy

The purpose of the TSMC inspection program is to prevent injuries and illnesses by identifying and eliminating actual and potential hazards before they can cause harm. In addition to identifying hazards, inspection reports are used to monitor standards and procedures and recommend changes. An inspection program will only be successful when there is a process for follow-up so that substandard actions and conditions are corrected.

4.2 Scope

This section describes the four different kinds of inspections that are to be completed at TSMC operations:

- **Planned workplace inspections**: Inspect buildings, structures, grounds, excavations, tools, equipment, machinery, and work methods and practices for hazards that might cause injury or disease. These inspections are to be scheduled at appropriate intervals to prevent unsafe conditions developing.
- **Vehicle and Mobile Equipment inspections**: Employees are to be trained and instructed to inspect their vehicles and equipment regularly, following the manufacturer's recommendations. For example, heavy equipment, vehicles and elevating work platforms must be inspected by the operator before use on each shift.
- **Tool and Equipment Inspections**: There shall be a program of inspections to ensure that hand and power tools and equipment are inspected and tagged on a regular basis. Such tools and equipment include rigging and hoisting gear, grinders, welding machines and fall protection harnesses and attachments.
- **Annual Inspections and Certifications:** Equipment such as cranes – mobile and fixed – highway trucks, boom trucks and the like require annual inspections and certifications done by a government agency or a third party approved by the government to perform such inspections. Fire suppression systems shall be included in the annual inspection program.

4.3 Planned Workplace Inspections

4.3.1 Standards for Inspections

Monthly inspections shall be facilitated by safety advisors according to a schedule prepared by the Health, Safety and Security department. Area management, supervisors and workers at the job site shall be engaged in the inspections. A checklist (**Exhibit 4.2.1**) may be used as a guideline when conducting inspections.

On at least a quarterly basis, the Occupational Health and Safety Committee shall conduct inspections of selected worksites. Findings from each inspection shall be recorded in the minutes of committee meetings.

On-site contractors jobs of one week duration or longer shall be inspected by the TSMC activity supervisor in the first week and at least weekly thereafter. A representative of the contractor shall participate in the inspection.

4.3.2 Inspection Procedure

The following steps are recommended whenever planning, conducting and following up planned workplace inspections:

1. Review previous inspection records and note any commonly reported hazards.
2. Plan the inspection – what is going to be inspected, where, when.
3. Look at what is being done and how. Consider regulations, company policies and standards and best work practices as the basis for evaluation.
4. When unsafe conditions or behaviours requiring immediate action are observed, correct them immediately.
5. Document all sub-standard items and issues identified – even those corrected immediately on the inspection report (**Exhibit 4.2.2**).
6. Look for basic causes of sub-standard conditions, practices and procedures.
7. Review items with the Health and Safety representative and during toolbox talks and management meetings.

4.3.3 Behaviours and Conditions Requiring Immediate Attention

Where unsafe conditions, practices or procedures are noted:

- Take action immediately to rectify the problem, if possible.
- Place warning signs and barricades to keep workers away. Use verbal warnings if applicable.
- Notify management to rectify conditions, record actions taken and the date on the inspection form.
- Record and complete the Inspection Report and file it with safety documentation. Ensure that any unsafe condition, practice or procedure is included in the report, even if corrective action has already been taken.

Where an unsafe act is observed:

- Inform the worker(s) of the observation;

- Discuss the unsafe act with the worker(s) and supervisor;
- Advise on how to correct the unsafe act and the consequences of failing to correct the situation;
- Re-visit the area where feasible to check for change;
- Record the unsafe act and the corrective actions taken on the inspection report.

4.3.4 Completing Reports and Follow-up

Inspection reports should be reviewed with employees during toolbox safety talks and by committee members in OHS Committee meetings. Reports must also be copied to the Health, Safety and Security Department for compliance monitoring and analysis.

In completing the written report:

- List all identified non-compliance;
- Indicate if the item is reoccurring, based on the review of previous inspections;
- Rank each item using the ABC ranking system explained on the report form;
- Indicate the recommended action that should be taken (or has already been taken) to eliminate the problem and prevent recurrence;
- Assign a **person** responsible – provide the name of the individual who is in the best position to complete the action. Ensure that individuals who are assigned a responsibility are informed;
- Where work is required by the Maintenance Department, initiate a Work Request and record the number on the Inspection Report;
- Follow-up and record when each action has been completed.

4.4 Pre-use Equipment Inspections

A program of pre-use inspections shall be developed and maintained by the Health, Safety and Security Department. Employees shall be instructed to inspect their equipment and report any defects to their supervisor.

The following equipment is to be inspected daily before operation:

- All mobile equipment – tractors, graders, front-end loaders, off-highway trucks;
- Light vehicles such as pick-up trucks, SUVs, vans;
- Highway equipment such as tractor trailers, fuel trucks, tag trailers;

- Forklifts, aerial work platforms, mobile and overhead cranes.

Pre-use inspections are to be completed using a checklist (Exhibit 4.3) that is provided by each department. The checklists shall require the following information:

1. Name and signature of person performing the checks;
2. The date and shift;
3. Vehicle or equipment identification (Unit #)
4. Odometer reading or engine hours, where appropriate;
5. Fuel level;
6. Specific items to be checked (checklist items);
7. Remarks – noted defects that need to be attended by maintenance.

Checks to monitor compliance to the pre-use inspection program are the responsibility of each department but may also be done by the Health, Safety and Security Department at any time.

4.5 Tool and Equipment Inspections

All tools and equipment shall be properly maintained so as to reduce risk of injuries to employees or damage to property. Maintenance of tools and equipment will be performed as per the manufacturers' recommendations.

All supervisors and employees shall regularly check all tools and equipment that they are working with, and shall take out of service any tools or equipment that pose a hazard due to a need for repair. All equipment that has been removed from service will be tagged "OUT OF SERVICE". Any equipment tagged "OUT OF SERVICE" will not be returned to service until repaired by a qualified person.

Safety advisors will carry out random inspection of tools and equipment. Documentation will be kept of this inspection process.

The Maintenance Department shall be responsible and accountable for the development and implementation of a program for inspection of tools and non-mobile equipment. The program shall include:

- An inventory of applicable tools and equipment;
- A system of tagging or colour-coding such that each item can be readily identified as inspected in the current year, quarter, month or other required frequency;
- An established preventive maintenance program and schedule that is managed through SAP and complete with a work history of inspections done.

4.6 Annual Inspections and Certifications

Equipment requiring annual inspections shall be identified within SAP along with the provision for work order generation at the appropriate time to permit planning and scheduling of each inspection by authorities or technical specialists.

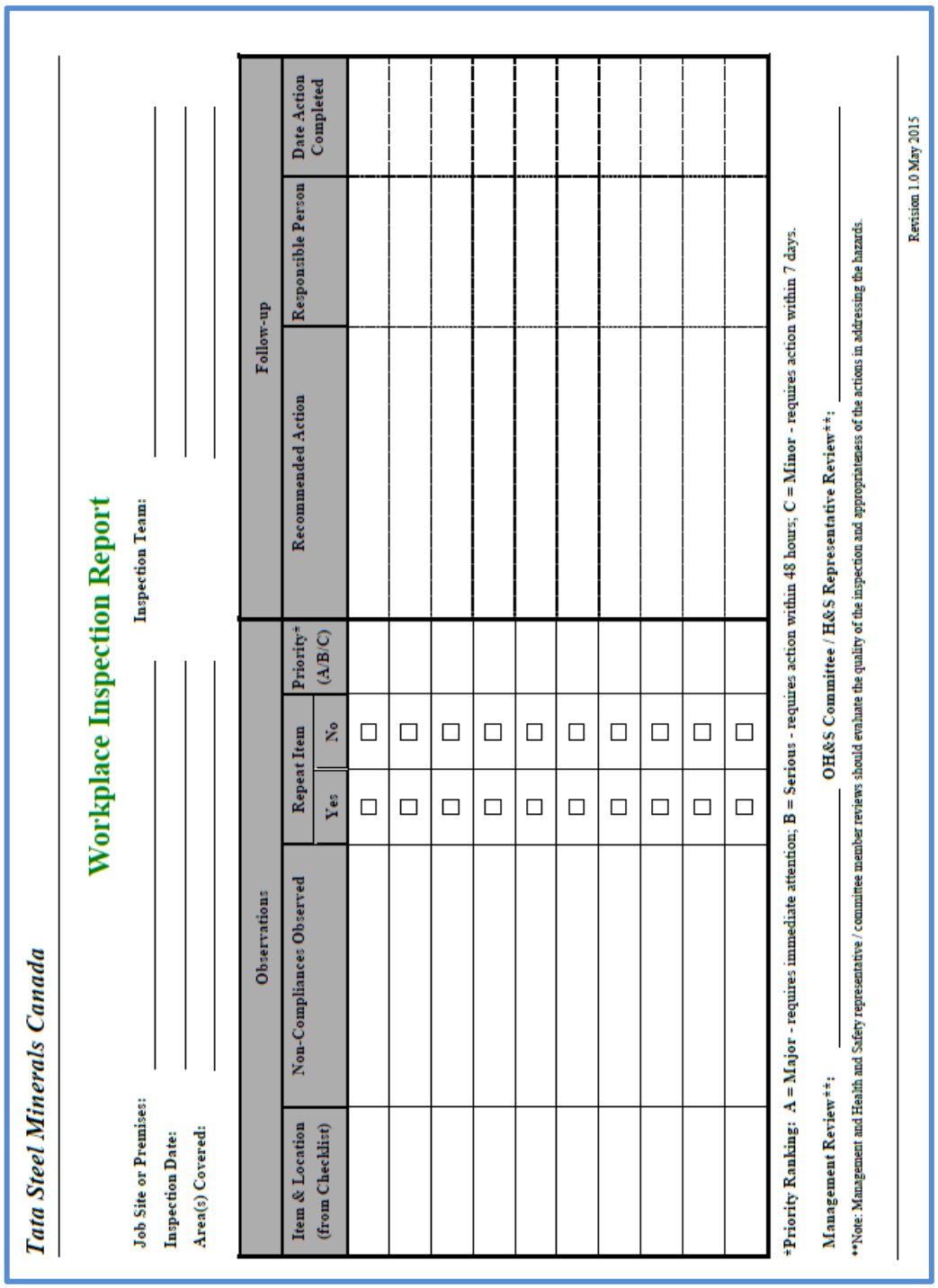
Tata Steel Minerals Canada

Workplace Inspection Checklist

Item / Category	What to Look For	Checked	OK ✓ Yes ☒ No	Non-compliance Issue (if not OK)	Item Number*
Housekeeping	General tidiness; materials stored properly; no unnecessary materials or equipment; walkways clear.	☐	☐		
Emergency equipment / preparedness	Emergency numbers posted; fire extinguishers; eye wash station; first aid supplies; designated first-aid people on site and names posted.	☐	☐		
Personal protective equipment & company rules	Full compliance; condition of equipment being worn / used.	☐	☐		
Worker training and certification	Workers are trained for tasks being performed – equipment operation; procedures for hazardous tasks.	☐	☐		
Equipment and tools	Adequate for the task; used properly; in good condition.	☐	☐		
Ladders, scaffolds, platforms	Condition; erected properly; work platforms are guarded and have toe boards.	☐	☐		
Construction Industry Critical Tasks: Fall Protection; Trenching & Excavating; Confined Space Entry; Power Line Hazards; Traffic Control; TDG; Asbestos Abatement.	Compliance to regulations and company procedures; equipment in good condition and appropriate for the situation; workers trained.	☐	☐		
Hazard controls	Hazards identified in the pre-job hazard assessment are being controlled as planned.	☐	☐		
WHMIS	MSDS availability for hazardous substances being used; labels on containers; PPE compliance per MSDS.	☐	☐		
Other (Specify)		☐	☐		
Other (Specify)		☐	☐		

* Transfer non-compliance issues to Workplace Inspection Report for follow-up actions – including issues corrected immediately.

Exhibit 4.2.1: Planned Inspection Checklist



Tata Steel Minerals Canada

Workplace Inspection Report

Job Site or Premises: _____ Inspection Team: _____

Inspection Date: _____

Area(s) Covered: _____

Observations:					Follow-up		
Item & Location (from Checklist)	Non-Compliances Observed	Repeat Item		Priority* (A/B/C)	Recommended Action	Responsible Person	Date Action Completed
		Yes	No				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				

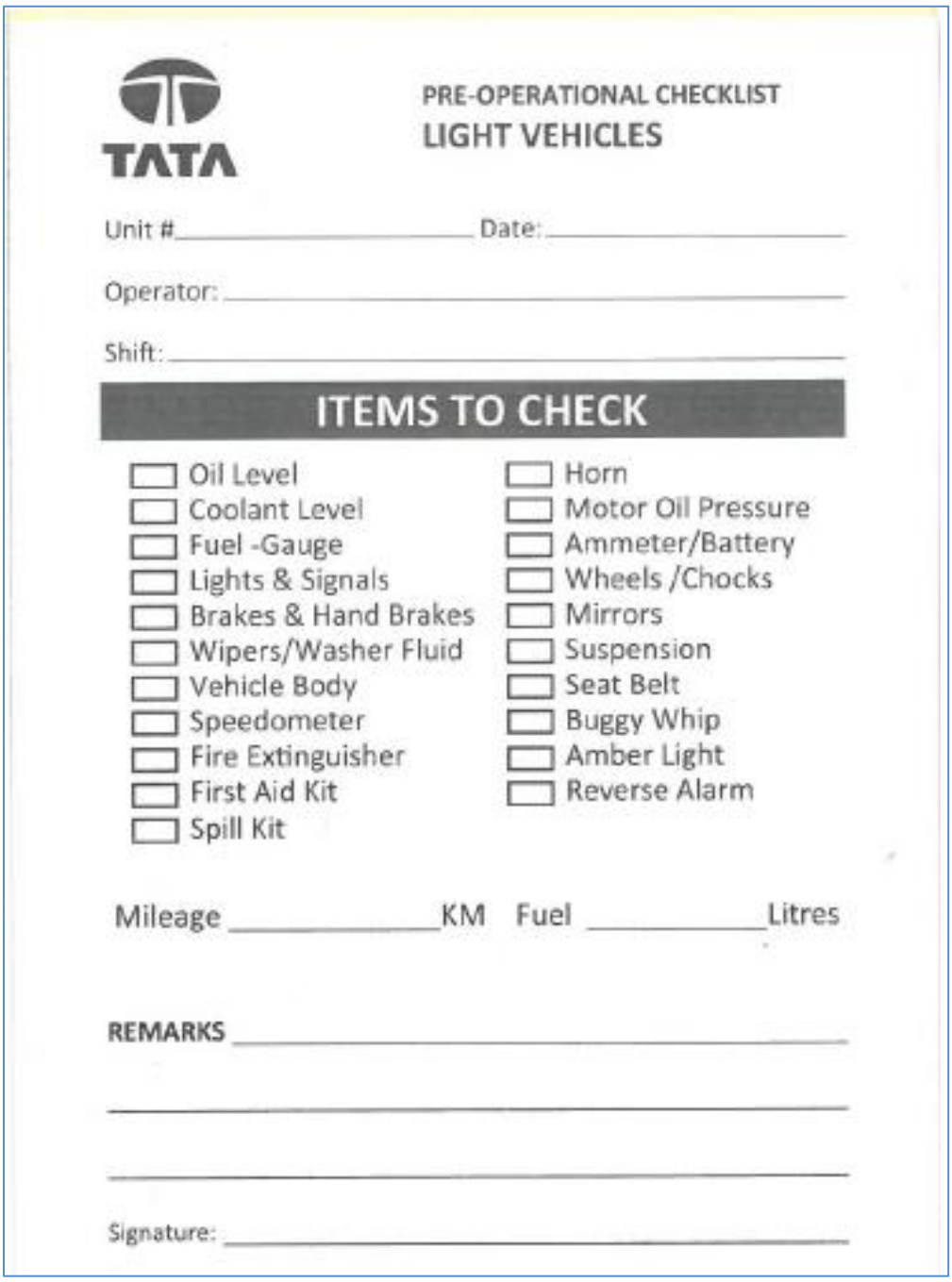
*Priority Ranking: A = Major - requires immediate attention; B = Serious - requires action within 48 hours; C = Minor - requires action within 7 days.

Management Review**: _____ OH&S Committee / H&S Representative Review**: _____

**Note: Management and Health and Safety representative / committee member reviews should evaluate the quality of the inspection and appropriateness of the actions in addressing the hazards.

Revision 1.0 May 2015

Exhibit 4.2.2: Planned Inspection Report



TATA

PRE-OPERATIONAL CHECKLIST
LIGHT VEHICLES

Unit #_____ Date: _____

Operator: _____

Shift: _____

ITEMS TO CHECK

- ☐ Oil Level
- ☐ Coolant Level
- ☐ Fuel -Gauge
- ☐ Lights & Signals
- ☐ Brakes & Hand Brakes
- ☐ Wipers/Washer Fluid
- ☐ Vehicle Body
- ☐ Speedometer
- ☐ Fire Extinguisher
- ☐ First Aid Kit
- ☐ Spill Kit
- ☐ Horn
- ☐ Motor Oil Pressure
- ☐ Ammeter/Battery
- ☐ Wheels /Chocks
- ☐ Mirrors
- ☐ Suspension
- ☐ Seat Belt
- ☐ Buggy Whip
- ☐ Amber Light
- ☐ Reverse Alarm

Mileage _____KM Fuel _____Litres

REMARKS _____

_____

_____

Signature: _____

Exhibit 4.3: Pre-Use Inspection Checklist (sample)

5.0 HAZARD IDENTIFICATION & RISK MANAGEMENT

5.1 Policy

A hazard assessment is a thorough review of the work environment and the work being performed for the purpose of identifying actual and potential hazards.

At TSMC operations, hazard assessments will be conducted to identify actual and/or potential risks associated with the work environment and DSO-Timmins site activities. Identified hazards must be prioritized and addressed based on the associated risk. Assessments will be conducted under the following circumstances:

- An annual assessment of the entire operation is mandatory. This assessment should list all activities for each operating area, identify associated hazards, rank risk levels and identify controls that are in place or needed to reduce risks to an acceptable level;
- Where new, unfamiliar work activities are being introduced;
- Upon purchase or development of new machinery, equipment or work sites.
- Where changes as defined by the Change Management Program, are likely to cause injury to people or damage to physical assets.

5.2 Hazard Identification

5.2.1 Annual Comprehensive Hazard Assessments

It is the responsibility of the senior manager, health, safety and security to initiate an annual review of DSO-Timmins activities to:

- Determine the adequacy of existing programs and controls used to manage risks to people and company assets;
- Provide input for further program development, materials acquisition, and other changes and additions to be planned and executed in the year; and,
- Ensure that organizational due diligence in hazard identification and risk management is demonstrable.

All departments shall contribute to the development and review of the Annual Comprehensive Hazard Assessment.

5.2.2 Field Level Risk Assessments (FLRA)

A Field Level Risk Assessment is designed to examine work sites, tasks, tools and equipment and work methods to identify risks. Workers complete a FLRA prior to any work being done on site. They are expected to analyze conditions, identify possible hazards and risks, and identify ways of controlling such risk.

At the DSO-Timmins site, Field Level Risk Assessments:

- Are completed using the FLRA Pocket Cards provided through the HSS department; (**Exhibit 5.2.2**)
- Are required for all tasks – at the start of shift for operators doing normal operating and start of task for other workers who physically interact with tools, materials and equipment to accomplish specific purposes;
- May be done by individuals or small groups (work teams assigned to the same task);
- Must be completed at the work site – where weather and other physical conditions, equipment tools and surrounding influences can be assessed;
- Must be audited daily by the supervisor. The supervisor must complete the ``Supervisor Daily FLRA Audit" section on the Pocket Card;
- Are kept at the job site during work and returned to the supervisor at the end of the shift;
- Are collected, sampled and analyzed by the HSS Department for quality and statistical reporting.

Management employees are expected to spot check Field Level Risk Assessments when encountering works or work teams at their job sites and provide encouragement and constructive feedback in support of the process.

5.2.3 Contractor and Project Hazard / Risk Assessments

No contractor is permitted to work on-site at DSO-Timmins operations unless there has been an adequate assessment of the risks associated with the work being done or the service being provided and the potential impact on TSMC employees and assets.

Contractors must submit a written assessment before work can begin as specified in **Section 13- Contractor Management.**

5.3 Hazard Control

The Hierarchy of Hazard Control seeks to protect workers by ranking the ways in which hazards can be controlled, providing a framework for reducing the risk. The hierarchy is as follows:

- The best way to control a hazard is to **eliminate** it. This can be achieved by making changes to the work process so that the task is no longer carried out, or by physically removing the hazard altogether. Elimination is the most effective way to control hazards and should be used whenever possible.

- **Substitution** is the second most effective method for controlling hazards. It is similar to elimination but involves the substitution of one risk for another. For example, one hazardous chemical could be swapped for one with less risk.
- **Isolation** involves separating the hazard in time or space from the person or persons at risk. This can be achieved by isolating the hazard through containment or enclosure. These methods aim to keep the hazard "in" and the worker "out" or vice versa. For example, an enclosure can be built around a piece of equipment to reduce the hazards associated with noise.
- **Engineering controls** are implemented by making changes to the design of an equipment or process to minimize its hazard. The two basic types of engineering controls are process control and ventilation. Process control involves changing the way a job activity or process is performed to reduce hazards, such as the use of electric motors rather than diesel motors to eliminate diesel exhaust emissions. Ventilation is a method of control that strategically "adds" and "removes" air in the work environment, such as the use of local exhaust fans to control dust or gasses.
- **Administrative controls** involve making changes to the way in which people work and promoting safe work practices via education and training. Administrative controls may involve training employees in operating procedures, good housekeeping practices, emergency response in the event of incidents and personal hygiene practices such as the washing of hands after contact with hazardous materials.
- The use of additional **personal protective equipment (PPE)** is the least effective method of controlling hazards. PPE can often be uncomfortable, which can place an additional physical burden on the worker. Therefore, PPE should only be used in combination with other control measures from the hierarchy or if there are no other more effective ways to control the hazard. Examples of additional personal protective equipment include respirators, gloves, face shields, goggles and ear plugs.

5.4 Written Practices and Procedures

5.4.1 Definitions

Safe Work Practices are generalized statements of what you should or should not do in order to do a job or task safety. Safe work practices are great topics for toolbox talks, as they serve as good reminders of the ‘right’ way to do things. A number of generalized safe work practices are provided and others are freely available through the Internet. Departments should ensure that:

- Safe work practices are available in writing;
- All employees understand the safe work practices that apply to them;
- Practices are reviewed with employees in Tool Box Meeting on a regular basis so that all relevant topics are covered at least once per year.

- Supervisors require that safe work practices are followed.

A **Safe Job Procedure** is a written, step-by-step description of how to complete a job safely and efficiently from start to finish and is often developed after completion of a Job Hazard Analysis. A Safe Job Procedure might be developed for clearing a plugged chute on the Secondary Sizer or changing the screening panels on a Stack Sizer Screen.

A **Standard Operating Procedure** (SOP) is considered a compulsory instruction which describes regularly recurring, often critical, operations. The purpose of a SOP is to carry out the operations correctly and always in the same manner. For example, an SOP is provided for unloading diesel fuel from rail tank cars to the DSO-Timmins site storage tanks.

5.4.2 Process & Responsibility

The processes for creating job and operating procedures are similar. The steps involve:

Safe Job Procedure	Standard Operating Procedure
1. Identify/select the job to be analyzed	1. Identify/select the operation to be analyzed
2. Break the job down into a sequence of basic steps	2. Break the operation down into a sequence of **required** steps
3. Identify potential hazards in each step, along with mandatory requirements such as permits required.	3. Describe the detailed instructions on how to perform each step – including any health and safety hazards that may arise.
4. Determine preventive measures to overcome these hazards and emergency procedures to be followed.	4. Describe how to document or report on completion of the operation and its results where applicable.

To clearly define responsibility for development, content input, review, approval and dissemination, a matrix of responsibilities as shown in Table 5.4.2 may be used.

Document Title or Subject	Department / Area	Who is Responsible	Who Can/Should Contribute	Who Should Review the Draft	Who Must Approve it for Use	Scheduled Finish Date

Table 5.4.2 Responsibility Matrix for Procedure Development

The area manager is responsible and accountable to ensure that the process is tracked to completion.

5.4.3 Document Dissemination & Control

Once completed and approved for distribution, Safe Job Procedures and Standard Operating Procedures are to be filed electronically in pdf format in shared folders that may be accessed by all employees who are given the appropriate rights.

A system of custodial responsibility is appropriate so proper document control can be assured. Management shall appoint a primary responsibility and define the process in their respective areas.

A library of Safe Work Practices shall be maintained by the Health, Safety and Security Department and recommended topics made available to supervisors for use in safety meetings throughout the year.

5.5 Personal Protective Equipment

5.5.1 Requirements

All employees, contractors and visitors at Tata Steel Minerals Canada sites shall wear the basic personal protective equipment described below unless working in an office or cab of a vehicle or heavy equipment:

- **Protective eyewear** meeting the requirements of CSA Standard *CAN/CSA Z94.3* "Industrial Eye and Face Protectors".

- **Head protection** that meets the requirements of CSA Standard *CAN/CSA-Z94.1* "Industrial Protective Headwear" or, in the case of emergency response personnel, the applicable National Fire Protection Association Standard.
- **Approved footwear** with minimum 8" height shall meet the requirements of CSA Standard *CAN/CSA -Z195*, Protective Footwear.
- **High visibility clothing** that meets or exceeds CSA Standard *CAN/CSA-Z96-02*. **Only high-visibility clothing with an orange, red or yellow background is acceptable**.

Acceptable

Not Acceptable

Special personal protection equipment and apparel shall be used as required by the task or area specific hazards and risks.

