

SECTION D: ENVIRONMENTAL AND SOCIAL CONSTRUCTION MANAGEMENT PLANS

CHAPTER D19: WORKER HEALTH & SAFETY CONSTRUCTION MANAGEMENT PLAN

Contents

19	WORKER HEALTH & SAFETY MANAGEMENT PLAN.....	2
19.1	INTRODUCTION	2
19.1.1	<i>Oyu Tolgoi Guideline Principles for Health & Safety Management</i>	2
19.1.2	<i>Health & Safety Management - Construction Phase</i>	4
19.1.3	<i>Underground Development</i>	5
19.1.4	<i>Implementation of Health & Safety Management Systems</i>	5
19.2	OBJECTIVES OF THIS PLAN	5
19.3	SCOPE	6
19.4	PROJECT HEALTH AND SAFETY STANDARDS	8
19.4.1	<i>Mongolian Regulatory Requirements</i>	8
19.4.2	<i>International Good Practice</i>	8
19.4.3	<i>Rio Tinto Standards</i>	8
19.5	OYU TOLGOI HEALTH & SAFETY MANAGEMENT SYSTEMS.....	9
19.5.1	<i>Requirements for Above-Ground Construction Activities</i>	10
19.5.2	<i>Structure of the HSE Management System</i>	10
19.5.3	<i>HSE Policy & Company Commitment</i>	11
19.5.4	<i>HSE Policy Implementation</i>	11
19.6	HEALTH & SAFETY SYSTEMS FOR UNDERGROUND DEVELOPMENT	11
19.7	MANAGEMENT PROCEDURES.....	12
19.7.1	<i>Above Ground Health and Safety Procedures</i>	12
19.7.2	<i>Underground Health and Safety Procedures</i>	12
19.8	ROLES & RESPONSIBILITIES	13
19.8.1	<i>Overall Accountability</i>	13
19.8.2	<i>Key Roles, Responsibilities and Reporting Relationships</i>	13
19.8.3	<i>Operational Readiness & Rio Tinto Integration</i>	15
19.8.4	<i>Project Management Team Implementation</i>	15
19.9	TRAINING	17
19.9.1	<i>Training - Above Ground Activities</i>	17
19.9.2	<i>Training –Below Ground Activities</i>	18
19.10	AUDIT AND MONITORING REQUIREMENTS.....	18
19.10.1	<i>Underground Safety Monitoring</i>	19
19.11	RECORDS AND REPORTING	20
19.11.1	<i>Health and Safety Review and Management Meetings and Committees</i>	20
19.12	KEY PERFORMANCE INDICATORS.....	21
19.13	HEALTH & SAFETY IMPROVEMENT PLAN	21
19.13.1	<i>Scope</i>	22
19.13.2	<i>Approach</i>	22

Tables

Table 19.1: Project Injury Classifications	18
Table 19.2: Key Construction-Phase Health & Safety Review and Management Meetings.....	20
Table 19.3: Key Performance Indicators	21
Table 19.4: Oyu Tolgoi Safety Improvement Plan – Key Tasks.....	23

Annexes

- Annex A: List of above ground health and safety procedures
- Annex B: List of underground health and safety procedures

19 WORKER HEALTH & SAFETY MANAGEMENT PLAN

19.1 INTRODUCTION

As a large complex construction and mining Project, worker health and safety is a key priority of Oyu Tolgoi LLC ('Oyu Tolgoi'). This plan provides a summary of the management frameworks that have been or are being implemented by the various parties involved in the Oyu Tolgoi Project (the 'Project'). This Plan recognises that there are a range of overlapping and complementary health & safety requirements, namely:

- The regulatory requirements of the Government of Mongolia; and
- Good international industry practice for the management of worker health and safety in mining projects.

Oyu Tolgoi has met these requirements using established Health and Safety Management Systems for above-ground and below-ground activities, and more specifically by applying HSE management systems developed by:

- the construction programme manager and Engineering, Procurement and Construction (EPC) Manager, Fluor Corporation ('Fluor'); and
- the underground mine development company, Redpath Mining ('Redpath').

Oyu Tolgoi is currently implementing a programme to introduce Rio Tinto health and safety frameworks and these frameworks will be fully implemented and functional by the commencement of commercial production (the operations phase). In parallel, Oyu Tolgoi is also implementing the key Rio Tinto Health & Safety frameworks across all contractors working on the construction phase of the Project. This will ensure a consistent high standard of worker health and safety across all activities. Overall management responsibility for health and safety issues rests with Oyu Tolgoi, with Rio Tinto acting as the manager of the Project.

The outcome of the current and planned improvements by Rio Tinto (as the Project Manager) is to ensure:

- Consistent safety systems;
- Consistent performance standards;
- Common leadership approaches;
- Project-wide health & safety committee and review structures;
- Project-wide injury classification and reporting standards (including KPIs); and
- Project-wide auditing and review processes.

19.1.1 Oyu Tolgoi Guideline Principles for Health & Safety Management

Guiding Principles

Guiding principles used by Oyu Tolgoi to manage and direct its health and safety activities are as follows:

- We share the belief that the goal of zero injuries is possible;
- Contract managers are accountable for holding contractors to the contractor safety management plan and ensuring safe work is undertaken at all times;
- Contractors are accountable for executing their work in line with their safety management plans;
- Line leaders hold the accountability for delivery of safework in areas under their direction;
- Health and safety resources are in place to support the line leaders and contract managers;
- All leaders are accountable for undertaking daily safety interactions during which they emphasise that they care about people working for them;

- Leaders 'once removed' are accountable for investigating all incidents and near misses to determine the root cause and prevent similar incidents;
- Leaders are accountable for ensuring work complies with applicable Mongolian legal requirements and the HSE Standards imposed by Rio Tinto;
- Leaders actively support the principle that everyone has Stop-Work-Authority in case of hazardous conditions and no-one is required to do a job they consider to be unsafe;
- Leaders must take action to correct any unsafe act or condition observed; and
- Leaders must ensure that HSE requirements are met when selecting suppliers and contractors.

Safety Leadership Behaviours

The following safety leadership behaviours are being reinforced throughout all aspects of Oyu Tolgoi construction and operations activities to provide a consistent approach to health and safety throughout the Project:

DO'S

I will live the values contained within the HSE policy.

I will ensure safety hazards that I observe are addressed.

I will stop work that I consider to be unsafe.

I will always follow safety procedures and model the correct use of safety controls and PPE.

I will reinforce positive safe work behaviors I see in the workplace.

I will provide recognition and reward for excellent safety performance.

I will undertake a safety walk around in work areas each day to demonstrate I care for all employees.

I will always discuss key safety hazards and controls when undertaking my safety walk arounds.

I will ensure that proactive reporting of all incidents is reinforced in my work area.

I will ensure that incidents are fully investigated and resources allocated to close out corrective actions.

I will model the effective use of the key safety tools.

I will actively sponsor improvement initiatives identified by the members of the workforce.

DON'TS

I will not forget to coach other people in my area on the golden rules and life preserving actions.

I will not forget to include a safety share in meetings that I attend.

I will not ignore safety incidents related to non-recordable injuries or near miss events.

I will not ignore safety concerns raised by contractors.

I will not forget to celebrate the safety successes in my area.

I will not permit people to undertake work or operate equipment for which they are not trained.

I will not forget to include the unusual/out of the way areas in my management walk arounds.

I will not forget to reinforce key safety procedures during my management walk arounds.

I will not forget to review safety concerns brought to my attention.

