



BC EAO EAC Application – Tenas Project

Section 13.0 Management Plans

Chapter 13 Occupational Health and Safety Program

May 2022

VERSION 1.0

Submitted to:	BC Environmental Assessment Office
Pursuant to:	<i>Environmental Assessment Act</i> , S.B.C. 2002, c.43
Submitted by:	Telkwa Coal Limited Suite 1410 – 409 Granville Street Vancouver, BC V6C 1T2

Tenas Project

Section 13.0 Management Plans Chapter 13 Occupational Health and Safety Program

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ABBREVIATIONS AND ACRONYMS

Abbreviation or Acronym	Long Form of Abbreviation or Acronym
ALARA	As Low As Reasonably Achievable
AQMP	Air Quality Management Plan (S13.0-C2)
BC	British Columbia
BC MECCS	British Columbia Ministry of Environment and Climate Change Strategy
BC MEMLI	British Columbia Ministry of Energy, Mines and Low Carbon Innovation
BC MEMPR	British Columbia Ministry of Energy, Mines and Petroleum Resources
BMPs	best management practices
CEMP	Construction Environmental Management Plan (S13.0-C4)
CMSTHP	Chemicals and Materials, Storage, Transfer, and Handling Plan (S13.0-C3)
CO ₂	carbon dioxide
Code	Health, Safety and Reclamation Code in British Columbia (British Columbia Ministry of Energy, Mines and Low Carbon Innovation [BC MEMLI 2021])
CPP	Coal Processing Plant
CPR	cardiopulmonary resuscitation
CSA	Canadian Standards Association
CWP	Coal Workers' Pneumoconiosis (Black Lung Disease)
EAC	Environmental Assessment Certificate
EMP	Explosives Management Plan (S13.0-C6)
EMS	Environmental Management System (S13.0-C1)
ERT	Emergency Response Team
ETV	Emergency Transport Vehicle
FMSCP	Fuel Management and Spill Control Plan (S13.0-C7)
GovBC	Government of British Columbia
IAB	index of noise reduction
IARC	International Agency for Research on Cancer
Inspector	Inspector of Mines
IV	intravenous
JAIR	Joint Application Information Requirements for <i>Mines Act</i> and <i>Environmental Management Act</i> Permits (British Columbia Ministry of Energy, Mines and Petroleum Resources [BC MEMPR] and British Columbia Ministry of Environment and Climate Change Strategy [BC MECCS] 2019)
JRA	Job Risk Analysis
LSA	Local Study Area
LTi	Lost-time Incident
MA/EMA	<i>Mines Act</i> , RSBC 1996, c 293 and <i>Environmental Management Act</i> , SBC 2003, c 53

Abbreviation or Acronym	Long Form of Abbreviation or Acronym
MERP	Mine Emergency Response Plan (S13.0-C9)
MIG	metal inert gas
MOC	Management of Change
MSD	musculoskeletal disorder
MTCP	Minesite Traffic Control Plan (S13.0-C10)
NIOSH	National Institute for Occupational Safety and Health
NRR	Noise Reduction Ratio
OFA	Occupational First Aid
OHS	Occupational Health and Safety
OHSC	Occupational Health and Safety Committee
OHSP	Occupational Health and Safety Program (S13.0-C13)
Orica	Orica Canada Inc.
PAMP	Public Access Management Plan (S13.0-C14)
PAPR	powered air purifying respirator
PPE	personal protective equipment
Project	Tenas Project
RBS	Rapid Body Search
RCMP	Royal Canadian Mounted Police
RCP	Reclamation and Closure Plan (S13.0-C15)
SCBA	self-contained breathing apparatus
SDS	Safety Data Sheet
SEMP	Socio-economic Management Plan (S13.0-C16)
SEMP	Surface Erosion Prevention and Sediment Control Plan (S13.0-C17)
SLAM	Stop, Look, Assess, Manage
SPP	Standard Practices and Procedures
TCL	Telkwa Coal Limited
TDG	Transportation of Dangerous Goods
TLV	threshold limit value
UV	ultraviolet
WHMIS	Workplace Hazardous Materials Information System
WMP	Wildlife Management Plan (S13.0-C21)
WMPRE	Waste Management Plan for Refuse and Emissions (S13.0-C20)

UNITS OF MEASURE

Abbreviation or Acronym	Long Form of Abbreviation or Acronym
%	percent
dB	decibel
dBA	A-weighted decibel
kg	kilogram
lb	pound
Lex	8-hour equivalent
mm	millimetre
ppm	parts per million

EXECUTIVE SUMMARY

Telkwa Coal Limited (TCL) is committed to ensuring the health, safety, and wellness of all its employees, contractors, and visitors at the Minesite and overall Project Area during all Project phases. It is the company's primary objective to provide a safe and healthy work environment, and to eliminate and/or control hazards that may cause injury to personnel, damage to property, damage to equipment, and/or harm to the environment. The health and safety of employees takes precedence over any other activity or consideration. Management will show the discipline required to follow through on health and safety commitments.

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

- ▶ all injuries and occupational illnesses can be prevented;
- ▶ proactive reporting and learning from incidents are fundamental to improvement; and
- ▶ all persons, at all levels, need to be safety role models.

This OHSP provides the policies, protocols and procedures that will be followed to ensure that the health and safety of personnel is protected throughout all phases of the Project.

1. INTRODUCTION

The Occupational Health and Safety Program (OHSP) describes the health and safety related management processes and procedures currently in place at the Tenas Project (Project). The OHSP will remain in place during all Project phases and will be subject to ongoing management review and revisions as required.

The OHSP provides a framework for occupational health and safety requirements for the Project. It should be noted that this OHSP cannot cover every procedure or operation, and that it may be necessary for management and supervisors to determine safe practices for specific situations. The OHSP has been written with reference to the Health, Safety and Reclamation Code for Mines in British Columbia (British Columbia Ministry of Energy, Mines and Low Carbon Innovation [BC MEMLI] 2021) (Code), and is expected to be adhered to by management, employees, and contract personnel.

2. PURPOSE AND OBJECTIVES

Telkwa Coal Limited (TCL) is committed to ensuring the health, safety, and wellness of all its employees, contractors, and visitors at the Minesite and overall Project Area during all Project phases. It is the company's primary objective to provide a safe and healthy work environment and to eliminate and/or control hazards that may cause injury to personnel, damage to property, equipment, or the environment.

TCL acknowledges that no work procedure or task is so urgent or important that any individual should be expected to create a situation that could result in harm to oneself, a fellow worker, or cause damage to property or the environment. The health and safety of employees takes precedence over any other activity or consideration. Management will show the discipline required to follow through on health, safety, and environmental commitments. Every individual working for or on behalf of TCL has the responsibility to observe all safety regulations and Project requirements. Everyone is expected to identify and report any hazardous condition or practice and provide suggestions to eliminate or control hazards.

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

- ▶ injuries and occupational illnesses can be prevented;
- ▶ proactive reporting and learning from incidents are fundamental to improvement; and
- ▶ all persons, at all levels, need to be safety role models.

This OHSP provides the policies, protocols and procedures that will be followed to ensure that the health and safety of personnel is protected throughout all phases of the Project. The purpose of the OHSP is to:

- ▶ provide guidance and instruction on activities that must be carried out to achieve health and safety related objectives for the Project;
- ▶ ensure compliance with the regulatory requirements, codes of practice, best management practices (BMPs), and industry standards;
- ▶ establish the health and safety policies that must be followed by all Project employees, contractors, and visitors;
- ▶ assign responsibility and accountability for health and safety activities on the Project, which is that everyone is responsible for their own safety and the safety of those around them;
- ▶ describe the requirements of hazard and risk analysis and development of Safe Work Practices for all work associated with the Project;
- ▶ provide guidance to assist in the development and implementation of individual employee and contractor health and safety performance; and
- ▶ enable TCL employees, contractors, and visitors to be exposed to a healthy and safe work environment.

3. SCOPE AND SCALE

The scope of this OHSP is defined within the Project Area, and includes all activities, as well as any operation and/or construction activities that are directly associated with the Project and exist outside of the Project Area. The OHSP is in effect during the Construction, Operation, Decommissioning and Reclamation, and Post-closure phases and ceases to be in force at the final closure of the Project as approved by the regulatory authorities.

4. COMPLIANCE OBLIGATIONS

This subsection summarizes the relevant compliance approvals and requirements that the OHSP needs to address.

4.1 Regulatory Requirements

The *Mines Act*, RSBC 1996, c 293 (Government of British Columbia [GovBC] 1996) and the Code apply to all mines during exploration, development, construction, production, closure, reclamation, and abandonment.

It may not be possible to develop all elements of the OHSP in detail during the permitting phase, and as such, the OHSP is a living document that even during the Construction, and Operation phases may need to be updated as situations and equipment change.

TCL will ensure compliance with all regulatory approvals. Every Supervisor and employee will take all reasonable measures to ensure that regulatory requirements are followed.

Several legislative requirements are applicable to OHSP. A short list of these requirements and their major applicable components are provided in **Table 4.1-1** below.

Table 4.1-1: Legislation and Guidelines Relevant to the Occupational Health and Safety Program (OHSP)

Legislation, Regulations, and Guidelines	Applicable Information
<i>Mines Act</i> , RSBC 1996, c 293 Government of British Columbia [GovBC] 1996)	Regulates British Columbia (BC) mines during all phases through the Code and <i>Mines Act</i> , RSBC 1996, c 293 (GovBC 1996) permitting
Health, Safety and Reclamation Code for Mines in British Columbia (British Columbia Ministry of Energy, Mines and Low Carbon Innovation [BC MEMLI] 2021) (Code)	The purpose of the Code is to protect employees and all other persons from undue risk to their health and safety arising out of or in connection with activities at mines.
Joint Application Information Requirements for <i>Mines Act</i> and <i>Environmental Management Act</i> Permits (British Columbia Ministry of Energy, Mines and Petroleum Resources [BC MEMPR] and British Columbia Ministry of Environment and Climate Change Strategy [BC MECCS] 2019). (JAIR)	Provides guidance on occupational health and safety (OHS) requirements for mines in Section 8 - Health and Safety.

Legislation, Regulations, and Guidelines	Applicable Information
Occupational Health and Safety Regulation, BC Reg. 296/97 (GovBC 1997)	Establishes standards for OHS in BC.

This OHSP is also written to address the requirements listed in the Joint Application Information Requirements for *Mines Act* and *Environmental Management Act* Permits (British Columbia Ministry of Energy, Mines and Petroleum Resources [BC MEMPR] and British Columbia Ministry of Environment and Climate Change Strategy [BC MECCS] 2019) (*JAIR*).

Section 1.6.9 of the Code was used when developing this portion of the Environmental Assessment Certificate (EAC) Application, as well as the Occupational Health and Safety (OHS) page of BC MEMLI's website.

This OHSP has considered JAIR section 8.1 guidance, which indicates proponents will provide the components of the OHS Program, including but not limited to:

- ▶ management of and responsibilities for health and safety;
- ▶ promotion of a positive health and safety culture;
- ▶ prevention of injury and disease;
- ▶ Occupational Health and Safety Committee (OHSC) requirements;
- ▶ provisions for regular health and safety meetings;
- ▶ workplace inspections, investigations, and Dangerous Occurrence reporting;
- ▶ general safety rules;
- ▶ identification and control of hazards;
- ▶ safe work procedures;
- ▶ tracking and trending of OHS records and stats;
- ▶ if applicable, health and safety management of contractors; and
- ▶ relevant health and safety sub-programs.

4.1.1 Conflicting Regulatory Requirements

If any conflict arises between any other standard with which compliance is required by the Code, the provisions of the Code will prevail.

The Code adopts in whole or in part a standard published by a national or international standards association, if directed by the Inspector of Mines, will include amendments to such standards as made from time to time.

4.2 Standard Practices and Procedures (SPP)

All TCL Standard Practices and Procedures (SPPs) will conform to the Code. In addition to regulatory requirements, the Project will implement SPPs that meet or exceed the required laws and regulations.

5. RELATIONSHIP TO OTHER MANAGEMENT PLANS

The Project is governed by an **Environmental Management System (Section [S] 13.0-Chapter [C] 1) (EMS)**, an overarching management plan strategy comprising a set of processes and practices which enable TCL to manage its environmental and safety performance in a holistic way, within an integrated framework. While the management plans are part of the EMS, the EMS is not just a collection of management plans.

In addition to the overall guidance of the EMS, this OHSP has a relationship with other management plans that also present mitigation measures. Those management plans and their relationship to this OHSP are listed in **Table 5-1**.

Table 5-1: Management Plans with Relationship to the Occupational Health and Safety Program (OHSP)

Management Plans	Nature of Relationship
Environmental Management System (S13.0-C1) (EMS)	All management plans are part of the EMS.
Air Quality Management Plan (S13.0-C2) (AQMP)	Manages employee health and safety with respect to dust, vibration, and noise.
Chemicals and Materials, Storage, Transfer, and Handling Plan (S13.0-C3) (CMSTHP)	Ensures employees handle chemicals safely in accordance with the Occupational Health and Safety Program (OHSP).
Construction Environmental Management Plan (S13.0-C4) (CEMP)	Health and safety management for employees and contractors during Construction Phase uses this document.
Explosives Management Plan (S13.0-C6) (EMP)	Manages employee health and safety during blasting activity and transferring explosives.
Mine Emergency Response Plan (S13.0-C9) (MERP)	Manages employee, contractor, visitor, and the public involvement in emergencies and has a direct relationship to this OHSP.
Minesite Traffic Control Plan (S13.0-C10) (MTCP)	Manages traffic on the Minesite for safety of employees.
Public Access Management Plan (S13.0-C14) (PAMP)	Manages safe public access through the Project Area.
Reclamation and Closure Plan (S13.0-C15) (RCP)	Manages health and safety for employees during progressive reclamation and in the Reclamation and Decommissioning, and Post-closure phases.
Socio-Economic Management Plan (S13.0-C16) (SEMP)	Manages employee and public health, safety, and wellness programs in the Local Study Area (LSA).
Waste Management Plan for Refuse and Emissions (S13.0-C20) (WMPRE)	Manage waste and emissions to ensure employee health and safety.
Wildlife Management Plan (S13.0-C21) (WMP)	Manages wildlife interactions with respect to employee safety.

6. DETAILS OF OCCUPATIONAL HEALTH AND SAFETY PROGRAM (OHSP)

6.1 Occupational Health and Safety Committee (OHSC)

Everyone working at the Project is expected to work safely and be a champion for health and safety onsite. In addition to the personal commitment to safety embraced by all those working onsite, the OHSC is a dedicated group that helps ensure the consistent and effective implementation of OHS programs at the Minesite and in the Project Area.

The establishment and empowerment of an OHSC is an important foundation for the success of the OHSP. This group fulfills many important health and safety roles for the Minesite including inspections and reporting. The Mine Manager or designate will work with the OHSC to develop operational procedures in accordance with the Code.

The OHSP is a joint management-worker group that has the following composition:

- ▶ equal representatives from the management team and workers; and
- ▶ includes two (2) Co-Chairs whereby one (1) is a worker representative, and the other is a management representative, and they may alternate chairing the meetings.