5.5.2 Special Personal Protective Equipment

Hearing protection

Hearing protection shall be supplied and used in areas where noise levels exceed the TLV (Threshold Limit Value) established for the duration of the exposure. Signage shall be posted in areas where hearing protection is mandatory.

Training shall be provided to all users of disposable hearing protection so that proper fitting can be achieved and the equipment made effective in reducing exposures.

Respiratory protection

When a worker is or may be exposed to harmful concentrations of air contaminants such as silica dust, appropriate respiratory protection equipment shall be used. The determination of the need for and type of respirator shall be made in consultation with the Environment Department and based on the sampling program required under the Silica Management Plan and other data.

The requirement for respiratory protection shall be posted in applicable areas and strictly enforced.

Respiratory training and fit testing is mandatory before any person enters an area where protection is required.

Inspection and maintenance of respiratory protection equipment

Non-disposable respiratory protection equipment that is issued to an employee shall be cleaned and disinfected as often as necessary to maintain it in a sanitary condition.

Employees shall be instructed on the cleaning, inspection and general care of respiratory protection equipment to ensure that equipment used in routine situations is inspected before each use and after cleaning.

Special breathing apparatuses used for emergency response and other applications shall be inspected and maintained by first responders/fire fighters/rescue teams according to the instructions provided in their training programs.

Arc-flash protection

The Maintenance Department shall determine, based on the hazard and risk level to which workers may be exposed, the appropriate protective clothing to be worn for electrical switching and other applicable tasks. The requirements identified in CSA Standard Z462 shall be used to determine the level of caloric protection required for each risk category.

Arc-flash protective clothing and equipment shall be supplied by TSMC and used and maintained by employees. Compliance shall be strictly enforced.

Personal flotation devices (PFD)

Where any person is required to work over or near water where there exists a potential for falling into the water, an appropriately sized, CSA approved, personal flotation device shall be used.

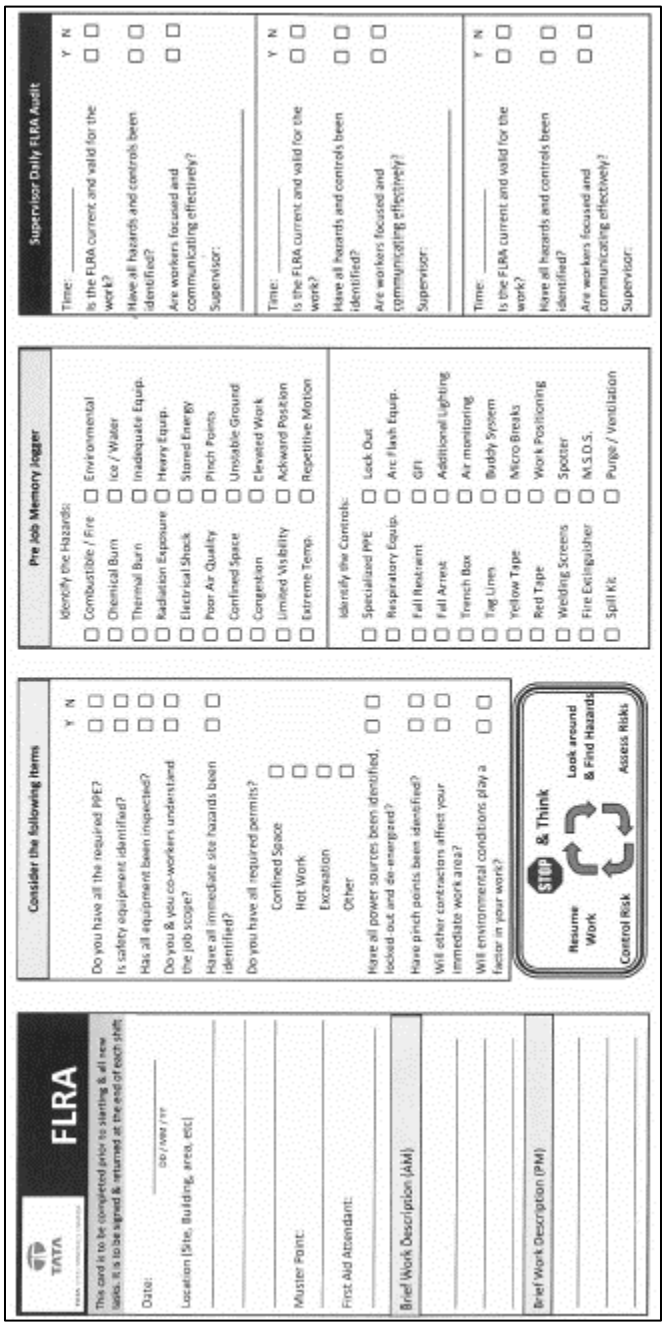


Exhibit 5.2.2: Field Level Risk Assessment Pocket Card

6.0 HIGH RISK ACTIVITY MANAGEMENT

6.1 Policy

TSMC will strive to continually identify activities that are inherently more hazardous than the norm and therefore need to be given special consideration in order to reduce risks to tolerable levels. A suitable program of controls shall be developed, maintained and evaluated for all activities deemed to be in this higher risk category.

6.2 Scope

This section covers:

- Working with Electricity;
- Hot Work;
- Cranes, Rigging and Hoisting Operations;
- Working Over Water;
- Working in Extreme Temperatures;
- Working Alone.

Other activities including **work at heights**, **confined space entry** and **energy isolation** have been provided special sections in this Safety Program.

6.3 Working with Electricity

6.3.1 Qualification of Workers

All work performed on electrical equipment and devices above 70 volts shall be performed by a qualified person as defined by the OHS Act and Regulations. Proof of worker qualification shall be maintained in training records at the site.

6.3.2 Arc-Flash Protection Program

An arc flash protection program shall be developed to determine incident energy and define appropriate personal protective clothing and procedures required to mitigate the hazard as noted in Section 5.5 of this document. CSA Z462 shall be used as the standard under which the program is developed.

The program shall include Arc flash Awareness training provided by a competent person to electrical workers and supervision. Refresher and update training shall be provided at least every three (3) years.

Arc flash rated personal protective clothing and equipment specified under Z462 for each hazard category, shall be provided to workers who are exposed to the risks.

6.3.3 E-Room/E-House Access Control

Electrical rooms shall be declared "controlled" areas. Where it is necessary for non-electrical personnel to enter E-rooms to lock isolating devices, training on electrical hazards awareness must be provided.

Doors to E-rooms are to be labelled to identify the controlled area and announce the restricted entry requirements.

6.4 Hot Work

Where welding, open-flame heating, oxy-acteylene cutting, grinding and other forms of hot work are done, a Hot Work Permit (**Exhibit 6.2**) is required, unless the area has been designated as a Hot Work Permitted area such as a welding shop. In this latter case, a risk assessment of the area will have been done and appropriate standard operating procedures and controls put in place to mitigate fire risks.

6.5 Cranes, Rigging & Hoisting Operations

6.5.1 Pre-use inspections

The operator shall inspect the crane or hoist at the beginning of each shift and shall test control and safety devices in accordance with the manufacturer's specifications and the applicable regulations.

A defect found by an operator during the inspection or during the use of the crane or hoist shall be:

1. Recorded in the inspection and maintenance record log; and
2. Reported to the supervisor who shall determine the course of action to be taken.
3. Where a defect affects the safe operation of the crane or hoist, the equipment shall not be used until the defect has been remedied.

A crane or hoist shall be maintained in accordance with the manufacturer's specifications and the applicable CSA standard and inspected at a frequency and to the extent required to ensure that each component is capable of carrying out its original function with an adequate margin of safety.

A crane or hoist shall not be used until a condition that could endanger workers is remedied.

A repair to a load bearing component of a crane or hoist shall be certified by a professional mechanical engineer or the original equipment manufacturer. This certification will confirm that the unit may be returned to service and the component in a condition capable of carrying out its original design function with an adequate margin of safety.

6.5.2 Inspection and maintenance records

A log book or other record shall be provided and maintained for a crane, derrick or similar hoisting equipment showing the maintenance history and structural modification and inspection of the equipment.

The log book or record shall be available at all times to the operator and to a worker concerned with the maintenance and safe operation of the equipment, and that worker shall be responsible for recording defects, operating difficulties, and the need for maintenance and all maintenance and modification work performed.

6.5.3 Multiple crane lift

A multiple crane lift shall be considered a critical lift and be done only under the direction of a qualified supervisor who shall be responsible for the safe conduct of the operation.

A written procedure shall be prepared for a mobile crane lift where the load on a crane exceeds 75% of its rated capacity or where other factors make the lift complex.

A written procedure shall be prepared for a lift in which 2 or more cranes are used at one time to hoist a load.

Multiple crane lift procedures shall address rigging details, wind speed, hoist line speed, crane travel speed, load distribution and other considerations that may be necessary.

The procedures for a multiple crane lift shall be communicated to all persons involved before hoisting operations are commenced by the supervisor.

A means of effective communication shall be established and maintained between all persons involved during a multiple crane lifting operation.

6.5.4 Rigging

Rigging and slinging work shall be done by or under the direct supervision of a qualified worker familiar with the rigging to be used and with the code of signals generally acceptable in the industry and understood by the signal person and crane and hoist operators.

6.6 Working Over Water

If the work surface is less than 3 m above the water, the worker must be provided with a personal floatation device. In this situation a means of rescuing the fallen worker must be in place. This must include a life buoy with 15 m of polypropylene rope that is at least 10 mm in diameter (or another equivalent material), a boat hook and an audible alarm system to initiate a rescue procedure.

Workers must be designated and available to perform a rescue should it be necessary. These workers must be trained in the safe use of rescue equipment and rescue procedures. In addition, there must be enough rescue workers on site to do the rescue safely.

Workers must wear the personal floatation devices issued to them when working less than 3 m over water. The devices must comply with CGS Standard 65.11-M88 Personal Flotation Devices.

In situations where work is done above water that has a fast current and where it is practicable, a 10 mm diameter rope made of polypropylene or an equivalent material must be placed across the water with a buoy or some other flotation device attached.

A worker who is protected by a means of fall protection is not required to wear a personal flotation device as well.

6.6.1 Purpose

To define the safe operating procedures in a manner that informs and instructs TSMC employees/subcontractors of the key health and safety points and controls when working on and/or near water.

6.6.2 Application

Regulations require measures to be taken in situations where a worker is performing work over water and where there is a risk of drowning if the worker falls.

This procedure also applies to any worker(s) who at any point can potentially be exposed to the hazard of falling into a body of water with a depth of 60 centimeters (24 inches) or more, as well as any body of water with an unknown depth.

6.6.3 Responsibilities

TSMC

- Provide information, instruction and supervision to a worker(s) to protect their health and safety;

- Ensure new workers are trained regarding the provisions and requirements of this procedure;
- Review the provisions and requirements of this procedure at least annually;
- Identify potential sources of hazard identification and provide written rules and procedures to prevent incidents and injuries.

Supervisors

- Periodically check, and effectively enforce, compliance with this procedure, including the use of corrective disciplinary measures where necessary;
- Ensure outside contractors who will be performing work on TSMC premises are aware of their responsibility to comply with this procedure;
- Ensure that at least annually, this procedure is reviewed in a tool-box talk or other safety meeting by all workers to whom the procedure applies;
- Ensure that worker(s) know how to use rescue equipment such as pole & life hook, ring buoy, full body harness and retractable or life line before permitting employees to perform work within a distance of 2 meters from the edge of a body of water or over a body of water. In a case where work is required around a body of water with a depth of 60 centimeters or more, the supervisor must ensure all workers involved know how to use required rescue equipment listed above;
- Ensure that all required equipment is readily available for workers;
- Ensure all hazards have been identified and communicated with workers involved with the operations;
- Ensure that Security has been advised of work to be done, before commencing.

Authorized Workers

- Follow the provisions and requirements of this procedure;
- Report to their supervisor whenever they are aware that a provision or requirement of this procedure is not being, or cannot be followed for any reason;

- Participate in the Field Level Risk Assessment;
- Abide by all safe work procedures.

Contractors

Outside contractors performing work on TSMC premises must comply with this procedure;

6.6.4 Additional Personal Protective Equipment Required

- Personal flotation device
- Protective gloves
- Pole and life hook
- Ring buoy
- Life line/ rope
- Radio communication
- Full body harness and self-retracting lanyard

6.6.5 Procedure for Working Near Water

- Supervisors must perform visual inspections of water hazard areas noting potential overhead and other hazards that are not in the normal field of vision.
- Supervisors must perform detailed risk assessments with all workers involved, highlighting and documenting all identified hazards, controls and assigned responsibilities. All required documentation must be reviewed with worker(s); examples include safe work procedure, isolation procedure, rescue procedure, work permits etc.
- When work is being conducted within 2 meters of a body of water, an additional worker will be required to act as a spotter and remain away from the identified danger (fall) zone. The spotter must remain in constant communication with the other worker(s). The spotter must be equipped with a radio at all times and may not leave the worker(s) unattended for any reason.
- Certified and properly sized floatation devices must be worn by any guard and all workers working above water or within 2 meters of water's edge. Prior to each use, the floatation devices must be inspected for defects which would alter

their strength, buoyancy, or fastening capability. Defective units must be taken out of service immediately;

- Should a risk assessment identify that the water source has a potential for high risk to workers, engineering and administrative controls must be implemented as well as further levels of PPE/ rescue equipment such as full body harness with life line.
- Precautions:
    a. Be aware of soft shoulders on edge of the water and slipping or falling into the water.
    b. Surfaces may be slippery when wet. Walk with care.
    c. Ensure that housekeeping is maintained to prevent slip and trip hazards.
    d. Do not work around water during a thunder/ lightning storm.

6.6.6 Procedure for Working on the Barge

Where workers are required to work in an unprotected area of the Barge, certified and properly sized floatation devices must be worn. Unprotected areas include those where normal protection such as guardrails or flooring have been temporarily removed.

A WORKER IS NOT PERMITTED TO WORK ALONE IN ANY UNPROTECTED AREA WHERE THERE IS A DANGER OF FALLING INTO THE WATER. A SECOND PERSON (SPOTTER) WITH THE MEANS TO EXECUTE A RESCUE AND SUMMON HELP MUST BE PRESENT AT ALL TIMES.

Prior to each use, the floatation devices must be inspected for defects which would alter their strength, buoyancy, or fastening capability. Defective units must be taken out of service immediately.

6.6.7 Rescue Procedure for Worker Falling in Water

1. Spotter will immediately contact Emergency Response Team (ERT) by radio, using Channel 1 Security and call EMERGENCY, EMERGENCY, EMERGENCY.
2. Once contact has been established with security personnel, spotter will provide all details of the emergency including # of people involved, location and nature of emergency.
3. Once spotter has provided ERT with all necessary details, spotter will attempt to rescue the victim using the rescue equipment on site.
4. Spotter should attempt, if possible, to direct victims to attempt self- rescue by way of verbally guiding them to a safe point. i.e: shoreline/ extraction point.

5. If victims are able to reach a rescue point on their own or have been retrieved from the water, the Spotter or other personnel present will immediately begin first aid as required, until arrival of ERT.
6. If spotter is unable to perform a rescue/retrieval of the victim, the Spotter should remain calm and maintain constant communication with individual(s) involved in the crisis, reassuring them that ERT has been contacted and are on the way.
7. If other personnel are present, the spotter will designate someone to meet the ERT to direct them to the scene.
8. Once ERT arrives at the scene, they will take command or rescue/recovery efforts.

6.7 Working in Extreme Temperatures

The operations shall ensure workers are protected, as much as possible from the effects of extreme cold.

Appropriate and suitable monitoring equipment shall be provided in the workplace where the thermal environment is likely to pose a hazard to a worker.

Under unusually cold working conditions the supervisor shall make further provision for the health and safety and reasonable protection of a worker, which may include:

(a) Regular monitoring, posting of warning devices and additional first aid measures;

(b) Provision of special equipment and clothing;

(c) Provision of shelters;

(d) Medical supervision, hot or cold drinks and acclimatization procedures;

(e) Limited work schedules with rest periods; and,

(f) Other appropriate controls and measures.

In a workplace, an open flame, steam pipes or other high temperature source shall be identified at the source and positioned or shielded to prevent contact by a worker, unless the exposed source is necessary for work processes and cannot be appropriately controlled by engineering means.

Where a source of heat is necessarily exposed, a worker shall wear appropriate personal protective equipment.

6.8 Working Alone

6.8.1 Working Alone Definition

Regulations define “work alone or in isolation" as work in circumstances where assistance would not be readily available to the worker in case of an emergency or in case the worker is injured or in ill health.

6.8.2 Requirements

The DSO-Timmins operations shall identify where workers may be required to work alone and conduct an assessment (Exhibit 6.8.1) to identify hazards that may place the worker at risk. Appropriate controls shall be implemented to eliminate, or where elimination is not practicable, minimize the risk associated with each hazard.

Operational areas where workers are working alone shall develop and implement a written procedure for checking the well-being of the workers. Procedures shall include the time interval between checks and the procedure to follow in case the worker cannot be contacted, including provisions for emergency response.

A person shall be designated to establish contact with the worker at predetermined intervals and the details and results of each contact shall be logged.

The required procedure shall be developed in consultation with the worker assigned to work alone and be reviewed and approved by the Occupational Health and Safety Committee.

Working alone procedures shall be reviewed at least annually, or more frequently if there is a change in work arrangements that may adversely affect a worker's well-being or any indication that procedures are not working effectively.

TATA

HOT WORK PERMIT
(applied only the area specified below)

DATE: _____

LOCATION OF JOB: _____

NATURE OF JOB: _____

FIRE GUARDS REQUIRED? YES ❑ NO ❑

PERMIT AUTHORIZED BY: _____

The worker has examined the above location. The required precautions to prevent fire have been checked off on the reverse side of this permit.

Time started: _____ Time finished: _____

FIRE CHECK:
Work area and all adjacent areas to which sparks and heat might have spread were inspected during and for thirty minutes after the work was stopped and was found fire safe.

Signoff by workman or fireguard: _____

UPON COMPLETION OF SIGNOFF RETURN PERMIT TO ISSUER.

CHECKED BY: _____ TIME: _____

DATE: _____

LOCATION: _____

TEAR OFF HERE RETAIN WITH ISSUER

HOT WORK PERMIT: _____

DATE: _____ TIME: _____

LOCATION: _____

PERMIT ISSUED TO: _____

REQUIRED PRECAUTIONS

CHECK Fire fighting equipment suitable for extinguishing any potential fire shall be available.

YES	NO	
❑	❑	Fire Extinguisher available.
❑	❑	Water hose available and tested.
❑	❑	Fire guard and/or worker trained in the use of fire fighting equipment and sounding fire alarm.
❑	❑	Cutting and welding equipment in good order.
❑	❑	Ground clamp carefully connected if using electric arc welding equipment.
❑	❑	Confined space entry permit required. Electrical cable tray protected.
❑	❑	"Combustible Material/Liquids" removed or covered.
❑	❑	Wall and floor opening protected.
❑	❑	Inspect area on the other side of wall for combustibles.
❑	❑	Combustibles removed or protected on other side of wall.
❑	❑	Area wet down prior to hot work activity and/or fire blanket to be used.

PRECAUTIONS WHEN FIRE GUARD IS REQUIRED

Fire guard must be present during hot work operations and for 30 minutes after work is stopped, including coffee and lunch breaks.

Note: Fire guard and/or worker must watch for dangerous sparks in the area and on floors above and below. Necessary fire fighting equipment must be readily available.

PRECAUTIONS WHEN BURNING/WELDING ON RUBBER LINED EQUIPMENT

YES	NO	
❑	❑	Is equipment rubber lined? **Note:** If yes, then follow procedures outlined in the JSA

WORKERS SIGNATURE: _____
(when all the above is completed)

SPECIAL INSTRUCTIONS:

_____

_____

_____

Exhibit 6.2 Hot Work Permit

Tata Steel Minerals Canada

Working Alone Hazard Assessment			
Factor	**Questions**	**Response**	**Actions / Responsibility**
Length of time the employee will be working alone:	What is a reasonable length of time for the employee to be alone?		
	Is it reasonable for the employee to be alone at all?		
	How long will the employee be alone to finish the job?		
	Is it legal for the employee to be alone while doing certain activities? (For example: Newfoundland & Labrador regulations restrict working alone in certain situations).		
	What time of the day will the employee be alone?		
Communication	What forms of communication are available?		
	Is it necessary to "see" the work, or is voice communication adequate?		
	Will emergency communication systems work properly in all situations?		
	If the communication systems are located in a vehicle, do you need alternate arrangements to cover the employee when away from the vehicle?		

1

Exhibit 6.8.1 Working Alone Hazard Assessment

7.0 WORK AT HEIGHTS

7.1 Policy

Falls are a leading cause of death and a major cause of disabling injuries in industry. The implementation of a proactive Working at Heights program will maximize employee safety and minimize the hazards associated with falls on the job. Tata Steel Minerals Canada, (TSMC), recognizes the necessity of establishing and maintaining effective fall protection procedures. TSMC will make every reasonable effort to ensure the safety of all workers including subcontractors, visitors, and other individuals on site who may be exposed to fall hazards.

There will be a written fall protection plan for the workplace if work is being done at a location where workers are not protected by permanent guardrails, and there is a danger of a fall from 2 meters or more. If the risk assessment indicates a serious risk of a fall from lessor heights, then fall protection will be required at the lesser height.

There will be zero tolerance for non-compliance with the requirement for fall protection.

7.2 Scope

This program provides the standards under which all work at heights is to be performed on TSMC properties by employees, contractors, service providers or any other persons. These standards apply to, but are not limited to activities such as: erecting, installing, constructing, repairing, adjusting, inspecting, unjamming, setting-up, troubleshooting, testing, cleaning, dismantling, servicing and maintaining machines, commissioning equipment or processes.

7.3 General Provisions

Senior site management in the Mine and Processing Plants have the ultimate responsibility to ensure all personnel are adhering to the written requirements within this program. In the event compliance is not achieved, management will take immediate action to rectify the situation.

7.4 Definitions

i) **Authorized Workers:** Those individuals, including outside contractors, who have completed a Newfoundland and Labrador certified fall protection course and have been requested by the supervisor to perform work at heights.

ii) **Competent Person:** A person who:

(a) Is qualified because of knowledge, training and experience to organize the work and its performance;

(b) Is familiar with the Occupational Health and Safety Act and the Regulations that apply to the work; and,

(c) Has knowledge of any potential or actual danger to health or safety in the workplace.

iii) **Fall Arrest system:** A systems that consists of:

(a) A harness;

(b) Method of attachment, (lanyard, retractable line, etc.);

(c) Point of attachment;

7.5 Legislation

Legislative references for this procedure are contained in the Newfoundland and Labrador Occupational Health and Safety Regulations, PART X Fall Protection as well as Part XI Scaffolds, Stages and Work Platforms.

7.6 Responsibilities

Employer (TSMC)

- Provide information, instruction and supervision to their workers to protect the health and safety of their workers;
- Ensure that outside contractors are prequalified prior to performing maintenance work on TSMC premises;
- Ensure new authorized workers are trained regarding the provisions and requirements of this procedure, and that this training is updated every three years;
- Identify potential sources of hazard identification and provide written rules and procedures to prevent incidents and injuries.

Supervisors

- Periodically check, and effectively enforce, compliance with this procedure, including the use of corrective disciplinary measures where necessary;
- Facilitate and/or provide proper instruction to workers on protection requirements and training;
- Ensure workers have required training;

- Ensure hazard analysis has been completed;
- Ensure a detailed rescue plan has been developed and all workers involved are familiar with the plan;
- Ensure that at least annually, this procedure is reviewed in a tool-box talk or other safety meeting with employees;

Workers

- Must have completed current training that is approved by the Workplace Health, Safety and Compensation Commission (NL);
- Be fully conversant with fall protection systems;
- Ensure understanding of the capabilities of fall protection equipment;
- Ensure barricades, ribbons, and signs identify restricted areas;
- Ensure proper anchor points are identified and used;
- Inspect your fall protection equipment prior to use;
- Use appropriate tools and equipment for attaching to beams and girders, (do not wrap the lanyards and/or rope around beams or girders;
- Utilize buddy system and continually check each other's harness and D ring to ensure that the harness in not too loose and or the D ring has not slipped down the back;
- Ensure understanding the procedures for rescue of workers who may be unable to rescue themselves from an elevated work area.

Contractors

- Contractors performing work on TSMC premises must comply with this procedure and provide proof of training before being granted permission to perform work at heights.

7.7 Compliance Monitoring

This procedure is meant to educate workers and ensure their safety when working at heights. The information provided must be followed and adhered to by all persons working at heights on any work location belonging to, or under the control of TSMC. Should an individual(s) knowingly disregard the information provided; those individuals involved will receive disciplinary action. As

working at heights is considered to be among one of the most hazardous practices, individuals who disregard this procedure will be denied access to TSMC work sites.

7.8 Fall Restraint

The intent of restraint protection is to limit or restrict movement of employees only as far as the sides and edges of the walking/working surface. Temporary anchorage points used for fall restraint must be engineered to be capable of supporting four times the intended load, with a minimum strength requirement of 364 kg (800 lbs). When using fall restraints, workers must:

- Ensure that work is performed within the confines of a safe perimeter and not at risk of falling over the edge;
- Be attached to securely rigged restraint lines;
- Wear a safety belt and/or harness that conforms to all CSA (Canadian Standards Association) Standards
- Inspect fall restraint components before each use, for wear, damage and other deterioration
- Remove defective components from service when the component's function or strength has been adversely affected
- Ensure fall restraint components are compatible
- Tie restraint lines, independently of other lines, to the anchorage point

7.9 Fall Arrest

Employees exposed to a free fall distance of 2 meters or more (without restraint) must wear fall arresting equipment, using a full-body harness system. Employees must inspect components of the fall arrest system before each use for wear, damage and other deterioration. Defective components are removed from service when the components' function or strength has been adversely affected

Fall arrest equipment must meet the minimum criteria:

- Hardware used must be drop-forged, pressed or formed steel, with a corrosion-resistant finish, with surfaces and edges smooth to prevent damage to the attached body harness or lanyard
- Vertical life-lines must have a breaking strength specified by the manufacture as 27 KN (6000lbs); termination knots or splices cannot reduce the strength of lifeline to less than 22 KN (5000lbs)
- Horizontal life-lines must be 12 mm diameter wire rope with a manufacturer's specified strength of at least 89kN (20000 lbs.)