I will not forget to check that improvement actions from incidents are being applied effectively.

I will not simply apportion blame when identifying causes in a safety investigation.

Golden Rules and Essential Safety Practices

To support these objectives in practice, Oyu Tolgoi has implemented Six Golden Rules and Eight Essential Safety Practices, which are again being reinforced throughout all aspects of Oyu Tolgoi construction and operations activities to provide a consistent approach to health & safety.

Six Golden Rules

1. Never position yourself under a suspended load or underneath unsupported ground.
2. Never work at heights above 1.8m unless you are using fall prevention or fall restraint.
3. Never enter a confined space or specified restricted area until permits are completed and you are authorised.
4. Never commence work on any equipment unless energy sources are isolated, applicable permits are in place and personal isolation locks in place.
5. Never enter the open pit mining areas without proper authorisation.
6. Never come to work under the influence of drugs or alcohol.

Eight Essential Safety Practices

1. Always apply the principle that if a task can't be done safely, it won't be done at Oyu Tolgoi.
2. Always make positive contact with the operator of heavy equipment when approaching within 50 metres.
3. Always do a Take 5 or JHA before starting a job.
4. Always make sure I immediately report incidents and injuries to my supervisor.
5. Where possible correct hazards myself.
6. Always use PPE and safety devices as trained and in line with their operating design.
7. Always have a valid licence for the mobile equipment I use and make sure it is safe to operate.
8. Always wear a seatbelt where fitted and drive to suit road conditions. Always comply with posted speed limits.

All visitors to the Oyu Tolgoi site must undergo a comprehensive briefing on health, safety, environmental protection and community relations upon entry to the site.

19.1.2 Health & Safety Management - Construction Phase

During the Construction Phase, two health & safety management systems are in operation at the Project:

- For above-ground activities, a health & safety management system developed and implemented by Fluor (in its role of Project Management Contractor) on behalf of Oyu Tolgoi; and
- For below-ground activities, a health & safety management system developed and implemented by Redpath in its role of underground development (mining) contractor.

The Oyu Tolgoi Construction Project is led by a Project Management Team (PMT). Oyu Tolgoi has appointed Fluor as the Project Management Contractor (PMC), the PMC works with key members of Oyu Tolgoi to form the PMT.

The PMT reports to the Oyu Tolgoi Project Director (the Executive Vice President, Construction). The PMT has primary responsibility for coordinating the activities involved in the four major areas of project development: process plant (concentrator); infrastructure; shaft no. 2 above-ground works; and site services. The PMC Project Director (within the PMT) and his team coordinate Project execution, including health and safety management.

All of the Project's construction activities, with the exception of below-ground activities, are subject to Fluor's health and safety management systems. These represent well established Fluor systems that are applied to every project Fluor manages and tailored to meet the specific requirements and circumstances of each project. All contractors employed by Fluor in its role of PMC are required to meet the standards

required by these systems. Underground development is managed by Redpath who implement specialist underground health & safety management systems as described below.

19.1.3 Underground Development

The current underground development in Shaft #1 (and subsequently in Shaft #2) is being performed by Redpath. These underground works are to a large extent independent of the above-ground works. The health and safety management of this work is through Redpath's own management systems which are generally aligned to and influenced by Rio Tinto's own standards and practices.

19.1.4 Implementation of Health & Safety Management Systems

Based on the above, two health & safety management systems are currently used within the construction-phase of the Project:

- The **Oyu Tolgoi Health & Safety Management System** – comprising a standard Fluor health and safety management system tailored, developed and implemented by the PMC on behalf of Oyu Tolgoi; and
- The **Redpath Safety Programme** – being implemented by Redpath to control all underground development activities.

Oyu Tolgoi Senior Management Accountabilities for Health & Safety

These systems are overseen by Oyu Tolgoi senior management:

- The Oyu Tolgoi Health & Safety Management System is overseen by the Oyu Tolgoi Executive Vice-President, Construction;
- The Redpath Safety Programme is overseen by the Oyu Tolgoi Chief Operating Officer;
- The Oyu Tolgoi Chief Executive Officer holds ultimate accountability for safety across all construction and operations activities at the Oyu Tolgoi Project; and
- The Oyu Tolgoi Vice-President, Health Safety & Security, holds accountability for the development of an effective health safety & security system that facilitates safe working practices across all Project activities (construction, operations, direct activities undertaken by Oyu Tolgoi and indirect activities undertaken by contractors).

Integration of Health, Safety and Environmental Management Systems during Operations

During the Project operations phase the health & safety management system and environmental management system will be combined into an integrated Health, Safety, Environment and Quality (HSEQ) Management System in line with standard Rio Tinto management practice to meet the Rio Tinto Environmental Management System Standard and the Rio Tinto Safety Standards (Management Systems).

Following the assumption of the Project Manager role by Rio Tinto a Safety Improvement Plan has been developed and is being implemented to improve health & safety performance on a continuous basis. The Safety Improvement Plan is based on the adoption of a commitment to become a “zero harm” organisation – a commitment based on a belief that all workplace injuries are unacceptable.

19.2 OBJECTIVES OF THIS PLAN

The objectives of this Management Plan are to:

- Outline the applicable standards with regards to health & safety management with which all Oyu Tolgoi's workers will comply;
- Define Oyu Tolgoi requirements and procedures to guide the Project Management team and contractors;
- Define roles and responsibilities;
- Define monitoring and reporting procedures; and
- Define training requirements.

19.3 SCOPE


The plan addresses the management of Health and Safety across all aspects of the construction-phase of the Project. It applies to all workers including Oyu Tolgoi and contractors' employees, fulfilling the obligations of Oyu Tolgoi's draft Health, Safety and Environment Policy (see *Figure 19.1* below). The policy is undergoing an approvals process within Oyu Tolgoi to ensure full agreement of the Policy by executive management. This updates and integrates formerly separate environmental and health & safety policies.

This Worker Health & Safety Construction Management Plan is part of the suite of construction-phase management plans. It summarises current policies, procedures and requirements of Oyu Tolgoi concerning health & safety management.

Further details of the Construction-Phase Management Plans are provided in the Environmental and Social Management Plan Framework (ESMP) document contained within this ESIA (*Chapter D1: ESMP Framework*).

Where appropriate, cross-reference is also made in this document to the relevant actions included in the Oyu Tolgoi Project Environmental and Social Action Plan (ESAP).


Figure 19.1: Oyu Tolgoi HSE Policy



HEALTH, SAFETY AND ENVIRONMENTAL POLICY

At Oyu Tolgoi LLC, Health, Safety and Environmental (HSE) responsibilities are integral to the way we operate. Effectively managing HSE issues is an essential component of our business strategy. Through observance and encouragement of this Policy, we are committed to an incident and injury free workplace, adopting leading practices in HSE management, for the benefit of all OT stakeholders.