The OHSC shall:

- ▶ inspect work sites per the details set in **6.5.9 Workplace Inspection Programs** and as soon as possible after the inspection, meet to discuss its findings and any other matters concerning health and safety;
- ▶ prepare minutes of the meeting including a description of conditions found during the inspection;
- ▶ regularly review the following:
 - ▶ safe operating procedures;
 - ▶ Incident investigations;
 - ▶ BC MEMLI Health and Safety Inspection Reports;
 - ▶ occupational health monitoring results; and
- ▶ be given reasonable time to carry out their duties as prescribed in the Code, and that time so spent is counted as time worked.

The minutes of the OHSC meeting are signed by the OHSC Co-Chairs or designates and include action items to be followed up on. The minutes are:

- ▶ kept, maintained, and reviewed during each meeting;
- ▶ distributed to designated personnel;
- ▶ posted in high-traffic areas for worker access;
- ▶ filed with the Mine Manager, and the Health, Safety, and Human Resources Superintendent; and
- ▶ made available to a BC MEMLI Inspector of Mines (Inspector) on request.

The OHSC Co-Chairs or designates participate in the investigation of Reportable or Dangerous Occurrences in accordance with section 1.7.1 of the Code. Furthermore, OHSC Co-Chairs or delegates need to also participate in the investigation of any Minor and/or Major Emergency.

The OHSC Co-Chairs or delegates shall be informed as soon as possible, but within 4 hours of the event, of incidents that cause injuries which require medical aid and, if they deem it necessary, they shall participate in the investigation.

The OHSC shall review the OHSP, including OHSC training, for completeness and effectiveness on an ongoing basis and submit its findings to the Mine Manager and the Health, Safety, and Human Resources Superintendent.

6.2 Hazard Awareness

Several potential hazards have been identified and are expected to be present at the worksite which have either undergone a risk assessment or will require an assessment in the future. Many of the controls for these hazards have been discussed in the **EMS** and other management plans (See **5. Relationship to Other Management Plans**), but the main hazards and where additional information can be found are highlighted here.

An initial occupational health and safety risk assessment for the Project was completed by Shannon McIntosh from Total Safety, who is a qualified third-party consultant in the field of occupational hygiene as required by the Code. The risk assessment that was completed helped to determine the type of hazards (i.e., noise, dusts, fumes, heat, etc.) that workers may encounter during their work, and it is attached in **Appendix 13.13-A Occupational Health Risk Assessment – Industrial Hygiene (Appendix 13.13A)** and summarised in the subsections **6.2.1** to **6.2.14** that follow. **6.5 General Site Safety Rules and Programs** presents specific programs that address these hazards and the risks they present, as well as providing strategies for the minimization of these risks. McIntosh also completed an ergonomic risk assessment, which is provided in **Appendix 13.13-B Ergonomics Risk Assessment (Appendix 13.13-B)**.

6.2.1 Musculoskeletal Disorders (MSDs)

The ergonomic risk assessment completed by Total Safety and found in **Appendix 13.13-B** determined that there is a potential risk to workers at the Project of musculoskeletal disorders (MSDs), if proper ergonomics are not followed. This assessment will help to determine types of modifications or other controls required to reduce ergonomic concerns. Once the initial core group of employees is hired, follow-up ergonomic assessments will be completed to ensure input from employees is gathered and considered prior to the final installation of workstations. The Ergonomics Program will be added in the future.

6.2.2 Explosives

TCL has an **Explosives Management Plan (S13.0-C6) (EMP)**. TCL will be hiring Orica Canada Inc. (Orica) for the supply and manufacture of explosives onsite and delivery of these products to the borehole. Orica will also be responsible for all regulatory requirements for the approval and operating of these facilities. TCL will have trained and certified blasting crews responsible for the loading of drillholes, and the Mine Superintendent or delegate will be responsible for design and tracking of the drill and blast functions.

The EMP covers the following aspects:

- ▶ purchasing, deliveries, and storage of explosives and detonators;

- ▶ designations and records;
- ▶ issuing explosives and detonators;
- ▶ transporting explosives and detonators onsite;
- ▶ using explosives and detonators; and
- ▶ environmental protection related to use of explosives.

6.2.3 Hazardous Dust

In terms of dust accumulation within buildings onsite, the **Workplace Inspection Program** is identified in **6.5.9**. All buildings have been equipped with a means to wash down areas with water to limit dust buildup. Wash water from this activity will be directed to drains in the buildings which will direct this water to either tanks/sumps in the buildings or the sanitary systems. Furthermore, all buildings have been designed to minimize the buildup of dust from operations. The CPP will be a wet system so there is an expectation that little dust will be accumulated in the building. The Administration Building containing the mine dry, and the Maintenance Facility are not envisioned to have many dust generating activities, and all vehicles will go through a washing process prior to starting maintenance activities.

6.2.3.1 Explosive Dust

TCL has conducted a review of materials expected to be onsite and did not identify any concerns with explosive dust. This is due to not having coal dust in a confined environment and coal being immersed in water for subsequent processing operations within the Coal Processing Plant (CPP).

6.2.3.2 Inhalation of Airborne Dust and Other Particulate

There are several potential inhalation hazards onsite, including total and respirable particulates from welding activities, respirable crystalline silica (quartz), respirable coal dust, and total and respirable fugitive dust particulate. Several work tasks/places were identified that have a potentially high risk of dust hazards and controls must be implemented to reduce the exposure for these tasks.

Exposure to high levels of airborne coal (not anticipated) is known to cause Coal Workers' Pneumoconiosis (CWP), which typically occurs in underground coal mines, and commonly and historically referred to as Black Lung Disease. Exposure to respirable crystalline silica (quartz) is anticipated. Quartz has been classified by the International Agency for Research on Cancer (IARC) as a group 1 carcinogen, based on a relationship between exposures among workers to increased risk of lung cancer. Crystalline silica can also cause silicosis (a non-reversible fibrotic lung disease). Prior to the Operation Phase of the Project, a Silica Exposure Control Plan will be developed and implemented. See **6.5.10** for information about the Workplace Monitoring Program.

6.2.4 Welding Fumes/Metals

Welding fumes and metal particulate are produced during hot work and grinding activities. Some specific metals are considered designated substances (carcinogens, reproductive hazards and/or sensitizers), and therefore welding fumes should be considered As Low As Reasonably Achievable (ALARA) substances, and exposures should be kept ALARA. For additional information on the hazards of exposure and which job tasks are at risk, please refer to the risk assessment in **Appendix 13.13-A**. Safe Work Procedures and a Cutting and Welding Activities Management Program will be developed for all tasks where there is potential exposure to ensure workers are properly protected. Welding fumes/metals will also be included in the **6.5.10 Workplace Monitoring Program**.

6.2.5 Radiation

Ultraviolet (UV) light radiation from the sun poses a health risk for workers working outdoors. In addition, welding arcs also pose UV light radiation hazards for welders and workers in the adjacent areas. Safe Work Procedures will be developed to reduce exposure to UV radiation. This topic will be further addressed in a Cutting and Welding Activities Management Program and a Workplace Monitoring Program (see **6.5.10**), to be developed prior to the Construction Phase.

Ionizing radiation sources will also be present in the CPP in the instrumentation measuring ash and density. These radiation sources will be managed by the Plant Superintendent, and the Health, Safety, and Human Resources Superintendent in compliance with regulatory requirements and Canadian Standards Association (CSA) standards. They will all have the appropriate areas marked off to prevent unauthorized worker access. The active source will be either Cesium-137 or Cobalt-60. Radiation safe work procedures and other control documents for additional information will be developed prior to use.

A Radiation Protection Program will be developed prior to the Construction Phase to address these risks to workers.

6.2.6 Hazardous Energy

Electrical, pneumatic, hydraulic, and mechanical energy can pose a significant hazard to workers if not properly controlled. This can result in electrocution and other injuries, and although they have a low occurrence, the consequences are very serious and can often lead to fatalities. Hazardous energy will be controlled through the implementation of a Lock Out and Tag Out Program which will include training of all workers, identification of the hazard energy, and controls to prevent worker exposure.

6.2.7 Noise

Noise is a universal hazard at mines, particularly at the crushers. Table 2-2 of the Code has an 8-hour exposure limit for noise of 85 A-weighted decibels (dBA) averaged over the workday and adjusted to 8 hour equivalent (Lex) (or 83 dBA for 12-hour shifts). This includes peak impulse noise but assumes no exposure to steady state noise over 109 dBA and no exposure to peak impulse noise over 140 dBA. All equipment and processes will be designed in a manner to reduce the amount of noise produced. In addition, a Hearing Conservation Program will be developed to ensure worker exposure to noise is kept as low as possible.

6.2.8 Slips, Trips, and Falls

Slips, trips, and falls are one (1) of the most common hazards at all worksites. Uneven ground and/or slippery ground due to water or ice can significantly increase the potential hazard. When working at heights, the consequences from falls can be very serious. Potential falls can occur when climbing in and out of mobile equipment and/or working on mobile equipment, while walking on stairs, etc. Working in, on, or around water or waterbodies also requires caution about slips, trips, and falls. TCL will ensure controls and training are put in place to reduce the potential for slips, trips, and falls. In addition, TCL will develop a Fall and Trip Protection Program to be followed for all work conducted at heights.

6.2.9 Chemical Hazards

The use of chemicals such as solvents and chlorine may occur onsite. In addition to being a spill hazard, some hazardous vapours/mists/gases may exist as well as the potential for skin and/or eye exposure. Exposure to these hazards is detailed in the risk assessment in **Appendix 13.13-A** and they will be addressed in the development of task-specific safe work procedures. The management of spills is

presented in the **Fuel Management and Spill Control Plan (S13.0-C7) (FMSCP)**, with further information about addressing chemical hazards available in the **Chemicals and Materials, Storage, Transfer, and Handling Plan (S13.0-C3) (CMSTHP)**

6.2.10 Confined Spaces

Work conducted in confined spaces can be particularly hazardous due to the difficulty in providing rescue and because hazardous atmospheres may be present. All confined spaces onsite will be properly identified and labelled. If workers are required to enter confined spaces, TCL will ensure that a confined space hazard assessment has been conducted by a qualified person, and all correct safe work procedures are in place. TCL will also develop a Confined Space Program to be followed for all work conducted within confined spaces.

6.2.11 Mobile Equipment

Working in and adjacent to mobile equipment can be very hazardous if appropriate precautions are not taken and can result in fatalities or serious injuries due to “struck-by” hazards, roll overs and other incidents. Safe work procedures and traffic control procedures will be further developed for the safe operation of mobile equipment, including working around the equipment, management of traffic at the worksite and training/licencing requirements for operators. Workers are required to complete a **Daily Pre-use Inspection of Mobile Equipment (6.5.9.3.1)**. Please refer to the **Minesite Traffic Control Plan (S13.0-C10) (MTCP)** for additional information.

6.2.12 Slope Stability and Landslides

During excavation activities in the open pit, maintaining stability of the pit slope face, stockpiles, storage piles as well as haul and access roads helps ensure the safety of workers onsite. TCL will ensure all excavation activities within the open pit will be done following good engineering practices. See **6.5.9.4 Frequency of Inspections**. If there is a potential risk of avalanches to occur, the risk will be assessed following the guidance in Technical Aspects of Snow Avalanche Risk Management – Resources and Guidelines for Avalanche Practitioners in Canada (Canadian Avalanche Association 2016).

6.2.13 Cold Weather Conditions

Cold weather conditions present several hazards to workers, including frostbite and hypothermia. Protection of workers from cold weather conditions is a priority of TCL. Health and safety measures related to personnel working in cold weather conditions will be added to the Workplace Monitoring Program as it is developed and expanded.

6.2.14 Wildlife

There is a potential for wildlife, such as bears and wolves, to be present onsite. This may pose a hazard to workers. Wildlife interactions are briefly discussed in **7.5.15 Wildlife Interaction Procedure**, and the **Wildlife Management Plan (S13.0-C21) (WMP)** provides further information on dealing with wildlife.

6.3 Hazard Control

Only those hazards that are properly identified and assessed for risk can be controlled; therefore, the first step in hazard control, risk assessment and risk management is identification. Once the hazard has been identified, it will be controlled through the Hierarchy of Controls, as follows:

1. Elimination or Substitution: Where possible, the hazard will be eliminated from the site, an alternative process will be used which poses less of a hazard to workers, and/or a different chemical or product will be used which is less hazardous;
2. Engineering Controls: Whenever possible, equipment and processes will be used to reduce the risk to workers, such as the use of guards on equipment, ventilation in indoor areas and isolation of the worker from the hazard (equipment cabs);
3. Administrative Control: Training, job rotation, written safe work procedures and other administrative measures will be used where possible to reduce the hazard to workers; and
4. Personal Protective Equipment (PPE): PPE is the last line of defense to reduce the risk to workers. Whenever possible, the controls above will be preferred over the use of PPE.

6.4 Risk Identification and Assessment

Risk identification for worker health and safety involves identifying all potential hazards associated with the tasks to be conducted onsite during the Project, during all phases.

As previously discussed in **6.2**, an occupational health and safety risk assessment was conducted, and types and areas of work identified that may pose a risk to workers onsite.

Further to this assessment, work tasks will be broken down into all the steps required, to ensure that all potential hazards have been identified. Periodic meetings will be held with all personnel to update the list of possible hazards and to receive input from workers. This process requires the participation of every department and requires an effort from everyone.

Three (3) main methods will be used for risk identification:

1. Formal Risk Assessments;
2. Field Level Risk Assessments; and
3. Safety Interactions.

These are discussed in further detail in **6.4.1**, **6.4.2**, and **6.4.3**.

6.4.1 Formal Risk Assessments

6.4.1.1 Classification and Prioritization of Risks

A listing of possible risks is presented at these meetings, and it is updated with the participation of workers. Potential risks are then listed in a tabular format and prioritized. The prioritization step consists of a consultation process with members from each applicable department, the OHSC and the Health, Safety, and Human Resources Superintendent.

Once the potential hazards have been identified, prioritizing risks is done mathematically based on a prioritization grid system containing different risk parameters and controls including:

- ▶ site specific;
- ▶ extent of risk;
- ▶ probability of risk;

- ▶ severity of risk;
- ▶ effect on health as a function of exposure;
- ▶ administrative control;
- ▶ operational control; and
- ▶ human resources perspective.

Classifying risks is then done based on a Risk Matrix Grid (**Figure 6.4-1**) which will be used to analyze the risk of each hazard based on its likelihood and consequence of occurrence. The rating for each risk for each task will help to prioritize when controls and/or further assessments should be done.

		Hazard Effect/Consequence				
		SEVERE	MAJOR	MODERATE	MINOR	NEGLIGIBLE
Likelihood	ALMOST CERTAIN	CRITICAL	VERY HIGH	HIGH	MEDIUM	LOW
	LIKELY	VERY HIGH	HIGH	MEDIUM	MEDIUM	LOW
	MAY	HIGH	MEDIUM	MEDIUM	MEDIUM	VERY LOW
	UNLIKELY	MEDIUM	MEDIUM	MEDIUM	LOW	VERY LOW
	RARE	MEDIUM	LOW	LOW	VERY LOW	NEGLIGIBLE

Figure 6.4-1: Risk assessment using Risk Matrix Grid of Consequence versus Likelihood

To assist with assigning likelihood and consequence, the following two (2) figures provide further guidance.