- Increase the above forces by 25% if two workers are connected to the same horizontal static line
- Lanyards must have a minimum tensile strength of 2449 kg (5400 lbs.)
- Body harness components must be CSA-approved
- Secure full-body harness systems to anchorage points capable of supporting 2272 kg (5000 lbs.)
- Protect safety lines and lanyards against cuts or abrasion
- Limit the free fall distance (through rigging) to a maximum of 1.2 m without a shock absorber or 2 meters with a shock absorber.
- Only one employee may be attached to any one vertical lifeline
- Connect only one snap hook to any one D-ring

7.9.1 Application

No person shall work at heights unless the proper protective mechanisms have been put in place. These protective mechanisms include:

- Guard Rails
- Fall Restraint/Travel restrict
- Safety nets
- Caution/danger taped areas, (boundaries)
- Fall Arrest
- Permit System
- ERP (Emergency response plan)
- Fall protection plan
- PPE
- Safe work procedures
- Barricades and warning signs to protect workers below.

7.9.2 Selection & Use

Before starting work at heights, the safest method of conducting the work must be determined. The preference will be to eliminate the need for working at heights if the location of work will allow engineering and design changes, (i.e. handrails). Fall restraints will be the next best solution with fall arrest systems being the last line of defence. The use of a fall arrest system should only be considered if there is no other feasible option.

7.10 Ladders

7.10.1 General

- Only fibreglass ladders are permitted on site, (aluminum and job built wooden ladders are not permitted);
- Do not paint ladders except for numbering purposes;
- Do not use ladders for any purpose other than that specified by the manufacturer;
- Ladders must be held or tied off top and bottom when in use;
- Always face the ladder when climbing, descending or working;
- Maintain 3-point contact with the ladder at all times;
- Keep your body between the rails;
- Minimize your work time on a ladder to 30 minutes;
- Change the position of the ladder as often as necessary;
- If you must place a ladder in or over a doorway, barricade the door and post warning signs;
- Return the ladder to the rack after use;
- Inspect your ladder before each use for anything defective or damaged;
- Tag damaged ladders and remove from service, report it to your supervisor;
- A safety harness with a lanyard and a point of attachment is required when a ladder is positioned near an opening that would significantly increase the fall distance or the danger of impalement exists or there is a danger of falling into a hazardous product.

7.10.2 Straight and Extension Ladders

- Place the ladder so that the vertical distance is four times the horizontal distance (4 to 1 ratio);
- Ladders must have a tie-off rope and non-skid safety feet and must be secured in position;
- Straight and extension ladders must be tied-off;
- The top of the ladder must extend at least three feet/one meter beyond the supporting object;

- After an extension section has been raised to the desired height, check to see that the safety dogs or latches are engaged and that the extension rope is secured to a rung on the base section of the ladder;
- Ensure secured covers over grating when there is a danger of ladder feet slipping through grating holes;
- Extension ladders must be overlapped a minimum of three rungs or one meter. Refer to Manufacturers' instructions;
- Do not take extension ladders apart to use either section separately.

7.10.3 Step Ladders

- Step ladders must be fully opened and set level on all four feet, with spreaders locked in place;
- Never use as a straight ladder;
- Stay off the top two steps and avoid placing tools or material on the steps or platform;
- The top platform is not considered a step.

7.11 Holes and Openings

- No holes are to be dug without first completing a risk assessment. Protect employees from falling into an open hole by using a guardrail, cover with plywood, and use other suitable materials or berm the area. Do not store material or equipment on a hole cover.
- Stairway floor openings, with the exception of the entrance, must be guarded by standard railings, equipped with mid rails and toe boards.
- Temporary covers must be able to support a minimum of 2.4 KN per square meter or 50 lbs. /sq. ft., or a greater load of intended workers and equipment if required.
- Hole covers must have a sign reading, DANGER-OPEN HOLE. Covers must be cleated, wired, or otherwise secured to prevent slipping sideways or horizontally beyond the hole. Covers must extend adequately beyond the edge of the hole.

7.12 Scaffolding

7.12.1 General

All tube and clamp scaffolding, as well as "H" frame scaffolding over the height of two tiers can only be erected by a certified scaffolding erector. Two tiers of "H" frame

scaffolding can be erected by workers who have been deemed competent by their respective supervisors.

All employees who are required to perform work on scaffold must perform a visual inspection on the scaffold to ensure that scaffold has not been altered or damaged, or other hazards present that may have not been previously identified since the last formal inspection. Inspect the scaffold to determine that handrails, mid rails, toe boards, and decking are in place. All wheels must be locked on moveable scaffolds when in use. Check to see if lock pins are in place.

READ THE SCAFFOLD TAG PRIOR TO ACCESSING.

When working on any scaffold platform not equipped with standard guardrails and/or not equipped with a complete deck, wear a safety harness with lanyard. Tie-off to a substantial object capable of supporting 5,000 pounds per working attached. Example: use the rose bud of the scaffold. **The railing itself does not qualify as an adequate anchor point.**

If you are working near energized electrical lines or equipment, ensure that no part of the scaffold, or your body, can come in contact with the electrical lines, equipment, or within statutory clearance limits. **Workers must adhere to overhead power line process.**

- ✓ Do not alter or remove scaffold members unless authorized. Only certified scaffolders are permitted to in anyway assemble, modify or disassemble a scaffold.
- ✓ Do not ride on a rolling scaffold when it is being moved. Remove/secure all tools and material on the deck before moving.
- ✓ Do not climb on, or work from, any scaffold handrail, mid rails or brace member. Use a ladder following the ladder procedure as listed in section 13 of this procedure.
- ✓ Heights, capacities or designs of scaffolds exceeding the manufacturers' limitations or those imposed by provincial OH&S legislation must be designed by an engineer.
- ✓ All scaffolds must be erected level and plumb on a firm base.
- ✓ Only use rolling scaffolds on level, smooth surfaces or the wheels must be contained in wooden or channel iron runners. Watch for overhead clearance when moving a rolling scaffold.
- ✓ Scaffold is only to be used by authorized personnel who are required to access scaffold in order to perform authorized duties.

7.12.2 Scaffolds - Tagging

Scaffolding must be inspected and erected by a qualified Scaffolder. Once the scaffold has been inspected, the scaffold must be tagged with one of the following:

Red "Danger" tags must be used when it has been determined that scaffold is not safe for use, either due to structural integrity of scaffold or other exisiting life threatening hazards. The identified hazard must be listed, along with the date of inspection and the name of the individual who conducted the inspection.

Yellow "Caution" tags must be used when a hazard has been identified that workers must be aware of, but is not considered to be life threatening. The hazards/ risks must be listed on the tag. The tag must also be dated with the date of the inspection, along with the name of the individual who conducted the inspection.

Green "Safe" tags are to be used when the scaffold has been inspected, and there have been no hazards identifed. This scaffold will be considered safe for use. The tag must be dated and as well have the name of the individual who conducted to inspection

If a scaffold is discovered to not have a tag, or that the tag has expired, it will be considered unsafe for use and must not be used. The scaffold must be flagged with Danger tape and reported so that the scaffold can be formally inspected and tagged by a qualified Scaffolder.

Scaffold must be formally inspected once a week by a qualified Scaffolder and then have the tags updated.

7.13 Crane Baskets, Aerial Work Platforms (AWP)

- All equipment must be certified and inspected prior to use.
- All workers entering equipment for the purpose of working at heights above 2 meters must be trained in NL 2 day fall protection course.
- All workers who will be operating equipment must hold a valid certificate for specific equipment.
- Detailed emergency response plan specific to work and location must be developed and reviewed with all workers involved before commencing work.
- Detailed field level risk assessment (FLRA) highlighting all hazards and controls must be developed prior to commencing work and discussed with all workers involved. Review and update FLRA regularly throughout shift and if job scope changes.
- All fall protection equipment must be inspected prior to use.
- Ensure fall protection equipment is properly donned and the right rating for individual body type.
- If potential fall height is less than 6 meters, a self-retracting lanyard must be used, and not an energy absorbing lanyard.
- Workers are not permitted to stand on the mid rails or top rails of crane basket or AWP.
- While positioning and traveling equipment, a Spotter must be utilized.
- When traveling a AWP, care must be taken to lower the man basket to the lowest possible height before moving.
- Tie off points must be above head whenever reasonably practical.
- Tie off points for working inside the AWP man basket are located on the deck.
- Mid rails and top rails are not suitable anchor points.

- Danger barricades must be erected underneath equipment so as to prevent workers from walking under workers working at height.
- AWP and Crane baskets are only to be used as per manufacturer's recommendations.

7.14 Emergency Response

Before any work commences at heights over six feet, a job specific emergency response plan must be developed and communicated to all workers involved.

7.14.1 Emergency Response Plan

If a worker falls and is suspended by a safety harness, the emergency response plan is as follows: *Please note the respective roles*

1. The site supervisor (or alternate foreperson) takes control of the situation.
2. The site supervisor sounds the emergency alarm—three long blasts from a horn. All workers in the immediate vicinity of the incident stop working. The site supervisor quickly evaluates the situation and identifies any further hazards that could arise.
3. The site supervisor or designate goes to get help if workers are close by. If no assistance is available, the site supervisor calls for help.
4. The site supervisor contacts the Emergency Response team by using 1 Security, and announcing "Emergency, Emergency, Emergency"
5. The site supervisor (or a worker assigned to the task) isolates the incident zone and its perimeter to limit further exposure.
6. The site supervisor (or a worker assigned to the task) moves all non-affected personnel to a safe zone or directs them to remain where they are.
7. Security enables radio silence on the jobsite, except for crisis communications from emergency responders.
8. The site supervisor sends a designated worker to meet the response team to ensure that they have a safe access path to the incident scene.
9. For the person in the fall arrest position, he/she should attempt self-rescue where possible and safe to do so.

7.14.2 Rescue Procedures

The following rescue procedures are ordered (A) through (D), with (A) being the preferred method and (D) being the method used when there is no other means of rescue.

AERIAL Work Platform (AWP) rescue—If an elevating work platform (AWP) is available in the immediate location and the suspended worker can be reached by the platform in a maximum of 10 minutes, follow the procedure below.

1. Bring the AWP to the incident site and use it to reach the suspended worker.
2. Ensure that rescue workers are wearing full-body harnesses attached to appropriate anchors in the AWP.
3. Ensure that the AWP has the load capacity to handle the rescuer(s) and the fallen worker(s).
4. If the fallen worker is unconscious, two rescuers will be needed to safely handle the weight of the fallen worker.
5. Position the AWP platform below the worker and disconnect the worker's lanyard when it is safe to do so. When the worker is safely in the AWP, re-attach the lanyard to an appropriate anchor point on the AWP if possible.
6. Lower the worker to a safe location and administer first aid.
7. Once the victim has been lowered to a safe location, the ERT will treat the worker for suspension trauma and any other injury and transport to the site wellness clinic.
8. If it is believed that the injuries sustained cannot be managed by the site nurse, the ERT will transport the victim to the Schefferville clinic.

7.14.3 Ladder Rescue

If an elevating work platform is not available, use ladders to rescue the fallen worker with the procedure outlined below.

1. If the fallen worker is suspended from a lifeline, move the worker (if possible) to an area where rescuers can access safely with a ladder.
2. Set up the appropriate ladder(s) to reach the fallen worker.
3. Rig separate lifelines for rescuers to use while carrying out the rescue from the ladder(s).
4. If the fallen worker is unconscious or cannot reliably help with the rescue, at least two rescuers may be needed to safely handle the victim.
5. If the worker is conscious, he/she may be able to use the supplied ladder to attempt self-rescue.
6. If the fallen worker is suspended directly from a lanyard or a lifeline, securely attach a separate lowering line to the harness.
7. Other rescuers on the ground (or closest work surface) should lower the fallen worker while the rescuer on the ladder guides the fallen worker to the ground (or work surface).

8. Once the victim has been lowered to a safe location, the ERT will treat the worker for suspension trauma and any other injury and transport to the site wellness clinic.
9. If it is believed that the injuries sustained cannot be managed by the site nurse, the ERT will transport the victim to the Schefferville clinic.

7.14.4 Rescue from Work Area or Floor Below:

If the fallen worker is suspended near a work area and can be safely reached from the floor below or the area from which the worker fell, use the following procedure.

1. Ensure that rescuers are protected against falling and falling debris or other hazards.
2. If possible, securely attach a second line to the fallen worker's harness to help rescuers pull the fallen worker to a safe area. You will need at least two workers to pull someone up to the level from which they fell.
3. Take up any slack in the retrieving line to avoid slippage.
4. Once the victim has been lowered to a safe location, the ERT will treat the worker for suspension trauma and any other injury and transport to the site health clinic.
5. If it is believed that the injuries sustained cannot be managed by the site nurse, the ERT will transport the victim to the Schefferville clinic.

7.14.5 Crane and Basket Rescue

If a worker has fallen and is suspended in an inaccessible area, you may need to perform a crane and basket rescue. If after performing a risk assessment, it has been identified that a crane basket rescue may be necessary, all steps required to outfit and position the rescue basket must be completed prior to initiating work.

For basket rescues, the basket must be designed by a professional engineer in accordance with good manufacturing processes to withstand all loads to which it may be subjected. Fit the rescue basket with appropriate rigging for quick hook-up by the crane operator.

Always keep the following items in the rescue basket:

1. Three lanyards equipped with shock absorbers
2. Tag line attached to the basket at all times
3. Secondary safety line to tie the basket above the headache ball of the crane

To perform a basket rescue, the following steps must have already been completed, prior to starting work:

1. Have crane operator attach the basket to the crane.

2. The crew leader checks that all safety rigging is done and all the required safety equipment is available.

If a rescue is required, the following steps are to be followed

1. With two rescuers in the basket, hoist it to a position that is above and as close as possible to the fallen worker. Where possible a designated worker on the ground guides the basket with a tag line. A designated worker must ensure that when the rescue basket reaches the right elevation, the door of the basket is facing the structural steel to provide an easy exit for rescuer #1.
2. Rescuer #1 exits the rescue basket and gets into a position to reach the fallen worker. When doing this, rescuer #1 must be tied-off at all times to either the structure or the rescue basket.
3. Rescuer #2, who is still in the rescue basket, lowers the line that will be used to retrieve the worker. Rescuer #2 attaches an extra lanyard to the line if required.
4. Rescuer #1 assesses the fallen worker for injuries and then decides how to proceed (i.e., treat injuries first, guide the fallen worker into the rescue basket, or lower the basket to the ground with the fallen worker attached to it).
5. Once the victim has been lowered to a safe location, the ERT will treat the worker for suspension trauma and any other injury and transport to the site wellness clinic.
6. If it is believed that the injuries sustained cannot be managed by the site nurse, the ERT will transport the victim to the Schefferville clinic.

If the basket rescue is the method used, the rescue workers must keep the following points in mind:

- Perform a basket rescue only when it is not possible to use conventional equipment to rescue the fallen worker in a safe manner.
- Never exceed the maximum number of workers in the basket as indicated on the nameplate.
- Ensure that a competent worker inspects the crane and equipment being used prior to lifting rescuers.
- Always equip the crane with a fail-safe mechanism to prevent the boom from descending in the event of a power source or system failure.
- Maintain an adequate means of communication between the rescuers in the basket and the crane operator at all times.
- Ensure that workers in the rescue basket wear full-body safety harnesses attached to a lanyard and anchored to appropriate points in the basket at all times.

- Make sure that all rigging used to attach the rescue basket to the hook of a load line has a safety factor of 10 against failure. There should be a safety line attached to the load line directly from the basket.
- Do not allow cranes to travel while rescuers are in the basket.
- Do not use suspended rescue baskets during high winds, electrical storms, snow, ice, sleet, or other adverse conditions that could affect the safety of personnel on the platform or in the basket.

8.0 CONFINED SPACE ENTRY

8.1 Policy

Tata Steel Minerals Canada will protect employees, contractors and other on-site workers from confined space hazards through a program of hazard identification and assessment, signage, training and entry procedures and permits.

8.2 Scope

This Confined Space Procedure covers the definition of confined spaces, the identification of confined spaces and the precautions to be taken to prevent workers who are required to perform work in confined spaces. Specifically, this procedure will:

- Define confined space and restricted space;
- Establish a procedure to safely manage all confined space and restricted space work on TSMC property to prevent exposure to harmful vapours, gasses, fumes, mists, dusts or explosive substances and oxygen deficiency;
- Provide detailed actions to be undertaken before, during and after any required confined space work; and,
- Provide for the safety of TSMC workers, contractors and subcontractors.

It is imperative that all workers who enter a confined space and a restricted space are trained through the approved Confined Space Entry course. The process of identifying all existing, pipe, culverts, manholes or other areas that may meet the criteria of a confined space will be managed by a designated Confined Space Administrator who will facilitate the risk assessments in order to classify areas as confined spaces or restricted spaces. He/she will identify and list the hazards and any special procedures to minimize the risk posed by the hazards to workers.

The administrator can be the safety advisor or area supervisor and must be trained in confined space entry.

The hazard identification will include:

- The conditions which may exist prior to entry due to the design
- Location or use, or which may develop during work activity inside the space
- Potential for oxygen enrichment and deficiency
- Flammable gas
- Vapour or mist
- Combustible dust
- Other hazardous atmospheres

- Harmful substances requiring lockout and isolation
- Engulfment and entrapment
- Other hazardous conditions associated with the specific space and work to be conducted in it.

The inventory of confined spaces and their hazards will be stored electronically on a common database that will be managed by the Safety Department but will be accessible to all TSMC. The confined spaces/restricted spaces will be identified by appropriate signage.

8.3 General Provisions

Whenever hazardous substances such as dusts, fumes, mists, vapours, or gasses exist or are produced in the course of activities, their concentration shall not exceed the limits specified in Newfoundland OH&S Legislation and Canadian Standards Association, (CSA). When ventilation is used as an engineering control method, the system shall be installed and operated according to the requirements of that section.

8.4 Definitions

Confined space:

A confined space means an enclosed or partially enclosed space that

a) Is not designed or intended for human occupancy except for the purpose of performing work;

b) Has restricted means of access and egress; and

c) May become hazardous to a person entering it as a result of

   i. It's design, construction, location or atmosphere,

   ii. The materials or substances in it, or

   iii. Any other conditions relating to it.

Restricted access work space:

A restricted access space means an enclosed or partially enclosed space that

a) Is not designed or intended for human occupancy except for the purpose of performing work;

b) Has restricted means of access and egress; and

c) Based on the original risk assessment of the space and the JHA (Job hazard analysis) of the work to be performed, there is no potential for an immediately dangerous to life or health (IDLH) atmosphere to exist or to develop immediately prior to any worker entering the space or during work within the space, nor any risk of entrapment or engulfment to workers entering or working in the space.

d) Based on the original risk assessment of the space and the JHA (Job hazard analysis) of the work to be performed, there is no potential for an immediate danger due to the materials/ conditions to be used or created during the planned work, through the use of other safe work practises i.e. LOTO

Enclosed or partially enclosed work space: Large enough and so configured that an employee can bodily enter and perform assigned work. Has a limited or restricted means of entry or exit that might complicate the provision of first aid or extrication of an injured worker.

SCBA (Self-contained Breathing apparatus): Sometimes referred to as a compressed air breathing apparatus (CABA), or simply breathing apparatus (BA), is a device worn by rescue workers, firefighters, and others to provide breathable air in an "Immediately Dangerous to Life or Health" atmosphere (IDLH).

8.5 Hazard Assessment for Confined Space/ Restricted Space Entry

Hazard assessments related to Confined Space/Restricted Space Entries are conducted by various levels of employers and employees involved in the preparation of and entry of the Confined Space/Restricted Space.

Multiple levels of hazard assessment are required to determine if a space is a Confined Space or a restricted access work space. Identification of the type of space will be determined by the inherent risks of the space and the specific tasks conducted within the space.

a) Initial Hazard Assessment for Entry:
    a. Normally performed by a member of TSMC Management;
    b. Considers current and past service of the equipment;
    c. Considers the design, access and egress limitations;
    d. Considers all preparation and controls required if applicable, to permit safe entry.

b) Work Scope Hazard Assessment (e.g. Job Hazard Analysis):
    a. Performed by the supervisor of the crew undertaking the task with worker involvement;
    b. Considers the detailed scope of work to be performed and the impact that the work may have on the atmosphere within the space or the personnel entering or working in the space;
    c. Identifies the hazards associated with the detailed scope of work to be performed and details the required controls to address the hazards identified;
    d. Any changes in work scope at any time must be relayed back to TSMC Management so that the classification can be re-examined to ensure the correct

classification of the space. Introduction of hazardous activities immediately cause a restricted space to change classification to Confined Space.

c) Field Level Risk Assessment, (FLRA):

   a. Normally performed by all workers involved in the task

   b. Considers immediate ambient conditions in the task area prior to commencement of work;

   c. Identifies hazards related to the specific task(s) being performed and details the required controls to address the hazards identified;

   d. Shall be updated to reflect any changes in the task identifying any new hazards.

8.6 Confined Space/ Restricted Space

The classification of a work place being considered a Confined Space or a restricted work space shall be based on the conditions present at the time of entry with consideration for potential changes of conditions as identified in the hazard assessment of work to be performed. Exhibit 8.1 at the end of this section provides a decision chart to aid in distinguishing between the two classifications of spaces.

8.6.1 Confined Space

A work place will be considered a Confined Space if *any* of the following applies:

   a. The hazards in the Confined Space or in its proximity are either not known or have not been determined;

   b. Oxygen concentration is less than 20% or more than 22.0% by volume;

   c. Explosive or flammable atmosphere is equal to or greater than 10% of the Lower Explosive;

   d. The area atmosphere exceeds a worker's exposure to harmful substances in accordance with the TLVs established by ACGIH;

The following controls must be put in place to perform a Confined Space entry:

   a. An approved hazard assessment

   b. A competent Confined Space Monitor in attendance at all times

   c. A valid Confined Space Entry Permit

   d. A log-in, log-out sheet is used for entry and exit and maintained at the entrance

   e. A valid Rescue Plan

   f. PPE as per the approved hazard assessment

g. Confined Space Signage

h. Pre-access and continuous atmospheric testing

i. Supplied breathing air available and worn (If deemed necessary by the pre entry gas test and hazard assessment)

j. All Entrants and Monitors must be trained in the use of supplied breathing air equipment if required by hazard assessment.

Note:

1. *If the flammable or explosive atmospheric concentration is greater than 25% of the LEL, the space must be ventilated with no entry permitted until the levels go down below 25%.*
2. *If flammable or explosive atmospheric concentration reads between 10% and 24% of the LEL, only inspection activities are permitted.*
3. *If flammable or explosive atmospheric concentration reads between 5% and 9% of the LEL, only cold work is permitted that does not produce a spark or an ignition source.*
4. *If flammable or explosive atmospheric concentration is less than 5% of the LEL, hot work is permitted as long as the oxygen levels do not exceed 23%.*

NOTE: ANY TIME A CONFINED SPACE ENTRANCE IS LEFT UNATTENDED THE ENTRANCE MUST BE BARRICADED PHYSICALLY AND A "DANGER DO NOT ENTER" SIGN DISPLAYED ACROSS THE ENTRANCE.

8.6.2 Restricted Work Space

1. A work place will be considered a Restricted Work Space when the following apply:
   a. The location is not designed or intended for human occupancy except for the purpose of performing work;
   b. The location has restricted means of access and egress;
   c. It can be confirmed that there is absolutely no potential for an immediately dangerous to life or health (IDLH) atmosphere to exist or to develop immediately prior to any worker entering the space or during work within the space, nor any risk of entrapment or engulfment to workers entering or working in the space;
   d. Based on the original risk assessment of the space and the JHA (Job hazard analysis) of the work to be performed, there is no potential for an immediate danger due to the materials/ conditions to be used or created during the planned work, through the use of other safe work practises and procedures. i.e. Isolation of all energy sources.

2. The following controls must be put in place to perform a Restricted Work Space entry:
    a. Restricted work space signage;
    b. A competent confined space attendant at the entrance to the space at all times;
    c. A valid rescue plan;
    d. PPE as per the approved hazard assessment;
    e. Pre-access atmospheric testing;

Note: If the planned work changes in anyway, workers must immediately exit the restricted space and perform another hazard assessment as per the FLRA process.

At any time a restricted work space can be reclassified to a confined space if the work being performed introduces new hazards. In this case the controls necessary must follow section 4.1.

8.7 Confined Space Entry Permit System

The Entry Permit System contains several components; An Entry Log which employees must sign in before entering a confined space, the Safe Work Permit for Entry and specific Confined Space Signage.

8.7.1 Entry Log

Before entry to a confined space, employees must sign their name in the entry log which is to be maintained by the confined space attendant at the entrance to the space. Employees must sign out when they leave the confined space.

*Note: While a permit is not required to conduct work in a **restricted space**, an entry log and an attendant are required*.