AIMS:	ACTIONS TO ACHIEVE AIMS:
Ensure exceptional HSE performance and continual improvement of our operations.	<ul style="list-style-type: none"> Establish recognized HSE management systems and encourage implementation of HSE management systems by our suppliers of services and goods. Achieve ISO14001 Certification of our Environmental Management System.
Adhere to the principles of accountability and operational transparency.	<ul style="list-style-type: none"> Comply with all applicable Mongolian laws, company standards and other external accords.
Prevent HSE incidents, injuries, environmental pollution, and promote sustainable development.	<ul style="list-style-type: none"> Identify and mitigate potentially adverse HSE impacts, and provide effective controls for HSE risks. Identify and pursue opportunities to have a positive impact on HSE.
Meet company HSE objectives and targets.	<ul style="list-style-type: none"> Implement activities that will achieve a net positive impact on biodiversity values in the South Gobi. Set and review measurable objectives and targets, and report against these to our stakeholders.
Promote and sustain a positive culture among all our employees and contractors in recognition that ensuring a healthy and safe working environment is one of the primary objectives for the Project.	<ul style="list-style-type: none"> Recognize and reward initiatives that improve HSE performance. Ensure effective resources are made available to complete delivery of HSE improvement plans and to investigate and close out actions from incidents. Plan, appropriately resource and deliver HSE training that will enable all personnel to undertake their work and meet our HSE objectives. Encourage participation of our employees, contractors in activities that contribute to sustainable development.
Use our precious natural resources wisely and manage the bi-products from our activities responsibly.	<ul style="list-style-type: none"> Demonstrate continual improvement of specific targets for resource usage (including water) and ensure all other resources are used wisely. Reduce, reuse and recycle materials to minimize waste and pollution.
Develop long-term, meaningful relationships with our communities and stakeholders so that mining operations leave a positive legacy in the communities and environment in which we operate.	<ul style="list-style-type: none"> Launch sustainable development programs and introduce participatory monitoring with our neighboring communities.



CAMERON McRAE

President and Chief Executive Officer

19.4 PROJECT HEALTH AND SAFETY STANDARDS

By way of background, Project health & safety standards reference:

- Mongolian regulatory requirements, as set out in applicable Laws and Standards;
- International good practice, as expressed in the General Environmental Health & Safety Guidelines of the International Finance Corporation, and applicable sectoral guidelines; and
- Rio Tinto Standards and Guidelines.

These different standards are summarised below.

19.4.1 Mongolian Regulatory Requirements

Mongolian regulatory requirements are summarised in the ESIA, but this will not be taken as definitive guidance. Regulatory advice will be sought from an appropriately qualified and experienced legal advisor.

The principal national laws related to worker health and safety are:

- **Labour Law of Mongolia** (In force 1 July 1999);
- **Law on Sanitation** (In force 1 July 1998); and
- **Law on Labour Safety and Health** (In force 22 May 2008).

The above laws provide a general framework for the implementation of a number of technical standards related to health and safety including:

- MNS 4990:2000. Occupational Health & Safety: Workplace environment. Hygienic requirements;
- MNS 5002:2000 Occupational Health & Safety: General requirements for noise norm and safe working procedure;
- MNS 12.1.009:1985 Occupational Safety. Noise. Noise accepted level in apartment and civil construction;
- MNS 12.1.06:1988 Occupational Safety standard system. Safety general requirements; and
- MNS 12.1.017:1988 Occupational Safety standard system. Extreme high noise. Workplace noise pressure measure method.

19.4.2 International Good Practice

The Oyu Tolgoi Project is also committed to take into account international good practice, as outlined in the IFC General Environmental, Health and Safety Guidelines (April 2007)

The IFC Environmental, Health and Safety Guidelines for Mining (December 2007) will be integrated into operations-phase health & safety management systems for the commencement of mining operations.

19.4.3 Rio Tinto Standards

Rio Tinto Standards with regard to health & safety management¹ are as follows:

- **Rio Tinto Occupational Health Standards**
 - A1: General Occupational Health Systems;
 - A2: Risk Management;
 - A3: Workplace Monitoring;
 - A4: Medical and First Aid Treatment;

¹ A comprehensive set of Rio Tinto Standards and Guidelines can be found at: http://www.riotinto.com/library/3608_policies.asp

- A5: Occupational Medical Surveillance;
 - A6: Records;
 - B1: Particulate & Gas-Vapour Exposure;
 - B2: Hearing Conservation;
 - B3: Manual Handling & Vibration;
 - B4: Hazardous Substances;
 - B5: Radiation;
 - B6: Thermal Stress;
 - B7: Fitness for Work;
 - B8: Legionnaire's Disease;
 - B9: Travel & Remote Site Working; and
 - B10: Occupational Exposure Limits.
- **Rio Tinto Safety Standards**
 - A1: Management Systems – General Safety Systems;
 - A2: Management Systems – Change Management;
 - A3: Management Systems – Contractor Management;
 - B1: Records & Reporting – Injury & Incident Recording & Reporting;
 - C1: Operations Standards – Isolation;
 - C2: Operations Standards – Electrical Safety;
 - C3: Operations Standards – Vehicles & Driving;
 - C4: Operations Standards – Working at Heights;
 - C5: Operations Standards – Confined Spaces;
 - C6: Operations Standards – Cranes & Lifting Equipment;
 - D1: Underground Standards – Ground Control; and
 - D2: Specialised Operations – Molten Materials.

As part of operational readiness preparations, the Project is currently undergoing an integration process to develop operations-phase management procedures across all areas of operation that meet Rio Tinto Standards and Guidelines. The Operations-Phase Health & Safety Management Plans are being developed as part of this process. This will help to ensure that Management Plans are designed from the outset in an integrated manner to meet Mongolian regulatory requirements, Rio Tinto Standards and Guidelines and Lender requirements. A transition plan² is in place to ensure ongoing improvement of existing health & safety plans and systems, whilst operations-phase plans are developed and implemented.

19.5 OYU TOLGOI HEALTH & SAFETY MANAGEMENT SYSTEMS

The Oyu Tolgoi health & safety management systems have been developed to provide clear direction on health and safety management, to ensure compliance with Project Standards and to provide the basis for driving improvements.

All Oyu Tolgoi employees and contractors are expected to comply with all requirements of the Oyu Tolgoi Health and Safety Management System. The following sections summarise the system developed,

² Oyu Tolgoi – Safety Improvement Plan (see Section 19.14).

implemented and managed by Fluor for above-ground construction activities. The Redpath underground safety system is discussed separately in *Section 19.6*.

19.5.1 Requirements for Above-Ground Construction Activities

Fluor is part of the Oyu Tolgoi Project Management Team and is the Engineering, Procurement and Construction Management (EPCM) Consultant to the Project. Fluor is responsible for overall construction contractor management (for above-ground activities) and for the development and implementation of health and safety management systems for the Project.

Fluor has developed a Health, Safety and Environmental Management System (HSEMS) which has been implemented for construction activities³⁴. This sets out basic information and requirements relating to HSE standards and the safety behaviours expected from Oyu Tolgoi workers and Contractors working on the Oyu Tolgoi Project.

The Fluor HSEMS represents the key operational management system related to above-ground construction-phase contractor EHS management for the Project. The HSEMS comprises core documents presenting the Policy, Principles and Roles and Responsibilities which are supported by detailed Practices, Procedures and Plans for every activity undertaken at the Project sites. The HSEMS is updated on a regular basis via a series of *Job Bulletins* which are produced to update requirements and procedures within the system on an ongoing basis.

The scope and structure of the HSEMS are detailed in the above documents as follows.

19.5.2 Structure of the HSE Management System

The structure of the HSEMS incorporates several levels of control documents and systems as shown in *Figure 19.2*.