Likelihood	Almost Certain	The unwanted event has occurred frequently: occurs in order of one or more times per year and is likely to reoccur within one (1) year
	Likely	The unwanted event has occurred infrequently: occurs in order of less than once per year and is likely to reoccur within three (3) years
	May	The unwanted event has happened in the business at some time or could happen within five (5) years
	Unlikely	The unwanted event has happened in the business at some time or could happen within 15 years
	Rare	The unwanted event has never been known to occur in the business or it is highly unlikely that it will occur within 25 years

Figure 6.4-2: Determination of Likelihood

Consequence Rating	Harm to people	Environmental Impact	Business Interruption/ Material Damage	Legal & Regulatory	Impact on Reputation/Social/ Community	Effects on Environment
Negligible	First aid case/exposure to minor health risk	Minimal environmental harm	No disruption to operation, 5% loss of budgeted operating profit	Low level legal issue	Slight impact – public awareness may exist but no public concern	Biophysical Environment: Resulting adverse effects are barely to not detectable, of very limited extent, and can be reversed in two days or less. Human Environment: Resulting adverse effects are not detectable or are in the normal range of variability in the human environment.
Minor	Medical treatment case/exposure to major health risk	Material environmental harm – incident remediable short term	Brief disruption to operation, 10% loss of budgeted operating profit/listed assets	Minor legal issue, noncompliance and breeches of the law	Limited impact – local public concern	Biophysical Environment: Resulting adverse effects are barely detectable, and can be reversed in one month or less, or are low extent. Human Environment: Resulting adverse effects are detectable but are not likely to be experienced at the community level.
Moderate	Lost time injury/reversible impact on health	Serious environmental harm – incident remediable within LOM	Partial shutdown, 15% loss of budgeted operating profit/listed assets	Serious breach of law/investigation/repo rt to authority prosecution and/or moderate penalty	Considerable impact - regional public concern	Biophysical Environment: Resulting in lethal and/or sub-lethal effects at the individual level indistinguishable from natural variation or resulting adverse effects are detectable and can be reversed in one year or less. Human Environment: Adverse effects would result in demonstrable change and are possible at the community-wide level but remain within historic norms and present no or a minor management challenge.
Major	Single fatality or loss of quality of life/irreversible impact on health	Major environmental harm – incident remediable post LOM	Partial loss of operation, 20% loss of budgeted operating profits/listed assets	Major breech of the law, considerable prosecution and penalties	National impact – national public concern	Biophysical Environment: Resulting in some structural and functional changes at the population level above natural variation, or resulting adverse effects occur regionally and can be reversed in 10 years or less. Human Environment: Adverse effects would result in changes beyond historical norms and present a moderate management challenge.
Severe	Multiple fatalities/impact on health ultimately fatal	Extreme environmental harm – incident irreversible	Substantial or total loss of operation, 25% loss of budgeted operating profit/listed assets	Very considerable penalties and prosecutions. Multiple law suits and jail terms	International impact – International public concern	Biophysical Environment: Resulting in structural and functional changes at the population level to an extent which could potentially result in severe changes at the community and ecosystem levels, or resulting adverse effects occur regionally and will take more than 10 years to reverse. Human Environment: Adverse effects would result in changes beyond historical norms and present a major management challenge. One or more fatalities may occur.

Figure 6.4-3: Determination of Consequence

Once the risks have been classified and prioritized, a plan to address the most significant hazards will be developed by all operational areas prior to Construction, and Operation phases starting.

In addition, each department will create a list of training needs, a list of critical tasks to be observed and a list of potential hazards to be shared with the workers.

6.4.1.2 Formal Risk Assessment Revisions

The formal process of identification, assessment and risk control will be reviewed and revised (if required) at least every three (3) years, but if required, it may be done more frequently.

6.4.2 Field Level Risk Assessments

Formal Risk Assessments are an important part of understanding hazards and to implementing appropriate safety measures, however, daily risk assessments are required in each worker's area of operation. This is done using Field Level Risk Assessments that must be completed by all employees and contractors prior to work being started daily, and whenever the conditions, workplace and/or tasks significantly change from previous assessments.

For the Project, there are two (2) Field Level Risk Assessment tools that will be used.

- ▶ Stop, Look, Assess, Manage (SLAM) cards; and
- ▶ Job Risk Analysis (JRA).

6.4.2.1 Stop, Look, Assess, and Manage (SLAM)

At the beginning of every shift, a behavioural based safety program is instituted by every employee by completing a SLAM card for their area of work. An example SLAM card is shown in **Figure 6.4-4** below. If a hazard is identified, it will be noted on the SLAM card, and the hazard rectified, using the assistance of a Supervisor if needed. If a hazard is identified during this process that cannot be managed, a JRA needs to be completed with a Supervisor. A typical **JRA Form** is provided in **Appendix 13.13-C**. SLAMs and JRAs are to be kept on file for a minimum of three (3) years.

SLAM Stop, Look, Assess, Manage			
NAME:		DATE:	
POSITION:		TIME:	
WORKPLACE:		SHIFT:	
CHECK MARK IF HAZARD IS PRESENT	HAZARD	CAN I MANAGE THE HAZARD?	
		YES	NO
	Can I be caught in, on or between anything?		
	Can I strain or overexert myself?		
	Does anything need to be isolated or tested?		
	Can I encounter something that may harm me like heat, gas, fumes, or electricity?		
	Can I damage any equipment?		
	Can I fall more than 1.9 metres?		
	Can I slip or trip on anything?		
	Is there a chance I could spill or pollute something?		
	Can something fall on me or strike me?		
	Do I need to communicate to my surrounding workmates the risks associated with this task?		
	Could there be any uncontrolled movements?		
	Am I using any substances that may be harmful?		
	Do I need additional training qualifications to perform this task?		
	Do I need additional authorizations to perform this task?		
	Am I certain that regulatory and stakeholder approvals are in place for the action about to take place?		
	Is this a change to the approved process, procedure, or design?		
WHERE HAZARDS ARE MANAGED, LIST THEM BELOW. IF YOU CHECKED NO TO MANAGING A HAZARD, PLEASE COMPLETE A Job Risk Analysis (JRA) .			
Hazard	Control	Worker sign-off	Supervisor sign-off
IF a DIAGRAM is needed, please complete it on back of this SLAM card.			

Figure 6.4-4: Stop, Look, Assess, Manage (SLAM) card

6.4.3 Safety Interactions

The Safety Interaction is an important part of the OHSP for the Project. A Safety Interaction is usually done by a Supervisor with an employee in a work area, or by the OHSC with an employee, but any employee may initiate a Safety Interaction if they have a question or concern about the health or safety of a coworker.

To meet the need for due diligence, the Supervisor must take immediate action on all situations that could endanger the health or safety of employees. In other words, "immediacy" must be used to correct outstanding situations, and it must involve the employees. Safety Interactions are to be kept on file for three (3) years.

An example of the Safety Interaction Form is provided in **Figure 6.4-5** and involves the following steps:

- ▶ greeting;
- ▶ inspection;
- ▶ planning;
- ▶ decision;
- ▶ execution; and
- ▶ worker's comments.

SAFETY INTERACTION		 TELKWA COAL LIMITED
Worker:	Date:	
Workplace:	Supervisor:	
Work Plan:	CHECK IF SAFE	CHECK IF CAN BE IMPROVED
ITEMS to ASSESS		
INITIAL ACTIONS		
Eyes/mind on task		
Not rushing		
Balance, traction, grip, slips		
PROCEDURES and STANDARDS		
Available, accurate, understood		
Followed		
Good housekeeping		
TOOLS and EQUIPMENT		
Pre-use inspection		
Correct for task		
Safe use		
IMMEDIATE HAZARD		
Body position (struck by, caught, falling, temp extremes, electricity, inhaling)		
Personal Protective Equipment (PPE)		
Critical procedures (lockout, trenching, confined space, working at heights)		
ERGONOMICS		
Lifting, bending, twisting		
Repetitive motion		
Reaching, pulling, pushing		
Standing, sitting, kneeling		
Comfortable vs awkward		
OTHER HAZARDS OBSERVED		
Decision:	Cleared for work	Not cleared for work

Figure 6.4-5: Safety Interaction Form

6.4.3.1.1 Greeting (Check-in)

The Greeting step allows the Supervisor to discuss with a worker the tasks to be done during the day, list the equipment and tools needed, check the understanding and above all, encourage workers to have "a safety minded attitude all the time", followed by a talk about known abnormal conditions reported by the previous shift and the hazards they may encounter during the day.

6.4.3.1.2 Inspection

The Inspection step enables workers and Supervisors to inspect the access to the workplace(s), tools, or equipment to detect any hazards that could lead to an incident in the short, medium, and/or long term. It also allows the elimination and/or mitigation and/or identification of alternatives for any hazards discovered. Inspection is the most important phase of the safety interaction, because at this stage, if we take the time to inspect and correct the deficiencies found, the hazards will be minimized or even eliminated. The Supervisor fills out the Safety Interaction Form noting if there is anything that is a hazard or could be improved.

6.4.3.1.3 Planning

The Planning step involves the review of and modification of the employee's Work Plan as necessary to address any hazards discovered during the Inspection phase, prior to work continuing. The day's tasks are planned with the employee, including identifying how the task will be done, and what tools and/or equipment are to be used. The most important part is to identify the specific risks that could be encountered and decide how to control them.

6.4.3.1.4 Decision

The Decision step is when the Supervisor gives agreement to do the task as planned and the worker is "cleared for work" or "not cleared for work". Before giving the agreement, it must be made certain that the employee understood and agrees with the Work Plan, that the workplace is up to standard, the tools and equipment are in good condition, that the hazards have been identified and controlled, that they have the training to accomplish the task, and then the Supervisor will give the authorization to go ahead with/continue the work.

6.4.3.1.5 Execution

The Execution step involves accomplishing the work as agreed in the Work Plan; however, workers must remember to always be vigilant because if conditions change during the execution of work, the steps of the Safety Interaction may have to be repeated.

6.4.3.1.6 Worker's Comments

Workers must make any relevant comments on the Safety Interaction Card. Reviewing worker's comments (at end of shift) is an extremely important part of communication for the incoming shift. This allows workers to report any anomalies/deficiencies observed during their shift which could affect the health and safety of other workers. Workers will also use this to report broken equipment, missing material, etc.

6.5 General Site Safety Rules and Programs

6.5.1 General Site Safety Rules

TCL understands that up to approximately 80 percent (%) of all incidents are related to a few specific work functions. The procedures provided in **Appendix 13.13-D General Safety Rules and Critical Procedures** are designed to explain how TCL will operate safely while conducting tasks associated with these work areas with the goal of eliminating incidents associated with these work functions.

To reduce incidents and improve the overall safety culture at the Project; the following general site safety rules are to be followed:

- ▶ Wear appropriate PPE for the task at hand;
- ▶ Be fit for duty, where fit for duty means being in a physical, mental, and emotional state which enables the employee to perform the essential tasks of their work assignment in a manner which does NOT threaten the safety or health of oneself, coworkers, property, the environment, or the public at large;
- ▶ Use appropriate equipment to carry out lifting and mechanical handling;
- ▶ Ensure you are protected when working at heights by following all working at heights requirements;
- ▶ Follow energy and machinery isolation requirements (Lock Out and Tag Out);
- ▶ Follow confined space requirements, and do not enter a confined space without a valid permit and training;
- ▶ Follow procedures for working around and/or on waterbodies;
- ▶ Follow rules related to chemicals and hazardous substances;
- ▶ Operate motor vehicles in a safe manner and follow mobile equipment and light vehicle driving requirements;
- ▶ Obtain a Permit prior to commencing any Hot Work;
- ▶ Always maintain good housekeeping;
- ▶ Follow the **EMP** if working with explosives; and
- ▶ Follow all management plans (see **5**).applicable to the work being done.

6.5.2 Site Induction Program

6.5.2.1 Emergency Measures Induction

All new employees and contractors arriving at the Minesite for the first time who will be onsite for more than 15 days receives an Emergency Measures Induction. This induction occurs on the same day as the person arrives, and is delivered by a Health, Safety, and Human Resources Department representative.

Emergency Measures Induction includes:

- ▶ Fire Alarm and Evacuation Route;
- ▶ Muster Stations and how to access them, including being physically shown locations;

- ▶ How to initiate an Emergency Call by radio and/or telephone; and
- ▶ What to do if you get injured and how to access First Aid.

6.5.2.2 Mandatory General Induction

Mandatory General Induction includes an overview from departments including Health, Safety, and Human Resources, Security, Environment, and the Emergency Response Team (ERT) Captain. A representative of each of these groups will give an overview of what personnel can expect from them, rules to follow, expectations etc.

All employees and contractors (who will be onsite for longer than 5 days within a 12-month period) will receive this training prior to arriving at the Minesite. The following topics are included during the Mandatory General Induction at TCL.

- ▶ no smoking policy - no smoking or vaping onsite;
- ▶ dry site – no drugs or alcohol permitted onsite;
- ▶ food and wildlife issues – no food outside and refuse management;
- ▶ Workplace Hazardous Materials Information System (WHMIS);
- ▶ fire extinguisher safety and use;
- ▶ safety items such as using personnel doors instead of large garage doors to access buildings;
- ▶ stairs and ladder safety;
- ▶ danger/caution tape rules and respect for such;
- ▶ tagging in or signing in to access the CPP, and the CPP evacuation procedures;
- ▶ PPE zones and requirements for site;
- ▶ safe driving onsite;
- ▶ JRA (Appendix 13.13-C);
- ▶ SLAM cards;
- ▶ emergency response basics including Muster Points;
- ▶ how to access Security onsite (lost keys, etc.);
- ▶ blasting in open pit including noise and shaking;
- ▶ accessing and rules for use for wireless internet services;
- ▶ Bear Aware;
- ▶ H₂S Alive awareness;
- ▶ spill response and reporting; and
- ▶ environmental awareness.

6.5.2.3 Visitor Induction

Visitors to the Project are always under the direction of a TCL employee, therefore training requirements are minimal. A visitor is defined as someone who is at the Project for less than 5 days within a 12-month period. The following topics will be reviewed with all visitors:

- ▶ Dangerous Occurrence, Near Miss, Incident, and Emergency Reporting;
- ▶ basic emergency response including going to Muster Points; and
- ▶ corporate policies, as needed.

6.5.2.4 Other Training Provided

The following training is provided by TCL on an on-going basis and/or upon request. This list is not all inclusive but represents some of the more common types of training that occur:

- ▶ Minesite Driver's License;
- ▶ aerial work platform;
- ▶ backhoe operation;
- ▶ forklift operation;
- ▶ telehandler operation;
- ▶ overhead crane operation;
- ▶ Lock Out and Tag Out safety;
- ▶ fall protection;
- ▶ confined space;
- ▶ skid steer;
- ▶ respiratory protection;
- ▶ standard First Aid, cardiopulmonary resuscitation (CPR), oxygen therapy; and
- ▶ CPP orientation.

6.5.3 Workplace Hazardous Materials Information System (WHMIS)

6.5.3.1 Workplace Hazardous Materials Information System (WHMIS) Training

All new employees and contractors will receive WHMIS training during their induction at the Project Minesite.

WHMIS training is mandatory for all employees and contractors even if the employee or contractor has received it in the past. Refresher training is available on an annual basis in the form of a safety meeting huddle and/or as requested.

6.5.3.2 Safety Data Sheet (SDS)

A Product Review Form is used for all new products coming to site. This form is filled out by the department requesting the new product.

The Safety Data Sheet (SDS) is then attached to the Product Review Form, and is sent to the Health, Safety, and Human Resources Department for filing and distribution.