8.7.2 Entry Permit

1. A person must not enter a confined space without a valid entry permit;
2. An employer must establish an entry permit system for a confined space that:
    a. Maintains a list of the names of each worker who enters the confined space
    b. Gives the location of the confined space
    c. Specifies the time during which an entry permit is valid
    d. Takes into account the work being done in the confined space

e. Takes into account the Code of Practice NL requirements for entering, being in and leaving a confined space

f. Ensures all required documents are collected and maintained for retention;

3. An employer must ensure that, before a worker enters a confined space, an entry permit is properly completed, signed by a competent person and a copy kept readily available at the confined space location

8.8 Confined and Restricted Space Signage

Whenever an entrance to a confined space is left unattended, two 2 types of signs, ("Danger Do Not Enter" and "Permit Required for Entry"), are used as indications of the status of the space and the requirements for entry.

Do not overlap confined space entry signs or allow the signs to be attached to each other where they can inadvertently cover up a valid entry sign.

When a work space has been identified to be a restricted work space, signage stating "Restricted Work Space, Authorized Workers only" must be placed at all entrances to the work space.

DANGER, DO NOT ENTER

THIS SIGN OVERRIDES ALL OTHER SIGNS AT ENTRANCES TO CONFINED SPACES. WHEN IT IS IN PLACE NO ONE IS TO ENTER THE SPACE UNDER ANY CIRCUMSTANCES. OPERATIONS PERSONNEL ARE THE ONLY PERSONNEL WHO ARE ALLOWED TO REMOVE THIS SIGN.

This sign will be placed immediately upon opening the space by the equipment owner and if an event occurs that could compromise the conditions in a confined space.

For all confined space entries the "DANGER, DO NOT ENTER" sign must be hung at the entrances every time the space is left unattended.

If entry is required into a confined space, operations personnel must be contacted to evaluate the conditions of the confined space, test the atmosphere of the space, and remove the sign if everything meets the standards to enter and work.

Confined Space - Permit Required for Entry

Working personnel will hang a "Confined Space - Permit Required for Entry" sign to signify that a space is safe to enter. People authorized to enter must have a valid Safe Work Entry Permit and have logged in to the entry log. There must be a confined space attendant present at the entrance prior to entering and must stay there until all occupants have evacuated the confined space, unless there is immediate danger to life or health.

This sign can be removed by the confined space attendant provided all the permit criteria are met and all personnel have exited the confined space.

For confined space entries, when the space is left unattended, provided the status of the space has not changed, this sign must be hung at the entrance by the confined space Attendant when leaving.

Restricted Space - Permit not required for Entry

8.9 Confined Space Attendant

8.9.1 Confined Space Entry

1) For every confined space entry, a competent attendant will be assigned.
2) The attendant will:
    a. Possess an approved Confined Space Training Certification from the province of Newfoundland and Labrador.
    b. Be trained and competent as a confined space attendant;
    c. Be capable and equipped to summon rescue personnel, if required. A means of communication is mandatory;
    d. Be in communication or visual contact with personnel inside the confined space at all times;
    e. Initiate evacuation as necessary, and ensure proper signage is posted at the entrance(s) to the confined space;
    f. **NEVER** leave the entrance to the space with people inside unless properly relieved by another qualified attendant;
    g. **NEVER** enter the confined space for any reason;
    h. **NEVER** become directly involved in any activity that distracts from the primary duty as an attendant;
    i. After verifying all personnel have exited the confined space, ensure correct signage is in place prior to leaving the entrance(s) unattended (e.g. breaks and end of shift);
    j. Control the number of personnel allowed in the confined space, as identified by hazard assessment;
    k. Maintain a Confined Space Entry and Exit Log for the duration of the job. The logs must be safely stored for record retention purposes;
    l. Ensure entry and exit points are kept clear and clean;

m. Maintain awareness of potential hazards in the vicinity of the confined space that may affect the health and safety of the worker(s) inside;

n. Contact emergency personnel in the event of an emergency or due to reasonable cause, (lack of movement, verbal contact, unusual movements, etc.).

8.9.2 Restricted Space Entry

1) For every restricted space entry, a competent attendant will be assigned.

2) The attendant will:

a. Possess an approved Confined Space Training Certification valid in the Province of Newfoundland and Labrador;

b. Be in communication or visual contact with personnel inside the space at all times;

c. Initiate evacuation as necessary;

d. **NEVER** leave the entrance to the space with people inside unless properly relieved by another qualified attendant;

e. **C**ontrol the number of personnel allowed in the space, as identified by hazard assessment;

f. Ensure entry and exit points are kept clear and clean;

g. Maintain awareness of potential hazards in the vicinity of the space that may affect the health and safety of the worker(s) inside

h. Be capable and competent to summon emergency personnel in the event of an emergency or due to reasonable cause, (lack of movement, verbal contact, unusual movements, etc.). A means of communications is mandatory.

8.9.3 Confined Space Entrant Tracking

For all confined space entries, all personnel who enter the space will sign the entry log located at the entrance. Personnel are expected to enter and leave a confined space by the same entrance. If this is not possible, then they must return to their point of entry to log out as soon as they exit.

All confined spaces require the Entrant Tracking Log to be in place at the entrances to the confined space, and maintained for all entries.

Restricted spaces do NOT require entrant tracking. However, the monitor must maintain visual or verbal contact with the entrants on a regular basis.

8.9.4 Retraining Records

TSMC must ensure that all records with respect to entry and work in a confined space, including entry permits and entry or exit logs are retained for at least one year if no incident or unplanned event occurred during the entry.

8.10 Atmospheric Dangers in a Confined Space

When entering a confined space, workers are faced with three (3) primary atmospheric hazards:

- The space may not contain sufficient oxygen or the oxygen levels could be elevated.
- The space may contain gases which are, or have the potential to be, within the explosive range.
- The space may contain toxic gases or there is a potential of release of toxic gases.

8.10.1 Oxygen Deficiency

The confined space may not contain enough oxygen to sustain life. Here are some facts:

- Normal air contains 20.9% oxygen.
- Atmosphere containing less than 20% oxygen requires the use of appropriate respiratory protection.
- All confined spaces, which have been closed, should always be suspected of containing insufficient oxygen. Confined spaces should be tested, ventilated, and retested to ensure an adequate oxygen level (greater than 20% oxygen) before entry.

A confined space containing less than 20% oxygen should not be entered without a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR).

An “oxygen-enriched” atmosphere contains more than 22% oxygen and results in a highly flammable environment. The slightest spark could result in the violent burning of clothes or any other combustibles.

8.10.2 Explosive Gas

The atmosphere in the confined space may be extremely flammable. Carelessness in this situation could result in an explosion.

The lowest concentration at which a gas can ignite is called its Lower Explosive Limit (LEL). At concentrations lower than the LEL, the gas in the air will not burn.

The vapours in the confined space must be less than 10% of the LEL for the entry to occur. If testing reveals the LEL to be greater than 10%, the area must be ventilated until the explosive vapours’ concentration is below 10% LEL. Note that 10% LEL is the

minimum acceptable concentration level of the explosive gases for safe entry, and the space should be ventilated to 1% LEL.

8.10.3 Toxic Gases

The confined space or the surrounding area may contain toxic gases such as hydrogen sulphide (H_2S) or carbon monoxide (CO). At high enough concentrations, these toxic vapours can kill in an instant.

The atmosphere must always be tested with monitoring equipment no more than 20 minutes before entering a confined space.

Characteristics of gases:

Some toxic gases are heavier than air and tend to settle at the bottom of the confined space; still others are lighter than air and tend to collect at the top of the confined space. And there are some gases (Like CO) that are around the same weight as air and are present throughout the confined space. This can lead to what is known as a "stratified atmosphere". In a stratified atmosphere, the atmosphere is "layered" and the composition of the atmosphere (oxygen, explosive gases and toxic gases) changes throughout the height of the space. Therefore, it is important to test the atmosphere at the top, bottom, and middle levels of the confined space a.

A common toxic gas is hydrogen sulphide. Hydrogen sulphide gas is a natural by-product of decomposing sewage. It has a "rotten egg" smell and is heavier than air, so it tends to collect at the bottom of spaces.

Acceptable Levels:

The short-term exposure limit", (STEL) of H_2S is 10ppm (parts per million). "STEL" means the time weighted average (TWA) concentration of a substance in air which may not be exceeded over any 15 minute period, limited to no more than 4 such periods in an 8 hour work shift with at least one hour between any 2 successive 15 minute excursion periods. Any operation where H_2S limit is 10 ppm or above will require worker to use an SCBA or like device.

Carbon Monoxide gas (CO) is a by-product of the combustion process, and is present in the exhaust of petroleum driven motors, generators, etc. If CO is a potential hazard in a confined space, the space must be ventilated until the CO level is less than its TWA (Time weighted average) of 25 ppm.

8.11 Confined Space/Restricted Space Entry Determination

Prior to entering a space it must be determined if is a confined space or a restricted space, and what are the hazards in the space? This is accomplished by following the steps listed in section 3, Hazard Assessment- CONFINED SPACE CHECKLIST

8.11.1 Identification

All points of entry to a confined space must be identified by signage which indicates that the space is a confined space and prohibits entry by unauthorized workers.

8.11.2 When & Where Permits are Required

(1) An entry permit must be completed and signed by the area supervisor before a worker enters a confined space:

(2) An entry permit must be posted at each designated point of entry to a confined space.

8.11.3 Updating Information

1. Once issued, the information on an entry permit may only be altered by:
    a. The supervisor who signed the permit to update it in accordance with subsection 3 below or
    b. The standby worker to update the list of workers inside the confined space, or
    c. The tester to record test results.
2. An entry permit must be reviewed and updated as necessary to ensure the ongoing safety of the workers inside the space.
3. The permit must be re-authorized and signed by the supervisor:
    a. If there is a change in the work crew,
    b. After each shift change, or
    c. After a change of the supervisor.
    d. After a change in work, (i.e. Bolting to gluing)
4. Every worker affected must be informed of any alteration to an entry permit which involves a change in the required precautions or work activity.

8.12 Confined Space/ Restricted Space Prerequisites

8.12.1 Training

All employees involved in confined space/restricted space entries must complete a Confined Space Safety Training course that is recognized by the Government of Newfoundland and Labrador before participating in actual confined space entry operations. **This includes Management, Visitors, Contractors and Employees. NO ONE**

IS PERMITTED INSIDE A CONFINED SPACE/ RESTRICTED SPACE WITHOUT THE APPROPRIATE TRAINING.

8.12.2 Confined Space Entry Procedure

Initial Testing:

Prior to opening or entering any designated confined space, the supervisor in charge shall ensure that an initial test of the atmosphere within the space in the following order:

1. **Oxygen level;**
2. **Explosive gasses level (LEL);**
3. **Toxic gas level(s).**

Gas monitors used in the testing must be used in accordance to the manufacturer's specifications. Should testing reveal any unsafe conditions, ventilate the space until it is safe for entry. If after ventilation it has been determined that the atmosphere cannot be corrected to safe concentration, the use of SCBA`s (self-contained breathing apparatus) will be necessary to perform the entry.

Because some gases are heavier than air and some are lighter, it is possible for the atmosphere inside the space to be stratified, or layered. For this reason, it is important to test the atmosphere at different levels (top, middle bottom).

8.12.3 Restricted Space Entry Procedure

Initial Testing:

Prior to opening or entering all restricted spaces, the supervisor in charge shall ensure an initial test of the atmosphere. The atmosphere within the space shall be tested in the following order:

1. **Oxygen level;**
2. **Explosive gasses level (LEL);**
3. **Toxic gas level(s).**

Gas monitors used in the testing must be used in accordance to the manufacturer's specifications. Should testing reveal any unsafe conditions, ventilate the space until it is safe for entry. If after ventilation it has been determined that the atmosphere cannot be corrected to safe concentration, the use of SCBA`s (self-contained breathing apparatus) will be necessary to perform the entry.

Because some gases are heavier than air and some are lighter, it is possible for the atmosphere inside the space to be stratified, or layered. For this reason, it is important to test the atmosphere at different levels (top, middle bottom).

If an unsafe atmosphere has been created due to the work being performed, the work space classification will be reclassified to a Confined Space.

8.12.4 Isolation

Before employees enter a confined space or restricted space, the space shall be isolated to prevent the entry of hazardous materials or contact with other hazards such as energized electrical circuits.

The supervisor in charge shall take steps to:

1. Depressurize the space;
2. Eliminate incidental introduction of hazardous materials into the space through interconnecting equipment such as piping, ducts, vents, drains, or other means; by blanking or blinding the piping. If the piping contains non-toxic materials, the line must be isolated as per appropriate isolation procedures.
3. De-energize and lockout and tag out machinery, mixers, agitators, or other equipment containing moving parts that are in the space; and
4. Prevent incidental introduction of carbon monoxide gases from engine driven equipment.

8.12.5 Ventilation

If required by the hazard assessment, the confined space shall be ventilated with either stationary or portable ventilation blowers provided for this purpose prior to entry and at all times during occupation of the space.

During entry the ventilation equipment will be powerful enough to provide 50 cfm of clean breathable air for each entrant. The ventilation system must be designed to provide the air to the breathing zone of the worker.

The confined space shall be purged of contaminants with normal, breathable air.

NEVER use pure oxygen to ventilate a space. Doing so will result in an oxygen-enriched atmosphere, in which flammable materials (like clothing and hair) could easily catch fire and burn violently.

When flammable contaminants are to be purged, explosion-proof ventilation equipment designed for use in hazardous locations shall be used and precautions taken to eliminate all sources of ignition.

The supervisor, or a person designated by the supervisor, shall check periodically to ensure that contaminated air from the space is exhausted to a location where it does not present a hazard to employees or equipment. Any hazardous

concentrations shall be diluted by the use of additional blowers or additional ducting as necessary.

Note: If ventilation is required, a restricted space will be reclassified as a confined space.

8.12.6 Retesting

A second test of the atmosphere within the confined space shall be made after the space is ventilated.

Take readings at the top, middle, and bottom of the space.

Test in the following order:

1. Oxygen;
2. Explosive gases; and
3. Toxic gas(s) levels.

Results are to recorded on the entry permit.

If testing reveals any gases to be at an unacceptable level, continue ventilating until the hazard is controlled as per risk assessment requirements.

8.13 Confined Space General Entry Procedure

All pre-entry procedures shall be completed before entry into the confined space.

The Confined Space Entry Permit shall be posted at the entrance to the space and shall be made available to all employees involved with the permitted work.

Confined spaces with side and top openings shall be entered from side openings when practical (i.e., within 1.1 meters of the bottom of the space).

If the atmosphere cannot be brought to a “safe entry” condition through ventilation (between 20% and 22% oxygen, less than 10ppm H2S, less than 25 ppm for CO), approved respiratory protective equipment, such as Self-Contained Breathing Apparatus (SCBA) or a Supplied Air Respirator (SAR),shall be provided and worn.

To facilitate non-entry rescue, a full body harness shall be used whenever an authorized entrant enters a confined space, unless said equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

A retrieval line shall be attached at the centre of the entrant’s back to a D ring or above the entrant’s head. The other end of the line shall be attached to a mechanical device or fixed point outside the confined space which will be tended at all times by the standby worker.

A mechanically assisted device shall be available to retrieve personnel from vertical type confined spaces. Where use of such a device is not practical, three people above ground (or as many as needed to lift entrant) may substitute for a mechanically assisted device.

Any other appropriate safety equipment shall be provided and worn. The entry permit will state the minimum equipment that is necessary.

8.14 Restricted Space General Entry Procedure

All pre-entry hazard analyses including job specific rescue plan shall be completed before entry into the restricted space. All appropriate safety equipment that was identified during the hazard assessment shall be provided and worn.

8.15 Communication Method

In case of emergency situations, the attendant shall have the means to contact rescue personnel (Channel 1 Security) without leaving his/her post.

Recommended methods include:

- An attendant, equipped with a telephone/radio, can immediately call for emergency response by calling on the radio at Security Channel 1.
- Attendant may send a standby entrant to call for help and notify appropriate rescue personnel. This will delay any emergency procedures until the standby entrant returns.
- At no time will the attendant enter the confined space or leave the confined space entry point unless there is immediate danger to life and health.

The authorized entrant and the attendant shall maintain periodic verbal communications every 5 minutes for confined space/ restricted space. This may be unnecessary if the monitor can observe the entrants through direct line of sight. In the latter case, the monitor must be vigilant in maintaining sight of the operations.

If the above communication methods are not practical (due to high ambient noise levels, etc.) alternate communication devices (such as two-way radios) shall be used.

If at any time there is any questionable action or non-movement by the worker inside, a verbal check will be made. If there is no response, the attendant shall order an evacuation of the workers and follow rescue procedures as outlined in the rescue plan.

8.16 Emergency/Rescue Procedures

8.16.1 Confined Space Emergency Rescue Procedures

1. An employer must ensure that a worker does not enter or remain in a confined space unless an effective rescue can be carried out.

2. A worker must not enter or stay in a confined space unless an effective rescue can be carried out.
3. An employer must ensure that the emergency response plan includes the emergency procedures in place to evacuate the space immediately.
    a. When an alarm is activated,
    b. If the concentration of oxygen inside the confined space drops below 20% by volume or exceeds 22% by volume, or
    c. If there is a significant change in the amount of hazardous substances inside the Confined Space.
    d. In an emergency situation, i.e. Engulfment, entrapment, etc.

8.16.2 Restricted Space Emergency/Rescue Procedures

1. An employer must ensure that a worker does not enter or remain in a Restricted Space unless an effective rescue can be carried out.
2. A worker must not enter or stay in a restricted space unless an effective rescue can be carried out.
3. An employer must ensure that the emergency response plan includes the emergency procedures in place to evacuate the space immediately when:
    a) An alarm has been activated.
    b) Should an entrant become unresponsive

Note: In this particular case it would be assumed that it is because of either a medical condition or an unknown hazard that had not been detected. In either case, assume that the cause is an unknown hazard and as a result treat the space as a confined space with respect to conducting a rescue. Follow section 8.18 Emergency Rescue Plan.

8.16.3 Confined Space Emergency/Rescue Plan

Scenario 1; Evacuation alarm sounds in immediate area of confined/ restricted space

---

Alarm sounds, signalling for work area to evacuate. The steps to follow are:

1. Entrant attendant informs workers in the confined space that they must evacuate
2. Workers inside stop all operations, evacuate the confined space immediately and head to their designated muster station.

3. Once all workers have exited the confined space, the entrant attendant must place the Danger Do Not Enter sign in front of the entrance before he/ she exit the area and proceed to the designated muster station.

Scenario 2; Worker(s) down inside the confined space

---

1. Entrance attendant immediately contacts the emergency response team via the 1 Security emergency radio channel and communicates all known information to Security:
    a. What has happened (if known)
    b. Number of injured and severity (if known)
    c. How many people are involved
    d. The exact location
2. If possible, the entrance attendant sends another worker to meet the ERT and direct them to the location.
3. At **NO** time can the entrance attendant enter the confined space.
4. Security will announce the emergency on all channels; at this point all operations must stop.
5. Once the ERT arrive on location, the ERT will take over control and perform the rescue if safe to do so.

Restricted Space Emergency/Rescue Plan

---

1. Entrant attendant informs workers in the restricted space that they must evacuate.
2. Workers inside stop all operations, evacuate the restricted space immediately and head to their designated muster station.
3. Once all workers have exited the restricted space, the entrant attendant must exit the area and proceed to the designated muster station.

Scenario 2; Worker(s) down inside the restricted space

---

1. Entrance attendant immediately contacts the emergency response team via the 1 Security emergency radio channel and communicates all known information to Security:
    a. What has happened (if known)
    b. Number of injured and severity (if known)
    c. How many people are involved
    d. The exact location
2. If possible, the entrance attendant sends another worker to meet the ERT and direct them to the location.
3. **The entrance attendant must never enter the confined space.**
4. Security will announce the emergency on all channels; at this point all operations must stop.
5. Once the ERT arrive on location, the ERT will take over control and perform the rescue if safe to do so.

8.17 Reasons for a Confined Space Entry Permit to Become Void

There are numerous reasons for a permit to become void. Listed below are some common reasons but if any change occurs to the procedure or operation then the confined space permit is no longer valid. Any re-entrance will require all testing steps and procedures listed above to be followed.

Permits must be taken from service at the completion of the job, end of shift or whenever changes occur in scope of work, supervision or confined space attendant.

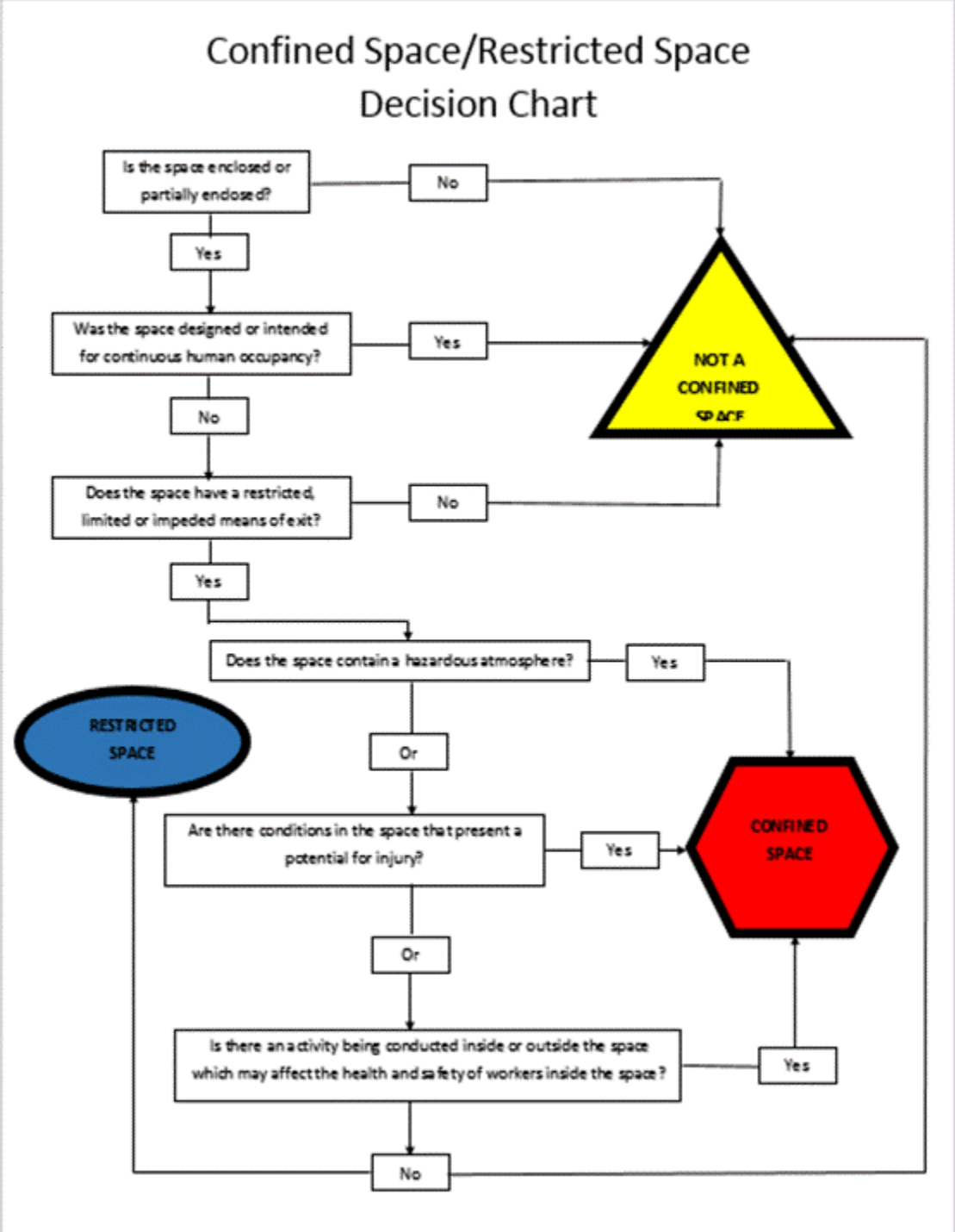


Exhibit 8.1: Confined Space/Restricted Space Decision Chart

9.0 LOCKOUT/TAGOUT (ISOLATION)

9.1 Policy

TSMC aims to minimize the risk of exposure to hazardous energy where unexpected start-up of equipment or the inadvertent release of stored energy could occur and cause injury. This shall be accomplished through a rigid set of isolation standards that ensure compliance with applicable regulations and meet or exceed industry best practices.

9.2 Scope

This program covers all DSO-Timmins site operations and applies to all employees, sub-contractors and any other persons who work on company sites. This program must be applied in its entirety and without exception by all.

9.3 Program Description

9.3.1 General Requirements

Energy isolating device identification

All energy-isolating devices used to control hazardous energy sources must be capable of being locked out. All equipment and all energy-isolating devices covered by this program must be clearly coded and labelled on an identification tag. The label format and wording must be standardized. It is prohibited to remove these identifications. If it is necessary to remove these identifications to complete the work, the worker doing the work must reinstall the identification correctly. If an identification tag is missing, the employee must report it to the area supervisor immediately.

Regulation and standards

This program is compliant with:

- The requirements of the "Newfoundland and Labrador Regulations with respect to Occupational Health and Safety", specifically clauses 127 through 137;
- Standards related to isolation in Canada (CSA Z460-13).
- Internal standards and rules adopted by the organization.

Activities

This program applies to all of the following activities, including, maintenance, operations, upkeep, repair, construction, assembly, installation, implementation, adjustment, inspection, recalibration, emergency service, unblocking, testing, cleaning and disassembly carried out inside the hazardous area of a machine or equipment.

9.3.2 Definitions

Affected individuals: Persons who are not directly involved in the work requiring the hazardous energy control, but who are (or may be) located in the hazardous area or are affected by the equipment isolation.

Appointed lockout person: Authorized representative of the equipment owner (operation division) who will participate in the implementation of the isolation procedure. The appointed lockout person must be qualified on the operation of the equipment and must be trained, tested and qualified on the isolation procedures.

Authorized person: Person assigned to hazardous energy control because of the person's training, knowledge and experience in his/her sector of activity.