Figure 19.2: Project HSEMS Structure



Source: Oyu Tolgoi Project Execution Health, Safety and Environmental Management System. Practice A2MW 653 8000. 10 January 2006

³ Oyu Tolgoi Project Execution Health, Safety and Environmental Management System. Practice A2MW 653 8000. 10 January 2006

⁴ Oyu Tolgoi Project Execution Health, Safety, Environmental and Security Practice. Practice A2MW 653 8050. 10 January 2006

19.5.3 HSE Policy & Company Commitment

The Oyu Tolgoi HSE Policy is set out in *Figure 19.1*. In addition to the policy statements, the Oyu Tolgoi Project Execution Health, Safety and Environmental Management System states:

- *Oyu Tolgoi is committed to providing a healthy and safe workplace for all people at each of its offices and projects, and to protecting the environment in accordance with applicable laws and our HSE Policy. Our commitment is based on the principle that incidents are preventable and risks will be controlled to a level that is “as low as reasonably practicable”; and*
- *The unequivocal commitment to HSE by Oyu Tolgoi management is a basic foundation of our values and culture⁵.*

19.5.4 HSE Policy Implementation

The Oyu Tolgoi Project Execution Health, Safety and Environmental Management System states that Oyu Tolgoi will facilitate implementation of the HSE Policy by adhering to the HSE Principles, including:

- Incorporation of the highest recognised HSE standards into our engineering and design processes and into the work methods implemented at all of our workplaces;
- Adoption of recognised standards, applicable codes of practice, and applicable statutory provisions as the bases upon which Oyu Tolgoi develops its own high standards;
- Provision of effective training, efficient communication, and continual performance review inherent in our HSE Management System;
- Establishment of realistic and challenging tasks for individuals and performance targets for our workplaces;
- Setting company objectives and targets on an annual basis and assigning accountability for meeting these objectives and targets;
- Preparation and implementation of a HSE management plan for every project in accordance with the overall HSE Management System;
- Regular auditing of the HSE Management System and the Project HSE plans;
- Work with clients and contractors to continually improve HSE performance;
- Development of communication and control networks;
- Monitoring, measurement, and reporting of HSE performance; and
- Implementation of training to allow management, personnel, contractors and others to understand their responsibility with respect to HSE management and empower them to suggest improvements to their work processes.

19.6 HEALTH & SAFETY SYSTEMS FOR UNDERGROUND DEVELOPMENT

Redpath is responsible for health & safety management for underground development activities and has developed a Safety Program for underground development, which contains the following Health and Safety Policy statement:

At Redpath, we believe that all work undertaken can and will be done safely with no harm to our employees, our clients or our sub-contractors. Everyone from senior management to the miners at the face are directly responsible for ensuring that we have the proper tools, equipment, training, procedures and, most importantly, the right attitude in place before beginning each task.

We are committed to the rigorous application of the Redpath Safety Program in order to ensure that injuries do not occur and that our performance in health and safety management is continuously improved over time. Procedures are developed prior to the start of new projects

⁵ Oyu Tolgoi Project Execution Health, Safety and Environmental Management System. Practice A2MW 653 8000. 10 January 2006. P10.

which are designed to allow work to proceed in a safe and efficient manner while minimising risks. All accidents and near misses will be fully investigated to ensure that root causes are identified and that remedies are put in place to prevent recurrences.

It is recognised that safety expertise exists at all levels in our organisation and optimum results in health and safety performance will only be achieved by actively involving employees on a daily basis in health and safety issues that concern them. Redpath managers and supervisors are fully committed to involving employees in health and safety matters.

Our motto of ‘Safety – First, Last and Always’ has served us well since 1962 and continues to be the foundation on which our safety program is built.

The Redpath Safety Program comprises the following fifteen elements:

- Indoctrination of New/Transferred Employees;
- Training/Qualifications;
- Emergency Procedures;
- Five Point Safety System;
- Safety Huddles/Safety Meetings;
- Incident/Injury Imaging;
- Planned Safety Inspections;
- Job Observations;
- Joint Health and Safety Committees;
- Risk Assessments;
- Critical Task Procedures;
- Hazard Alerts;
- Incident/Injury Reporting;
- Disciplinary Actions; and
- Safety Rewards Program.

19.7 MANAGEMENT PROCEDURES

19.7.1 Above Ground Health and Safety Procedures

The Project currently has over 80 separate procedures detailed in the HSEMS which are used throughout the construction phase. These will be consulted for specific guidance and in all instances these take precedence over this summary plan.

A detailed table of contents⁶ for the Project’s above ground health & safety procedures is included as *Annex A*.

19.7.2 Underground Health and Safety Procedures

The management procedures developed by Redpath to manage worker health and safety underground during the construction phase are included in the Redpath Safety Program document. Job hazard assessments (JHAs) are used to develop procedures, which are then implemented and reinforced through training, on-the-job supervision, safety inspections and reporting procedures. The list of underground health and safety procedures is attached as *Annex B* and cover:

- General standards;

⁶ Oyu Tolgoi Project Table of Contents for HSES&S Practices, Procedures and Forms. Practice A2MW 653 8010

- Shaft procedures;
- Drift procedures;
- Mechanical procedures;
- Electrical procedures;
- Civil construction procedures;
- Emergency procedures;
- Miscellaneous procedures;
- Field engineers procedures;
- Quality assurance and quality control procedures;
- Human resources procedures; and
- Batch plant procedures.

19.8 ROLES & RESPONSIBILITIES

19.8.1 Overall Accountability

The Oyu Tolgoi Chief Executive Officer is ultimately accountable for the implementation of health and safety procedures across all of the Project's construction and operations activities.

19.8.2 Key Roles, Responsibilities and Reporting Relationships

The key roles, responsibilities and reporting relationships are summarised below:

- Oyu Tolgoi as the **Owner** with ultimate responsibility for Project health & safety;
- The **Project Management Team** (comprising both Oyu Tolgoi and Fluor Corporation management in an integrated team) reporting to the Oyu Tolgoi CEO, which is responsible for execution and delivery of the Project in compliance with Project Standards, including the Project's H&S standards;
- The **Contractors**, reporting to the PMT, are responsible for implementation of the Project requirements under the supervision and control of the Project Management Team; and
- The underground development contractor (Redpath) which implements its underground safety programme under the supervision of Oyu Tolgoi and which reports to the Oyu Tolgoi Chief Operating Officer.

Across all contractor groups there are 251 safety officers and a total of 333 safety-related personnel.

These relationships are shown in *Figure 19.3* and *Figure 19.4*.