The Product Review Form and SDS are reviewed and signed off by:

- ▶ Health, Safety, and Human Resources Superintendent or delegate;

- ▶ Environmental Coordinator;
- ▶ OHSC representative; and
- ▶ Purchasing Department.

Then the SDS is entered into an online service by the Health, Safety, and Human Resources Department. From this point on, the online service is responsible for ensuring that the most up-to-date SDS for products are kept on file.

Hard copies of SDS are kept on file in the First Aid Room and the Maintenance Facility. Please see additional information in the **CMSTHP**.

6.5.4 General Site Personal Protective Equipment (PPE) Requirements

TCL has adopted a minimum requirement for PPE onsite. This minimum requirement can be modified and increased through a risk assessment of hazards. A list of PPE required to be worn onsite, outside of office environments, all need to be CSA certified where required, and are as follows:

- ▶ hard hat;
- ▶ steel toe boots; and
- ▶ reflective clothing.

In addition, some work areas may also require the use of:

- ▶ hearing protection;
- ▶ safety glasses; and
- ▶ gloves.

Each work task will have a specific list of required PPE, as determined from a risk assessment which may result in specialized PPE requirements, such as those required for confined spaces or dealing with corrosive chemicals. All required PPE will be provided by TCL at no cost to the employee, within the limits prescribed by the employee PPE provisions protocol to be developed prior to the Construction Phase. Contractors will be required to provide their own PPE to the standards set by TCL.

6.5.5 Mine Dry, Lunchrooms, and Sanitary Conveniences

TCL is planning the following items for the convenience of Project personnel:

- ▶ mine dry;
- ▶ lunchroom;
- ▶ portable washroom and breakroom; and
- ▶ potable water drinking facilities.

6.5.5.1 Mine Dry and Lunchroom

TCL will be constructing a mine dry early in the Project to provide the following:

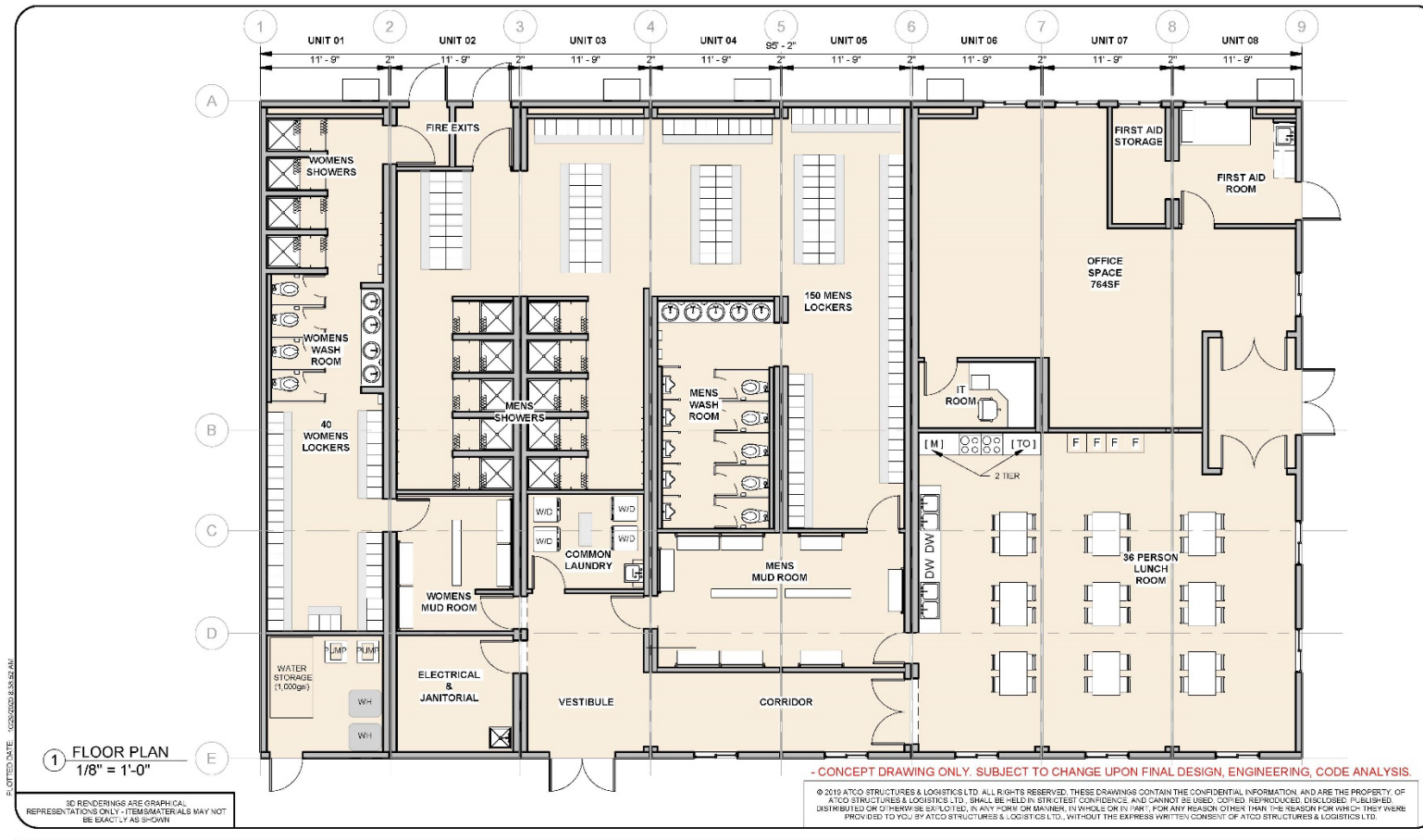
- ▶ washroom facilities, including toilets and sinks;

- ▶ showers, and
- ▶ lockers.

In this building there will be a combination lunchroom and meeting room. These facilities have a greater capacity than the maximum envisioned work force for the operation to allow for any short-term peaks in personnel. This will be a turnkey modular building structure provided by one of the many companies that provide these, such as ATCO.

During the initial Construction Phase, until the mine dry and lunchroom is ready, portable washroom facilities and lunchroom will be provided, however no showers or lockers will be available.

Figure 6.5-1 below provides a plan view drawing for the proposed building.



DRAWN BY: NM
DATE: 2020-10-29
DESCRIPTION: ISSUED FOR REVIEW

TELKWA COAL
ADMINISTRATION BUILDING

SALES DRAWING
NOT FOR CONSTRUCTION

2020-085 R2 BD-01 REV. B

Figure 6.5-1: Mine Dry, Lunchroom and Office Building

6.5.5.2 Portable Washroom and Breakroom

TCL will have a small washroom and breakroom facility provided near the fuel islands to allow use by personnel while their equipment is being serviced. This will be a turnkey modular style building and will have tanks for water and sewage storage that will be trucked to the Sewage Treatment Plant.

6.5.5.3 Potable Water Drinking Facilities

The water in the Mine Dry will be potable water so that the workforce can shower. Personnel can also fill up water containers at any of the sinks in either the locker area and/or within the lunchroom. Furthermore, portable bottled water dispensing stations will be provided in the following areas throughout the operation, as listed below:

- ▶ Administration Office;
- ▶ CPP;
- ▶ Maintenance Facility;
- ▶ Coal Laboratory; and
- ▶ Portable washroom and lunchroom.

6.5.6 Health and Wellness Program

The Health and Wellness Program is part of the OHSP. It identifies some hazards associated with the physical or mental health of workers and recommends a series of actions to protect all employees against the hazards in their work tasks or their environment.

TCL will encourage its workforce to participate in the health spending account for eligible programs such as organized sports leagues, gym memberships, golf, and ski memberships. Furthermore, the company will provide learning opportunities for:

- ▶ nutrition;
- ▶ sleep management; and
- ▶ physical fitness.

TCL will have an Employee and Family Assistance Program to assist with the following:

- ▶ addictions;
- ▶ mental health; and
- ▶ financial planning.

6.5.6.1 Review of Health and Wellness Program

To audit the Health and Wellness Program, an annual evaluation of the program is made by the Health, Safety, and Human Resources Department. Any request for modification, addition and revision should be made to the Health, Safety and Human Resources Department. Further details about the Health and Wellness Program are provided in the **Socio-economic Management Plan (S13.0-C16) (SEMP)**.

6.5.7 Medical Surveillance Program

6.5.7.1 Medical Pre-employment

Prior to employment with TCL, each candidate must have a full medical examination and a hearing, lung capacity, and vision test. As part of this medical, a full fitness test will be performed testing the candidate's ability to complete the job's physical and mental requirements. The pre-employment medical ensures that the candidate is fit for the job for which they are hired.

When hired, the new employee or contractor completes an induction session (e-learning) with different modules. A TCL representative explains the programs, such as what to do in case of an incident or sickness. Each worker will have a confidential medical record kept locked up in the First Aid Room. Only authorized personnel, and the Health, Safety, and Human Resources Superintendent will have access to the files. In addition, a physician will meet with workers upon their request.

Employees are required to complete this full medical examination every three (3) to five (5) years when employed at TCL depending on the employee's job classification.

6.5.7.2 Monitoring During an Illness or Injury

During a prolonged absence from work, a TCL representative is responsible for systematically monitoring the health and wellness of the worker. If the absence lasts more than three (3) days, the procedure for insurance is undertaken jointly with the worker and the Health, Safety, and Human Resources Superintendent. For absences due to an Incident at work, the case is managed with WorkSafe BC.

During a medical visit following an Incident, the worker must contact a Supervisor to transmit the doctor's decision if the doctor has allowed the injured worker to be assigned to light and/or modified-duty work as soon as possible using the form provided by the company.

To facilitate rehabilitation, the worker is assigned to modified and/or light-duty work until their injury is healed. The Supervisor is notified of employees' work limitations and/or restrictions as well as the probable date of return to regular work. In the First Aid Room, each employee has a separate file for personal sickness and for work related incidents.

An employee can only return to work they did prior to the injury and/or illness once they have been deemed fit for duty, and TCL paperwork has been provided to both the employees direct Supervisor, work area Superintendent, and the Health, Safety, and Human Resources Superintendent. Prior to starting work, the employee will also have to go through a complete medical to establish a new baseline.

6.5.7.3 Medical Exam When Leaving the Company

Every employee leaving the company shall, before their departure, have a medical exam including a hearing and vision test if their last test date exceeds twelve (12) months, and be referred to a specialist if required if TCL's job occupation required such. This information will be kept with their original test results.

6.5.7.4 Basic Health Monitoring/Surveillance During Employment

As part of the Medical Monitoring Program, basic health information for all personnel will also be kept on file consisting of items like:

- ▶ blood pressure and related parameters;

- ▶ vaccinations;
- ▶ alcohol and drug use;
- ▶ smoking;
- ▶ weight;
- ▶ flexibility;
- ▶ medical screening for various cancers; and
- ▶ etc.

6.5.8 Smoking, Vaping, Drug, and Alcohol Policy

TCL has established a "no drug, no smoking, no vaping, no alcohol" policy at the Project site to ensure provision of a safe workplace for all personnel and anyone else that may be affected by the conduct of those personnel. Anyone found in the possession of any non-prescription drug or alcohol on the Project site is subject to immediate dismissal.

All employees of TCL or its contractors are required to disclose the use of prescription drugs which may impair the workers ability to perform assigned duties safety.

Impairment in the workplace can be dangerous, therefore TCL will not tolerate any personnel (includes management, Supervisors, direct employees, contractors, and their employees) who report to work under the influence of any substance that could affect job performance and cause risk of injury to themselves or others. Any personnel who do not adhere to this policy may be subject to immediate dismissal.

In the event of a Dangerous Occurrence, Near Miss, Incident or Emergency (see **Mine Emergency Response Plan (S13.0-C9) (MERP)** where there are reasonable grounds to believe that personnel may have been unable to work in a safe manner because of the use of alcohol and/or drugs, the personnel may be requested to submit to an alcohol and drug test. The Supervisor must provide the personnel with the reason for such a request.

It is the responsibility of all personnel to ensure that if a fellow employee or contractor's judgment has been impaired, that the Supervisor is notified. This is required to effectively deal with the situation in the most appropriate manner before a Dangerous Occurrence happens.

Remember: TCL has a zero-tolerance drug, smoking, vaping, and alcohol possession and use policy at the Project, and this policy is in effect throughout the Minesite and Project Area.

6.5.9 Workplace Inspection Program

The objectives of workplace inspections are to:

- ▶ eliminate incidents, improve quality of life, increase productivity and efficiency;
- ▶ protect the health, safety, and integrity of workers;
- ▶ identify and correct the situations and conditions that may cause loss;
- ▶ identify non-compliances with the standards in the work areas; and
- ▶ develop appropriate remedial action following non-compliances and ensure follow-up.

There are various types of workplace inspections, including but not limited to general, specific, and daily.

6.5.9.1 General Planned Inspection

A General Planned Inspection involves:

- ▶ systematically inspecting one or more areas to check the compliance of the area, equipment, and work environment;
- ▶ closely considering the working methods to detect dangerous actions or methods; and
- ▶ ensuring good housekeeping is evident.

6.5.9.2 Specific Inspections

A Specific Inspection involves checking one (1) specific aspect of operations as part of or following investigation and analysis of an incident or emergency, a specific request of the OHSC, or any other situation with a potential for loss.

6.5.9.3 Daily Inspections

A Daily Inspection involves an inspection of access, workplaces, tools, equipment using the SLAM card (see **6.4.2.1**) to detect and correct with immediacy any substandard conditions. This inspection is to be done by the worker and Supervisor.

6.5.9.3.1 Daily Pre-use Inspection of Mobile Equipment

All users of mobile equipment must check compliance of their mobile equipment and complete the Equipment Pre-operation Card associated with the equipment at the beginning of each shift to ensure that equipment is compliant, and it creates no risk to the health and safety of the operator and/or others. Once completed, the cards are stored and kept for a period of one (1) year.

6.5.9.4 Frequency of Inspections

- ▶ Mine Manager: will plan and participate in General Planned Inspections to cover the surface operations as needed (2) times per year, and will conduct Specific Inspections as needed;
- ▶ Department (Mine/Plant) Superintendent: must attend a minimum of four (4) General Planned Inspections with the Supervisors of their department, or area of responsibility, and will conduct Specific Inspections as needed;
- ▶ Plant Supervisor, Maintenance Supervisor, and Mine Supervisor: must attend a minimum of four (4) General Planned Inspections with the Supervisors, and one (1) General Planned Inspection per month in their area of responsibility, and will conduct Specific Inspections as needed;
- ▶ Senior Mine Engineer and Mine Geologist: will conduct Specific Inspections together to assess pit wall stability and communicate the information to the Mine Superintendent and/or designate (Mine Supervisor) using a standardized report;
- ▶ Supervisor: will conduct Daily Inspections in their work area with workers (using SLAM and Safety Interaction) and occasionally with a member of the Health, Safety, and Human Resources Department. Monthly, the Supervisor and an OHSC member will conduct (1) General Planned Inspection each work area. The Supervisor will also conduct Specific Inspections as needed;
- ▶ Health, Safety, and Human Resources Superintendent: will conduct a minimum of (2) General Planned Inspections per month in different areas of the site, and will conduct Specific Inspections as needed; and

- ▶ OHSC members: participate in monthly inspections with each level of the management team named above in their area of responsibility. As legislated in the Mines Regulation, BC Reg 126/94, section 3.19 – 3.22, the OHSC must conduct one (1) inspection per month. OHSC members will also conduct Specific Inspections as needed.

