

HEALTH AND SAFETY MANAGEMENT PLAN

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| Prepared by: | Vijaykumar Rana (Project Manager) |
| | |
| Reviewed by: | Biranchi N Pati (AVP & Head-BD & Project) |
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| Approved by: | Vinod Wagh (CEO) |

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1 PREAMBLE

This Plan outlines the manner in which SAMTA Mining and Metal (SM) plans to establish and maintain safe operations across the sites.

The Plan establishes, for the Project, the principles of managing Occupational Health, Safety and Welfare matters in accordance with corporate policy, relevant legislation and regulations. The Safety Management Plan is designed in line with national requirements, international standards including, IFC Occupational Health and Safety Management Systems Specifications, Environmental, Health, and Safety (EHS) Guidelines, IFC Environmental, Health and Safety Guidelines for Mining and other best practice standards.

This Plan is designed to give a direction for the company to establish these systems and procedures (Safety Management Plan) in accordance with the above-mentioned requirements The intent of the Safety and Health Management Plan is to provide for a documented system as a means to control risks associated with the company's operations.

Employees are at all times encouraged to point out any shortcomings in this plan for the improvement of health and safety. Such matters should be reported to the Health and Safety Manager through line supervision.

2 CONTINUOUS IMPROVEMENT PHILOSOPHY

The Health & Safety Management Plan will have a set of generic elements forming a continuous improvement cycle. Such a cycle will be:

- Policy and objectives;
- Standards and targets;
- Planning and prioritizing;
- Implementation;
- Monitoring;
- Auditing;
- Corrective action;
- Review.

3 LIFE CYCLE APPROACH

The life cycle approach ensures that all areas of our operation are controlled by the system with regards to the "ZERO HARM" philosophy this includes:

- Project Concept;
- Project Feasibility / Sanction;
- Project Design;
- Construction;
- Commissioning;
- Operation;
- Maintenance;
- Modification;

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• Disposal / Closure.

4 BEST PHILOSOPHIES

4.1 Purpose and Scope

To develop a workplace environment that encourages improvement in work methods and the elimination of workplace accidents and injuries.

To encourage teamwork and cooperation in the support of the Health and Safety Management Plan.

The establishment of a working environment that will be a significant factor in the successful completion of all allotted work and the success of this Health and Safety Management Plan.

4.2 Teamwork Approach

The SM Management emphasizes a teamwork approach to work. This requires a conscious effort by Management to involve all employees in work methods and practices.

Supervisors shall involve employees in the planning of their work and the work methods to be employed in the execution of their tasks. This shall include the identification of hazards and assessments of the risks associated.

Fundamental to this approach is the consideration of the environment, health and safety in such planning and adoption of work methods, and the establishment of protection and precautions necessary in ensuring the health and safety of all involved.

4.3 Continuous Improvement

A Best Philosophies philosophy shall be supported through-out the organization by a focus on a methodical approach to continuous improvement of methods and systems employed in the health and safety management of the work and workplaces.

Employees shall be encouraged to participate in the measurement of work performance and the development of methods and refinement.

Contractors shall likewise take a pro-active role in supporting SM in further developing the health and safety management and associated planning.

This Health and Safety Management Plan provides the basis for refining work methods beyond safety and health, but its' primary objective is to focus on the health and safety of the work place and methods, and the environment in which we all must work.

5 LEADERSHIP AND ACCOUNTABILITY

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5.1 Visible Leadership

All personnel and contractors on site shall actively demonstrate leadership as well as participate in all leadership programs and initiatives in order to foster a company safety culture.

All managers, superintendents and supervisors shall perform the following tasks as a minimum:

- Maintain constant vigilance for hazards in all activities involving SM staff, contractors and visitors. Any hazards or at-risk behaviours must be identified and people responsible or potentially impacted must immediately be notified and the activity stopped until it can resume safely;
- Perform Take 5 on all non-routine tasks that do not have a JHA or formal work method statement;
- Conduct Planned Task Observations (PTO) to identify both safe and at-risk work behaviours, ensure work method statements are being followed and to facilitate supervision and employees to proactively discuss Health, Safety and Environment issues while on the job;
- Review risk registers to evaluate the adequacy of controls identified for high-risk tasks;
- Participate in all leadership training initiatives;
- Assess the verification of competency processes to determine that the process has been correctly followed and that personnel are trained and competent in the positions they are in;
- A minimum number of these tasks shall be assigned to each leadership position and reports on compliance with this requirement shall be included in monthly reports.