De-energized: Disconnected from all energy supply sources and not containing residual or stored energy.

Energy isolating Device: Mechanical device that physically prevents the transmission or release of energy, including but not limited to the following:

- Breakers, disconnect switches and manually operated switches;
- Line valves;
- Blind flanges (or shutters); and
- Chocks or other devices used to block or isolate energy sources.

Energy sources: The hazardous energy types covered by the program are: electrical, mechanical, pneumatic, hydraulic, residual (i.e. pressure, springs, batteries), potential, kinetic, thermal, chemical, radiation, nuclear or others, which can cause injury or act on a machine or piece of equipment, regardless of their magnitude.

Hazardous substances: Any solid, gas, vapour, liquid, chemical product, dust or material representing an immediate danger because of the high possibility of causing injuries and

damage immediately after contact or inhalation (i.e. toxic, corrosive, flammable, explosive or infectious substances). Also, any gas, vapour or liquid whose pressure or flow may cause injuries and damage or, any radioactive substance.

Information tag: A warning label used in the application of an isolation, that usually indicates the nature, purpose, time of the isolation and the identity of the authorized person.

Isolation: Set of activities and actions resulting with the total control of all energy sources.

Isolation procedure approver: Person who has the responsibility to ensure that:

- The isolation procedure has followed the validation process;
- The modifications required by the validation team were properly made;
- The procedure validation team was qualified to establish the conformity of the isolation procedure for the specified equipment.

Mobile equipment: Stand-alone machine or equipment that moves on its own or is pushed or pulled by a tractor or other device that uses an electric or fuel motor to produce a driving force (i.e. loader, backhoe, excavator, skidder, dozer, compactor, etc.)

Multiple isolation: Isolation involving two or more isolating devices and/or two or more people who want to isolate a single piece of equipment. The use of the isolation box and equipment padlocks is mandatory.

Padlock: An individually keyed mechanical means of locking an energy-isolating device in a position that prevents energization of a machine, equipment, or a process. The padlock is installed directly on energy-isolating device if this one is designed for that purpose or on the mechanism installed on the isolating device. Only padlocks provided by TSMC are authorized, with exceptions for contractor padlocks.

Person in charge of radiation protection (PCRP): The term "PCRP" refers to the two persons designated to isolate radiation sources. These people must have received "Radiation Protection" training and appear as designated resources in the Emergency Measures Program.

Person in charge of the work (lockout witness): An authorized person, working alone or as a representative for a group of workers, assigned to the verification and confirmation of the isolation carried out by the appointed lockout person, before the execution of the work.

Single isolation: Isolation involving only one isolating device and one person. This type of isolation can be achieved using the employee's personal padlock.

Shutdown (power interruption) device: Control devices such as pushbuttons, selector switches, switches, remote controls, human machine interfaces and other devices used in normal shutdown for machines and systems. Shutdown devices ARE NOT energy-isolating devices.

Temporary isolation procedure approver: The Operation's Supervisor and the worker's Supervisor have the responsibility to ensure that:

- The temporary isolation procedure has followed the validation process;
- The procedure validation team is qualified to establish the conformity of the isolation procedure for the specified equipment.

9.3.3 Isolation tools

Temporary isolation procedure: Blank isolation procedure that is used to document the isolation steps for equipment or task that is not already covered by a written isolation procedure. This temporary form must be approved by the Operation's Supervisor and by the Supervisor in charge of the workers.

Isolation procedure: Detailed isolation procedure (**Exhibit 9.3.3**) indicating and explaining, step by step, how to eliminate or control all energy sources for a piece of equipment and to maintain them in a safe state throughout isolation. The isolation procedure can be improved at any time following a revision process. The isolation procedure shall include the following:

- Identification of the machine, equipment, or process;
- Listing of all required energy-isolating devices, their locations and their identification codes;
- For each energy-isolating device listed, the type and magnitude of the controlled energy;
- Procedural steps for shutting down, isolating, blocking, securing, and relieving stored or residual energy;
- Procedural steps for placing and removing padlocks and isolation mechanisms;
- Requirements for verifying that isolation and de-energization have been accomplished;
- Requirements related to personal protective equipment and apparatus to be used or trades to be involved during the isolation if necessary; and
- Requirements for verifying that all personnel have cleared the hazardous area and that the machine, equipment, or process has been inspected to ensure that it is ready for return to service.

Electronic documents are available through the CONFORMiT® management software via isolation stations.

Specific rules:

- It is prohibited to cross-out information on permanent or temporary forms;
- If an isolation procedure is missing, a new one must be prepared;
- Temporary isolation procedures must be hand written;
- All energy sources must be listed on permanent forms and must be controlled; and,
- When purchasing and installing new equipment, it is mandatory to have a permanent form before starting up the equipment.

9.3.4 Padlocks (Isolation Locks)

An isolation lock or padlock is an individually keyed mechanical means of locking to secure an energy-isolating device in a position that prevents intentional or incidental energization of a machine, equipment, or a process. Only padlocks provided by TSMC are authorized, with exceptions for contractor padlocks.

Personal padlock (gray): A gray padlock registered to the employee using his/her name and employee number and used in accordance with the SINGLE and MULTIPLE isolation policies. Every person who has to work on a piece of equipment has a uniquely keyed padlock with a single numbered key.

Specific rules:

It is prohibited to use gray personal padlocks for any purpose other than to maintain an isolation. It is prohibited to lend personal padlocks or keys to someone else, as the use of another person's personal padlock.

Equipment padlocks (red): A red padlock is used in multiple isolations to lock (in most cases) an isolating device. Found at the isolation station, they are usually available in series of 5 identically keyed padlocks with only one key. Each series is uniquely keyed.

Specific rules:

It is prohibited to use the equipment padlock as an equipment protection padlock (see department padlock) or as a personal padlock.

Temporary visitor padlocks (blue): A blue, uniquely keyed padlock with a single, numbered key. It is provided temporarily to a person for the duration of the isolation in progress or the borrower's shift. Borrowed padlocks are available in isolation stations across the site and must always have a borrowing tag attached to them.

Specific rules:

Temporarily registered to the borrower of the padlock, it must be accompanied by one of the halves of a borrowing tag in order to identify the temporary owner. The other half of the borrowing tag must remain in the isolation station from where it was borrowed. The temporary visitor padlock is otherwise used and subject to the same conditions as a personal lock.

Department padlocks:

- GREEN for Operations;
- BROWN for Mechanical Maintenance;
- ORANGE for Electrical Maintenance
- BLACK for Project / Engineering Team.

Padlock series belonging to a specific department. Each department has its own colour and unique keying with multiple keys. It is used to isolate equipment when there are no other locks attached. It acts as an equipment protection padlock only, preventing personnel from a different department to operate the isolating device. It is available through each department and must always be accompanied by an explanatory label.

Specific rules:

Department padlocks can be used for the following activities:

- Condemnation of equipment;
- Control equipment energization
- Long term equipment shutdown or isolation from shift to shift;
- Visual cut confirmation by electricians
- Project team

This type of padlock cannot be used to ensure the security of workers.

Contractor's padlocks, (yellow): Uniquely keyed, yellow padlock with a SINGLE KEY, identified with the contractor's and the employee's names. The padlock must be labelled with an emergency phone number.

Specific rules:

- The contractor is responsible for providing his personnel with the required isolation hardware.
- The contractor padlock is subject to the same conditions as a personal padlock.
- In case of non-compliance with the program with a contractor's employee, the situation will be managed according to appropriate disciplinary action.

9.3.5 Seal

Uniquely numbered, it is used to confirm that a multiple isolation has not been altered if there are no more personal padlocks in the following circumstances:

- Work that has not been completed in a single shift;
- Lengthy shutdowns; and
- Continuation of the isolation by the Supervisor.

The exact seal number must be indicated on the isolation procedure. The seal must be the first element to be placed on the isolation.

Specific rules:

It exclusively ensures the integrity of the isolation. In no circumstances can a seal replace a personal padlock to ensure worker safety; therefore, seals cannot be used alone.

9.3.6 Isolation station

Identified station where all the necessary accessories to perform an isolation are available.

9.3.7 Padlock Storage Cabinet

A cabinet where equipment and borrowed padlocks can be found. It can sometimes include isolation mechanisms and accessories for smaller isolation stations.

9.3.8 Isolation box

Box (fixed or portable) in which the key(s) of the padlock series used as well as the padlocks unused in the same series are stored.

Numbered and assigned to an isolation station. Employees install their personal padlock on it to ensure their safety.

Note: when a portable box is used, a control tag must be completed and attached to the box's original location in the isolation station indicating where it is being stored.

9.3.9 Isolation mechanism

Mechanism added to an energy isolating device in order to make it lockable, such as a chain, wheel cover, a valve cover, a plug cover, a block or other means.

9.3.10 Lockout Scissors

The first authorized person who installs his/her personal padlock must first install a lockout scissors on the isolating device, in case of a simple isolation or on an isolation box.

It is used to install a maximum of 5 padlocks, the 6th hole being used to install another isolation scissors.

9.4 Responsibilities

9.4.1 Tasks and responsibilities

Employee in charge of the work or lockout witness

- Must accompany the appointed lockout person to ensure that all identified sources of energy listed on the procedure are locked out in the proper position;
- Must sign the isolation procedure to confirm that all steps have been followed and that the isolation is safe.

Appointed lockout person

- Must apply the isolation procedure and follow each step listed on the isolation;
- Must use the isolation procedure and verify the accuracy of all the information;
- Must report any deficiency found during the isolation to his/her isolation area;
- Must "guide" the lockout witness during the padlock installation;
- Must install the seal on the isolation box;
- Must complete the isolation procedure and sign it to confirm that all steps have been followed and that the isolation is safe.

Person who is working on locked out equipment

- Is responsible for his/her own safety;
- Must read and apply the isolation procedure;
- Must report any deficiency found to their Supervisor;
- Must cooperate, if necessary, in evaluating the efficiency of the procedure;

- Must make sure to put his/her personal lock on the proper energy isolating device or proper isolation box and sign the isolation procedure;
- Must come back immediately to remove his/her personal padlock after his/her work is completed.

Supervisor

- Must provide the necessary resources to efficiently apply the procedure; Must approve any amendments to an isolation procedure before it can be used;
- Must verify (in the field) the accuracy of all the information of a temporary isolation procedure before approving it;
- Ensures that all employees know and apply the lockout program;
- Ensures that isolation equipment is properly identified and functional;
- Notifies the Technical Services of any changes to a piece of equipment;
- Can sign an authorization to remove a forgotten padlock, but only after taking the necessary precautions to ensure that the employee is no longer on site and cannot come back to personally remove his/her padlock and that the risks are controlled;
- Participates in the evaluation of an isolation procedure's efficiency;
- Visits, when required, the site before the work begins.

Person in charge of approving the isolation procedure

- Approves the isolation procedures, permanent or temporary;
- Ensures that the isolation checklists have been validated.

Training Services:

- Provide training on the program to TSMC's employees and contractors;
- Provide refresher training sessions on-demand and a reminder training session;

  Ensure that all employees have a minimum score of 90% on the exam every 3 years for all employees;

- Ensure that all employees and Supervisors have received training before starting work

Business leader, Superintendent

- Ensure that approvals are made with precision and that the lockout program is adhered to at all times;
- Carry out audits on the application of the isolation;
- Are responsible for the implementation and enforcement of the lockout program;
- Validate the content, tools and resources in place for the implementation of the lockout program;
- Must ensure that all personnel in their respective sector received adequate training before performing the work;
- Provide the resources needed to implement and maintain the lockout program;
- Ensure continuous improvement of the isolation process;
- Ensure that the isolation procedures creation, validation and approval process is followed;
- Issue annual guidelines and objectives for the application of the lockout program;
- Ensure the annual assessment of the lockout program efficiency.

Health and Safety services

- Ensure that the lockout program is applied as a whole;
- Manages the distribution and control of personal padlocks;
- Actively participate in the modifications to the lockout procedure;
- Coordinate and make sure that each party respects their respective roles and responsibilities;
- Ensure that the isolation procedure management system (CONFORMiT®)is working and is accessible to all authorized personnel;
- Ensure the conformity of the isolation procedure approval system;

- Participate in the preparation and evaluation of lockout procedure support documents;
- Evaluate the quality of the isolation procedures and preventive measures issued as well as the implementation of the lockout program and the methods used;
- Advise the stakeholders and provide the necessary support to continuously improve the application of the isolation program;
- Participate in or lead the annual evaluation of the program.

9.5 Isolation Procedure

This procedure has two different ways to apply an isolation based on the number of hazardous energy sources to control and/or the number of people applying their isolation locks. The choice of how to apply isolation is mainly dictated by the number of energy isolating devices shown on the isolation procedure.

There are also small variants of the two main methods that can apply to complex isolations or special situations. Theses variants are described in further sections. Nevertheless, the core principle stays the same in those variants.

9.5.1 Single isolation

Principle:

When there is a single source of energy controlled through a single energy isolating device, being isolated by one person, the isolation can be achieved with the installation of the personal padlock of the employee directly on the energy isolating device. This only applies to specific types of work:

- Trouble shooting performed by electro technicians;
- Welding units; Hydraulic rock breakers;
- Laboratory equipment.

Detailed procedure:

- ✓ The worker confirms the isolation device number and location from the isolation checklist;
- ✓ If the voltage is 600 volts or less, the worker will find the appropriate breaker, confirm with Operations that the unit is not running and disconnect the isolation device.
- ✓ The worker will attach his/her personal padlock on the isolation device to ensure that it cannot be re-energised.

- ✓ The worker will go to the equipment location and perform a bump test to confirm that there is zero energy to the equipment by pushing the local stop/start button.
- ✓ When the energy isolating device is located in an electrical room, the presence of an electrician is required if the magnitude of the energy is greater than 600V. The electrician will perform the switching off manoeuver in order to de-energize the equipment. The appointed lockout person and / or the person who performs the task will witness the manoeuver done by the electrician. Once the visual break is confirmed, the electrician will install the worker's lock on the isolation device as the worker observes, (the worker must be attendance during the full procedure.
- ✓ The isolation check sheet must remain at the workplace at all times;
- ✓ Upon work completion, the worker must remove his/her personal padlock, verify the integrity of the equipment or section of equipment they were working.
- ✓ The last worker to remove his/her personal padlock from the hasp performs a start-up test on the equipment with an appointed lockout person or a delegate from the operations;
- ✓ They then go to the isolation station to confirm the end of the work;
- ✓ If the work is not completed or prolonged over one shift, the worker must affix a department padlock.

9.5.2 Multiple isolation procedure

Principle:

When there is more than one energy isolating device to isolate in order to achieve complete energy isolation for the work zone, the use of an isolation box and equipment padlocks are mandatory.

Detailed procedure:

- ✓ If more than one worker is part of the team, they must appoint a person in charge of the work (witness).
- ✓ The witness goes to the isolation station and prints out the isolation procedure identified for the equipment they will be working on;
- ✓ The appointed lockout person, starting with a series of five locks, determines the kind of equipment padlocks and mechanisms required for the isolation;
- ✓ The appointed lockout person and the witness proceed with the isolation steps as described in the isolation procedure. They must write the padlock number used on each energy isolating device;

- ✓ When the energy isolating device is located in an electrical room, the presence of an electrician is required if the magnitude of the energy is greater than 600V.
- ✓ The electrician will perform the switching off manoeuver in order to de-energize the equipment. The appointed lockout person and / or the person who performs the task will witness the manoeuver done by the electrician. Once the visual break is confirmed, the electrician will install the lockout scissors and an orange department padlock. The appointed lockout person will then install an equipment padlock on the lockout scissors.
- ✓ The appointed lockout person and witness must ensure that the bump tests and release of the residual pressure are properly performed.
- ✓ The appointed lockout person and witness return to the isolation station and place the unused equipment padlocks and keys in an isolation box.
- ✓ The appointed lockout person and witness take a numbered seal, write the number on the isolation procedure and place the seal on the isolation box.
- ✓ The appointed lockout person and witness insert the isolation procedure into a plastic bag attached to the isolation box. Each worker puts his/her personal padlock on the isolation box.
- ✓ Each worker who leaves the work zone must remove his/her personal padlock.
- ✓ If the work is not completed in one shift, see section 7.7 Shift change, assignment change or work shutdown.
- ✓ Once the work is completed, an authorized person assigned by the team performs the unlocking steps as described on the isolation procedure. He then verifies the integrity of the equipment and performs the start-up test
- ✓ The authorized person goes to the isolation station and informs the necessary personnel that work has been completed and that the equipment is ready to use.

9.5.3 Isolation procedure for radioactive sources

i. The appointed lockout person informs the Person in Charge of Radioactive Protection, (PCRP) that a nuclear gauge has to be isolated. The PCRP brings with him a Ludlum3 radiation survey meter and ensures that the calibration of the latter is still valid (less than one (1) year since the last calibration);

ii. The appointed lockout person has the appropriate isolation procedure in hand.

iii. When the electrician, the appointed lockout person and the witness are on the scene, all three validate that they are in front of the right gauge to be isolated.

iv. The electrician takes two radiation level readings while the gauge is in the open position (at the gauge's output, its scintillator). The results are recorded on the

isolation form along with the survey meter's serial number and its last calibration date.

REMINDER: Do not stand directly in the particle beam and minimize the reading time (about 10 sec.)

Note: *If the gauge is already isolated by another procedure, find the relevant procedure and transcribe the values onto the new sheet. Continue to step 8.*

v. The electrician removes the orange seal present on the closed gauge.

vi. The electrician then turns the gauge's caliper 180 degrees. The gauge's status indicator will change from ON to OFF in the process;

vii. In the OFF position, the electrician applies the scissors and affixes an ORANGE padlock. The appointed lockout person adds an equipment padlock from his/her equipment padlock series.

viii. The electrician takes the radiation level readings again now that the gauge is in the closed position (at the gauge's output and at its scintillator) and records the results on the form;

NOTE: *Even if the gauge is already isolated, the radiation level readings must still be taken in the gauge's closed position.*

ix. The radiation level should have decreased and the output value should be less than 15 mSv / h.

x. The electrician, the appointed lockout person and the witness confirm that the gauge is in the closed position by writing down their initials on the form.

xi. The appointed lockout person contacts the control room to validate that the source is not in the open position anymore (an alarm is active on the screen and the transmitter reading confirms its closure).

IMPORTANT NOTE: ***The PCRP or designated / delegated person must be informed immediately of any situations considered abnormal (mechanism trouble, unconventional reading levels, closed position not validated by the control room, etc.). Isolation is then considered invalid and work is to be suspended until the situation is corrected.***

xii. Once the work is completed, the gauge is unlocked and switched back ON (work to be performed jointly by the electro technician and the appointed lockout person).

xiii. An orange seal is installed to maintain the gauge open.

9.5.4 Cascading isolation

Cascading isolation is used occasionally for multiple isolations involving more than one person. This method is used particularly during major shutdowns, because several

pieces of equipment can be isolated together and this method allows employees to switch from one piece of equipment to another while remaining isolated.

Example: Isolation box CV-01 contains the unused equipment padlocks and key from the series that was used to isolate the local switch and the valve. This isolation box is in turn isolated by an equipment padlock that comes from the main isolation box series. A blank isolation form must be completed for the main isolation box.

9.5.5 Isolation procedure for contractors

Implementing rule for contractors:

In all isolations cases where contractors are involved, the isolation must be performed under the supervision of a Tata Steel Mineral Canada representative. Only the multiple isolation procedure is applicable. **The personnel employed by the contractor have no right to operate an energy isolating devices, even in a simple isolation case.**

Detailed procedure:

- ✓ The contractor designates his/her highest ranking worker to act as the contractor lockout witness;
- ✓ The project manager or the owner of the equipment and the contractor lockout witness head to the isolation station to inform the appointed lockout person of their isolation needs. They all then proceed to follow the steps indicated on the appropriate isolation form.
- ✓ In the case of major maintenance involving several work groups in the same hazardous area, the isolation will be performed by an appointed lockout person, a witness and an electrician. By designating a witness, any participating group can request a review of the isolation.

9.5.6 Shift change, assignment change or work shutdown

- If the work has not been completed by the end of the shift and is to be continued by one or more authorized persons:
- Each authorized person who is leaving must remove his/her own personal padlock.
- The authorized person must notify the Supervisor of the nature of the work to be completed.
- The Supervisor must attach a department lock to maintain the isolation.

In the case of a multiple isolation:

The last authorized person to leave the hazardous area can only remove his personal padlock after he clearly stated the reasons for maintaining the isolation to the area supervisor.

9.6 SPECIAL SITUATIONS

9.6.1 Padlock removal procedure

A PERSONAL PADLOCK MAY ONLY BE REMOVED BY ITS OWNER

However, there are two exceptional circumstances that may justify the forced removal of a padlock, or in other words, cutting the padlock.

9.6.2 The worker has forgotten his/her padlock

In the event that a worker forgot to remove his/her padlock at the end of his/her work shift, the Supervisor will try to locate the owner.

IF THE WORKER IS STILL ON SITE, HE/SHE MUST COME BACK TO REMOVE HIS/HER PADLOCK

If the worker has left the site, the supervisor must try to contact him. If the worker is reached, he/she must come back to remove his/her padlock.

If it is impossible to reach the worker, the Supervisor of Operations, the qualified electrician and a mechanic must then perform a complete visual inspection of the equipment to ensure that it is safe and that nobody is still in the hazardous area. Only the manager on duty, (a person above the Supervisor level) can give permission to remove a padlock when the worker is not reached.

When the Manager on duty or his/her substitute has given his/her permission, the Operations Supervisor, the qualified electrician and the mechanic complete the "PADLOCK REMOVAL FORM" and proceed with the removal of the padlock.

Only the Operations' Supervisor is authorized to cut a padlock after the "PADLOCK REMOVAL FORM" is signed by all parties. The removed padlock is recovered by the health and safety department and the key will be recovered at the worker's return to the site.

This procedure can be applied for a contractor's personal padlock as well.

9.6.3 Lost or broken key or broken padlock

The worker who has lost or broken his/her padlock and/or key must inform his/her Supervisor.

They both complete the "PADLOCK REMOVAL FORM" and proceed with the removal of the padlock. The removed padlock is recovered by the Health, Safety & Security department.

9.6.4 Equipment already locked out:

Each person joining a work team must:

SINGLE ISOLATIONS

- Visually check the energy isolating device.
- Sign the form.
- Install his/her personal padlock on the scissors.

MULTIPLE ISOLATIONS

- Ensure that the used equipment padlocks series number matches the keys in the isolation box.
- Ensure that the numbers from both the isolation form and actual seal match.
- Install his/her personal padlock on the isolation box.

If a worker wishes to verify the isolation, he/she may ask the main authorized person for this particular isolation to accompany him with the isolation checklist.

9.6.5 Temporary isolation interruption

In situations where isolation devices have to be temporarily removed from an energy-isolating device, the following steps must be performed:

- Notify all personnel that the machine will be partially or totally re-energized.
- Assess the work completion status to ensure that the machine is in a safe state and ready to be re-energized.
- Obtain approval from all involved personnel that are working in the area.
- Ask all involved personnel that are working in the area to remove their personal padlocks and to stay clear of the hazardous area.
- Partially or totally re-energize the machine.
- Using a new copy of the isolation procedure, re-apply the isolation.

9.6.6 Isolation procedure not available

When the equipment's isolation procedure is not available, a temporary procedure must be prepared before any type of work can begin. The following steps must be performed by an authorized person:

- Obtain a blank isolation form;
- Identify the machine's energy sources and appropriate energy isolating devices, keeping in mind any residual or stored energy and log on a blank isolation form;
- Identify any risks inherent to the work and if necessary, add the appropriate instructions to the isolation form.
- The completed procedure must be approved by both the area Operations' Supervisor and by the Maintenance Supervisor on duty. If any radioactive energy source is identified in the isolation process, the procedure must also be approved by the person in charge of radiation protection (PCRP).
- Apply the isolation following the standard procedure for its type (single, multiple, contractor, etc.).
- Once the unlocking steps are completed, return the isolation procedure to the Supervisor who will then submit it to data entry in CONFORMiT®.

9.6.7 Mobile equipment isolation

The isolation of mobile equipment must be performed using an isolation procedure that has been developed in accordance with the following steps:

Identification of hazardous energy present:

Identify and assess all hazardous energy, considering, but not limited to, the following aspects:

- Electrical energy, Chemical energy, Pressurized fluid, Mechanical, Kinetic,
- Free moving sections of the machine,
- Mobile equipment or work pieces supported, held or controlled by a device that could move or cause movement of the machine.
- Possibility of remote start-up.

Hazardous energy control:

If the engine providing the driving force of the machine must be isolated:

- Identify the master switch and lock it out;

- If the switch is not lockable or if there is no switch, and if appropriate, disconnect the cables from the battery and isolate both cables;
- Chock the wheels and block any moving parts;
- Lower all attachments to the ground.

Identify isolating devices controlling energy sources.

Isolate the devices according to the requirements of the single or multiple isolations.

In all cases, place a control tag on a suitable control device.

9.6.8 Isolation on a medium or high voltage line or equipment

When the work requires the control of energy on a medium or high voltage line or equipment, it must be performed by an electrician who is specially trained in working with high voltage lines and he/she must use the appropriate equipment. Once the electrical power has been disconnected and has been visually verified (including a 3-step verification of the absence of voltage) and isolation of the system is carried out, grounding cables (GND), meeting the requirements of ASTM F855-09, must be installed upstream and downstream of the hazardous area. Tools and PPE appropriate to the task must be used.

The grounding cables must always be connected in the following order:

1. Connect the cable to the ground.
2. Connect the cable to the line or equipment.

Removal of grounding cables must be performed in the reverse order.