6.5.9.5 Method of Inspection

To be effective, the people responsible for the inspection must be prepared, organized, and have the right tools. Four (4) steps are necessary to ensure a quality inspection:

1. Plan the inspection;
2. Check the workplace;
3. Act to implement corrective actions; and
4. Report using Inspection Report.

6.5.9.6 Objectives of the Inspection Report

Daily Inspections use the SLAM card. All other inspections use the Inspection Report which has the following objectives:

- ▶ Identify inspected items as either compliant or non-compliant, with non-compliance based on specific regulatory or TCL SPP, etc.;
- ▶ Identify the sector and/or equipment inspected;
- ▶ Classify risks for each observed deviation;
- ▶ Determine corrective action;
- ▶ Identify a person responsible for each corrective action;
- ▶ Determine a timeframe; and
- ▶ Indicate the number of the work order and/or completed formulas to apply corrective measures.

6.5.9.7 Distribution of the Inspection Reports

Once the Inspection Report is completed, participants in the inspection must send the original to the Health, Safety, and Human Resources Department. A copy of the report must be sent to the Supervisor of the inspected department and to the Mine Superintendent.

When the substandard items have been corrected, the Supervisor will send a copy of the updated report, with notations about the corrective actions completed to the Superintendent of the inspected work area, and to the Health, Safety, and Human Resources Superintendent.

6.5.9.8 Follow-up and Corrective Measures

The responsibility to follow-up on the corrective measure should rest with those who conducted the inspection. The work area Supervisor will make certain that the follow-up is completed.

The Health, Safety, and Human Resources Superintendent will produce a report on the frequency of inspections, the trends discovered, and the type and number of corrective actions that were completed

every month. The report will be sent to the OHSC for review. **Table 6.5-1** below provides the classification and timeframe for corrective measures.

Table 6.5-1: Classification and Timeframe for the Corrective Measures

Severity	Timeframe for Temporary Corrective Actions	Timeframe for Permanent Corrective Actions
Action or condition that could have resulted in permanent disability, fatality, loss of a limb; damages that created a loss of production and/or material exceeding \$50,000	Immediately	- Started immediately - Corrections completed within 24 hours following the report - Note: if corrections cannot be completed within 24 hours, a plan must be put in place to ensure the health and safety of all concerned.
Action or condition that could cause a temporary disability with a duration of more than the day of the incident; damages that created a loss of production and/or material exceeding \$10,000 but less than \$50,000	Immediately	- Started immediately - Corrections completed within three (3) days (72 hours) following the report
Action or condition that could cause a minor incident necessitating First Aid treatment and or medical assistance without a loss of time; damages that created a loss of production and/or material less than \$10,000	Within 24 hours	- Started immediately - Repairs completed within seven (7) days following the report
Action or condition that is considered a housekeeping item and if left unattended or not taken care of could result in trip and fall or other injury or damage to equipment or environment.	Within 24 hours	- Started immediately and maintained continuously - No time limit to fix, repair or clean up - An on-going effort is required to maintain good housekeeping.

Note: \$=Canadian dollar

6.5.10 Workplace Monitoring Program (Industrial Hygiene Program)

TCL will develop a Workplace Monitoring Program in collaboration with Total Safety once the Minesite has received permit approvals and construction has started. These will be shared with regulatory agencies as required and will be a future Appendix of this document.

6.5.11 Safe Work Procedures and Written Programs

In addition to the programs outlined in this OHSP, the **EMS** and its related management plans form a collection of policies and procedures for the safe operation of the Project. After permitting, additional stand-alone procedures and programs will be developed for all activities and hazards identified for the Project. These procedures will be included as an appendix of a future version this OHSP.

The following provides a high-level listing of some pertinent programs. These will be detailed further after permitting and stand-alone procedures will be developed for all activities and hazards identified for the Project. These procedures will be included as an appendix of a future version this OHSP.

- ▶ Management of Cutting and Welding Activities;
- ▶ Vision Protection Program;
- ▶ Hearing Conservation Program;
- ▶ Respiratory Protection Program;
- ▶ Lock Out and Tag Out Program;
- ▶ Confined Spaces Program and Inventory;
- ▶ Fall and Trip Protection;
- ▶ Exposure Control Plans (i.e., for silica);
- ▶ Working Around Water bodies;
- ▶ Lifting;
- ▶ Traffic Management Program;
- ▶ Mobile Equipment;
- ▶ Maintenance Area;
- ▶ Mining; and
- ▶ Coal Processing.

6.5.12 First Aid and Medical Services Program

6.5.12.1 Emergency Wash Facilities

Two (2) types of emergency wash facilities will be available at the Minesite for the Project:

1. eye wash; and
2. showers.

Eye wash stations have been included in the CPP, Maintenance Facility, and Coal Laboratory located adjacent to the CPP

Based on the completed risk assessment and likely work activities, emergency showers have been included in the Potable Water Treatment Plant. These are standalone facilities with their own built in potable water source that is discharged to the unit through gravity for use by personnel after which they must be recharged with potable water. Potable water will be placed into the unit at reasonable temperature and as these units will be placed inside, it is expected the water temperature will be kept at the correct temperature. The water is directed to a nearby floor drain that goes into a tank for collection and transfer into the Sewage Treatment Plant or for offsite disposal if necessary.

6.5.12.2 First Aid Room

The First Aid Room is in the main Administration Building. The following equipment is available in the First Aid Room:

- ▶ oxygen and defibrillators;
- ▶ examination table;

- ▶ eye wash station;
- ▶ scale;
- ▶ bandages;
- ▶ medications;
- ▶ burn kits;
- ▶ intravenous (IV) solution;
- ▶ SDS;
- ▶ First Aid equipment, including Epi Pens;
- ▶ heart monitoring equipment;
- ▶ trauma supplies; and
- ▶ multiple casualty equipment.

As per requirement of Part 3.6.1 of the Code, TCL will provide and maintain First Aid supplies and services required by WorkSafeBC.

The fully equipped First Aid Room will be adjacent to the office portion of the Administration Building. The First Aid Room and equipment will be clearly identified and reserved for the treatment of injured personnel. The Occupational First Aid Attendant (OFA) can always be reached by radio, in case of emergency.

Any work site that requires specialized equipment for the rescue or transport of injured personnel will have such equipment clearly identified. It will be properly stored to prevent damage or deterioration. Clear access to this equipment will be maintained, and a regular inspection program will be established to check for deficiencies.

6.5.12.3 *Emergency First Aid*

First Aid, especially in an emergency, is provided by anyone who is qualified to give First Aid. In addition, the OFA Level 3 personnel provide higher level of treatment when necessary. They can direct the patient to specialized care if necessary; however, several people onsite have been trained and can give First Aid. The injured employee if/when transported must be accompanied by an OFA Level 3 person in the ambulance.

6.5.12.4 *Trained First Aid and Emergency Response Personnel*

First Aid training is provided to enough workers to ensure there are always qualified people able to respond. To ensure the continuous presence of trained personnel on all shifts, all Supervisors are trained for all areas of the Minesite. Furthermore, all ERT members received First Aid training. A minimum of four (4) people trained in emergency response are always onsite and are trained to face every type of emergency. In addition, some ERT members have advanced First Aid training and/or specialized training in firefighting or hazardous materials. **Table 6.5-7** below provides the minimum First Aid requirements for mines in British Columbia (BC).

Table 6.5-2: First Aid Personnel, Equipment and Transportation Requirements

Number of Workers per Shift	Supplies, Equipment, and Facility	Level of Occupational First Aid (OFA) Certification for Attendant	Transportation
1	Personal First Aid kit	Not applicable (n/a)	n/a
2 to 5	Level 1 First Aid kit	OFA Level 1	n/a
6 to 10	Level 1 First Aid kit	OFA Level 1 with Transportation Endorsement	ETV
	Emergency Transport Vehicle (ETV) and equipment/supplies	n/a	n/a
11 to 30	Level 3 First Aid kit	OFA Level 3	ETV
	Dressing station	n/a	n/a
	ETV and equipment	n/a	n/a
31 to 50	Level 3 First Aid kit	OFA Level 3	ETV
	First Aid Room	n/a	n/a
	ETV and equipment	n/a	n/a
51 to 200	Level 3 First Aid kit	OFA Level 3	Industrial Ambulance
	First Aid Room	n/a	n/a
	Industrial Ambulance Equipment	n/a	n/a
Greater than 200	Level 3 First Aid kit	2 attendants with OFA Level 3	Industrial Ambulance
	First Aid Room	n/a	n/a
	Industrial Ambulance Equipment	n/a	n/a

6.5.12.5 Emergency First Aid Kits

Emergency First Aid kits are available in all Supervisor vehicles and workplaces at different locations onsite. The contents are guided by legislative requirements. Casualty First Aid supplies are in the Mine Rescue Building. TCL's ERTs are equipped to handle most emergencies that can occur onsite. Furthermore, TCL will negotiate mutual response agreements with the Village of Telkwa, and the Town of Smithers Fire Department and local search and rescue groups.

6.5.12.6 First Aid Treatment Actions

Any worker who sustains an injury or illness that is or may be work related, shall report for treatment as soon as possible. The actions required are based on the type of situation/injury and have been grouped into three (3) scenarios:

1. If you suffer a minor injury that requires First Aid, the first three (3) action items listed in **6.5.11.6.1** are required;
2. If you suffer a serious injury and are unable to continue work, all five (5) action items listed in **6.5.11.6.1** are required; and,

3. If you suffer a serious injury and will not return to work the next day or for a longer period, all five (5) action items listed in **6.5.11.6.1** are required.

6.5.12.6.1 Action Items

The following five (5) action items are based on the injury situations noted above:

1. Report injury to First Aid Attendant;
2. Ensure you receive proper treatment;
3. Document in First Aid Record Book;
4. Notify Supervisor, who will initiate an investigation; and
5. Complete required paperwork and forms.

6.5.12.6.2 Priority Action Approach

The following assessment will be necessary during any medical emergency whether it is minor or life-threatening. The following simplified Priority Action Approach is to be used.

1. **Scene Assessment** – Mechanism of Injury? Hazards? Environment?
 - 1.1. First: Observe for bleeding/deformities/eyes
 - 1.2. Second: Observe the skin/level of conscious - moving/verbal
 - 1.3. Third: Spinal Precautions
 - 1.4. Fourth: Airways – With C-spine: Open/Clear - manually stabilize head
2. **Breathing:** Rate and Quality
3. **Circulation:** Radial/carotid, skin - colour, temperature, and condition
 - 3.1. Fifth: Rapid Body Search (RBS) - Rapid/Through Life Threatening
 - 3.2. Sixth: Warmth - Blankets/Reassurance/Support Injuries
4. **Transport Decision:** Yes - call for an ambulance; OR provide First Aid onsite
5. **Communicate to Emergency Services:** Initiate Emergency Call (See **MERP**), or call 911
6. **Secondary Assessment:** Vitals, history, head-to-toe evaluation
7. **Definitive Treatment:** Ice, dressings, splinting, wound cleaning, etc.

Typical First Aid scenarios that may be encountered during operations are as follows, so all personnel should be prepared for these and know how to treat them:

- ▶ bleeding from cuts and abrasions;
- ▶ slips, trips, and fall injuries such as strains, sprains, and broken bones (fractures) or concussions; and
- ▶ burns and allergic reactions.

6.5.12.6.3 *Procedures to Follow in Case of a Serious Incident or Fatality*

The following basic procedures should be followed in the event of a serious incident requiring First Aid treatment, or if there is a fatality. It is imperative that you ensure there is **no** further danger to yourself or to the patient before starting any First Aid treatment.

- ▶ Follow the appropriate procedure for making an Emergency Notification Call;
- ▶ Notify the receiver of the call that you have a medical emergency – STAY CALM;
- ▶ All work at the area of the incident must cease, and all equipment is to be shut off and made secure, except for those required to assist in the emergency;
- ▶ ENSURE THAT THE INCIDENT SCENE IS SAFE TO APPROACH – If not, report what you see; and
- ▶ Follow Emergency Evacuation Procedures that have been established for your area of operations, if needed.

If you can approach the injured person because the scene is **safe**, report and then provide First Aid to the best of your abilities until you are relieved by someone with equal or greater training.

REMEMBER: Call for Help, Stop or Control Bleeding, Restore Breathing, and Avoid Panic. Do no more than is necessary until help arrives.

If not in danger, **DO NOT MOVE** the injured patient, but provide the best available First Aid treatment that does not exceed your level of training.

Ensure that, except for the purpose of saving a life or relieving human suffering, the scene of the incident or occurrence is not disturbed without appropriate approvals as required by Part 1.7.1 (2) of the Code.

If the injury is an obvious **fatality**, immediately contact the Mine Manager, who in turn will contact the appropriate authorities (Royal Canadian Mounted Police [RCMP] and the Chief Inspector of Mines). Every serious incident must be reported immediately to the Mine Manager by the First Aid Attendant on duty after requesting an ambulance. The Mine Manager will then contact BC MEMLI, who will advise whether the Ministry will investigate the incident.

More details regarding handling of emergencies are discussed in the **MERP**.

6.5.12.7 *Incident Notification and Incident Investigation Reports*

Within 48 hours of most incidents or emergencies, a full investigation is required. In case of Incident or Emergency (see Level Assessments in **MERP**), an Incident Notification Report and an Incident Investigation Report are completed by the Supervisor with the employee. A sample of these reports is provided in **Appendix 13.13-F Incident Notification and Incident Investigation Report Forms**. Both reports are forwarded to the Health, Safety, and Human Resources Department. In case of bodily harm that requires medical assistance, the Health, Safety, and Human Resources Department will open a file on the event and if needed, they will fill out the necessary WorkSafe BC claim reports. All medical files are kept locked up in the First Aid Room.

A weekly report is communicated to management and incident statistics are tabulated and communicated monthly to Minesite management and to regulators as needed.

6.5.12.8 Medical Referral/Further Offsite Care

If the injury requires offsite medical aid, it will be the sole responsibility of the OFA Level 3 Attendant on duty to provide Medical Aid Referrals, by making the decision to transport, choice of temporary treatment methods, and the decision to accompany the patient, if necessary. The direct Supervisor is then solely responsible to arrange for the required transportation for the injured worker.

6.5.12.9 Documentation

It is the responsibility of the OFA Level 3 Attendant to complete the proper forms and submit them to the Health, Safety, and Human Resources Superintendent for submission to WorkSafeBC and the Mine Manager. A record of every injury or illness that requires First Aid treatment is kept in the First Aid Record Book. Each record must be signed and dated by the person providing treatment. The First Aid statistics shall be reviewed monthly at a safety meeting to determine trends and recommend corrective action.

6.5.13 Good Housekeeping Program

Good housekeeping is fundamental to a successful safety program, as it goes hand in hand with a safe and efficient operation. Poor housekeeping results in safety hazards, in addition to contributing to a cluttered atmosphere in work areas. Poor housekeeping practices can result in lost tools, equipment, and supplies, contributing to high operating costs. TCL employees and its contractors are to comply with the housekeeping responsibilities and expectations within their area of operation.