5.2 Reward and Recognition

Safety performance is an integral part of the of the company's reward and recognition program.

An incentive scheme shall be put in place to encourage a "good" safety culture. The incentive scheme shall be proactive and shall reward good safety practice such as hazard identification. The incentive scheme shall not use reactive statistics such as lost time injury rates as a basis of deciding incentives as these types of scheme encourage the falsification of statistics.

Key individual safety performance indicators shall be included in all incentive and/or bonus schemes.

For personnel directly employed in a safety position a career development path and plan shall be formulated in order to continuously improve our site safety professional's knowledge and performance.

This may include but is not limited to:

- Further education programs
- Direct one on one mentoring with more experience or qualified safety personnel.
- Benchmarking tours to other similar sites.
- Insertion into particular work groups to gain direct hands on knowledge of operational requirements.

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5.3 Roles, Accountability and Behaviours

Every person working on a SM site shall have their safety responsibilities detailed in the position description for their particular job.

All persons working on a SM site is accountable for the safety responsibilities detailed in their position description.

A single point of accountability shall be allocated to appropriate supervisors, superintendents and managers for the area of operations under their control.

All persons are required to demonstrate behaviours in the workplace and the camp that are in line with the responsibilities detailed in their position description and in line with the company's policies and code of conduct.

6 LEGAL AND OTHER REQUIREMENTS

6.1 Acts and Regulations

The Company shall maintain appropriate information systems and contacts with regulatory and industry bodies, to stay abreast of occupational health, safety legislation affecting its operations. Subscriptions to legislation services, magazines and memberships to industry committees will be maintained to assist with staying abreast of legislation and other requirements.

6.2 H&S Compliance

In the development of the H&S Management plan, SM shall define how compliance with legislative requirements are to be met and any delegated responsibility for these by a Legal Compliance Mapping exercise.

Periodic evaluation of compliance with legal and other requirements shall be through the following avenues:

- An initial review of site establishment against OHS Plan requirements.
- Periodic H & S audits.
- Regular inspections of plant and facilities.
- Periodic inspection and testing of H&S equipment.
- Reporting of any breaches of legislative requirements.
- Any audits or reviews by any regulating body will also provide assurance of regulatory compliance.

6.3 Communication of Legal Requirements

A copy of all relevant legislation shall be maintained on the site.

The copy of the relevant legislation shall be accessible to all personnel on site.

All persons shall be informed how and where they can access the relevant legislation.

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6.4 Appointed Persons

A process shall be in place to provide a consistent framework for ensuring suitably qualified and experienced persons are formally appointed in compliance with the relevant sections of the Moroccon Mining law. Such appointments are to clearly outline the responsibilities specific to that position and include area accountabilities.

System compliance: - All required appointments are to be filled and secondly, that each person has the necessary skills and qualifications, and is aware of and accepts their responsibilities for that appointment. Qualifications will be part of the Letter of Appointment documentation. This confirmation should be achieved by a combination of assigning management of the process to a specific job role and the use of internal auditing.

A register of such appointment shall be kept so that any statutory or company senior official can readily access the register in order to readily identify any appointed person.

6.5 Dangerous Goods

Wherever possible, dangerous goods are to be substituted with those that have a lower risk associated with their storage, handling and transport, and / or reducing the quantity of dangerous goods on site.

A risk assessment shall be performed on all dangerous goods that are required to be on site and shall take into account the following:

- Safe transport of the dangerous goods;
- Safe handling of the dangerous goods;
- Safe storage of the dangerous goods.

As part of the approval process a chemicals Material Safety Data Sheet shall be sent to the site prior to any goods arriving on the site.

No dangerous goods shall be allowed to enter the sites without a risk assessment being performed on the goods.

No dangerous goods shall be allowed on site without the relevant government licenses being held on site.