9.6.9 Adjustment, repair, freeing up, maintenance and apprenticeship

When a worker must access a machine's hazardous area for adjustment, freeing up, maintenance or repair purposes, including for detecting abnormal operations, and to do so, he must move or remove a protector, or neutralize a protective device, the machine shall only be restarted by means of a manual control or in compliance with a safety procedure specifically provided for allowing such access. This manual control or this procedure shall have the following characteristics:

- It causes any other control mode or any other procedure, as the case may be, to become inoperative;
- It only allows the operation of the dangerous parts of the machine by a control device requiring continuous action or a two-hand control device;
- It only allows the operation of these dangerous parts under enhanced security conditions, for instance, at low speed, under reduced tension, step-by-step or by separate steps.

9.7 Training Requirements

9.7.1 General Requirements

All authorized persons must be trained on this lockout procedure before they can carry out any repair and maintenance tasks or be potentially exposed to hazardous energy.

Periodic refresher training must be offered to authorized and affected persons at an interval not exceeding 1 year to maintain the appropriate knowledge.

Additional training must be provided for all authorized persons and affected persons whenever an assessment reveals, or whenever there is other reasons to believe, that the authorized persons' knowledge or use of energy control procedures is inadequate or inconsistent with the requirements of this program. The name and training dates for each authorized person must be recorded.

9.7.2 Training assessment

The effectiveness of the training must be assessed by the way authorized persons demonstrate:

- Knowledge of the program;
- Recognition and understanding of hazardous energy types; and
- Use of appropriate energy control procedures.

Authorized persons who do not demonstrate an adequate level of knowledge or use of appropriate hazardous energy control procedures must be retrained. At a theoretical or practical assessment, authorized persons must obtain a passing grade of at least 90%.

9.8 Program Review

9.8.1 Isolation Procedure Review

The isolation procedures unused for more than eighteen (18) months must be reviewed by an authorized person before being used again. This is done in order to ensure that these procedures are still appropriate, considering the processes in place for procedure application control and hazardous energy deficiencies identification.

9.8.2 Program Evaluation

The condition and effectiveness of each element of the program must be assessed every 3 years or less. The assessment must include: the written program, the specific isolation procedure for each piece of equipment, the isolation accessories (inspection of isolation

station inventory, cleanliness and working condition), the energy-isolating devices and the training.

9.8.3 Isolation Procedure Application Review (audit)

The effectiveness of the isolation procedure application must be verified continuously. The verification must be randomly performed and address all functional characteristics specific to the organization.

The verifications must be done once in a period of twelve (12) months with the results compiled into the CONFORMiT® software and maintained for at least three years.

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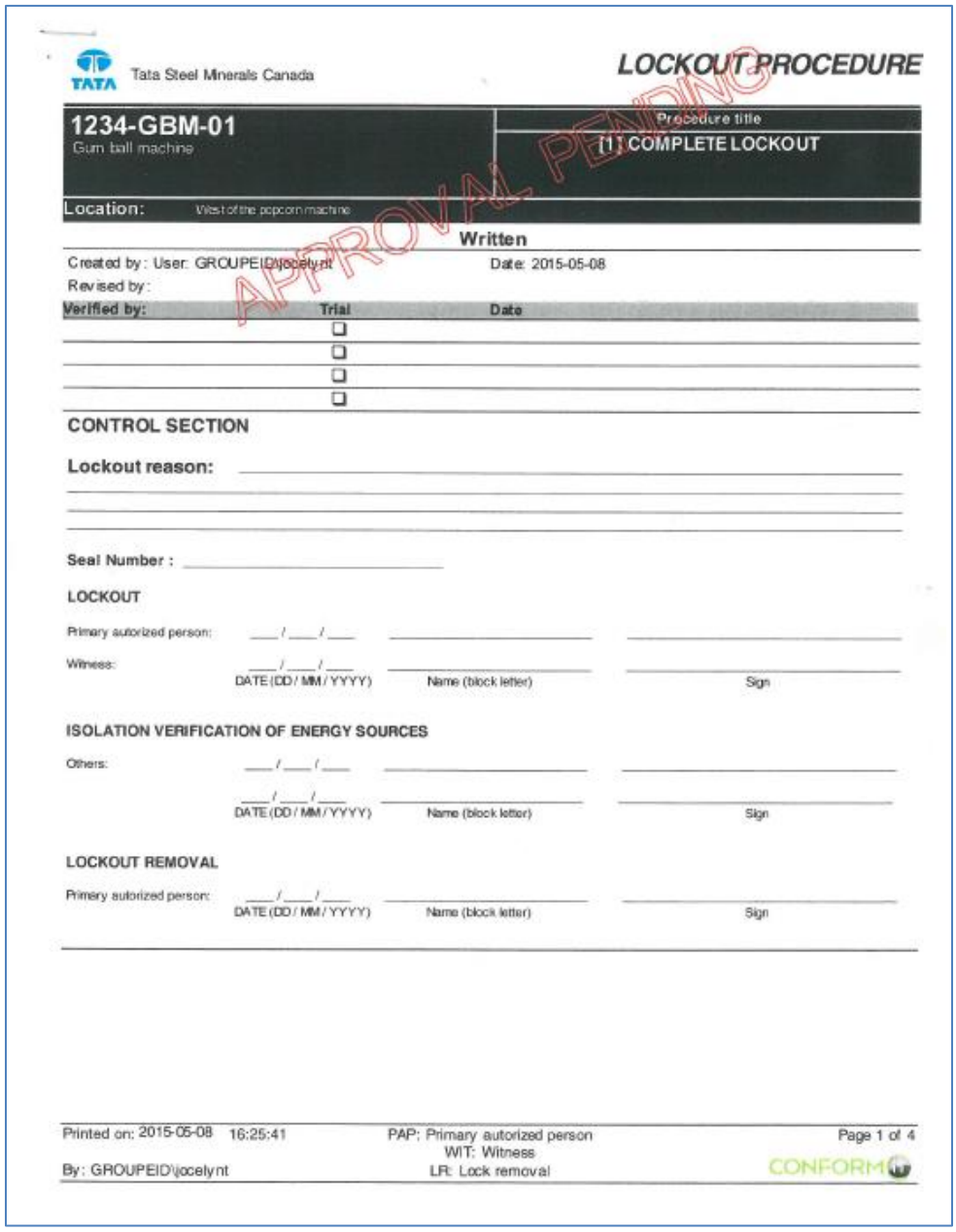

Tata Steel Minerals Canada

LOCKOUT PROCEDURE

APPROVAL PENDING

1234-GBM-01
Gum ball machine

Procedure title
[1] COMPLETE LOCKOUT

Location: West of the popcorn machine

Written

Created by : User: GROUPEID\jocelynt Date: 2015-05-08
Revised by :

Verified by:	Trial	Date
	❑	
	❑	
	❑	
	❑	

CONTROL SECTION

Lockout reason: _____

Seal Number : _____

LOCKOUT

Primary autorized person: ___/___/___ _____ _____
Witness: ___/___/___ _____ _____
DATE (DD / MM / YYYY) Name (block letter) Sign

ISOLATION VERIFICATION OF ENERGY SOURCES

Others: ___/___/___ _____ _____
___/___/___ _____ _____
DATE (DD / MM / YYYY) Name (block letter) Sign

LOCKOUT REMOVAL

Primary autorized person: ___/___/___ _____ _____
DATE (DD / MM / YYYY) Name (block letter) Sign

Printed on: 2015-05-08 16:25:41
By : GROUPEID\jocelynt

PAP: Primary autorized person
WIT: Witness
LR: Lock removal

Page 1 of 4

CONFORM

Exhibit 9.3.3: Lockout Procedure (Isolation Checklist) Form

10.0 LIGHT VEHICLE AND MOBILE EQUIPMENT OPERATION

10.1 Policy

This policy is intended to reduce the incidence of vehicular injury and property damage resulting from poor driving practices such as:

- Distracted driving;
- Improper operation of vehicles and mobile equipment;
- Disregard for rules of the road;
- Aggressive and imprudent driving.

10.2 Distracted Driving

Distracted driving presents serious risks to our employees, contractors, other workers, the general public where off-site driving is concerned, and to the operation and reputation of the company.

Cell phones, other electronic devices, and distracted driving in general are major causes of incidents involving personal injury and property damage.

Drivers and mobile equipment operators are prohibited from holding, operating, communicating, or watching the screen of a hand-held communication device:

- While driving a company vehicle
- While driving a personal or contractor vehicle on company property
- While operating mobile equipment, such as a forklift, haulage truck or other heavy mining equipment.

10.3 Responsibilities

- In addition to electronic devices, consider all forms of driver distraction. Apply this information to your company safety and/or site safety policy.
- Ensure that drivers and other workers have the training and/or the education they need.
- Support the safety activities of supervisors, workers, and joint committees.
- Support the investigation of fleet and grey fleet (i.e., personal vehicles driven for work purposes) vehicle collisions that occur during company business.
- Provide a copy of and promote the adoption of this policy to all employees, contractors, and other workers.

- Review all elements of your firm's driving policy on an annual basis.
- Reduce the risks associated with driving. Where practical, support alternatives to driving, such as teleconferencing, videoconferencing, or public transportation.
- Lead by example. Don't allow yourself to be distracted while driving, and never use an electronic device when driving.

10.4 Vehicle Rules:

Use of seat belts by drivers and all vehicle occupants is a condition of employment. It is the responsibility of the driver but also the duty of any employee, to ensure that all vehicle occupants are wearing seatbelts.

Driving a vehicle while under the influence of alcohol or any drugs or narcotics is strictly prohibited and subject to disciplinary action including termination of employment.

At all times it remains the responsibility of the usual driver of a company vehicle to ensure that the vehicle is correctly maintained and in a roadworthy condition. The vehicle should be kept clean, both inside and out. Any damage to the vehicle must be reported to the maintenance supervisor.

Other driving rules include the following:

- Smoking is not permitted in company vehicles.
- Back into parking spaces when possible, or position in a manner that always allows for a forward first movement;
- All vehicles to be equipped with operational back-up alarms, buggy whips & amber strobe lights;
- Use a spotter if necessary when reversing or when operating in congested areas;
- Pre-use inspections must be completed daily;
- Properly store & secure all tools & equipment transported in vehicles;
- No cell phone use while driving;
- Unattended vehicles must be turned off & keys left in the vehicle (at -5*C or warmer);
- Vehicle headlights must be switched on when moving;
- All drivers must obey the traffic rules. Speed limits are posted for multiple speed zones;
- Always slow down near construction activities;

10.5 Vehicle Usage in the Mine

- Demonstrate a requirement to drive in the Mine;

- Receive approval from mine superintendent;
- Possess a valid Driver's License;
- Complete Mine Orientation training;
- All regular vehicle requirements apply;
- Driver must maintain two way radio communications on the designated channel;
- Two way radio communications with the mine supervisor and other vehicles at all times;
- Permission via two way radio must be obtain before entering the Mine Road and the Mine;
- All radio communication is conducted in English;
- Light vehicles are to stay 60m behind heavy equipment - 4 haul truck lengths;
- Controlled roadway – when signs are present
- Uncontrolled roadway- no signage
- Controlled Roadway - haulage trucks obey all signs;
- Uncontrolled roadway- haulage trucks have right of way;
- Always remain in a disabled vehicle -radio for assistance;
- An amber light must be flashing on the highest point on the vehicle;
- A buggy whip with a florescent flag must be of sufficient height to extend at least 1 meter above the highest point on the vehicle;
- Headlights must be on at all times.

11.0 EMERGENCY PREPAREDNESS

11.1 Policy

It is policy to systematically evaluate the need for emergency preparedness and base the program on the results of that evaluation. To this end, a risk assessment shall be conducted to determine the need for and contents of, a Disaster Management and Recovery Plan for the DSO-Timmins site. The assessment shall consider the potential for a disaster event using a risk-probability matrix.

Priorities for development of procedures for disaster scenarios shall be determined sequentially from the risk-probability matrix.

11.2 Scope

This program of emergency preparedness includes possible events for which provincial regulations specifically require planning, preparation and special equipment and training. It also defines the process to be followed to identify and prepare for other emergencies.

11.3 Emergency Response Planning

Based on the Annual Comprehensive Risk Assessment and the Disaster Management and Recovery Risk Assessment, the need for specific emergency preparedness will become evident. As required by regulation, once the need for emergency response planning is identified, an employer is obligated to develop written procedures and appoint a person to coordinate the implementation.

AN EMPLOYER SHALL CONDUCT A RISK ASSESSMENT IN A WORKPLACE IN WHICH A NEED TO RESCUE OR EVACUATE WORKERS MAY ARISE.

WHERE THE RISK ASSESSMENT SHOWS A NEED FOR EVACUATION OR RESCUE, APPROPRIATE WRITTEN PROCEDURES SHALL BE DEVELOPED AND IMPLEMENTED AND A WORKER ASSIGNED TO COORDINATE THEIR IMPLEMENTATION.

Written rescue and evacuation procedures are required for but not limited to

(g) work at heights;

(h) work in confined spaces or where there is a risk of entrapment;

(i) work with hazardous substances;

(j) work in close proximity to power lines;

(k) work on or over water; and,

(l) any other circumstance identified in the risk assessment;

Where a workplace is a low risk workplace in the opinion of an employer, the employer shall post information about escape routes and conduct emergency drills considered appropriate.

At least once a year an emergency drill shall be held to ensure awareness and effectiveness of the emergency exit routes and procedure, and a record of the drill shall be kept for a period of 5 years.

11.4 Emergency training

The senior manager, health, safety and security shall develop curricula for site workers expected to respond to emergencies identified in the site hazards assessments and required under regulations.

Employees who are expected to respond to emergencies shall be given adequate instruction in the procedures to be followed and the equipment to be used. Such procedures include:

- Firefighting;
- Confined space rescue;
- Arrested fall (work at heights) rescue;
- Rescue from water.

Employees assigned to firefighting duties in a workplace shall be given adequate training by a qualified instructor in fire suppression methods, fire prevention, emergency procedures, organization and chain of command, firefighting crew safety and communications applicable to the workplace in accordance with National Fire Protection Association standards.

Retraining for firefighting duties shall be provided periodically, but not less than once a year.

Training on Confined Space Rescue and High-Angle Rescue shall be provided for the scenarios identified at the DSO-Timmins site. Retraining for entry into confined spaces and the use of personal fall protection equipment shall be provided every three years as required under the applicable regulations.

Drills and practices that simulate the various likely scenarios shall be conducted on a suitable frequency to ensure that responders are prepared in the event of an emergency. As a minimum, semi-annual drills of all rescue scenarios should be conducted.

11.5 Workplace Practice Drills

The Health, Safety and Security Department is responsible for planning and coordinating periodic drills at work sites to practice evacuations with workers and to evaluate response efficiency by first responders.

Records of all emergency practice drills shall be maintained as evidence of due diligence.

11.6 Mutual Assistance Agreements

Wherever feasible, the DSO-Timmins operations shall establish mutual aid agreements with other stakeholders in the area. Potential parties to agreements include:

- Local communities where fire and other emergency services are maintained;
- Larger contractor companies inside or outside TSMC operations.

12.0 INJURY & ILLNESS MANAGEMENT

12.1 Policy

TSMC is committed to assisting employees who have been injured in the course of employment to return to work in a timely and safe manner. TSMC will continuously strive to reduce and/or eliminate workplace injuries and illness through maintaining a safe and healthy work place and promoting safe work practices.

In the event of an injury, TSMC has outlined an effective injury reporting system for maintaining effective communication with the injured employee through contacting the worker as soon as possible after an injury occurs and offering employment consistent with the worker's functional abilities. Potential employment options will be identified using the Workplace Health, Safety and Compensation Commission (WHSCC) Hierarchy of Return to Work as identified in the WHSCC Policy RE-18 and in accordance with Section 89 and 89.1 of the Workplace Health, Safety and Compensation (WHSC) Act.

All employees of TSMC have a responsibility to report injuries before leaving the worksite and to actively participate and cooperate in the return to work process when required.

TSMC is dedicated to accommodating injured employees through Return to Work (RTW), and supporting rehabilitation efforts that foster and enhance safe return to work efforts that will benefit all employees in the workplace. Where necessary, TSMC may seek external advice from other parties involved in the RTW process including WHSCC and external healthcare providers, to facilitate success of RTW.

Any personal information received or collected that aids in the identification of an injured worker will be held in the strictest confidence. Information of a personal nature will be released only if required by law, or with the approval of the worker who will specify the nature of any information that may be released and to whom it can be released.

The development, monitoring, evaluation and revision of the RTW Program will be carried out through joint consultation between management and the Occupational Health and Safety Committee.

12.2 Scope

This program covers the requirements under Early and Safe Return to Work regulations in establishing a formal process by which employees affected by workplace injuries or illnesses may be successfully reintegrated into the active workforce. Also outlined in this section, are the procedures to be followed in the event of a workplace injury or illness.

12.3 Definitions

Disability: The loss of earning capacity of a worker as a result of an injury;

Early and Safe return to Work Program: A program developed by the Workplace Health, Safety and Compensation Commission to encourage cooperation in minimizing the time lost from work due to workplace injuries. All employers and workers are obligated under Section 89 of the Workplace Health, Safety and Compensation Act (the Act) to co-operate in a worker's early and safe return to suitableand available employment with the injury employer.

Modified Work: An employer's accommodation of injuries and temporary disabilities through customizing the duties to the worker's capabilities.

Return to Work Accommodation: Helping an injured employee to get back into the workplace as soon as possible after a job related injury or illness by matching their functional ability with any suitable job that may be available.

12.4 Modified Work Program

Tata Steel Minerals Canada has a genuine concern for the safety and well-being of its employees. We appreciate the value of each worker's knowledge and experience as well as the important role that each worker plays in his/her family and society.

The purpose of TSMC's Return to Work Program is to work with employees and medical professionals to safely get employees back to meaningful work as soon as possible without exposing the individual to any further risks.

Having an injury does not mean that the worker cannot work. It means that the job duties must match the functional abilities of the worker. Continuing to work is a critical component of injury recovery, rehabilitation and prevention of disability.

The focus of this Return to Work Program is on what the worker can do, not what they cannot do. An effective Return to work Program is a "win-win" situation.

12.5 Communications

For the Return to Work Program to be successful there must be ongoing communication and consultation between the employer, employees and health care providers. Only then can each person support and participate in both the planning and the implementation of the program.

12.6 Confidentiality

Any personal information received or collected that can lead to the identification of an injured worker will be held in the strictest confidence. Information of a personal nature will be released only if required by law or with the approval of the worker who will specify the nature of the information to be released and to whom it can be released.

12.7 Responsibilities

It is essential to the success of the program that all parties are involved and cooperate with each other to ensure a timely return to work. All parties have a responsibility in the success of the Return to Work Program.

TSMC

As the employer, TSMC has the responsibility:

- ✓ Provide alternative working arrangements (i.e. modified duties) to be evaluated by a medical professional for suitability and to regularly communicate with employees;
- ✓ Provide WHSCC with pertinent information through completion of Form 7 and other requested documents;
- ✓ Provide job descriptions for all occupations to facilitate the selection of suitable tasks in the Modified Work or Early and Safe Return to Work programs.

Employees

Employees are responsible to:

- ✓ Immediately report an incident / injury;
- ✓ Actively participate / cooperate in the return to work program (i.e. medical aid, treatment, etc);
- ✓ To take all reasonable steps to reduce or eliminate any permanent impairment or loss of earnings resulting from an injury;
- ✓ Provide the WHSCC with all relevant information (Form 6-WHSCC).
- ✓ Notify their case worker immediately of any change in circumstances that may affect entitlement to compensation;
- ✓ Explore alternative working arrangements

12.8 Benefits

Employer:

No one benefits when an employee is off work due to illness or injury. From a company perspective there is a loss of productivity, scheduling problems and an increase in medical cost.

Employee:

Minimize the loss in income which can have a serious financial impact and emotional problems that can occur due to being unable to perform duties / activities that are a part of normal life,

- ✓ The disruption to the individuals "normal" life is minimized
- ✓ Worker maintains contact with co-workers and important social networks
- ✓ May reduce the risk of re-injury and provide a sense of job security
- ✓ Maintains the workers sense of belonging, purpose and confidence.

Also, research and practical experience has shown that the longer an employee is absent from the workplace, the likelihood of them returning greatly declines.

12.9 Procedure In the event of an Incident/Injury

The severity of the incident will determine what procedure below will be used for providing employees with the necessary treatment. In saying that, the prime consideration of our actions is the **safety and health of employees**. If employees are concerned about the actions that are about to take place, the employee should be informed that the final decision regarding what they can or cannot do will be that of the health care provider. All the company is doing is providing the health care provider with additional information that will help make the most informed decision.

It is recommended that, if possible, the requirements of the Return to Work Program should be reviewed with the employee prior to them seeing a physician. This is done to let the employee know that there may be jobs available to suit their abilities as determined by the medical provider. The company will make reasonable efforts to accommodate employees at work. The employee should be told that this decision would ultimately be based on the medical providers' recommendations and the availability of any suitable jobs.

*It is imperative that all incidents, whether serious or minor, be reported to the Safety Office as soon as reasonably possible.

The nature and severity of the incident will determine the appropriate step(s) to be taken.

Minor Injuries

Basic health care treatment may be required. The individual should be taken for medical treatment. The Safety team should be notified.

Serious Injuries

In the case of a serious incident all steps will be taken to get an employee medical attention as soon as possible.

After the arrangements have been made to get the employee the medical care required the incident ***must*** be reported to the Safety team.

Once notified, the Safety team will coordinate the investigation to determine measures to prevent reoccurrence and make any other contacts as required.

The Supervisor will either accompany or arrange for someone else to accompany the injured employee to a medical facility.

12.10 Modified Duties

The goal of this program is to get an individual back to work to their regular job as soon as possible. If this is not an option, the possibility of modified (restricted) duties will be explored. In consultation with the medical provider and reviewing all documentation regarding this case, the company will look at any available opportunities that may match the individual's abilities.

12.11 Work Related Vs. Non-Work Related Injuries / Illnesses

This program tries to accommodate employees whether or not the injury / illness is work related or non-work related. Work related injuries are injuries that occur during working hours related to the employees' regular work duties. Non-work related injuries are injuries that occur at any other location other than the workplace or during non-work hours. It is important to note that an injury that occurs at work that is not immediately reported may be treated as a non-work related incident.

12.12 Early and Safe Return to Work Program

Injury Reporting and Return to Work Flow Chart

The following outlines TSMC's procedures that must be utilized by both employees and management in the event of a work related injury.

- Get first aid, if necessary;
- Report incident/injury to management immediately before leaving the workplace if seeking medical attention;
- Bring a copy of Company Modified Duty Program Form to Doctor;
- Provide copy of the Doctor's report (8/10) of injury and modified duty form to your employer within 24 hours;
- Communicate and cooperate with management to identify safe RTW options;
- Notify Company immediately when a doctor gives clearance to return to pre-injury employment;

- Notify management immediately if issues arise with RTW Plan;
- Ensure Form 6 and Company modified duty forms are available and completed by employee;
- Complete Form 7 and fax to Company Advisor to identify potential accommodation and develop a RTW plan;
- Inform co-workers of job modifications;
- Review form 8/10 with employee and implement RTW planning;
- Forward copies of all relevant information to the on-site nurse (originals will be stored at the workplace);
- If necessary, ensure employee receives medical treatment.
- Employee and management actively participate in RTW Plan Communicate and cooperate with employee to identify safe RTW options actively participate in RTW Plan
- Notify Company advisor immediately when issues arise with RTW Plan.

13.0 CONTRACTOR MANAGEMENT

13.1 Policy

TSMC's vision of safety extends to our contractors, subcontractors and suppliers. This policy aims to ensure that risks are minimized, when contractors are engaged through diligent application of proven standards of risk management which fully integrate health and safety evaluation, planning and design. TSMC requires all contractors to commit to and abide by these standards to maintain superior levels of health, and safety performance.

It is imperative that TSMC and contractor senior management demonstrate their sustained commitment to this policy in a visible and vigorous manner.

13.2 Scope

The scope of the this policy extends to all contractors that provide services or perform work on TSMC property (on site) and may include, at the discretion of the responsible TSMC manager, locations which are not on TSMC property where work is being performed for, or on behalf of, TSMC (off site). The scope specifically applies to the prequalification, selection, monitoring, evaluation, and administration of health and safety capability and performance of contractors.

13.3 Purpose

The Contractor Management program is intended to supplement all applicable laws, rules, regulations and other corporate policies.

The purpose of this document is to define the requirements and provide guidelines for the prequalification, selection, monitoring, evaluation, and administration of the health and safety capability and performance of all levels of contractors, subcontractors, and suppliers (referred to as contractors in this document.) Special attention must be paid to short term "emergency repair" type contractors.

The objectives of this guideline are to ensure the health and safety of workers, prevent loss to property and maintain compliance with all rules and regulations.

For the purpose of this Policy, a "contractor" is defined as being a company or person contracted to provide, and receiving payment for, services for any aspect of operations including exploration, development, construction, operations and reclamation.

For all aspects of this policy, each region, project, mine or reclamation site shall have their own, more detailed policies or procedures that shall be based on the policy statements contained herein.

13.4 Categories of Contractors

A risk assessment shall be carried out on the scope of work to be undertaken by the contractor to determine the risk group.

13.4.1 Group 1 – Low Exposure

This category is used where contractors are not exposed to facility (operations) hazards and/or work in low risk environments. Examples include administrative staff, office janitorial work, catering, delivery vehicles to warehouse, consultants (not performing work in active mining and processing areas of the site or active areas of an exploration or reclamation site).

13.4.2 Group 2 – Moderate Exposure

Group 2 contractors carry out tasks which may include exposure to facility hazards that have been identified as moderate risk or where contractors introduce moderate risks into a low risk area as identified in the preliminary risk assessment.