All workers at the Project are responsible for and are expected to keep their work areas clean through the following procedures:

- ▶ Monitor all work areas for any buildup of dirt or debris;
- ▶ Keep lockers, change rooms, and lunchrooms always clean;
- ▶ Keep materials and equipment out of walking paths;
- ▶ Clean and return tools and equipment to their proper storage space;
- ▶ Immediately clean up liquids, oil, and grease spills, and then ensure they are covered over with non-slip materials;
- ▶ Discard scrap materials into the designated areas and salvage materials sent to the scrap metal area;
- ▶ Ensure that hoses, cables, slings, and any other materials that may cause a tripping hazard are safely stored when not in use;
- ▶ Ensure clean and dirty rags, cotton waste, paper, lumber scraps, packing materials and other flammable debris are picked up from around benches, corners, and machines, and correctly disposed of after every shift;
- ▶ Dispose of garbage in the proper containers and empty them daily to avoid possible conflicts with wildlife; and
- ▶ Participate in recycling and waste reduction programs for the Project.

6.5.14 Mine Emergency Response Program (MERP)

TCL has a plan for responding to Incidents and Emergencies. Please see the **MERP** for additional information. At the heart of the **MERP** and essential to the OHSP is the role of the ERT. Participation in the ERT is an option for all personnel and is discussed further below.

6.5.14.1 Selection of Candidates

Personnel wanting to become part of TCL's ERT may do so by filling out the application form and submitting it to the Health, Safety, and Human Resources Department. Personnel with previous experience in emergency response, mine rescue, firefighting, ambulance, First Aid, etc. are encouraged to apply.

6.5.14.1.1 Medical Evaluation

Personnel wanting to be an active member of the ERT must undergo and pass a medical evaluation. This medical is conducted by third-party health care providers, and results are sent to the Mine Superintendent who will review and advise accordingly.

6.5.14.1.2 Basic Emergency Response Training

All personnel who have completed and passed their medical evaluation will receive Basic Emergency Response Training. Training is of 40-hour duration and involves:

- ▶ Introduction: principles, requirements, and certification;
- ▶ Emergency Response Operations: emotional stress, personal safety and PPE, team procedures;
- ▶ Mine Gases: recognition, effects and treatment, threshold limit value (TLV), hazards, gases, and charts;
- ▶ Gas Detection and Equipment: introduction, gas detection pumps and tubes, electronic devices;
- ▶ Oxygen Therapy: when, the oxygen unit, safe practices, storage, and handling;
- ▶ Electrical Safety: basic facts and hazards, potential injuries, safe approach and Lock Out and Tag Out;
- ▶ Rescue Rigging: introduction, webbing and rope, equipment, knots;
- ▶ Fire: safety, ignition temperatures, combustion, fire phases, ventilation, fire habits, fire extinguisher, firefighting, and PPE;
- ▶ Respiratory Protective Equipment: introduction, hazards, SCBA, donning, doffing;
- ▶ Rescue Rigging: harnesses, lowering, anchoring, packaging systems and shallow, slope rescue;
- ▶ Special Hazards of Winter Conditions: driving, walking, hypothermia;
- ▶ Rescue Operations: tools, airbags, winching, vehicles, buildings, and cave ins;
- ▶ Scene Assessment and Emergency Command: Emergency Command System, activation, ERT, classifications, scene/hazard assessment/zones;
- ▶ Team Practical Training: fire drill exercise, equipment donning, searching; rescue rigging, repelling; and
- ▶ Final Evaluation and Written Exam: to be taken and passed by all participants.

If the individual does not have First Aid certificates and experience to be a member of TCL's ERT, TCL will provide training for members to obtain the following:

- ▶ Occupational First Aid with Transportation Endorsement, and/or Saint John's Standard First Aid with Transportation Endorsement; and
- ▶ Transportation of Dangerous Goods (TDG).

Upon successful completion of the Emergency Response course, the individual will receive a Certificate from TCL, and will then need to pass the BC Mine Rescue Exam to be allowed to be a member of TCL's ERT.

All TCL ERT members will be eligible for additional compensation if they fulfill the following requirements:

- ▶ attend 90% of scheduled practices and training sessions;
- ▶ keep up required qualifications; and
- ▶ abide by the TCL ERT code of conduct.

TCL will encourage members of the ERT to add to their ability to respond to emergencies by obtaining higher levels of First Aid qualifications such as OFA2, OFA3, paramedic, and nursing designations.

At the present time, TCL uses third-party qualified Mine Rescue/Emergency Response Instructors for training with the goal of having two (2) qualified Instructors as part of the TCL team in the future.

6.5.14.2 *Firefighting*

A fire prevention system will be installed as part of the Mine Infrastructure construction. The fire prevention system will comprise a back-up fire pump installed at the same location as the process water pump. The process water pump and fire protection pump will be installed at the Tenas Control Pond at either the toe of this pond or at the crest. Fire lines will be installed on the property and two (2) fire hydrants will be installed at designated locations to allow for onsite firefighting for all fixed infrastructure. One (1) hydrant will be installed near the CPP, and the other hydrant will be installed near the Maintenance Facility. At both hydrants, a fire protection sea container will be placed overtop to protect the hydrants and store materials like hoses and tools for firefighting. Several fire extinguishers will also be available onsite to assist with firefighting.

All ERT personal will be trained and experienced in firefighting techniques and will be able to use the equipment onsite. All personnel onsite will be trained in the basic use of fire extinguishers and any personnel wishing to get additional training in firefighting will be provided the opportunity to do so. TCL will have an emergency response vehicle that can be used to assist with firefighting activities by transporting equipment and personnel from other areas of the Minesite to where the fire is located.

Lastly, TCL will have mutual aid benefit agreements with groups such as the local Telkwa Fire Department which can be activated for any large-scale site emergency.

6.5.14.3 *Spill Control Procedure*

The following is a very brief procedure for handling spills. Please see the **Fuel Management and Spill Control Plan (S13.0-C7) (FMSCP)** for additional information.

Any person noticing or causing a spill shall:

1. Stop the activity causing the spill;
2. Contain the spill if safe to do so;
3. Contact their Supervisor;
4. Clean up the area using appropriate PPE if necessary;
5. Complete reporting as needed, including Incident Notification and Incident Investigation Reports, and regulatory reporting, if needed.

6.5.15 Wildlife Interaction Procedure

The safety of personnel as it relates to wildlife is addressed in the **WMP**. Interactions may occur in the Project Area in person, or while driving. Wildlife interactions are to be avoided. If personnel find themselves confronted by an animal that poses a safety hazard, such as a bear, they should use their Bear Aware training, and at minimum:

1. Make no sudden moves;
2. Do not provoke the animal;
3. If carrying food, place food on ground in front of you and back away;
4. Find a safe shelter if possible; and
5. Contact Supervisor or make an Emergency Call.

TCL policies include:

1. Beware of animals while driving;
2. Do not feed animals;
3. Do not litter;
4. Properly dispose of your food waste;
5. Report all animal sightings including date, time, specific area, number of animals, etc.
6. Complete **Incident Notification and Incident Investigation Report Forms (Appendix 13.13-F)**, as needed.

6.5.16 Investigation and Analysis Program

The Investigation and Analysis Program aims to provide a clear path of inquiry and assessment of all Incidents and Emergencies including Dangerous Occurrences as defined by the Code. See **MERP** for further information. Specifically, this program will:

- ▶ provide information about events to management;
- ▶ clarify the responsibilities of all concerned parties;
- ▶ ensure the quality of investigation reports and analysis based on criteria established and recognized;
- ▶ identify the immediate and root cause of incidents;
- ▶ recommend preventive and corrective measures following related events;
- ▶ lead to follow-up preventive and corrective measures; and

- ▶ eliminate the hazards and threat to health and safety of workers.

The Code states that an Inspector must be advised as soon as practical for any Dangerous Occurrence incident as defined by section 1.7.3 (within 4 hours) of the Code. The Dangerous Occurrence final investigation report must be submitted to the Inspector within (72) hours. Dangerous Occurrences are also discussed in BC MEMPR 2020.

The Inspector will be informed by the Mine Manager, or by the Health, Safety, and Human Resources Superintendent or delegate.

6.5.16.1 Procedure for Investigation and Analysis

At TCL, incidents and emergencies are divided into the following categories: Near Miss, Incident, Emergency, and Major Emergency (See **MERP**). Any of these may be a Dangerous Occurrence as defined by the Code and be subject to reporting under the Code.

Depending on the frequency and severity of the situation, some events must be investigated, to collect all the information and evidence or facts that caused the event. This information is used to determine the root causes of the Incident and finally, to recommend corrective and preventive measures to prevent its recurrence.

Events that are reportable within TCL use the **Incident Notification and Incident Investigation Report Forms** in **Appendix 13.13-F** to communicate the outcome of investigation and analysis of a Dangerous Occurrence, Near Miss, Incident, or Emergency.

6.5.16.2 Incident Reporting

Incident reporting is comprised of the following basic elements:

- ▶ Any employee or contractor involved in, or that witnesses an incident, must immediately notify their immediate Supervisor of the situation, and keep the scene intact or undisturbed to allow time for the investigation, except to prevent further incidents;
- ▶ Any worker involved in, or that witnesses an incident, must complete with the Supervisor the initial Incident Notification Report form (**Appendix 13.13-F**), as soon as possible after the event but at the very least before the end of the shift; and
- ▶ The immediate Supervisor or their designate must immediately notify the Health, Safety, and Human Resources Department of the Incident. Depending on the severity and/or potential of the incident, the OHSC representative will also be notified.

Reportable Incidents: Any Incident listed in the “Serious Injury” portion and as described in section 16.01 of the Code must be reported without delay to an Inspector and OHSC Co-Chairs, by the Manager and/or their designate.

Dangerous Occurrences: A component of any Emergency and/or Incident is also Dangerous Occurrences, which need to be reported to a Mine Inspector within 4 hours of occurrence verbally via phone and by email with a follow-up written report within seven (7) days.

Dangerous Occurrences are defined in Part 1, clause 1.7.3 of the Code as follows:

- (1) *unexpected major groundfall or subsidence, whether on surface or underground, which endangers people or damages equipment or poses a threat to people or property,*

- (2) *cracking or subsidence of a dam or impoundment dike, unexpected seepage, or appearance of springs on the outer face of a dam or dike; loss of adequate freeboard, washout or significant erosion of a dam or dike, any of which might adversely affect the integrity of such structures,*
- (3) *any incident involving a mine hoisting plant and including sheaves, hoisting rope, shaft conveyance, shaft, shaft timber, or headframe structure,*
- (4) *unexpected inrush of water, mud, slurry, or debris,*
- (5) *premature or unexpected explosion of explosives, gas, or any dust,*
- (6) *significant inflow or release of explosive or other dangerous gas,*
- (7) *unplanned stoppage of the main underground ventilation system,*
- (8) *a mine vehicle going out of control,*
- (9) *outbreak of fire if it endangers persons or threatens or damages equipment and all underground fires,*
- (10) *electrical equipment failure or incident that causes or threatens to cause injury to persons or damage to equipment or property, and*
- (11) *any other unusual incident or unexpected event which had the potential to result in serious injury.*

These will also be defined as one of the levels of emergency response provided since all Dangerous Occurrences fit under a Level 1, 2, 3, and/or 4 event per the **MERP**.

In addition to sending a written report to the Inspector within seven (7) days after a "Dangerous Occurrence" or "Reportable Incident", the Mine Manager and/or designate shall also send the report to the OHSC Co-Chairs.

The information gathered during monitoring practices will be summarized with information from other management plans into an annual Occupational Health and Safety Summary Report.

TCL will ensure these timelines are complied with, and all Dangerous Occurrences will be reported to the Mine Incident Reporting Line:

Phone: 1-888-348-0299

Email: MineIncidents@gov.bc.ca

6.5.16.3 Incident Investigation

When an Incident happens, the following actions will take place:

1. The Supervisor shall, if possible, go immediately to the scene of the incident to control the scene and collect the facts of the incident. The scene shall be secured pending investigation and only released after all facts have been gathered. In the case of a "Dangerous Occurrence" and/or "Reportable Incident", the scene shall not be released until the Mine Manager and/or their designate releases it and only after consultation with an Inspector and OHSC Co-Chairs;
2. The Supervisor will evaluate the loss and contact the appropriate officials;

3. A Supervisor or a Health, Safety, and Human Resources Department representative may demand an investigation for an Incident without injury or even a First Aid Incident in the case that the consequences could have been worse (potential severity);
4. The immediate Supervisor or designate will immediately initiate, if necessary, the process of the investigation, if possible, with the injured worker or workers who witnessed the incident. The investigation will be done whenever possible at the scene of the incident;
5. The supervisor fills out the investigation report with, if possible, the injured worker or/and the worker/s that witnessed the incident; and
6. The investigation report must be signed, and a copy must be sent to the Health, Safety, and Human Resources Department as soon as possible. The Health, Safety, and Human Resources Department is responsible for forwarding a copy of the investigation to the Mine Manager (as needed) and to the OHSC without delay. A copy of the report must also be reviewed by the OHSC safety representative.

6.5.16.4 Incident Analysis

An analysis must accompany every investigation. This analysis is essential to determine the root causes of the incident and to recommend corrective and preventive measures necessary to prevent the incident from recurring. The analysis includes four (4) major steps:

1. initial review of all the information gathered in the investigation;
2. identification and segregation of the contributing factors;
3. identification of all the causes and factors that contributed to the incident;
4. separation of contributing factors into two (2) categories:
 - ▶ immediate causes; and
 - ▶ root causes.

6.5.16.5 Method of Analysis

This method involves taking the consequences as a starting point and looking for causes by asking "Why?" At each step, ask the following question: "Why did it happen this way?"

Each answer must be complete and sufficient to explain the reason the incident happened. If the answer does not explain it completely, there is/are another cause/s to be determined.

Information collected during an Incident Investigation is shown in **Table 6.5-8**:

Table 6.5-3: Information Collected when Completing an Incident Investigation

Category of Inquiry	Category Details
Event Details	▪ Location ▪ Who was involved? ▪ What happened?
Immediate Causes	Immediate cause categories: ▪ Work practices, behaviors ▪ Environmental conditions, equipment/material ▪ Failure to use protective equipment

Category of Inquiry	Category Details
	Conditions of protective equipment
Fundamental Root Causes	Fundamental (root) cause categories: - Personnel factors - Organizational factors
Consequences	Resulted in: - Injury, damage to equipment, fires - Damage or spills to environment, loss to process
Corrective Measures	- Ensuring good corrective measures will prevent re-occurrence of incident. - List measures that would address the initial or ongoing hazard and improve safety.
Follow-up	- Communication of incident analysis is very important and is done by reporting using the Incident Notification and Incident Investigation Report Forms in Appendix 13.13-F. - Ensure that corrective measures are in place, in force and doing what they were designed to do. - Share corrective measures within the Department and site-wide to prevent similar incidents from occurring again.

To do this, the immediate Supervisor or their designate must initiate the review process once the investigation is completed. The analysis may be conducted away from the scene of the incident by completing the investigation and analysis formula of the incidents.

Furthermore, it is essential that recommendations and remedial measures following the investigation and analysis of the incident are followed-up for the immediacy of corrective actions.

6.5.16.6 *Training in Investigation and Analysis*

Training in investigation and analysis of an incident is a must for all Supervisors and OHSC members. This training aims to provide Supervisors and members of the OHSC good knowledge, techniques, and skills to effectively fulfill their responsibilities as outlined by the management team. A refresher course will be given when needed.

6.5.16.7 *Review and Revision of the Investigation and Analysis Program*

The Incident Investigation and Analysis Program will be revised as needed. Any request for modification, addition and/or revision must be made to the Health, Safety, and Human Resources Department.