No dangerous goods shall be allowed on site without the express written permission of the Health and Safety Manager or an appropriately authorized person.

Dangerous goods and combustible liquids are only to be used for the purpose(s) for which they were designed, and as per relevant MSDS / Manufacturer recommendations.

Dangerous goods shall be stored, handled and transported according to the requirements of the any relevant legislation, the MSDS and Manufacturer recommendations.

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All appropriate government licenses must be

maintained and kept up to date for the storage, handling and transport of dangerous goods.

A register of these licenses shall be maintained and monitored to ensure that all licenses are kept up to date.

Specific procedures shall be formulated for the storage, handling and transport of all dangerous goods.

A register of dangerous goods shall be maintained detailing

- The product name;
- Any generic product names;
- The suppliers details;
- What the product is used for;
- Date of approval for site and the reference number;
- Dangerous goods class;
- Packing group;
- The amount of goods that are on site;
- The location of the goods that are on site;
- Date of the latest MSDS.

All persons handling dangerous goods shall be suitably licensed, trained and competent for the goods they are handling and shall do so in accordance with the requirements of the legislation and procedures for handling such goods.

Suitable personal protective equipment shall be maintained on site and must be worn by all persons handling dangerous goods.

All persons required to wear specific personal protective equipment for handling dangerous goods shall be suitably trained and competent in the use of the personal protective equipment.

The transport of all dangerous goods shall be done in accordance with the requirements of the legislation and shall be done in containers and in vehicles that are fit for purpose.

7 PLANNING, GOALS AND TARGETS

7.1 H&S Management Plan

This safety management plan is developed in accordance with the HSSEC Policy.

7.2 Planning

SM Management shall ensure that safety aspects are considered in detail when planning work and associated work methods.

Every effort shall be made to ensure a safe method of work is to be employed before any activity is to commence.

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The level of risk involved in any activity should be controlled to be "as low as reasonably practicable". Where it is possible work is to be done in a manner and/or location that will reduce risks to health and safety.

Control measures shall focus on the hierarchy of control with "hard barriers" put in place wherever possible.

The hierarchy of controls is as follows:

- Design allows hazards to be designed out and control measures to be designed in;
- Redesign redesigning plant or work processes to reduce or eliminate risk.

(Methods 1 and 2 are usually undertaken at Management level. For on-the-job levels, the hierarchies of controls usually begin at Method 3.):

- Elimination modification to process method or material to eliminate the hazard completely;
- Substitution replacing the material, substance, or processes with a less hazardous one;
- Separation- isolating the hazard from persons by safeguarding, or by space or time separation;
- Administration adjusting the time or condition of risk exposures/ probation/training;
- Personal Protective Equipment using appropriately designed and properly fitting equipment where other controls are not practicable.

Further, where possible all permanent safety protection /devices are to be included in the manufacturing process or prior to commencement of activities. e.g. handrails and platforms fitted to structures.

7.3 Goals and Targets

The goal of the safety management shall always be to achieve ZERO HARM in accordance with the company's policy.

Specific health and safety targets shall be set in the safety management plan and all such goals and targets shall be:

- Specific Specific in their description;
- Measurable all targets shall be measurable and be able to be tracked in order to demonstrate improvement or decline in achieving such targets;
- Achievable Be realistic and achievable targets;
- Realistic; and
- Achievable.

8 H&S HAZARDS AND RISKS

8.1 Hazard Identification and Reporting

Hazard identification is identified as an area critical to the safe operation of the site.

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Formal hazard identification and reporting processes shall be in place.

Hazard identification training shall be given to all employees and contractors during their initial induction and on an ongoing basis

Hazard identification is one of the key indicators of occupational health and safety

8.2 Risk Management Processes

Risk Management processes shall be applied to all areas of operation on site and shall apply equally to management, employees, contractors, sub-contractors and visitors.

All persons shall be required to assess the risks of their job or task prior to the commencement of the task

All persons shall be trained in Risk Management processes.