13.4.3 Group 3 - High exposure

High exposure contractors are required to undertake extreme or high risk tasks or perform tasks in areas that have inherent extreme or high risks such as), working in confined spaces, hazardous materials, fragile environment, public exposure, etc. working at heights or depths, working in mine traffic, performing hot work (not a workshop environment)

All contractors shall develop health and safety management plans appropriate for the scope of work and identified exposure levels. This plan shall provide a thorough description of how a contractor (and their subcontractors) will ensure that injuries, illness, and damage are prevented.

13.5 General (All Contracts)

A review of the health and safety performance of a contractor must occur before this contractor is employed. Attached documents will provide tools for that review and an outline of what must be considered in the contract.

Where the contractor does not have an established written health and safety program, TSMC may assist with the development and implementation of a program or the contractor shall adopt the TSMC programs.

All contractors shall report to a designated TSMC site representative (“TSMC Representative”), herein called the Activity Supervisor, who is familiar with the details of the contractor’s scope of

work and the health and safety requirements associated with this work. The TSMC Representative is responsible and accountable for the oversight of all aspects of the contract.

- Pre-qualifying a contractor prior to the bidding and/or award of a contract or the start of a job will result in a higher level of health and safety performance. The following classification system is suggested; Class A = fully qualified contractors who have already been trained, Class B= partially qualified contractors who need re-training: Class C= provisional contractors who must be allowed access to the site to perform unique or specialized tasks but who require 100% escort and/or supervision.
- The requirements for a contractor health and safety program are determined through a risk analysis that will measure the job requirements against contractor capabilities.
- Contractor performance must be evaluated on a regular and ongoing basis throughout the duration of the contract.
- It is the contractor's responsibility to fully understand the health and safety requirements of any job and to have the necessary programs in place, operational and communicated to employees.
- Health and safety must be considered to be aspects of quality management and have similar weighting as scheduling and costs.
- It is the responsibility of the TSMC Activity Supervisor to monitor and evaluate the performance of the contractor.
- Major projects requiring a capital expense justification will be evaluated and signed by the appropriate health and safety staff prior to final approval from senior management.
- Health and safety staff will be involved in the contract process during the pre-bid, contract award, and project oversight stages appropriate to the level of risk identified by the TSMC Activity Supervisor.
- A contractor who is unable to demonstrate a record of acceptable and continuously improving health and safety performance shall not be awarded a contract without approval of the appropriate senior management
- Contractor health and safety responsibilities shall be clearly communicated in the scope of work document.

13.6 Responsibilities

General, Operations, or Project Management

- The Project or Operations Manager shall assign a knowledgeable, trained and competent employee (TSMC Activity Supervisor) direct responsibility for management and oversight of each contract prior to signing and awarding a contract. This person and/or position shall be identified in the contract.
- The Project or Operations Manager shall require Risk or Management of Change Assessment and occupational health and safety review of any AFE's, capital expense justifications, and contract awards prior to submission for final approval.

TSMC Activity Supervisor

- The TSMC Activity Supervisor must be thoroughly familiar with the nature and location of the work to be performed by contractors. The expected duration of the project, the type of work to be performed and location of the work (off or on-site) are some of the factors the TSMC Activity Supervisor must consider prior to developing the health and safety requirements for the bid package. Emergency work may result in additional hazards which must be identified.
- Expected hazards should be identified by the TSMC Activity Supervisor with the assistance of the contractor. The contractor is expected to submit written procedures to manage the identified hazards. In all cases, unless otherwise specified in writing, TSMC procedures and requirements will take precedence over the contractors' procedures.
- With assistance of Health and Safety Professional, Contractor and/or other applicable parties conduct preliminary risk assessment of scope of work to be undertaken by contractor and complete Attachment A.
- The risk of injury or illness to contractors and TSMC employees is an important consideration in determining how to apply components of the contractor health and safety program. Factors to consider may include:
  - ✓ Nature of work to be performed
  - ✓ Location of work performed
  - ✓ Altitude and climate
  - ✓ Potential for the contractor performing the work to expose themselves, other contractors or TSMC employees to hazards
  - ✓ Duration of the work to be performed
  - ✓ Contractor's experience and expertise in performing similar type of work
- The TSMC Activity Supervisor and the Contractor must agree on the scope and delivery of emergency services for contractor employees for the duration of the contract.

- The TSMC Activity Supervisor and the Contractor are responsible for communicating information regarding workplace hazards, health, and safety requirements to all employees working on the project and site employees affected by the project. The communication of this information may include many formats such as medical screening, orientation, training, Material Safety Data Sheets (MSDS), safe work permits, signs, posters, procedures, and other written materials.
- The TSMC Activity Supervisor for the contract will ensure that:
  - ✓ Health and 'safety management plans are completed, reviewed and approved prior to starting work;
  - ✓ Contractor's management is a safety leader and is actively involved in the Safety and Health process on an ongoing basis;
  - ✓ A process is in place to review health and safety performance, systems, and plan as part of the contractor selection process;
  - ✓ Each contractor provides an adequate health and safety plan for the required work based on a risk assessment for the scope of work.
  - ✓ All pre-qualification checks are complete prior to opening a Purchase Order or the contractor may not be paid for work.
  - ✓ The contractor has conducted the appropriate training for their employees prior to starting work;
  - ✓ The contractor demonstrates he has sufficient quantities of Personal Protective Equipment (PPE) and specialized (I.e. cold weather) clothing systems to provide for the sustained safe execution of the work;
  - ✓ The contractor has completed a risk assessment of the job and has effectively communicated the hazards and required controls to all personnel working on that job;
  - ✓ The work is conducted in a safe and responsible manner in compliance with standards and applicable regulations;
  - ✓ Daily work permits are issued that identify scope of work, names and occupations of the employees working on that particular job, specific hazards associated with the work to be performed, and precautions to be taken to minimize the hazards to an acceptable level, (i.e. hot work permits, confined space permits, etc.);
  - ✓ There is timely, effective reporting, investigation and review of all incidents;
  - ✓ Ongoing performance monitoring of the contractor by the Company includes health and safety performance review, evaluation and corrective actions;
  - ✓ Inspections and audits will be conducted on a scheduled basis throughout the term of the contract.

- At the close of each contract, health and safety performance will be reviewed and documented by the TSMC Activity Supervisor with a copy forwarded to the Contracts Administrator;
- The TSMC Activity Supervisor has the authority and obligation to close down any work that is deemed unsafe to workers or property, or which represents a significant risk to the environment;
- If applicable by contract, the TSMC Activity Supervisor shall be responsible to produce the recommendation for safety performance penalties or bonuses with sufficient backup information and financial approval.

Safety Advisor

- Provide technical assistance in evaluating hazards present or that may be introduced by a contractor;
- Provide assistance in facilitating risk assessments conducted by the TSMC activity supervisor and contractor;
- Assist in reviewing past health and safety performance of bidding contractors;
- Assist in developing performance improvement plans for contractors who are accepted with conditions;
- Assists in developing KPI's;
- Review and approve contractor health and safety management plans;
- Review and approve AFE's, capital expenditures and contracts for health and safety aspects.

Commercial Representative

- Identify potential contractors or suppliers;
- Prepare and distribute Request for Quote;
- Receives bids and prepares bid evaluation;
- Assists in developing KPI's, deliverables, such as hours worked, Lost-time injury rate, etc.;
- Negotiate and develop contracts;

- Identifies TSMC Activity Supervisor by name and/or position to be included in contract language;
- Ensures all documentation is received and complete prior to signing contract;
- Assists in completing risk assessments;
- Maintains documentation;
- Maintains list of pre-qualified contractors;
- Participates in audits.

Contract Originator

- May be the TSMC Activity Supervisor;
- Writes scope of work (specifications) to be used in a Request for Quote;
- Assists in evaluating potential contractors;
- Assists in evaluating bids for technical and safety criteria;
- Assists in developing KPI's for contract performance.

Contractor Representative

- Responsible for full site performance of Contractor against full requirements of contract
- Interface with TSMC Activity Supervisor frequently and as required in order to meet contract specifications
- Ensures contractor employees are adequately trained and training is properly documented
- Ensures all contractor employees work within the boundaries of the contract
- Understand the full requirements of the contract
- Maintains all documentation required
- Immediately notify TSMC of any site regulatory inspection and provide copies of health and/or safety inspection reports within 5 days of receipt

- Ensure appropriate equipment, materials, protective devices and personal protective equipment, necessary for protection of worker, is provided and properly used and maintained.
- Provide required safety statistical information as required.

13.7 Contractor pre-qualification

Prequalification of a contractor shall be performed by TSMC to formally evaluate all contractors prior to signing a contract. Qualifications should be reviewed at least annually for changes.

The final choice of contractor should be based on their technical, commercial, and health and safety competence which should include:

A good record of health and safety performance that demonstrates continuous improvement over the past 3 years

Active program for the management, to TSMC standards, of subcontractors which the contractor may employ:

- ✓ Demonstration of a health and safety management plan;
- ✓ Well-controlled worker's compensation costs (if available);
- ✓ Compliance with legislation;
- ✓ Demonstration of the contractors' senior management commitment to their health and safety program, incident reporting and risk management.

The check sheets in Attachment A (two pages) must be completed by the TSMC Activity Supervisor (person requesting services or providing oversight on contract) to identify the potential hazards and risks that may be introduced to contractors and/or to TSMC. Once the potential risks are identified, the Commercial Representative and the TSMC Activity Supervisor will agree to the level of risk assessment and documentation required from the contractor.

The Contractor will be notified of required documents prior to submitting a bid. Attachment B may be given to the contractor for a self-assessment. Attachment B must be completed by the TSMC Activity Supervisor and Commercial Representative during review of the contractor's qualifications before the contract is signed.

After review of Attachments A and B, TSMC must provide feedback to the contractor on areas that need improvement. If the contract is awarded with conditions for improvement, a schedule must be established before the contract is signed.

Health and safety performance must be considered if early completion bonuses are offered.

Contracts awarded for emergency work may result in performing a less stringent pre-qualification step. The TSMC manager must approve emergency work prior to starting work and develop management plans to ensure work performance is to TSMC standards. Pre-qualification can be used to maintain a list of contractors who meet standards for emergency calls.

In cases where contractors may not be able to meet TSMC's health and safety criteria, because they are small or may be the only contractor available within reason, it is possible to offer conditional acceptance. Conditional acceptance shall have a specific time period and additional requirements or controls appropriate to the level of risk in the work to be performed.

Contractors who use subcontractors must establish a pre-qualification process for all subcontractors sufficient to meet TSMC standards. For significant contracts, managers should visit the contractor's facilities to observe how the business is being operated and to question senior management on their role and attitude to safety.

13.8 Procedures

Regardless of the category of contractor (i.e. Low, Moderate or High exposure) the following procedures, at a minimum, must be followed:

- ✓ **Contractor safety record.** The contractor must provide details of their safety record as well as the safety record for all subcontractors.
- ✓ **Daily work permits.** Daily work permits are issued that identify scope of work, names and occupations of the employees working on that particular job, specific hazards associated with the work to be performed, and precautions to be taken to minimize the hazards to an acceptable level, (i.e. hot work permits, confined space permits, etc.)
- ✓ **Documented safety requirements.** The written contract must include the requirements for adherence to applicable site and regulatory safety standards.
- ✓ **Emergency procedures.** Contractors and subcontractors must be trained in site emergency procedures during induction. In addition, contractors and subcontractors shall have written emergency procedures specific to the site given to each employee. Contractors are expected to participate in company drills.
- ✓ **Feedback.** The TSMC Activity Supervisor must provide regular feedback on health and safety performance to the contractor. Deficiencies must be resolved quickly.
- ✓ **Fitness for work.** Contractors must ensure that there is a fitness for work Drug and Alcohol testing policy and program that matches or exceeds the site policy and procedure.
- ✓ **Health and Safety Plan.** The Site Specific Health and Safety Management Plan submitted shall contain the following elements as a minimum:
    - Understanding of and commitment to meeting or exceeding TSMC standards
    - A risk assessment of the work to be undertaken in the contract planning and subsequent phases
    - Specific Health and Safety goals or Key Performance Indicators
    - Health and Safety performance reporting procedure

- A plan for communicating all requirements to all sub-contractors
- Employee training plan

✓ **Pre-bid information.** The Commercial Representative must ensure that contractors have appropriate health and safety requirement information prior to bidding on the work so that the contractor clearly understands requirements and associated costs. These may include, among others:

- Personnel protective equipment (PPE) requirements;
- Substance abuse screening
- Vehicle safety requirements
- General health and safety rules
- Work permit system
- Health and safety performance reporting requirements
- All appropriate training is completed in compliance with Newfoundland and Labrador, (i.e. Fall Protection and Confined Space must be a Newfoundland and Labrador regulated course)

✓ **Pre-work safety induction.** All personnel working for contractors will be required to complete an appropriate safety induction prior to starting work. TSMC staff is responsible for providing a site specific induction and the contractor is responsible for providing all other training that may be required. For long-term or ongoing contracts, a refresher for all contracted employees will be provided by the contractor at least annually.

✓ **Property security.** Contractors and subcontractors are responsible for their own security while performing work on site. All site security procedures must be followed.

✓ **Reporting incidents.** Contractor must report all incidents, injuries and property damage with associated costs to the TSMC Activity Supervisor, the TSMC Safety Department and the appropriate regulatory agencies. TSMC reporting guidelines must be given to contractors prior to commencing work. Contractors shall investigate and report incidents using TSMC and regulatory guidelines. TSMC may elect to participate in any contractor investigation at TSMC's discretion.

✓ **Risk assessment.** Processes must be in place to regularly assess health and safety risks. The processes must include a field level or personal risk assessment tool and a formal risk assessment process where appropriate.

✓ **Shift schedules.** Copies of shift schedules shall be provided by the contractor prior to the start of work. Fatigue management principles must be applied to minimize risks due to inattention and fatigue. A contractor will not be allowed to work schedules that TSMC has deemed fatigue inducing.

- ✓ **Standard work procedures.** Copies of all appropriate site work procedures and standards will be given to contractors prior to the start of work. The contractor must provide to the company at minimum, copies of Lock-out-tag-out, confined space and scaffolding procedures and standards where appropriate. Contractors must provide documented safe work procedures for all work unusual to the site (e.g. roofing, shop door installation, hazardous material transportation, etc.) Failure to adhere to standards and safe work procedures can result in termination of the contract. The following topics must be considered at a minimum:
    - Permits such as hot work, confined spaces
    - Isolation (lockout / tagout) including all energy sources
    - Chemical handling
    - Manual handling
    - Housekeeping
    - Personal protective equipment
    - Hand tools
    - Cranes and rigging
    - Scaffolding and elevated work platforms
    - Working at heights
    - Equipment guarding
    - Excavation and trenching
    - Ventilation and gases
    - Barricading
    - Waste and spill cleanup and disposal
    - Emergency procedures
- ✓ **Supervision**. The TSMC Activity Supervisor must arrange for monitoring of contractor work processes and procedures to ensure compliance with standards. Special emphasis must be given to equipment and tool maintenance, housekeeping and adherence to work procedures. Larger contracts may require full-time health and safety oversight by TSMC personnel in addition to contractor safety management staff.
- ✓ Every contractor must designate a person on site to provide the health and safety direction for the contractor. On projects with more than 10 employees, or for a complex project, the contractor must designate a full-time health and safety representative.
- ✓ All training and documentation must be presented to the workforce in their regional language. Any person directly supervising work must provide fluent translation in the regional language of all verbal and written health and safety instructions.

13.9 Long Term Contractors

Long term contractors provide services on an on-going basis, regardless of the risk level. They may include janitorial services, security, mining operations, tire handling, etc. In

addition to general requirements and work procedures listed above, long-term contractors must have the following:

- ✓ **Health and Safety committee.** Contractors shall be represented on site health and safety committees and shall also be expected to have an appropriate safety committee structure developed and in place for themselves and their subcontractors. Details of the safety committee structure shall be included in the contract.
- ✓ **Health surveillance.** Contractors shall provide, or participate in TSMC's as appropriate, routine health surveillance for potential hazards such as dust, noise and chemicals exposure.
- ✓ **New plant and equipment.** Contractor involvement must be sought when TSMC modifications to plant and equipment are being planned which impact the contractor's work.

13.10 Contract Requirements

In no event shall a Contractor commence work without a written Contract or Notice to Proceed which includes a health and safety plan and procedures to perform work in compliance with TSMC and regulatory agency requirements.

The agreement must make clear that the contractor, not the site representative, retains the authority to hire, fire, discipline, supervise, control, and direct the work of contractor employees, as well as the modify the terms and conditions of their employment.

TSMC retains the right to revoke site access for contractor employees who violate any health and safety standard and/or procedure.

13.11 Audits

Audits for health and safety performance shall be conducted on a scheduled basis to ensure TSMC standards are being met. Audits shall be conducted by the contractor with TSMC participation. Audit documentation shall include performance improvement action plans.

13.12 Waivers

The Vice-President of Health, Safety and Security and the Vice-President of Procurement, or their respective designates must approve in advance all waivers to this Policy.

13.13 Distribution

The Procurement Department and the Health, Safety and Security Department will both be responsible for communicating this policy.

13.14 Attachments

The forms and checklists listed below are provided in the following pages as attachments to this procedure:

Attachment A:	REVIEW OF HAZARDS (Both existing hazards and those that may be introduced by the contractor)
Attachment B:	CONTRACTOR SAFETY ASSESSMENT CHECKLIST
Attachment C:	SAMPLE SIMPLIFIED PRE-QUALIFICATION SUMMARY
Attachment D:	LIST OF DOCUMENTS TO BE PROVIDED BY THE CONTRACTOR

Contractors Management Program
Attachment A Part 1– Review of Hazards at Contractor Site

TSMC Activity Supervisor must complete:

Part 1 - Review of Hazards at Contractor Site

Part 2 – Review of Hazards Introduced by the Contractor

	Yes	No
Mechanical		
Vehicles/Plant	☐	☐
Noise	☐	☐
Vibration	☐	☐
Pressure Oil	☐	☐
Pressure Water	☐	☐
Rotating Equipment	☐	☐
Pressure Air/Gas	☐	☐
Stream, Dust, High Temperature	☐	☐
Aircraft	☐	☐
Radiation		
Radio frequency	☐	☐
Electrical fields	☐	☐
Magnetic fields	☐	☐
Infra-red/Ultraviolet	☐	☐
Solar	☐	☐
Fire & Explosion		
Flammable Substances	☐	☐
Explosives	☐	☐
Bush fire	☐	☐
Suppression Systems	☐	☐
Hazardous Environment		
Confined space	☐	☐
Working at height	☐	☐
On water (boats)	☐	☐
Diving	☐	☐
Remote sites	☐	☐
Weather extremes	☐	☐
Terrain	☐	☐
Tunnel/Shafts	☐	☐
Working alone	☐	☐
Transportation		
Heavy	☐	☐
Oversize	☐	☐
Hazardous Material	☐	☐

	Yes	No
Electrical		
High voltage	☐	☐
Introduction	☐	☐
Earth faults	☐	☐
Low voltage	☐	☐
Lightning	☐	☐
High voltage	☐	☐
Introduction	☐	☐
Operation		
Water level changes	☐	☐
Water flow changes	☐	☐
Chemicals		
Toxic/poisons	☐	☐
Solvents	☐	☐
Corrosives	☐	☐
Generation of dust	☐	☐
Fumes, vapors, etc.	☐	☐
Personal	☐	☐
Materials handling	☐	☐
Slips/trips/falls	☐	☐
Repetitive movements	☐	☐
Heat/cold	☐	☐
Biological	☐	☐
Environment	☐	☐
Environmentally sensitive areas	☐	☐
Operational Area	☐	☐
High traffic	☐	☐
Large equipment/small equipment	☐	☐
Blind spots	☐	☐
Communications interference	☐	☐
Other (specify)	☐	☐
	☐	☐
	☐	☐
	☐	☐

Contractors Management Program

Attachment A Part 2– Review of Hazards Introduced by Contractor

	Yes	No
Site Management		
Subcontractors	☐	☐
Amenities	☐	☐
Access control	☐	☐
Authorization	☐	☐
Licensed operators (crane, equipment, etc.)	☐	☐
Work Practices		
Housekeeping	☐	☐
Waste disposal	☐	☐
Storage	☐	☐
Barricades	☐	☐
Signage	☐	☐
Shifts / Work Hours	☐	☐
Mechanical		
Vehicles	☐	☐
Plant (cranes, etc.)	☐	☐
Aircraft	☐	☐
Noise	☐	☐
Vibration	☐	☐
Machine guarding	☐	☐
Scaffolding	☐	☐
Radiation		
Welding	☐	☐
Other sources	☐	☐
X-Ray or similar non-destructive testing	☐	☐
Fire & Explosion		
Flammable substances	☐	☐
Explosives	☐	☐
Bush fire	☐	☐
Welding	☐	☐
Personal protective clothing requirements	☐	☐

	Yes	No
Hazardous Environment		
Confined space	☐	☐
Working at heights	☐	☐
On water (i.e. boats)	☐	☐
Diving	☐	☐
Pinch points	☐	☐
Electrical		
High voltage	☐	☐
Low voltage		
Inspected equipment		
Leads	☐	☐
Residual current devices (capacitors, etc.)	☐	☐
Chemicals		
Toxic/poison	☐	☐
Solvents	☐	☐
Corrosives	☐	☐
Generation of dust, fumes, vapors, etc.	☐	☐
Material safety data sheets	☐	☐
Chemical storage/gases	☐	☐
Fuel storage, load out	☐	☐
Biological	☐	☐
Environmental	☐	☐
Earthworks	☐	☐
Pollutants	☐	☐
Waste disposal	☐	☐
Construction	☐	☐
Cranes and Rigging	☐	☐
Concrete operations	☐	☐
Overhead operations	☐	☐
Changing conditions	☐	☐
Commissioning activities	☐	☐
Demolition	☐	☐

Emergency Arrangements:

Evacuation

Medical treatment

Fire

Rescue

Other

If the project involves one or more of these risks or issues the contractor must complete a formal risk assessment and develop safe work procedures prior to starting work.

ATTACHMENT B

CONTRACTOR SAFETY ASSESSMENT CHECKLIST

TSMC Activity Supervisor and Contracts Administrator are to review prior to issuing a contract. This may also be given to the contractor for a self assessment guide and as a document request.

Company Name: _____ Contact Person: _____

Address: _____

Phone: _____ Fax: _____ E-mail _____

Safety Performance: data showing a positive trend has been provided and the contractor has an effective means of analyzing trends and keeping management informed.	**Yes**	**No**
Has the contractor or subcontractor provided documented history of their previous three (3) years work injury record that demonstrates continuous improvement?		
Has the contractor provided examples of how they analyze incidents and resulting incident cost trends and keep management informed of their safety performance?		
Has contractor's management "championed" the process and remained fully engaged?		
Safety Plan: Produced specifically for the job, outlining how the safety aspects of the particular job will be managed.	**Yes**	**No**
Has the contractor or subcontractor provided a copy of their environment, health, and safety management plan?		
Has the contractor submitted work procedures for issues identified in Attachment A?		
Has the plan been reviewed and accepted by (TSMC) site safety staff?		
Safety Policy: Clear statement indicating responsibilities signed and dated by the Chief Executive.	**Yes**	**No**
Has the contractor or subcontractor provided a copy of safety policies and responsibilities that has been signed by their senior executive?		
Has the policy been reviewed by (TSMC) site safety staff?		
Safety Manual/Procedures: Clear procedures and systems, updated at least annually.	**Yes**	**No**
Has the contractor or subcontractor provided copies of their work permits and standards? Do they match with the hazards identified in Attachment A?		
Has the contractor provided procedures for storing and handling hazardous substances?		
Has the contractor provided documentation that the information has been given to all employees?		
Safety Professionals: An outline of how the safety advisors are involved.	**Yes**	**No**
Does the contractor or subcontractor have a designated safety contact for the contract?		
If the contract involves more than 10 employees or high risk does the contractor have a designated full-time safety person?		
Has the contractor provided a written document outlining the safety contact's duties and responsibilities sufficient for the scope of work? It must be the Supervisor's responsibility to ensure the safety of his crew.		

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ATTACHMENT B

Training: Supervisor and employee training plans and documentation.	**Yes**	**No**
Have contractor or subcontractor employees received induction and standard work procedures training? Documentation must be provided to show who has attended.		
Has the contractor or subcontractor provided safety leadership training to supervisors?		
Is there documentation showing all employees have been trained in first aid?		
Have their employees been trained in Newfoundland and Labrador-certified Fall Protection and Confined Space courses?		
Have all employees been trained in Field Level Risk Assessment? Writing or using JSA or JHA's?		
Has the contractor provided documentation showing all other specific training employees have received appropriate to the work being performed?		
Audit System: Formal method of checking up on adherence to standards, housekeeping, etc.	**Yes**	**No**
Does the contractor or subcontractor conduct formal safety inspections?		
Do the contractor's management / supervisors lead the inspections and make themselves accountable for correcting deficiencies arising from the audit?		
Has the contractor supplied a copy of a standard workplace inspection checklist?		
Does the contractor have a method for evaluating daily worksite conditions (such as 5-point, Field Level Risk assessment, safety contact sheet, stop cards, etc.) Are examples provided?		
Does the contractor or subcontractor conduct formal audits of the safety program with team members from other facilities and departments no less than annually?		
Has an example of the audit protocol been provided?		
Health Surveillance: Pre-placement health evaluations take place and routine health surveillance were indicated, (e.g. Medicals for drivers, medical pre-screening for altitude, dust and noise surveys, etc.).	**Yes**	**No**
Has the contractor or subcontractor provided a copy of a written health surveillance program?		
Does the contractor maintain health records for employees after their termination?		
Does the contractor have access to an industrial hygienist?		
Incident Management and Investigation: All incidents are reported according to a company procedure and there is line responsibility for investigation and follow-up.	**Yes**	**No**
Has the contractor or subcontractor provided a documented procedure for reporting, investigating, and following up on all incidents including medical, property damage, loss to process, environmental incidents, near miss incidents?		
Does the contractor converting these incidents and/or near misses into its ongoing safety awareness and training meetings?		
Has the contractor provided a copy of an incident report form?		