Figure 19.3: Oyu Tolgoi Key Relationships

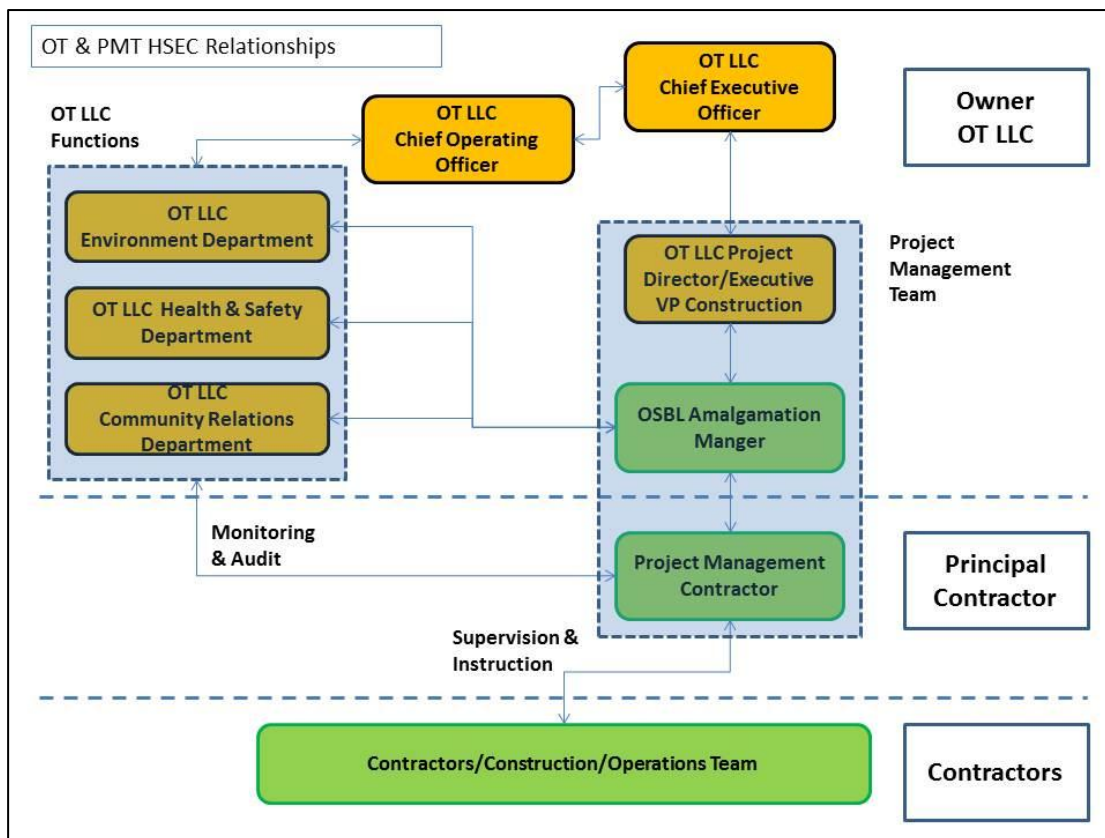
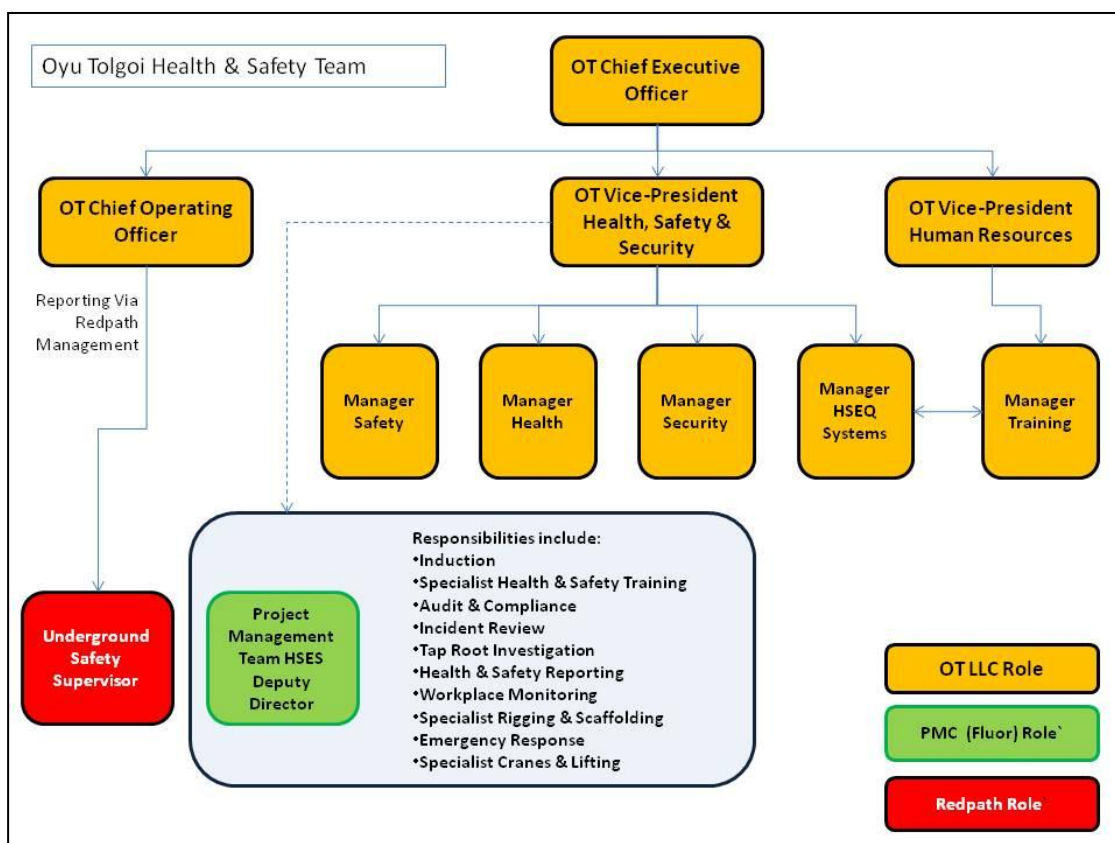


Figure 19.4: Oyu Tolgoi Key Health & Safety Roles



19.8.3 Operational Readiness & Rio Tinto Integration

As part of operational readiness preparations, the Oyu Tolgoi Project is currently undergoing an integration process to develop operations-phase management procedures across all areas of operation that meet Rio Tinto Standards and Guidelines. The Oyu Tolgoi Vice-President Health Safety & Security is accountable for the development of an effective health, safety & security system that facilitates safe working across each of the principal existing and future work areas of the Project.

The Rio Tinto Safety System will be fully developed and applied in Production areas by the start of commercial operations and the corresponding implementation plan will be completed during 2012.

Oyu Tolgoi has established a Health & Safety Strategy Group Committee which meets on a monthly basis to coordinate the management and ongoing improvement of existing health & safety systems and to coordinate the development of new health & safety systems for operations. Committee membership comprises:

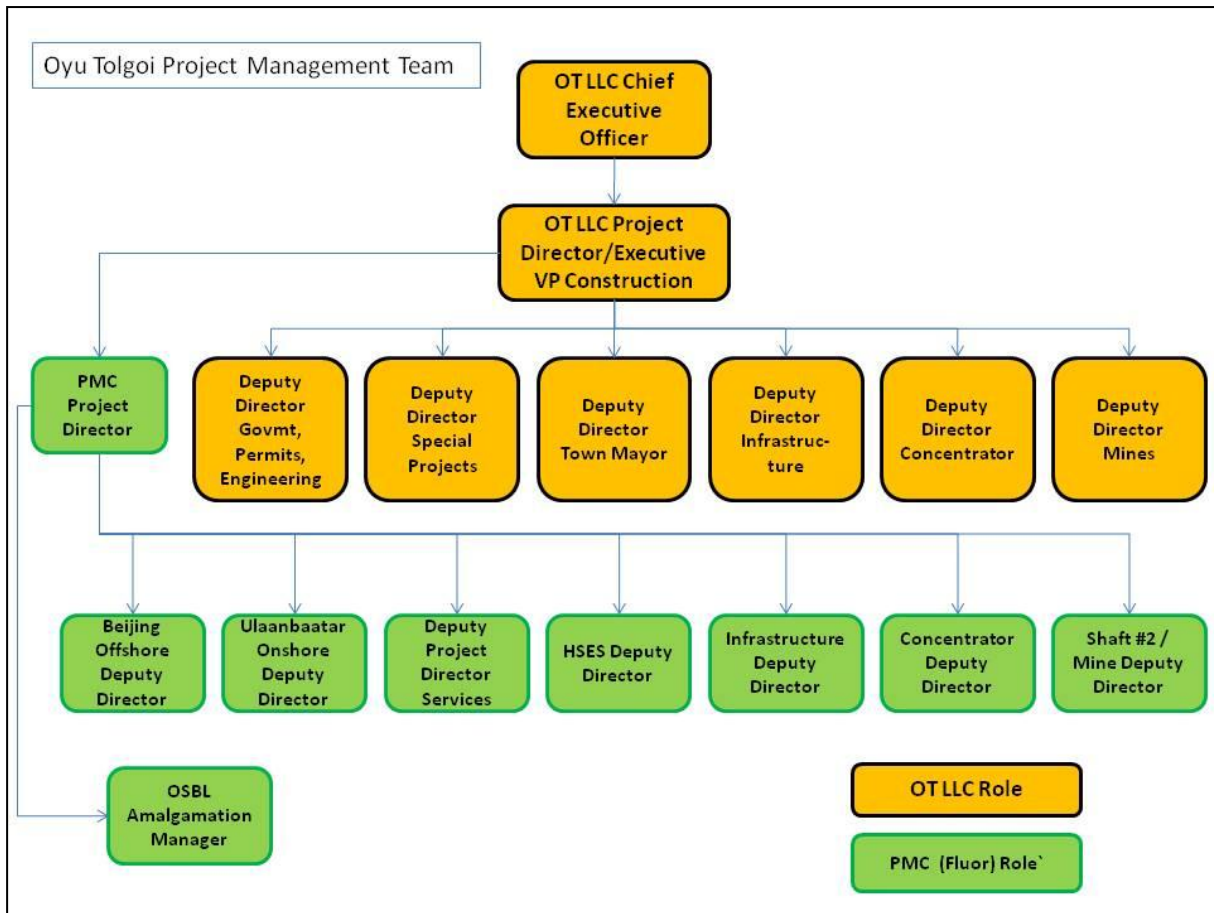
- President & Chief Executive Officer;
- Executive Vice President Construction (Stage 1 – up to first ore);
- Chief Operating Officer;
- Vice President Construction (Stage 2- after first ore);
- Vice President Health, Safety & Security;
- Vice President Human Resources & Training;
- Vice President Regional Development and Communications;
- Chief Financial Officer;
- By Invitation - Senior Vice President; and
- By Invitation - Safety and Hygiene Specialist.

This committee is fully committed to rolling out Rio Tinto health & safety management systems for operations.

19.8.4 Project Management Team Implementation

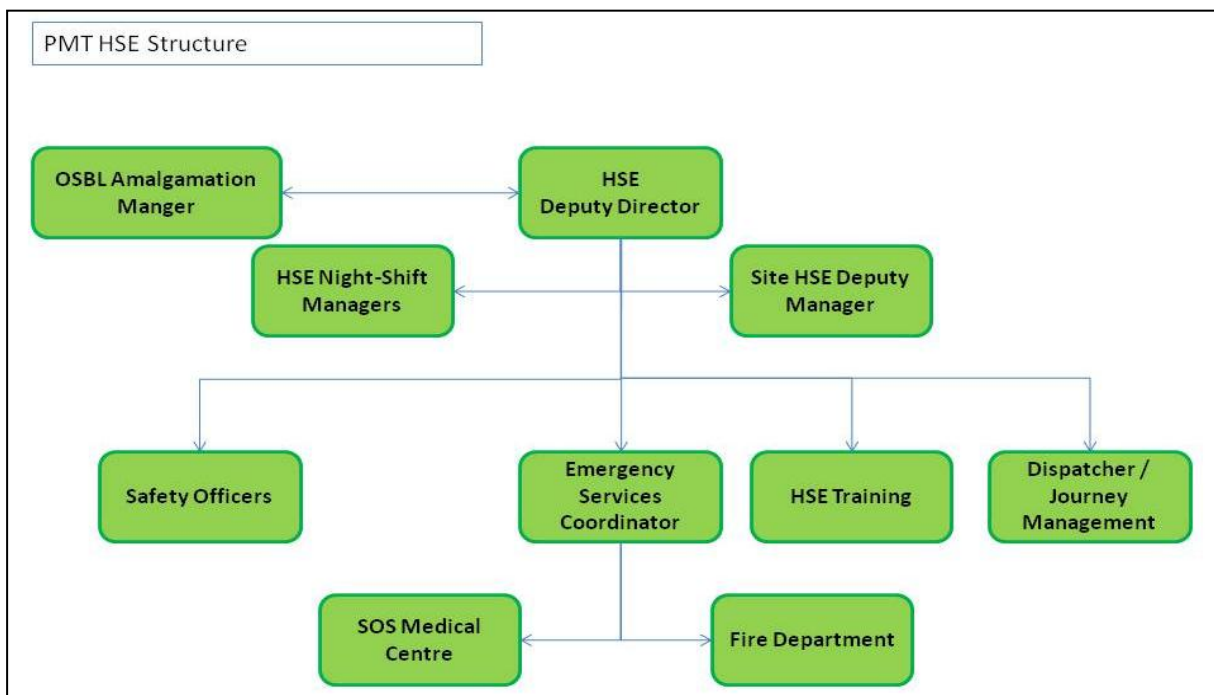
The (Flour) Deputy-Director (HSES) reports to the PMC Project Director, who reports to the Oyu Tolgoi Project Director/Executive Vice President, Construction responsible for delivery of the Oyu Tolgoi construction project.

Figure 19.5: Key Roles & Responsibilities within the Project Management Team



The structure of HSE management within the PMT is set out below.

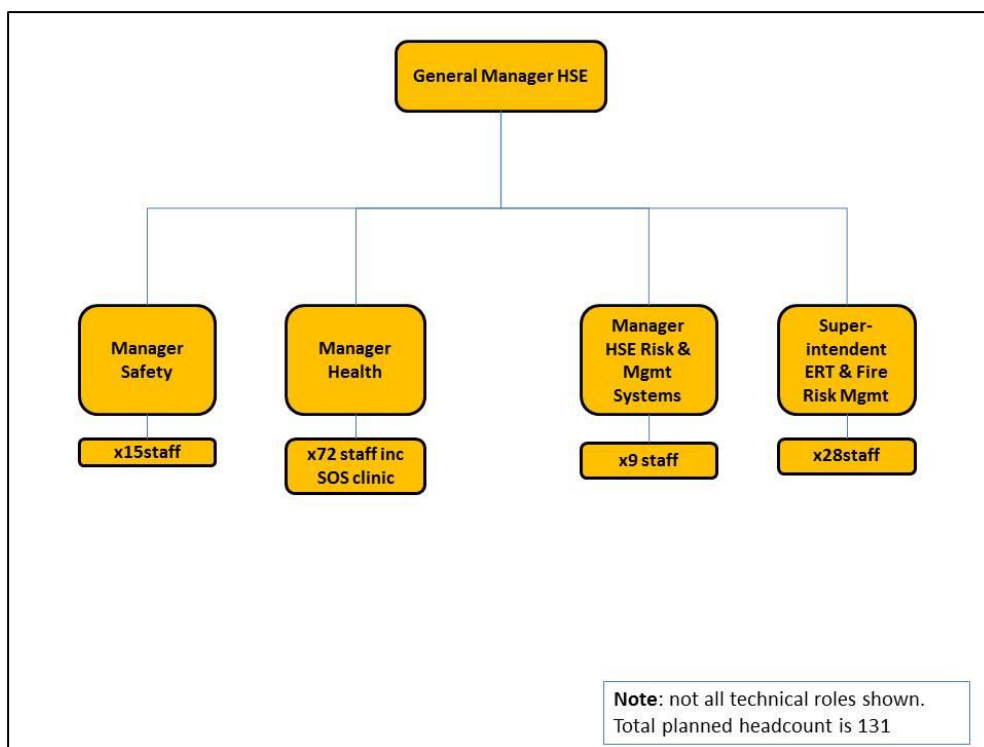
Figure 19.6: Project Management Team - Key HSE Roles



The Project Management Team contains HSE management capabilities as outlined above. The PMT HSE Deputy Director is primarily responsible for the implementation and monitoring of health & safety practices across Oyu Tolgoi construction activities, with less day-to-day responsibility for environmental issues.⁷

Oyu Tolgoi is developing its own resources and capabilities in preparation for the commencement of operations. The organisation of the Oyu Tolgoi health and safety department is outlined below.