If a risk assessment demonstrates that there are significant risks to the health, safety and wellbeing of any person the task shall not be commenced until such time that the risks are reduced to levels that are "as low as reasonably practicable":

- Whenever there are several risks present or introduced that it becomes necessary to apply risk priorities in an organized way;
- Wherever there is a planned change to equipment, machinery or a process;
- As part of an incident report to determine the priority and type of preventative action required'
- When legislation requires that a Risk Assessment is performed;
- When new, hired or transferred equipment is brought to site;
- Whenever a new process, procedure or task is developed or introduced.

During the development of a Work Method Statement (WMS), Standard Operating Procedure (SOP), Work Instruction (WIN), Safe Work Procedure (SWP) or Safe Work Instruction (SWI)

8.3 Risk Management Matrices

SM's approach to risk management is multi layered and therefore different consequence and likelihood risk matrices have been developed to reflect the differing layers of risk management being employed.

- Take 5 and JHA appendix 1;
- Formal risk assessment appendix 2;
- Material risk assessment appendix 3.

8.3.1 TAKE 5 (Stop Look And Manage SLAM)

The Take 5 process is individual hazard identification and control assessment, where the individual reviews the workplace, system of work and work environment immediately prior to starting a task and ensures controls are in place to prevent exposure to themselves or work

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type tasks a Take 5 shall be performed at the start of each shift, or task, and again if the conditions change while work is being performed. Guidance to completing a Take 5 is covered in the SM general induction and required documentation will be provided to each SM employee and contractor.

8.3.2 Job hazard analysis

A Job Hazard Analysis (JHA) is a team process used to systematically identify and record the steps, hazards and preventative controls associated with a task or activity. The JHA process is a formal hazard analysis process and is a component of the overall on the job Risk Management Process. The JHA follows a step-by-step approach to the task and identifies the hazards for each step and the controls to be put in place to mitigate the hazards during the task.

A JHA shall be undertaken when:

- There is a task specific requirement such as complex tasks;
- There is a significant change to the Environment in which the task is to be undertaken;
- Permits are required such as Confined Space, Hot Works;
- An individual identifies the need;
- Directed by supervision;
- New tasks are being carried out;
- Required by a Take 5;
- The task is not covered by a Safe Work procedure or Work Instruction;
- Personnel are not experienced in the task.

The JHA team shall include:

- The Job Owner;
- Personnel experienced in the task;
- All other persons that will be carrying out the job;
- The JHA team may also include Specialist or other personnel as required such as a Safety professional.

The JHA shall be completed using SM documentation and the Risk Assessment Matrix- Once a JHA is complete, all personnel involved in the task shall sign off the JHA to reflect their understanding and acceptance of the JHA. The Supervisor, after having visited the worksite, signs the completed JHA, acknowledging the quality including appropriate steps and identification of hazards and controls. If the Supervisor is a non-SM person, then the SM responsible persons shall sign the JHA, acknowledging that the JHA is adequate for the job to be performed safely. A SM responsible person is either a SM employee or a person nominated by the Department Manager. After the JHA is completed it must be signed off by a SM Safety Advisor as a cross check on its suitability.

It is the Job Owners' responsibility to communicate the hazards and associated controls to be put in place for a specific job that may simultaneously impact on other operations being carried out in the same area. If hazards and controls are not agreed upon by the JHA team, the disagreement shall be discussed with the SM Supervisor or Responsible Person.

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The JHA is a live document that expires at completion

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of task, or 3 days after development, whichever comes first. If used over multiple shifts, the JHA shall be reviewed at the start of each shift with consideration to any changes in conditions, equipment or personal. The new team shall sign onto the JHA, however if conditions have greatly altered, a new JHA shall be attended. Guidance to completing a JHA is covered in the SM JHA Training program and required documentation will be provided to each SM employee and contractor.

8.3.3 Formal risk assessments

Formal Risk Assessment (FRA) is a process which systematically identifies hazards, control measures and provides a qualitative analysis of activities or processes. An FRA is also known as a Workplace Risk Assessment and Control (WRAC); a Constructability and Maintainability Review (CRAW); an Enterprise Wide Risk Assessment (EWRM); or a Failure Mode Effect Analysis (FMEA) Hazard and Operability Study (HAZOP). For identified material risks a bowtie material risk assessment must be completed.