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ATTACHMENT B

Risk Management: Appropriate techniques are used to assess risk and implement any changes needed (i.e. Job Safety analysis, HAZOP, Field Level Risk Assessment, Formal Risk Assessment).	**Yes**	**No**
Has the contractor or subcontractor provided a documented formal risk assessment process and procedure that includes all levels of risk assessment?		
Does the contractor have a Field Level Risk Assessment process that is used by all employees?		
Is there a process or procedure for employees to report safety issues, including follow-up and closure?		
Has the contractor provided documented risk assessments addressing at a minimum the hazards identified in Attachment A for the specific contract?		
Rosters: Works schedules in place that minimize fatigue.	**Yes**	**No**
Do work schedules provide sufficient rest periods between night and day rotations? (Min 48 hours)		
Do work schedules provide no more than, for example, 14 12- hour days in a row without break? (Individual work schedules will need to be established by region, mine and construction project)		
Fitness for Work: policies and procedures in place to ensure employees are not impaired by drugs, alcohol, poor health or fatigue.	**Yes**	**No**
Has the contractor provided a copy of a drug and alcohol policy that matches or exceeds the site policy?		
Are there defined steps for supervisors to take if an employee is suspected of not being fit for duty, with consequences?		
Has the contractor provided written procedures for adherence?		
Is screening for drugs a part of the initial medical screen for work?		
Does the contractor have a fitness for work policy that includes fatigue and health issues?		

ATTACHMENT C

SAMPLE SIMPLIFIED PRE-QUALIFICATION SUMMARY

Safety and Health Performance	Acceptable	Needs Improvement
Safety Performance	☐	☐
Comments:		

Environmental, Health and Safety Program	Acceptable	Needs Improvement
Safety Plan	☐	☐
Safety Policy	☐	☐
Safety Manual/Procedures	☐	☐
Safety Advice	☐	☐
Training	☐	☐
Audit System	☐	☐
Health Surveillance	☐	☐
Incident Management and Investigation	☐	☐
Risk Management	☐	☐
Rosters	☐	☐
Fitness for Work	☐	☐
Emergency Procedures	☐	☐
	Yes	No
Feedback provided to contractor:	☐	☐

Date: _____ Comments: _____

Reviewed by: _____ Date: _____

Reviewed by: _____ Date: _____

Reviewed by: Date:

Reviewed by: Date:

ATTACHMENT D

LIST OF DOCUMENTS TO BE PROVIDED BY THE CONTRACTOR

1. 3 year history of safety performance (where available)
2. Example of incident and cost trend analysis
3. Health and Safety Policy
4. Health and Safety Management Plan
5. Risk assessments for risks identified in Attachment A
6. Safe work procedures for risks identified in Attachment A
7. Work permits and standards
8. Procedure for handling, transportation and storage of hazardous substances
9. Training outline for all levels of employees and sample records
10. Outline of safety contact duties and responsibilities
11. Workplace inspection form
12. Example or outline of daily worksite conditions evaluation method
13. Formal audit protocol
14. Health surveillance program
15. Incident reporting procedure and form
16. Risk assessment process
17. Proposed work schedules
18. Fit for duty policy and program
19. Emergency procedure outline

14.0 MANAGEMENT OF CHANGE

14.1 Policy

Uncontrolled changes within organizations and facilities can have catastrophic consequences. Tata Steel Minerals Canada will ensure that there is a process of planning, organizing, controlling, executing and monitoring changes so that they do not cause injury to people or damage to physical assets. The operation shall define areas where changes have the potential to create high risks and ensure evaluation and approval of proposed changes before they are made.

Our Management of Change process will ensure that:

- All applicable changes are subject to an appropriate degree of review by the right people;
- An adequate level of documentation is provided for every change – including updates for existing documentation such as drawings, training materials, parts lists and operating and maintenance procedures;
- Changes are effectively communicated to people impacted;
- Changes meet all regulatory and internal policy requirements;

14.2 Scope

This procedure is used to control all facility and process operational changes of both a temporary and permanent nature before, during and after implementation. This Management of Change procedure applies to:

- Plant & equipment changes other than replacement with same;
- Operating and administrative process changes;
- Design and construction changes;
- Electrical power distribution changes and alterations to feed sources;
- Standing maintenance procedures -standard jobs, written repair procedures;
- Organizational accountabilities;
- Consumable material changes;
- Programmable logic controller (PLC) software changes – logic ladders, permissives, interlocks, jumpers;
- Traffic flow patterns and /or signage;
- Pit design and mining plan changes;

- Major contractor activity on site – starting, ending or changing.

This procedure **does not** apply to:

- Corrections in and routine updating of operating and maintenance procedures that do not result in changes in how the work is done;
- Addition of rules, protective equipment or other action intended to improve safety and health, either temporary or permanent;
- Corrections and enhancements to isolation checklists that follow the validation and approval process outlined in the Isolation Program procedures.

14.3 Change Process

14.3.1 Identification and Recognition of Change

Awareness training must be provided to all employees and management so that they are able to recognize when the changes being considered fall under a category requiring formal approval using this Change Management Procedure. (Exhibit 14.3.1)

14.3.2 Change Risk Assessments

All changes being considered must be evaluated for potential risks to the health and safety of employees, contractors and the general public as well as property and process losses and damage to company image and community relations.

Change risk assessments require participation from stakeholders impacted by the change, technical experts, health and safety advisors and a person skilled in the risk assessment process.

The results of the risk assessment shall be documented to show: risks, a risk ranking, mitigating actions or controls along with the responsibility for implementation and a sign-off provision to ensure that implementation is completed.

14.3.3 Change Proposals

A Change Proposal form (Exhibit 14.3.3) must be completed before any changes are implemented. Written proposals must include:

- ✓ A description of the change – whether it is temporary or permanent;
- ✓ Justification for the change – why it is necessary or desired;
- ✓ The expected or desired outcomes from the change;
- ✓ The criteria under which the change will be evaluated and the acceptance checks that will be necessary before hand-over for normal operation;
- ✓ Departments, work groups and others who may be impacted by the changes;

- ✓ A summary of the main risks identified in the risk review, along with the mitigating actions, responsibility and time frame for implementation;
- ✓ Identification of document updates that will be required as a result of the changes and the names of people responsible;
- ✓ The strategy or steps required to announce and communicate the change, including any training required;
- ✓ Approvals;
- ✓ Close-out and sign-off.

14.3.4 Change Approval

Change proposals must be submitted for approval by senior site managers for each of the impacted areas. Approval by the site senior manager, health, safety and security is required as a final signature to ensure that the process has been followed and diligence has been done in reviewing and mitigating risks and identifying the stakeholders affected.

14.3.5 Document Management

All change proposals are to be electronically filed in a directory managed by the Heath, Safety and Security Department for at least two (2) years from date of implementation. Electronic files shall include scanned signature and sign-off pages.

14.4 Emergency Change Procedure

The senior site manager must give written approval for any emergency changes that would otherwise require the full procedure to be followed. As a minimum, the change description and justification needed to be written for the senior manager's signature.

A copy of the approved change document shall be forwarded to the senior manager, health, safety and security for follow-up and filing.

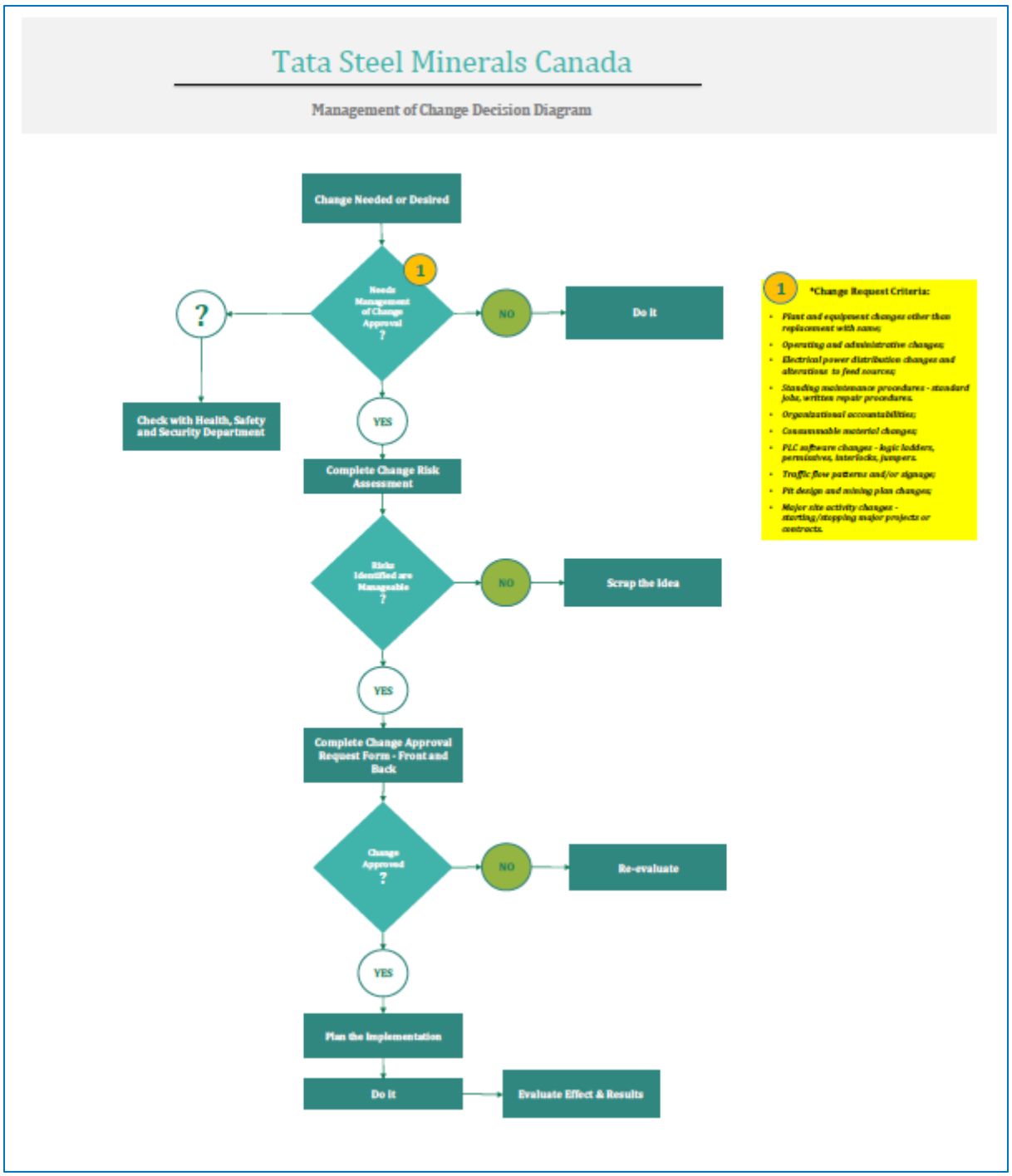

Exhibit 14.3.1: Change Management Process Decision Diagram

TATA STEEL MINERALS CANADA LIMITED

Change Approval Request

Project Name:		**WBS Code:**	
Area / Department:			
Required Date:		☐ **Temporary**	☐ **Permanent**
Prepared By:		**Title:**	**Date:**
Type of Change - (circle one)			
Design or Construction	Plant & Equipment	DCS/PLC/Permissives/Jumpers	Organizational Accountabilities
Power Distribution	Operating / Administrative	Procedural - Maintenance	Materials (consumable)
Traffic Rules/Patterns	Pit Design / Mine Plan	Procedural - Operations	Major Activity Start/Stop
Site Rules	Other (Specify)		
Description of Proposed Change:			
Justification for Change:			

Change Authorizations

Name (legible)	*Title*	*Signature*	*Date*

Exhibit 14.3.3: Change Approval Request Form (Page 1)

15.0 HEALTH STANDARDS

15.1 Policy

TSMC is committed to the health and welfare of its employees and is concerned with all issues relating to health and fitness for work. To this end, the company aims to:

- Carry out necessary medical screening-both pre-employment and ongoing as necessary to monitor worker health;
- Carry out surveys and risk assessments and to provide advice on issues relating to workplace ergonomics, occupational hygiene and safety;
- Provide first aid training and first aid services and supplies;
- Give general medical and health advice and information to employees;
- Provide support and coordination in the event of injury or illness on the fitness to return to work and/or rehabilitation needs of individuals. Assist those individuals when they return to work to enable them to settle into their work pattern with minimum stress and disruption.

15.2 Scope

This set of standards applies to all employees and all worksites and is intended to be dynamic - based on the requirements under applicable regulations and codes of practice along with the assessed and evolving needs of the operations.

15.3 Occupational Health Hazard Assessment

There shall be a site health hazard assessment conducted or reviewed annually, to assess the health risks and provide the basis for development of targeted monitoring and prevention programs.

The assessment shall consider the following factors:

- Exposure to plant, equipment and occupational noise, air pollution and hazardous substances;
- Ergonomics;
- Lifestyle factors relating to camp living, extended work hours, catered food services, exercise and fitness limitations;
- Stress and hypertension causes and associated risks;
- The potential for harassment and violence;
- Functional requirements for occupational groups.

Risks associated with each identified hazard shall be assigned a ranking so that priorities may be established for program development.

15.4 Noise Surveys and Hearing Conservation

Exposure to high levels of noise can cause permanent hearing loss. Short term exposure to loud noise can cause a temporary change which may go away within a few minutes or hours after leaving the noisy area. However, repeated short-term exposures to loud noise can also lead to permanent hearing loss. The effects of hearing loss can be profound for workers and costly for employers.

At TSMC operations, noise surveys will be conducted in order to identify areas, occupations or activities that exceed threshold limit values (TLV) established by the ACGIH[1] and referenced in Section 68 of the NL Occupational Health and Safety Regulations:

> ***68.*** ***(1) When a worker is required to work in an area in which noise levels exceed the criteria for permissible noise exposure established by the ACGIH Noise Threshold Limit Values (TLVs)***
>
> ***(a) the employer shall first take appropriate action to implement control measures to reduce noise to acceptable levels; and***
> ***(b) where it is not practicable to reduce the noise to acceptable levels or to isolate workers from the noise, the workers shall wear personal protective equipment in accordance with CSA Z94.2 "Hearing Protection Devices - Performances, Selection, Care and Use".***

Based on the noise surveys, an appropriate program will be established and maintained. Elements of the program include:

- Ongoing workplace noise sampling including personal noise monitoring which identifies which employees are at risk from hazardous levels of noise;
- Establishing and enforcing areas where use of hearing protection is mandatory;
- Informing workers at risk from hazardous levels of noise exposure of the results of the monitoring;
- Providing the site OHS Committee with the data on any noise measurements conducted;
- Maintaining a worker audiometric testing program (hearing tests) as part of the medical surveillance program required for mining operations;
- Implementing comprehensive hearing protection follow-up procedures for workers who show a loss of hearing after completing baseline and ongoing audiometric testing;

[1] American Congress of Industrial Governmental Hygienists

- Proper selection of hearing protection based upon individual fit and manufacturer's quality testing indicating the likely protection that they will provide to a properly trained wearer;
- Training and information that ensures that workers are aware of the hazard from excessive noise exposures and how to properly use the protective equipment that has been provided;
- Data management of records regarding monitoring and noise sampling.

15.5 Respiratory Protection

Due to the natural occurrence of silica in the ore body, exposure to airborne dust must be monitored and controlled. The long-term health effects of silica exposure are well understood and stringent regulations have been enacted to ensure that workers are protected as much as possible by minimizing dust levels and providing the most appropriate respiratory equipment.

The following terms require definition:

Silica: a naturally occurring mineral found in granite, sandstone, slate and shale. It can also be found on construction sites where rock dust is present. Silica dust can be inhaled and accumulated in the lungs.

Silicosis: a progressive disease that belongs to a group of lung disorders called pneumoconiosis. Silicosis is marked by the formation of lumps (nodules) and fibrous scar tissue in the lungs.

Silica Code of Practice: a legislated framework for managing silica dust in the workplace through the implementation of an ongoing program consisting of silica hazard identification, evaluation, control, and worker surveillance.

The Silica Code of Practice in the Province of Newfoundland and Labrador requires: *"Each employer to whom this code applies shall develop and implement a silica management program in consultation with the Joint Occupational Health and Safety Committee. The silica management program shall consist of the following elements, as a minimum.*

a. Dust exposure characterization / assessment

b. Evaluation of exposure levels

c. Dust control

d. Dust Hazard Awareness Training

e. Personal Protective Equipment/Respiratory protection

f. Medical surveillance

g. Record keeping"

15.5.1 Silica Management Plan

In compliance with the Silica Code of Practice requirements, TSMC has developed a Silica Management Plan containing the elements listed above. This plan and its implementation and maintenance are the responsibility of the Environment Department.

The training program required under the Code of Practice, includes:

a) Health hazards and potential risks of silica exposure;

b) Nature of silica exposure (tasks, procedures, equipment, processes and areas which could result in / contribute to silica exposure);

c) Method of assessing and evaluating silica exposure;

d) Control of silica hazards, including engineering, administrative and PPE;

e) Safe work procedures for the handling, use, or release of silica;

f) Personal hygiene procedures;

g) Overview of Silica Management Program and its subcomponents;

h) Administrative process related to medicals, handling of confidential information, communication, and follow-up;

i) Respirators, fit testing;

j) Mandatory use of respirators.

15.6 Temperature Extremes

Cold temperatures and increased wind speed (wind chill) cause heat to leave the body more quickly, putting workers at risk of cold stress. Anyone working in the cold may be at risk.

15.6.1 Common Types of Cold Stress

Hypothermia

- Normal body temperature (98.6°F) drops to 95°F or less.
- Mild Symptoms: alert but shivering.
- Moderate to Severe Symptoms: shivering stops; confusion; slurred speech; heart rate/breathing slow; loss of consciousness; death.

Frostbite

- Body tissues freeze, e.g., hands and feet. Can occur at temperatures above freezing, due to wind chill. May result in amputation.

- **Symptoms:** numbness, reddened skin develops gray/ white patches, feels firm/hard, and may blister.

Trench Foot (also known as Immersion Foot)

- Non-freezing injury to the foot, caused by lengthy exposure to wet and cold environment. Can occur at air temperature as high as 60°F, if feet are constantly wet.
- Symptoms: redness, swelling, numbness, and blisters.

15.6.2 Risk Factors and Prevention,

Dressing improperly, wet clothing/skin, and exhaustion The Supervisor Should:

- Train you on cold stress hazards and prevention.
- Provide engineering controls, e.g., radiant heaters.
- Gradually introduce workers to the cold; monitor workers; schedule breaks in warm areas.

Individuals should:

- Know the symptoms; monitor yourself and co-workers.
- Drink warm, sweetened fluids (no alcohol).
- Dress properly:
    - Layers of loose-fitting, insulating clothes
    - Insulated jacket, gloves, and a hat (waterproof, if necessary)
    - Insulated and waterproof boots

What to Do When a Worker Suffers from Cold Stress

For Hypothermia:

Call for medical responders and take steps to prevent further heat loss:

- Move the worker to a warm place.
- Change to dry clothes.
- Cover the body (including the head and neck) with blankets, and with something to block the cold (e.g., tarp, garbage bag). Do **not** cover the face.
- If medical help is more than 30 minutes away, give warm, sweetened drinks if alert and apply heat packs to the armpits, sides of chest, neck, and groin.

For Frostbite:

Follow the recommendations for hypothermia and:

- Do not rub the frostbitten area.
- Avoid walking on frostbitten feet.
- Do not apply snow/water. Do not break blisters.
- Loosely cover and protect the area from contact.
- Do not try to rewarm the area unless directed by medical personnel.

For Trench (Immersion) Foot:

- Remove wet shoes/socks; air dry (in warm area); keep affected feet elevated and avoid walking. Get medical attention.

15.6.3 Tips To Protect Workers in Cold Environments

- Recognize the environmental and workplace conditions that may be dangerous.
- Learn the signs and symptoms of cold-induced illnesses and injuries and what to do to help workers.
- Train workers about cold-induced illnesses and injuries.
- Encourage workers to wear proper clothing for cold, wet and windy conditions, including layers that can be adjusted to changing conditions.
- Be sure workers in extreme conditions take a frequent short break in warm dry shelters to allow their bodies to warm up.
- Try to schedule work for the warmest part of the day.
- Avoid exhaustion or fatigue because energy is needed to keep muscles warm.
- Use the buddy system - work in pairs so that one worker can recognize danger signs.
- Drink warm, sweet beverages (sugar water, sports-type drinks) and avoid drinks with caffeine (coffee, tea, sodas or hot chocolate) or alcohol.
- Eat warm, high-calorie foods such as hot pasta dishes.
- Remember, workers face increased risks when they take certain medications, are in poor physical condition or suffer from illnesses such as diabetes, hypertension or cardiovascular disease.

15.7 Personal Health and Wellness Promotion

The site shall offer weekly a Wellness Clinic Day to provide employees and contractors with an opportunity to visit and consult with the site occupational nurse on personal health matters.

During visits, the nurse may provide monitoring and offer advice on dietary and lifestyle changes or recommend further assessment to be done by a medical doctor while off-site.

The site nurse presents health and wellness information at group safety meetings at the request of supervisors or whenever issues arise that warrant a direct exchange between a medical professional and the workers.

Site Wide Alerts and postings are used to communicate with the general workforce on timely topics relating to health and wellness.

16.0 HOUSEKEEPING & ORDER

16.1 Policy

Tata Steel Minerals Canada has established a set of minimum expectations that defines acceptable housekeeping and order. These are characterized by the following:

- Materials and supplies are stored in an orderly manner so as to prevent objects falling or spreading and to eliminate tripping and stumbling hazards; *"A place for everything and everything in its place"* is the order of the day.
- Work locations, vehicles, and both inside and outside of buildings are kept clean and orderly at all times.
- Combustible materials, such as oil soaked rags; waste and shavings are kept in approved metal containers with metal lids. Containers are emptied as soon as practicable.
- Flammable liquids are not be used for cleaning purposes.
- All solvents are kept in approved, properly labeled containers and dispensed only with approved, properly labeled containers.
- Floors and platforms are kept free of dangerous projections or obstructions and maintained reasonably free of oil, grease or water.
- Emergency exits, walkways, and material storage areas are kept free from obstruction, depressions and debris.
- Waste bins are emptied regularly before they overflow.

16.2 Scope

The Housekeeping and Order program provides a set of standards under which operating areas are to develop acceptable practices characteristic of safe and health workplaces.

16.3 Purpose

Effective housekeeping can eliminate some workplace hazards and help get a job done safely and properly. Poor housekeeping can frequently contribute to incidents by hiding hazards that cause injuries. If the sight of paper, debris, clutter and spills is accepted as normal, then other more serious health and safety hazards may be taken for granted.

Housekeeping is not just cleanliness. It includes keeping work areas neat and orderly; maintaining walkways and floors free of slip and trip hazards; and removing of waste materials (e.g., used parts, waste oils) and other fire hazards from work areas. It also requires paying attention to important details such as the layout of the whole workplace, aisle marking, the

adequacy of storage facilities, and maintenance. Good housekeeping is also a basic part of incident and fire prevention.

Effective housekeeping is an ongoing operation: it is not a hit-and-miss cleanup done occasionally. Periodic "panic" cleanups are costly and ineffective in reducing incidents.

Poor housekeeping can be a cause of incidents, such as:

- Tripping over loose objects on floors, stairs and platforms;
- Being hit by falling objects;
- Slipping on greasy, wet or dirty surfaces;
- Striking against projecting, poorly stacked items or misplaced material;
- Cutting, puncturing, or tearing the skin of hands or other parts of the body on projecting nails, wire or steel strapping.

To avoid these hazards, the workplace must "maintain" order throughout a workday. Effective housekeeping results in:

- Reduced handling to ease the flow of materials;
- Fewer tripping and slipping incidents in clutter-free and spill-free work areas;
- Decreased fire hazards;
- Lower worker exposures to hazardous substances (e.g. dusts, vapours);
- Better control of tools and materials, including inventory and supplies;
- More efficient equipment cleanup and maintenance;
- Better hygienic conditions leading to improved health;
- More effective use of space;
- Reduced property damage by improving preventive maintenance;
- Less janitorial work;
- Improved morale;
- Improved productivity (tools and materials will be easy to find);

16.4 Storage of Materials

Good organization is essential for overcoming material storage problems whether on a temporary or permanent basis. Stored materials should not obstruct aisles, stairs, exits, fire equipment, emergency eyewash fountains, emergency showers, or first aid stations. All storage areas should be clearly marked.

Flammable, combustible, toxic and other hazardous materials should be stored in approved containers in designated areas that are appropriate for the different hazards that they pose. Storage of materials should meet all requirements specified in the fire codes and regulations.

16.5 Waste Disposal

The regular collection, grading and sorting of scrap contribute to good housekeeping practices. It also makes it possible to separate materials that can be recycled from those going to waste disposal facilities.

Allowing material to build up on the floor wastes time and energy since additional time is required for cleaning it up. Placing scrap containers near where the waste is produced encourages orderly waste disposal and makes collection easier. All waste receptacles should be clearly labelled (e.g., wood, steel, general garbage, etc.).

16.6 Housekeeping Audits

A program of housekeeping audits focuses increased attention on problem areas that show evidence of a chronic, perhaps underlying problem. Additional inspections of areas deemed to be not complying with the expectations put forth by company leadership are required in order to define and correct the cause.

Once the need for improved housekeeping has been identified in an area, a frequency and responsibility for additional surveillance is established by the senior site manager who may request or require an improvement action plan.