Figure 19.7: Oyu Tolgoi LLC Health & Safety Department



Note: As at 2 June 2012

19.9 TRAINING

19.9.1 Training - Above Ground Activities

All employees of Oyu Tolgoi and contractors are provided with induction training, job-specific training and on-going regular toolbox training.

Within the HSEMS, Principle 4 (Training), states that:

- *Training needs shall be identified and implemented to allow managers and employees to work with proper regard for the health and safety of themselves and others and for environmental protection; and*
- *Training and validation arrangements shall be reviewed regularly.*

The Project also utilises an internet resource, 'Knowledge OnLine', which provides employees with a global collaboration environment, access to company expertise, and extensive reference materials including standard work practices, design standards, specifications, procedures, activity models, training, and other reference material used to execute projects.

⁷ Environmental Issues are primarily the responsibility of the Oyu Tolgoi Environment Department

19.9.2 Training –Below Ground Activities

The Redpath Safety Program includes a Training Policy, the Scope of which is stated as follows:

The purpose of this policy is to insure that all relief supervisors, supervisors, general foreman, crew trainers and Redpath training department members understand their roles and responsibilities for ensuring that training is completed before employees are allowed to operate any piece of equipment underground unsupervised.

The Redpath Safety Program also sets out mandated training, qualifications and requirements. Key training for supervisors is focused on safety, and addresses the following:

- *Redpath Safety System;*
- *Safety introduction;*
- *IRS and OSHA (system and procedural requirements);*
- *Supervisors' accountability; and*
- *Safety is everybody's responsibility.*

Specific additional safety-related elements within the training programme include:

- *Accident scenarios;*
- *Redpath safety accountability;*
- *5-point card safety system;*
- *Safety huddle;*
- *Accident imaging;*
- *Planned inspections;*
- *Job observations;*
- *Job hazard assessment (JHA); and*
- *Personal contact.*

19.10 AUDIT AND MONITORING REQUIREMENTS

Audit and monitoring requirements for the Project Management Team are set out in the General Health, Safety, Environmental and Security Practice, Practice A2MW 653 8020 Date 10Jan2006.

To bring monitoring and reporting into line with Rio Tinto standards, Project-wide reporting standards have been implemented across above-ground and below-ground activities as of June 2011. Common injury and occupational illnesses classification guidelines have been established. In summary, recordable occupational injuries and illnesses are divided into Medical Treatment Cases and Lost Time injuries.

All externally and internally reported injury statistics for Oyu Tolgoi construction and operations activities are to apply the classifications.

Table 19.1: Project Injury Classifications

Classification	Description
Lost Time Injury	Is the sum of fatal, lost day and restricted work day injuries
Restricted Work Day Injury	Occupational injury where, as a result: <ul style="list-style-type: none"> ▪ the employee was assigned to another job on a temporary basis; ▪ the employee worked at a permanent job less than full time; or ▪ the employee worked at his or her permanently assigned job but could not perform all the duties normally connected with it.
Medical Treatment Injury	Is an injury which is not classified as lost time, but which results in loss of consciousness or medical treatment other than first aid. Medical Treatment includes, but is not limited to: <ul style="list-style-type: none"> (a) The administration of prescription medication;

Classification	Description
	(b) The use of wound closing devices such as sutures, staples, or wound adhesives (glue); (c) The use of devices with rigid stays or other systems designed to immobilize parts of the body; and (d) Use of eye patches (except for use as a precautionary measure, and not extending into the next shift). Medical treatment does not include: (a) Visits to a physician or other licensed health care professional solely for observation or counselling; or (b) The conduct of diagnostic procedures, such as x-rays, blood tests, and the administration of prescription medications used solely for diagnostic purposes (e.g. eye drops to dilate pupils), or as a single dose administered on first visit for a minor injury or discomfort.
First Aid Injury	For reporting purposes is limited to one time treatment and subsequent observation and involves treatment for only minor injuries not emergency treatment of serious injuries. The professional status of the person providing the treatment does not have any effect on the classification of first aid or medical treatment. However, the severity of the injury does. First aid treatments, following an incident, include only the following procedures: (a) Using a non-prescription medication at a non-prescribed dose; (b) Administering immunizations (such as tetanus, Hepatitis B vaccine or rabies vaccine) given as a precaution for an injury requiring no further treatment; (c) Cleaning, flushing or soaking wounds on the surface of the skin; (d) Using wound coverings such as bandages, Band-Aids™, gauze pads, or using butterfly bandages or Steri-Strips™ (other wound closing devices such as sutures, staples, etc., are considered medical treatment) etc.; (e) Using hot or cold therapy during the first visit; (f) Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (g) Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.). (h) Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister; (i) Using eye patches; (j) Removing foreign bodies from the eye using only irrigation or a cotton swab; (j) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means; (k) Using finger guards; (l) Massage; the prescribing of exercises and up to three physiotherapy, chiropractic or other physical treatment modality (including but not limited to the use of ultrasound, interferential, other electrical modality) is to be classified as first aid treatment. (m) Drinking fluids for relief of heat stress. Anything else would be classified as medical treatment.

Safety audits of all contractor activities are undertaken on a weekly basis by the PMT (comprising Fluor and Oyu Tolgoi safety professionals). Daily inspections are undertaken by team leaders and supervisors.

A weekly review of high potential incidents (accidents and near misses) is undertaken by the Oyu Tolgoi senior leadership team (including the CEO, Executive Vice President Construction and other senior managers).

19.10.1 Underground Safety Monitoring

The Safety Program Application of the Redpath Safety Program Document states that:

- *It is the responsibility of the General/Area Manager to ensure that Safety Program accountability and compliance tracking is established at the onset of each of their projects; and*
- *Safety program elements are audited for quality as well as quantity.*

Audit provisions are noted throughout the Redpath Safety Program Document for each procedure defined.

Detailed records of all underground safety training, inspections, audits and corrective actions are maintained by Redpath.

19.11 RECORDS AND REPORTING

Records are maintained by the HSES Deputy Director for the Oyu Tolgoi Project Management Team and are maintained by the Redpath Site Superintendent and Safety Supervision as outlined in the Redpath Safety Program.

To ensure that the importance of health and safety is communicated to and reinforced with all workers on the Project the following actions are undertaken:

- Incident Injury Boards to be located at Front gate, and at the entrance to all mess areas with statistics representing Rio Tinto injury classification;
- Placement of a sign at the front gate with a message reinforcing importance of seat belts; and
- Rio Tinto Knowledge Share notices applicable to Oyu Tolgoi operations and general safety are distributed to site leaders each week to be used as safety briefings for each work team. This enables workers to communicate and coordinate with management on the detailed implementation of health and safety procedures and to enable any concerns to be raised with line management.