FRA's are conducted:

- To develop a Business, Department and Section's risk profile;
- Prior to shutdown activities;
- Whenever any other changes occur in the workplace, likely to impact H&S;
- Whenever new plant/equipment, processes or work methods/systems are introduced;
- Whenever existing plant/equipment is used in a substantially different manner;
- Whenever existing plant/equipment is substantially modified or changed; and
- At the feasibility stage of projects to identify all potential hazards and risks associated with construction process or the maintainability of the facility.

A FRA is developed in a workshop environment and involves a cross section of the workforce who has the necessary skills, knowledge and experience in the activity being assessed.

8.3.4 Material risk management processes

A Material Risk Management Study shall be conducted on SM operations. The Material Risk Management study shall be focused on 3 questions:

- What are the things that can kill me?
- What controls do I need to put in place to protect me?
- How do I know they are in place and effective?

The intent of the MRM Study is to ensure:

- Material (Fatal) Risks (MRs) are identified, assessed, understood, communicated and managed;
- Material Risk Controls are defined, assessed for adequacy, implemented and monitored;
- Material Risk Controls maintain MRs at a tolerable level;
- Arrangements are in place to provide assurance that MRs are effectively managed.

A critical control is a control that is essential to prevent a fatality. The critical controls identified shall be grouped into Performance Standard Categories including but not limited to:

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- Isolations;
- Lifting;
- Electrical Systems;
- Working at Heights;
- Traffic Management;
- Equipment Guarding;
- Working on, in, over or around water or other liquids;
- Wheel and Rim Management;
- Malaria and other Insect Borne Diseases;
- Encounters with Dangerous Wildlife;
- Any other identified Fatal Risk.

An audit shall be completed and gaps in the critical controls identified.

An action plan shall be formulated to address the identified gaps in the critical controls so that MRs are controlled.

8.3.5 Risk Register

A Material Risk Register will be developed for the project to capture all outcomes of material risk assessments.

A risk register shall be developed for the project to capture all the outcomes of individual risk assessments.

The risk registers shall be regularly tracked and maintained in order to ensure that identified risks are being managed in accordance with the requirements of the risk assessment that was completed.

The risk registers shall be maintained in a location where all personnel involved with the project have access to the register.

9 MATERIAL RISK MANAGEMENT PLANS (MRMP)

All identified Material Risks (MR) shall be identified as per section 8.3.4 of this document.

Material Risk Management Plans (MRMP) shall be developed for as a minimum:

- Isolations;
- Lifting;
- Electrical Systems;
- Working at Heights;
- Traffic Management;
- Equipment Guarding;
- Working on, in, over or around water, mud or sand;
- Wheel and Rim Management;
- Malaria and other endemic diseases;
- Encounters with dangerous wildlife;

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• Any other identified Fatal Risk.

9.1 MRMP - Isolation

Purchase, design and modification of equipment shall give due consideration to being able to isolate the equipment.

Isolation shall provide positive protection and be achieved by the use of locking devices or establishment of a physical barrier or separation. All separations or physical barriers shall be provided with either a permanent or temporarily fitted locking device whenever possible.

Isolation points shall be clearly labelled to identify the circuit or system over which they have direct control. These labels shall be applied following a process of pre-isolation identification using isolation lists, marked drawings etc. (where permanently applied, these labels shall be physically verified prior to the isolation).

All hired and contracted equipment shall be inspected to ensure it meets site isolation requirements before use on site.

9.1.1 Isolation risk assessment

Prior to starting any work a person is to take time to understand the hazards and energies being dealt with so the work can be performed safely. The individual shall determine the need to carry out a formal risk assessment using a Job Danger Analysis worksheet where the activity is not routine or familiar, or where there has been a change in conditions.

Risk assessments shall consider the static and dynamic energies, which may impact on the activity under assessment. Such energy sources shall be isolated so as to minimize the risk of harm to persons, equipment and the environment to an acceptable level. In situations where it is not possible to:

- Achieve a zero-energy state;
- Test for dead;
- A risk assessment process (i.e. Job Danger Analysis) shall be used to identify appropriate controls that will ensure the level of risk is at an acceptable level prior to commencing work.