6.5.16.8 *Entry Into Tracking System*

All Dangerous Occurrences, Near Misses, Incidents, and Emergencies will be logged into a tracking system in a timely manner and reporting will be completed monthly.

6.6 Refusal to Perform Unsafe Work

No person including management, may direct employees, contractors and/or their employees at the Project to perform unsafe work. A worker's right to refuse unsafe work is enforced by Part 1.10.1 to 1.10.7 of the Code.

- ▶ **Unsafe Work:** A worker shall not carry out any work or operate any equipment if there is a reasonable cause to believe that to do so would create an undue hazard to the health or safety of any person; and
- ▶ **Right to Refuse:** A worker who refuses to carry out any work or operate any equipment, tool, or appliance, due to feeling unsafe, shall report the circumstances to the Supervisor. The Supervisor will investigate the matter and remedy the unsafe condition immediately, or if the unsafe condition does not exist, the worker will be informed as such. If the perceived risk at hand has not been resolved then further investigation will be undertaken with the worker, Supervisor and Mine Superintendent.

If the investigation shows that there is no hazard and the work assigned is deemed safe, an alternate worker may be used, but the alternate worker must be told that another worker has refused this type of work and the reasons must be explained. The alternate worker may then carry on with the work assigned. If the issue has still not been resolved, the Mine Manager shall investigate and have a plan to make the work safe and acceptable to all parties or suspend work and submit reasons to an Inspector.

Figure 6.6-1 is a flowchart illustrating the process of resolution for an employee's right to refuse unsafe work.

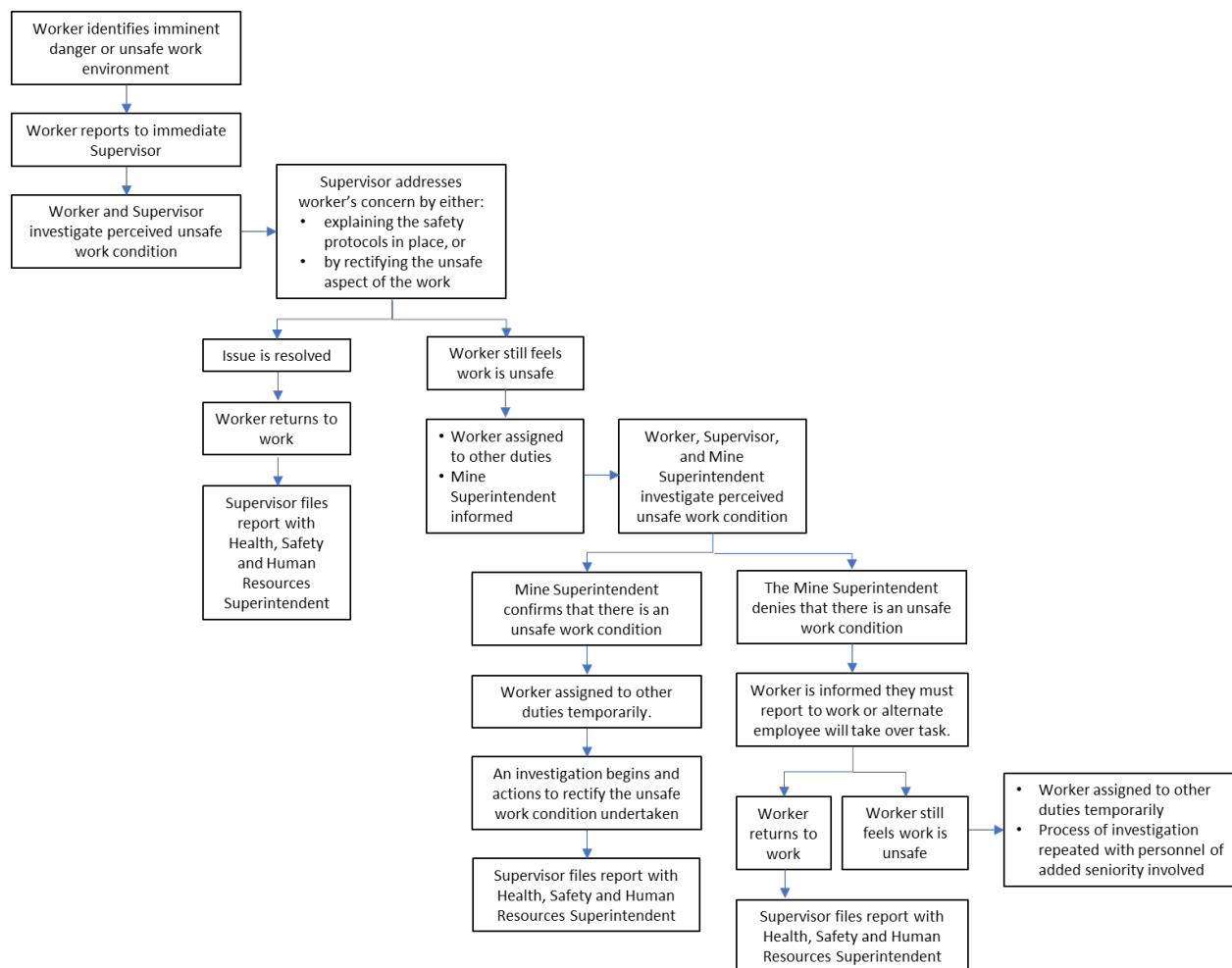


Figure 6.6-1: Flowchart of refusal of unsafe work process

6.7 Discipline

TCL will not tolerate unsafe work practices. Workers (including management, Supervisors, direct-hire employees, contractors, and their employees) who are observed performing unsafe acts will be subject to the following disciplinary process:

- ▶ First observation:
 - ▶ A verbal warning is issued, with immediate training in the correct procedure;
 - ▶ A record is kept on file, and the worker is verbally notified;
- ▶ Second observation:
 - ▶ A written warning letter is issued, and re-training will be provided if necessary;
 - ▶ This letter must be signed by the worker acknowledging receipt of the letter;
- ▶ Third observation:

- ▶ The worker may be dismissed because they do not intend to follow safe practices, thus endangering themselves as well as their coworkers; and
- ▶ A letter explaining the reason(s) for their dismissal will be issued. If the worker is employed by a contractor, the contractor will be requested to remove the worker from the site immediately.

In addition:

- ▶ Any worker showing disregard for company property and rules may be subject to immediate dismissal. This may include theft, willful damage, indecent or abusive talk or behavior, habitual tardiness or absence, smoking onsite, or not wearing required PPE in designated areas;
- ▶ Any worker who displays a blatant disregard for their own safety or that of another may be subject to immediate dismissal; and
- ▶ Any worker found to be working under the influence of alcohol or drugs is subject to immediate dismissal.

If a worker is employed by a contractor, the contractor will be requested to remove the worker from the site immediately.

7. MONITORING

TCL will develop a Workplace Monitoring Program for industrial hygiene hazards once the Project has received permit approvals and construction has started. Details of the program will be shared with regulatory agencies as required, and **Appendix 13.13-E Workplace Monitoring Procedures Manual** provides a guide on the development and implementation of a Workplace Monitoring Program.

A Workplace Inspection Program provides for general, specific, and daily inspections and related reporting of results, including SLAM cards and Safety Interactions. (See **6.5.9**) The **Investigation and Analysis Program (6.5.16)** is also an important part of onsite monitoring of health and safety. The results of inspections will be collated and reported on, with results going to the Mine Superintendent, Mine Manager, and Health, Safety, and Human Resources Superintendent.

7.1 Performance Objectives

In addition to extensive inspections and monitoring to ensure the health and safety of personnel, performance objectives and targets are set to guide the proper implementation of the OHSP. They are shown in **Table 7.1-1**:

Table 7.1-1: Performance Objectives

Objective	Target
Number of Lost Time Incidents (LTI)	zero
Number of First Aid incidents	zero
Number of property damages	continual improvement
Number of high potential incidents	zero
Number of inspections by management	as described in 6.5.9.4
Number of inspections by Supervisors	as described in 6.5.9.4
Number of Field Level Risk Assessments completed	everyone does a Field Level Risk Assessment (SLAM card) for their tasks every shift.

Note: SLAM= Stop, Look, Assess, Manage

8. REPORTING

8.1 General Reporting

Reporting completed by TCL will ensure consistent implementation of the OHSP. Summary reports of monitoring activities and results will be compiled annually including the number and type of incidents.

Incident Notification and Incident Investigation Report Forms (Appendix 13.13-F) will be completed for all reportable and non-reportable Incidents that occur on the Project site, including Dangerous Occurrences. The details will be passed on to a Supervisor and the Health, Safety, and Human Resources Superintendent for analysis including identifying repeat incident locations.

8.2 Compliance Reporting

Compliance reporting will be subject to the EAC and *MA/EMA* permit conditions. The information gathered during monitoring practices will be summarized with information from other management plans into an Annual Environmental Management Summary Report and upon permitting completion, the Annual Environmental Reports as required by *MA/EMA* permits. Community engagement activities will be an aspect of the **SEMP**. The **SEMP** will have requirements related to reporting on community engagement programs.

Furthermore, events requiring First Aid have other regulatory reporting responsibilities and they will be fulfilled as required.

The Inspector and the OHSC will be informed as soon as possible (but no later than four (4) hours after an event under paragraph (a) or 16 hours after an event under paragraph (b), and within one (1) week for an event under paragraph (a) or (b) of the Code. This includes:

- ▶ any incident resulting in loss of life; or
- ▶ any Dangerous Occurrence as specified in section 1.7.3 of the Code.

In the event of any incident resulting in a worker seeking medical aid, an Inspector, and the OHSC will be informed by way of a monthly report.

For an event under section 1.7.1 (1)(a) or (b) of the Code, the Mine Manager shall ensure that, except for the purpose of saving life or relieving human suffering, the scene of the Incident or Dangerous Occurrence is not disturbed without approval of:

- ▶ the OHSC;
- ▶ an Inspector; or
- ▶ in the case of a fatal Incident, the Chief Inspector of Mines.

Investigation will be carried out by persons knowledgeable in the type of work involved as well as by the Co-Chairs of the OHSC or delegates.

8.3 Internal Reporting

Internal reports will be prepared on an annual basis according to the adaptive management framework of the OHSP. The results are presented to the OHSC and the management team to assist them in their future goals. The internal reports must contain the following aspects:

- ▶ number of injuries and incidents;
- ▶ frequency of events;
- ▶ severity of events;
- ▶ part of the body injured;
- ▶ type of injury;
- ▶ nature of injury;
- ▶ root causes behind the events;
- ▶ main immediate causes behind the events;
- ▶ equipment involved in the events;
- ▶ time of day when events occur;
- ▶ sequence of work where events occur;
- ▶ trade affected;
- ▶ seniority workers to the task when an event occurs;
- ▶ event involving a fire hazard; and
- ▶ comparison to previous years;

Monthly and annual reports to the Mine Manager will be prepared by the Health, Safety, and Human Resources Superintendent, summarizing compliance with the requirements of the OHSP, listing all exceedances, identifying Incidents, and outlining the corrective action that has been taken or is scheduled to take place. The following is a list of specific items to be included:

- ▶ site inspections;
- ▶ Incident Notification and Incident Investigation Report forms;
- ▶ medical/First Aid and lost-time incidents (LTI);
- ▶ property damages; and
- ▶ environmental Incidents.

The Mine Manager will ensure all reportable exceedances are reported to the relevant authority. Project staff or contractors will be strongly encouraged to report any inefficiency to management for evaluation consideration.

9. ROLES AND RESPONSIBILITIES

9.1 Employer

Safe working conditions are attainable by following employer (TCL) responsibilities. The Employer will:

- ▶ communicate TCL's safety policies, rules and procedures, and commitment to Incident prevention to all site personnel;
- ▶ initiate, maintain, review, update and communicate a comprehensive health and safety program;
- ▶ provide all resources to establish and maintain proper operational inspections of and adequate maintenance standards for the workplace and equipment;
- ▶ ensure safe work procedures are developed, reviewed, and updated;
- ▶ ensure all necessary safety equipment is available onsite, and that adequate First Aid equipment and services are provided;
- ▶ ensure personnel are adequately trained and have a comprehensive experience level to do their jobs;
- ▶ provide resources to ensure instruction in safe work procedures and practices;
- ▶ ensure clear roles and responsibilities are established and maintained for ensuring health and safety at all organizational levels;
- ▶ provide analysis and determination of the hazards and risks associated with any activity;
- ▶ ensure personnel have the right to refuse performing dangerous or unsafe work;
- ▶ ensure all Incidents, Emergencies, and Dangerous Occurrences are investigated as promptly as practicable, and that corrective action is taken to prevent a re-occurrence;
- ▶ participate in prompt and conclusive investigations of serious and potentially serious incidents; and,
- ▶ participate in the development of recommendations based on the findings of incident investigations and making these recommendations available to affected personnel.

9.2 Mine Manager

The Mine Manager bears overall responsibility for the construction and operation of the Project, including the health and safety of employees and contractors. The Mine Manager reports to the executive steering committee for TCL and will coordinate with this group to ensure that Project objectives are being met.

The Mine Manager will:

- ▶ on behalf of the employer provide material, financial, and human resources to implement, maintain, update, and improve the OHSP;
- ▶ through direct onsite supervision, ensure that the OHSP policies are always adhered to;
- ▶ participate actively in the assessment, review, and monitoring of the implementation of all OHSP program activities;
- ▶ ensure the implementation, improvement and monitoring of the SLAM cards and Safety Interactions and associated paperwork;

- ▶ ensure that the employees and contractors have the training and the necessary information to avoid endangering their health or safety and/or their colleagues;
- ▶ correct with immediacy, a known situation that might endanger the health or safety of someone;
- ▶ collaborate with the OHSC and with any public health, safety institution, or regulator,
- ▶ providing the OHSC with every reasonable facility for carrying out its inspections and investigations;
- ▶ allowing the OHSC to access to all reports, plans, records, and standards pertinent to the work of the OHSC;
- ▶ correcting any safety hazards noted in the OHSC minutes by the date agreed by the OHSC; and
- ▶ contact an Inspector with BC MEMLI in the event of a Dangerous Occurrence as required by Part 1.7.1 of the Code.

In the case of the Mine Manager's absence, the Mine Manager will appoint a qualified person, pursuant to the Code, to be responsible during the manager's absence to ensure compliance with all regulatory approvals and the Code.