Redpath reports on health & safety performance to the Oyu Tolgoi Chief Operating Officer on a weekly basis, and medical treatment injuries and lost-time injuries are reported immediately. As outlined above, a weekly review of high-potential incidents and accidents is undertaken by Oyu Tolgoi senior management.

Incidents and injuries are included in the monthly Oyu Tolgoi management report. Safety performance results are published and distributed throughout the workforce via noticeboards and safety briefings.

19.11.1 Health and Safety Review and Management Meetings and Committees

The following meetings and committees have been established to monitoring health and safety management issues.

Table 19.2: Key Construction-Phase Health & Safety Review and Management Meetings

Title	Chair	Attendees	Frequency	Purpose
Oyu Tolgoi Safety Policy	CEO	CFO, COO, VP HR, VP HS&S Executive Vice President, VP Construction, VP Reg Dev	Monthly	Steering committee, authorisation of priority HS&S strategies
Oyu Tolgoi Site Safety Committee	COO	VP HS&S, Executive Vice President, VP Construction, Operation Managers, Construction Managers	Monthly	Ensure safety issues are identified and addressed across Oyu Tolgoi
Incident Review Meeting	VP HS&S	COO, Executive Vice President, VP Construction, Operation Managers, Construction Managers Top 50 managers	Weekly	Transfer of leading practice. Ensure effective close out of incident actions.
HS&S Training	VP HR	COO, VP HS&S Mgr HSEQMS, Training Mgr,	Monthly	Ensure critical HS&S skills training proceeds on track
HSE Professionals	VP HSE	Contract HSE Managers, Operations HS&S Managers, Fluor HSE Managers	Weekly	Ensure alignment of key HS&S personnel and track progress of key initiatives from strategy committee

Title	Chair	Attendees	Frequency	Purpose
HSE Risk Review	VP HS&S	TBC	Monthly	Review of key controls for nominated risks
HSE Operational Readiness review	COO	COO, Operations Managers, VP Construction Phase 2, VP HR, Operational Readiness VP	Monthly	Ensure key HS&S activities supporting operational readiness are on track
PMC Safety Meeting	HSE Director	Flour HSE personnel and Contract HSE managers	Weekly	Ensure key HS&S initiatives are transferred to the Contract HSE personnel

19.12 KEY PERFORMANCE INDICATORS

Oyu Tolgoi monitors key health and safety related issues. Key Performance Indicators (KPIs) used to assess its health and safety management are presented in *Table 19.3* below⁸.

Table 19.3: Key Performance Indicators

ID	KPI	Target/threshold	Monitoring measure
WHS-KPI01	Lost Time Injuries (LTIs)	Target: Zero Threshold: 2	LTI Frequency (per 200,000 hours worked)
WHS-KPI02	Medically Treated Injuries (MTI)	Target Zero Threshold: 10	MTI Frequency (per 200,000 hours worked)
WHS-KPI03	First Aid Treatments (MTI)	Target: Zero Threshold: 20	First Aid Frequency (per 200,000 hours worked)
WHS-KPI04	All Injury Frequency Rate	Target: Zero Threshold: 0.56	All Injury Frequency (per 200,000 manhours worked)
WHS-KPI05	Health Incidents	Target: Zero	New cases of Occupational Disease (per 10,000 employees)
WHS-KPI05	Reduction of key risk	Target: 10% Threshold: 5%	Percentage reduction in total risk score from baseline Semi Quantitative Risk Assessment

19.13 HEALTH & SAFETY IMPROVEMENT PLAN

A Safety Improvement Plan is being implemented to Oyu Tolgoi to:

- Continue the improvement and development of the health & safety systems operating during the construction phase;
- Continue alignment of the current HSMS with the Rio Tinto health and safety frameworks such that these will be fully functioning in the “operations” parts of the Project by first ore; and
- Establish the key Rio Tinto health and safety elements across all contracting groups working on the Project.

The Oyu Tolgoi leadership team has made a strategic commitment to build a “zero harm” organisation. This commitment is based upon a belief that all workplace injuries are unacceptable and an understanding that Oyu Tolgoi’s safety performance has the potential to materially impact the performance of the entire business.

⁸ It has not been possible for Oyu Tolgoi to obtain employee safety records from other companies in Mongolia i.e. to allow benchmarking; however, safety data from other Rio Tinto operations will be analysed (as available) in order to benchmark Oyu Tolgoi’s performance going forwards.

The overall plan is designed to address priority elements of the Rio Tinto HSEQ Management System in a way that provides maximum potential for improving and sustaining safety performance while installing the full 17 system elements of the Rio Tinto HSEQ Management System across the production organisation in preparation for first ore in 2012. The safety system will be fully aligned to OSHAS 18001 and will be externally audited.

The construction work environment is managed by the existing Fluor safety management system for above-ground activities and by the Redpath safety management system for below-ground activities. The intention is to modify the Fluor safety management system for the construction environment only to the extent that key issues from the Rio Tinto safety performance standards are not addressed effectively. Simultaneously the Rio Tinto system (for above-ground and underground operations) based on Rio Tinto HSEQMS will be fully implemented by mid-2012.

19.13.1 Scope

The Safety Improvement Plan covers all construction-phase and operations-phase activities and is focused on activities taking place between mid-2011 and mid-2013.

19.13.2 Approach

The Oyu Tolgoi Safety Improvement Plan is structured in accordance with Oyu Tolgoi's six strategic safety themes:

- Organisation;
- Leadership;
- Tools & systems;
- Key risks;
- Training; and
- Regulatory compliance.

Plan activities are separated into phases based on priority and overall organisational capacity. The following table provides a summary of the Oyu Tolgoi Safety Improvement Plan. These actions have been derived from the key elements of Rio Tinto's HSE approach as illustrated.

Figure 19.8: The Key Elements of Rio Tinto's HSE approach



The following action plan presented in *Table 19.4* is under development and implementation.

Table 19.4: Oyu Tolgoi Safety Improvement Plan – Key Tasks

Phase	Organisation	Leadership	Tools & Systems	Key Risks	Regulatory	Training
Phase 1 Primary focus during July – December 2011	Organisational design Resourcing Incentives	Supervisor core leadership skills – construction & operation	Golden Rules Safety Interactions Pre-Task Risk Assessment Pre-shift briefings Incident Reporting	Phase 1 - standards <ul style="list-style-type: none"> ■ Isolation ■ Electrical ■ Vehicles & driving ■ Working at heights ■ Confined space ■ Cranes & lifting 		Training & communications to support phase 1
Phase 2 Primary focus during January – December 2012	Transition of SOS Transition of Site ERT Transition of site security	Supervisor core leadership skills - production Hazard awareness	Induction Incident investigation (taproot) Incident reporting / classification / analysis Safety committees / governance	Phase 2 –standards <ul style="list-style-type: none"> ■ Contractor Mgt ■ Mgt of Change ■ Aviation ■ Underground ■ Open pit slopes ■ Permits ■ Process Safety ■ BRRP 	Review of Mongolian standards and law	Training & communications to support phase 2
Phase 3 Primary focus during 2013	Career & professional development		Personal Safety Plans HSEQ Management System	Fatigue management Personal Protective Equipment Equipment Inspections	Regulatory Reform	Training & communications to support phase 3