9.1.2 Isolation integrity

It is the responsibility of personnel prior to carrying out work to verify the integrity of their isolation using the following principles:

- Identification of all energy sources or hazardous materials directly and indirectly associated with work to be performed;
- Confirmation of those systems requiring isolation;
- Isolating the confirmed energy or hazardous material sources;
- Verify or carry out testing of all system isolations when reasonably or feasibly possible (to verify the integrity of the isolation and ensure a zero-energy state exists);
- Application of personal lock and personal danger tags.

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Where this is a regular activity consideration should be made to develop a work instruction using the above principles.

9.1.3 Use of personal locks and personal danger tags

Personnel required to isolate at a SM site shall be issued with the appropriate number of Personal Locks.

Where additional Personal Locks are required, e.g. for additional isolations or for use by Contractors' personnel, these shall be suitably identified as Personal Locks.

Where a Personal Lock or locks can be fitted, a fully completed Personal Danger Tag shall also be securely attached. The information to be placed on the tag shall include the isolation point and the reason for the isolation.

No person shall attempt to start / operate any equipment that has another persons' Personal lock or Personal Danger Tag attached. Confirm with the person who carried out the original isolation.

Personal Locks and Personal Danger Tags shall be used where there is a possibility of injury, regardless of whether an "Out of Service" tag has been placed on the equipment / machinery / plant.

Under no circumstances shall any person carry out work under another person's personal lock and danger tag.

Maintenance is not to be performed on isolation points that are isolated and locked out. If it is necessary to work on the isolation point than all persons who have their Personal Locks attached are to be advised to use an alternative isolation point.

Only the person who placed a Lock and Personal Danger Tag can remove them.

Should a situation arise where that person is unable to remove them for any reason it shall be done in strict compliance with site rules and can only be done with the authority of the VP HSSEC or their designate.

9.1.4 Isolation handover process

An isolation handover process shall be in place for situations where a change of personnel or shift is required on a job.

This shall include a process whereby all personnel unlock and tag off the job regardless if they are or not and then lock and tag back on the job.

9.1.5 Plant and equipment handover

A procedure shall be in place for transfer (hand-over) and return (hand-back) of control of plant and equipment between operations and maintenance teams.

9.1.6 Out of service tags prevent the use of unsafe or faulty equipment

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Equipment or machinery on which an Out of Service

Tag has been placed must not be used or operated, except by a person qualified to ascertain the nature of the equipment malfunction or to move the equipment to a safe position for maintenance.

9.1.7 Responsibility of placing of an out of service tag

Whenever a person can foresee that the use of defective equipment or machinery could cause further damage to the equipment or injury to personnel, they must isolate the equipment and attach an Out of Service Tag. The person shall inform their Supervisor as soon as possible before leaving site.

9.1.8 Persons permitted to remove out of service tags

Removal of an Out of Service Tag is restricted to the following persons after an inspection of the equipment and/or confirmation of completion of appropriate repairs to ensure that it is in proper working order and that its operation will not cause injury to persons or damage to equipment.

Persons competent to carry out repairs to the equipment after the equipment has been repaired and sufficiently tested.

9.1.9 Training in isolations

All personnel shall be trained in the basic use of locks, personal danger tags and out of service tags.

All persons shall be issued with out of service tags to be able to tag out any defective equipment they are required to work on.

Only personnel who are required to isolate energy for repair and maintenance purposes are to be issued with locks and personal danger tags.

Personnel who are required to isolate energy for repair and maintenance purposes will be given specific isolation training in the requirements of their position.

9.2 MRMP - Lifting Operations

All electrical cranes shall have power supply isolation points capable of being positively locked.

Cranes shall be ergonomically acceptable to the site and have fall protection systems provided for their operation, maintenance and inspection.

Cranes without a physical locking system that disables and isolates its free-fall capability shall not be used.

Electric overhead travelling and portal cranes should have overload protection.

Crane cabins should be air-conditioned or heated in accordance with environmental conditions.

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All crane cabins shall have signs to warn against interruption of the operator.

Vehicle loading cranes shall have sufficient engineering controls to prevent the operator from being crushed during lifting operations.

All crane hooks shall be fitted with a positive locking safety catch.