9.3 Health, Safety, and Human Resources Superintendent

The Health, Safety, and Human Resources Superintendent will:

- ▶ coordinate the implementation, application, and improvement of the OHSP;
- ▶ coordinate all activities by managing health, safety, and security;
- ▶ support and coach employees, Supervisors, and management in performing their duties;
- ▶ collaborate in the identification, evaluation and controlling risks in their respective workplaces;
- ▶ inspect for compliance with the *Mines Act*, the Code, this OHSP, other applicable standards and site policies/procedures, and where gaps exist, bring this to the attention of the Mine Manager or designate;
- ▶ inform members of the management team of any suspicious circumstances that may affect health, safety, or security;
- ▶ ensure the implementation, improvement, and follow-up of SLAM cards and Safety Interactions;
- ▶ ensure that workers have the necessary training and information to minimize the possibility of endangering their health, safety, or security and/or that of a colleague;
- ▶ correct with immediacy, a known situation that might endanger the health, safety, or security of someone;
- ▶ collaborate with safety representatives and the OHSC;
- ▶ collaborate with WorkSafeBC, Mine Inspectors, or other regulators during their visits;
- ▶ work with the OHSC on the various mandates given to the committee;
- ▶ propose to the management team methods to control risks that could improve the health or safety of workers;
- ▶ ensure immediate care is provided to injured personnel and follow-up is conducted, as required;

- ▶ participate in the identification of health hazards in the workplace, and ensure sampling is conducted, as required, to assess the health hazards;
- ▶ ensure all personnel onsite are informed of any contaminants or other hazards that are identified in their workplace. This must include the results of any sampling and controls to be implemented;
- ▶ develop and maintain a Workplace Monitoring Program, a Workplace Inspection Program, a Medical Surveillance Program, as well as other health and safety programs, as required;
- ▶ perform maintenance and monitor the calibration of measuring instruments, pumps and sampling equipment used in the Workplace Monitoring Program;
- ▶ initiate screening tests on contaminants potentially present in the workplace;
- ▶ identify all the contaminants in the workplace that could pose a health and safety hazard to workers;
- ▶ determine the potential exposure of workers to the identified contaminants with good sampling and analysis strategy;
- ▶ inform Supervisors and workers on the results of exposure present in their workplace and how to protect themselves;
- ▶ provide managers with methods to control risks that could affect health and/or safety; and
- ▶ provide training in industrial hygiene, health, and safety to personnel.

9.4 Supervisors

Supervisors will:

- ▶ correct immediately any potential hazard in the workplace;
- ▶ collaborate in the identification, evaluation, and control of any hazardous situation in the workplaces;
- ▶ inform the Health, Safety, and Human Resources Department of any situation that could affect the health or safety of the workers;
- ▶ provide individual and/or collective protective equipment for workers;
- ▶ ensure that workers have the training and the necessary information to avoid endangering their health and safety and/or that of a colleague;
- ▶ follow the *Mines Act*, Code, rules, standards, procedures, and site policies and protocols including this OHSP;
- ▶ ensure the implementation, improvement and follow-up of SLAMs and Safety Interactions with an emphasis on immediacy for the corrective actions to be taken;
- ▶ ensure that all incidents are properly reported in a timely manner to the Health, Safety, and Human Resources Superintendent using the appropriate forms;
- ▶ investigate all incidents and document findings and recommend corrective measures on appropriate forms;
- ▶ ensure the OHSP policies are always adhered to; and
- ▶ work with the OHSC in the various mandates that were given to them.

9.5 Employees

Employees will:

- ▶ abide by the preventive measures established in this OHSP;
- ▶ follow instructions given during the induction program, postings, and safety meetings;
- ▶ participate in the identification, evaluation, and control of hazards in the workplace;
- ▶ correctly wear PPE and/or collective protective equipment required for specific jobs to protect the health and safety of themselves or their coworkers;
- ▶ inform the Supervisor of any situations that may affect health or safety;
- ▶ report all Dangerous Occurrences, Incidents, or Emergencies (see **MERP**) to the Supervisor immediately and fill in an Incident Notification Report within 4 hours;
- ▶ participate in training or/and health and safety information sessions; and
- ▶ work with the OHSC when required.

9.6 Contractors

Contractors will:

- ▶ provide TCL with a current letter indicating that they are in good standing with WorkSafe BC;
- ▶ transmit a Health and Safety Program specific to their activities onsite, which must contain a list of risks regarding work to be conducted, and indicate the controls put in place regarding those risks;
- ▶ submit in writing to TCL any changes that were made to the work procedures and or Health and Safety Program, and have them available for the workers and their Supervisor;
- ▶ take measures to ensure that all workers under their supervision are informed of the risks they are exposed to;
- ▶ inform TCL immediately of any Dangerous Occurrence, Incident or Emergency;
- ▶ inform TCL in writing of any report issued by WorkSafe BC to the contractor;
- ▶ maintain a bulletin board dedicated to health and safety at work inside their trailer or any other location easily accessible to workers;
- ▶ hold a weekly safety meeting for each crew, and send a copy of the minutes of the meeting with the names of participants to the TCL Health, Safety, and Human Resources Superintendent;
- ▶ provide a written document stating that the contractor and all their subcontractors and/or employees onsite will abide by the TCL health and safety programs and/or their own program, whichever is more stringent;
- ▶ provide monthly hours worked by their employees and subcontractors (if applicable) as well as its incident statistics to TCL;
- ▶ provide workers with PPE required for their job tasks (based on a completed risk assessment and work procedures);
- ▶ ensure their employees always wear their PPE, when required, and that they use the proper tools to accomplish their tasks;

- ▶ ensure that the corrective measures requested by TCL are completed in the timeframe prescribed;
- ▶ submit a list of workers who have a valid First Aid certificate;
- ▶ ensure all equipment complies with TCL policies and applicable regulations;
- ▶ provide a list of all current SDS sheets for products brought onsite;
- ▶ ensure all temporary and/or permanent structures are safe and comply with legislation or site specifics (i.e., railings, guarded openings, etc.); and
- ▶ If the contractor or any person within its jurisdiction fails to comply with the OHSP, TCL can take any necessary action to correct the situation, at the expense of the contractor.

9.7 Suppliers

Project suppliers will:

- ▶ Comply with this OHSP, standards, and procedures applicable to them, especially when they provide delivery or assemble their products or equipment onsite.

9.8 Occupational Health and Safety Committee (OHSC)

The OHSC will:

- ▶ approve and update the OHSP program annually, as needed;
- ▶ make periodic follow-up of the OHSP by actively participating in various activities to identify, assess and control risks in the workplace;
- ▶ cooperate with the WorkSafe BC representatives;
- ▶ encourage the participation of managers, supervisors, and workers in various elements of the program;
- ▶ develop and work within Terms of Reference guidelines;
- ▶ receive suggestions and complaints from employees on health and safety issues at work;
- ▶ receive and review inspection reports, minutes of safety meetings, WorkSafe BC reports, and/or Inspector reports;
- ▶ receive and analyze the statistics related to Dangerous Occurrences, Near Misses, Incidents, or Emergencies (see **MERP**);
- ▶ receive and analyze the Incident Investigation Reports;
- ▶ participate in incident investigations, analysis, and risk assessments for all job tasks onsite;
- ▶ hold a meeting with the OHSC members at least once a month;
- ▶ provide recommendations to management to resolve health and safety issues; and
- ▶ actively and positively promote health and safety for all personnel and contractors onsite.

10. COMMUNICATION

Communication of the OHSP at TCL will be based on internal and external requirements and primarily through this OHSP and relevant SPPs. Any significant change to a health or safety condition or policy will be communicated to all Minesite employees and contractors through a site wide email, announcements over all radio channels by Minesite supervision and bulletins posted around the Minesite.

Communication of the contents of the OHSP and related safety programs/documents at the Project site will also be provided through employee training. When required, visitor and contractor training will also be provided during Site Induction.

10.1 Training and Awareness

Training about the OHSP will be provided to all employees. A qualified person will provide the OHSC and any personnel requiring it with training sessions on three (3) occasions during the year.

10.2 Employee and Contractor Training

Employees are required to review all relevant safety documentation including safe work procedures and their associated training modules at the start of employment and on an annual basis. Employee training is tracked and managed by an appropriate software application.

Contractors will review the relevant safe work procedures at the start of their contract and on an annual basis if contracts are longer than 13 months in duration to ensure their compliance with these requirements. Visitors will receive an overview of the OHSP during their Visitor Induction prior to accessing the Minesite, or from their Contract Manager. Visitors are generally restricted to being under the direction of TCL employees and will be escorted by TCL personnel onsite or be accompanied by TCL personnel.

10.3 Visitor Training

Visitors will be required to complete a Visitor Induction as discussed in **6.5.2.3** that will be carried out by a TCL member who is responsible for the visitor.

10.4 Safety Communication Meetings

10.4.1 Communication Strategies

Communication strategies exist to ensure all Project stakeholders and communities of interest are informed and aware of potential Project safety issues. These strategies are listed below:

- ▶ safety share at the start of all meetings, and presentations;
- ▶ weekly worker safety meetings will be held with senior managers and staff in attendance;
- ▶ daily pre-shift safety meetings will be held between Supervisors and workers;
- ▶ feedback and follow-up systems exist that ensure issues that are raised in meetings, investigations, or anywhere else are addressed and communicated back to the worker or workforce;
- ▶ safety bulletins are immediately communicated to the workforce; and

- ▶ safety issues raised by Project personnel are addressed and resolved by the Mine Manager or designate.

10.4.2 Pre-mobilization Kick-off Meetings

Pre-mobilization Kick-off Meetings are held with appropriate members of the Construction Phase Project management teams and contractors to ensure they fully understand all Project health, safety and environmental requirements and goals, equipment requirements, certification requirements, contact names on the Project, and general mobilization rules. Attendance at these meetings is documented.

The following documents are provided in advance of the meeting:

- ▶ TCL's EMS and applicable Health, Safety, and Environmental Procedures; and
- ▶ **Construction Environmental Management Plan (S13.0-C4) (CEMP).**

10.4.3 Occupational Health and Safety Committee (OHSC) Meetings

The OHSC is a collaboration of management and personnel that have responsibilities as described in 9.8. Specific to meetings:

- ▶ Meetings will be used to review all **Incident Notification and Incident Investigation Report Forms (Appendix 13.13-F)** from the previous month;
- ▶ Minutes are kept, maintained, and reviewed during each meeting; and
- ▶ The minutes include corrective actions, and are distributed to TCL personnel, and posted in high-traffic areas for worker access.

10.4.4 Daily Pre-shift Safety Meetings

Daily Pre-shift Safety Meetings are conducted by the Supervisor to communicate workplace safety issues, Incidents, and other information including:

- ▶ All Pre-shift Safety Meetings are documented to include discussion topics and concerns raised, including potential hazards associated with the work to be done during the shift and any concerns raised by the crew;
- ▶ A system is in place to follow up and correct issues raised in the Pre-shift Safety Meetings;
- ▶ The corrective action will be communicated back to the originator of the concern; and
- ▶ The issues raised are inventoried and logged electronically to allow tracking and trending. The work unit Supervisor is responsible to ensure that any concerns raised are addressed in a timely manner.

10.4.5 Monthly Crew Safety Meetings

Monthly crew safety meetings will be conducted by the Mine Manager or designate to communicate workplace safety concerns, Incidents, and solutions.

- ▶ All monthly safety meetings are documented to include discussion topics and concerns raised, and solutions presented;
- ▶ A system is in place to follow up and correct issues raised in the Daily Pre-shift Safety Meetings;

- ▶ The corrective action will be communicated back to the originator; and
- ▶ The issues raised are inventoried and logged electronically to allow tracking and trending. The Mine Manager or delegate is responsible to ensure that any concerns raised are addressed in a timely manner.

10.4.6 Post-emergency Meetings

As a result of any serious incident or emergency, such as a fatality, the Mine Manager will hold a special meeting to provide the following:

- ▶ description of Incident;
- ▶ learning and corrective actions;
- ▶ path forward and input from personnel; and
- ▶ all meetings about a serious Incident will be documented and tracked.

11. EVALUATION AND ADAPTIVE MANAGEMENT

11.1 Evaluation

On a yearly basis, the Mine Superintendent will produce an annual OHSP Summary Report. The purpose of this report and analysis is, among others, to reveal any trends in the type of Incidents that occur most often, and to reveal the root causes behind these events, to establish plans for the following year.

11.2 Adaptive Management

The philosophy of adaptive management will be adopted to make sure that management plans and mitigation measures are consistently meeting or exceeding performance targets. This will be achieved through periodic reviews of the OHSP and the results of monitoring programs.

TCL will work towards continual improvement of all health and safety indicators, to ensure the number of incidents are kept as close to zero as possible.

Deteriorating trends will be studied to determine the root cause. When the cause is identified, the Health, Safety, and Human Resources Superintendent will propose a suitable corrective action to the Mine Manager. Examples of corrective actions could include:

- ▶ introducing additional engineering and administrative controls to reduce reliance on PPE;
- ▶ additional training of employees and contractors on procedures;
- ▶ enhancement of maintenance or monitoring measures; and/or
- ▶ additional supervisory oversight.

11.3 Continual Improvement

TCL will amend the OHSP as required based on annual evaluations and feedback from relevant stakeholders, Supervisors, contractors, and employees. Any proposed changes will be sent out for review by the OHSC before being finalised and implemented into the OHSP.

12. CHANGE MANAGEMENT

Changing any part of this OHSP requires a formalized process to be used. If significant changes to objectives, management plan structure, operational milestones, communication and/or information management are being planned, it is required that the Management of Change (MOC) procedure in the **EMS** be followed. Minor edits and/or updates to this OHSP will be controlled through version control and content approval functions.

13. CONCLUSION

TCL is committed to ensuring the health, safety, and welfare of all its employees, contractors, and visitors at the Minesite and overall Project Area during all Project phases. It is the company's primary objective to provide a safe and healthy work environment and to eliminate and/or control hazards that may cause injury to personnel, damage to property, equipment, or the environment.

This OHSP provides the policies, protocols and procedures that will be followed to ensure that the health and safety of personnel is protected throughout all phases of the Project.

14. REFERENCES

- British Columbia Ministry of Energy, Mines and Low Carbon Innovation (BC MEMLI). 2021. Health, Safety and Reclamation Code for Mines in British Columbia. Available: <https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/health-safety/health-safety-and-reclamation-code-for-mines-in-british-columbia>. Accessed April 2021].
- British Columbia Ministry of Energy, Mines and Petroleum Resources (BC MEMPR). 2020. Dangerous Occurrences In BC Mines. Available: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/directives-alerts-incidents/dangerous_occurrence_bc_empr_health_and_safety_information.pdf. Accessed July 2021.
- British Columbia Ministry of Energy, Mines and Petroleum Resources (BC MEMPR) and British Columbia Ministry of Environment and Climate Change Strategy (BC MECCS). 2019. Joint Application Information Requirements for *Mines Act* and *Environmental Management Act* Permits. Available at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/mineral-exploration-mining/documents/mineral-titles/permitting/2019_09_24_joint_application_information_requirements.pdf. Accessed July 2021.
- Canadian Avalanche Association. 2016. Technical Aspects of Snow Avalanche Risk Management – Resources and Guidelines for Avalanche Practitioners in Canada (2016). Available at: https://cdn.ymaws.com/www.avalancheassociation.ca/resource/resmgr/standards_docs/tasarm_english.pdf. Accessed July 2021.
- Canadian Standards Association (CSA). 2021. CSA Standards (2021). Available at: https://www.csagroup.org/store/?gclid=EAlaIqobChMI2pzlubHF8QIVYw2tBh1kyQByEAAYASAAEgLOpD_BwE. Accessed July 2021).
- Government of British Columbia (GovBC). 1996. *Mines Act*, RSBC 1996, c 293 Available at: <https://canlii.ca/t/kx3g>. Accessed July 2021.
- Government of British Columbia (GovBC). 1997. Occupational Health and Safety Regulation, BC Reg. 296/97. Available: https://www.bclaws.gov.bc.ca/civix/document/id/crbc/crbc/296_97_multi. Accessed July 2021.
- National Institute for Occupational Safety and Health (NIOSH). 1998. Occupational Noise Exposure - Revised Criteria. Available at: <https://www.cdc.gov/niosh/docs/98-126/pdfs/98-126.pdf>. Accessed July 2021.