The safe working load (SWL) or working load limit (WLL) shall be clearly identified and marked on all cranes and relevant lifting equipment and shall not be exceeded.

All cranes and lifting equipment shall comply with the requirements of the relevant approved design standard.

The minimum acceptable design standard shall be the relevant ISO standard. In countries where the requirements of the relevant national standard exceed the requirements of the ISO standard, the national standard shall apply.

All cranes and lifting equipment shall be identifiable with a unique identity code or number.

A competent person shall determine the maximum environmental conditions under which cranes and lifting equipment can be safely used. Except in the event of an emergency, cranes and lifting equipment shall not be put into service if the maximum environmental conditions are exceeded. Risks shall be assessed in emergency situations.

Items of lifting equipment that are subject to wear and frequent replacement (e.g. slings, shackles, pad-eyes, shipping and handling baskets) or used to transport equipment to and from sites, shall be colour coded to confirm compliance with certification and inspection requirements.

A formal selection and acceptance process based on risk assessment shall be in place for all new (to site) and modified lifting equipment, taking into account the crane's various safety features and cabin ergonomics, prior to commencement of work.

Manufacturer's crane and lifting equipment operating manuals and load charts shall be available to the crane and lifting equipment operator. These should be in the language of the country in which the lifting equipment is being used.

Where the crane and lifting equipment operator is not conversant with the language of the country, provisions shall be made to ensure that the operators can understand the operating manuals and load charts.

Cranes shall not be used for lifting operations until crane operators have been given sufficient time to familiarize themselves with relevant aspects of the crane.

Risks associated with all lifting, crane maintenance, assembly activities and environmental conditions shall be assessed as part of the planning process. Barricading, warning signs or other

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means of ensuring personnel protection shall be in $\overline{}$

place during lifting operations and for those cranes left unattended in wind vane mode.

There shall be no side loading of crane booms. With the exception of pick and carry operations, no lifting shall be carried out without outriggers being deployed and locked.

Controls shall be in place to prevent objects from lifting equipment and loads falling from above. The lifting of personnel with cranes shall only be carried out using approved workbaskets or cages. Cranes used for this purpose shall be approved as suitable for man-riding operations. A recovery plan should be in place before personnel are lifted.

The elimination of the need to work under suspended loads shall be pursued. Where working under suspended loads is unavoidable, controls shall be in place to eliminate or minimize the risks to personnel.

Any modification to cranes and lifting equipment shall be subject to the original equipment manufacturers approval and to a rigorous change management process.

A preventative maintenance system should be in place to ensure that all cranes and lifting equipment is maintained and in a serviceable condition.

All cranes and lifting equipment shall be inspected and tested (including non-destructive testing as required by the relevant standard) prior to being operated or put into service.

After any repair and/or modification, cranes and lifting equipment shall be inspected (and nondestructively tested as required by the relevant standard) prior to being returned to service.

A system of periodic inspection shall be in place for all cranes and lifting equipment. Lifting equipment shall be visually inspected and confirmed fit for purpose prior to being put into service. Visual inspection of lifting equipment by approved competent person should be performed on a regular basis (e.g. six monthly) unless regulations in the local area require examination more frequently. A register of all lifting equipment should be maintained. This should include:

- Equipment's unique identification number;
- Documentary evidence of all inspections;
- Certifications;
- Maintenance;
- Modifications and tests.

Suitably qualified, certified and competent person/s shall be involved in the planning, supervision and implementation of the lifting operations.

The roles and responsibilities for lifting operations shall be clearly defined.

A competency-based training program for contractors, employees and supervisors shall be in place. An approved examiner should assess the competency for trainers performing such training.

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A competent inspector shall perform lifting equipment

inspections. An approved examiner should assess the competency of the lifting and handling equipment inspector.

Crane operators and crew shall be able to communicate in a common language and to use the correct crane signals.

Sole crane operators shall also be trained in slinging practices.

A fit-for-work policy shall be in place, incorporating defined action levels for drugs and alcohol and a fatigue management plan.

Behaviour based observations shall be performed and any need for additional specific training shall incorporate the results of these observations.

9.3 MRMP – Electricity

9.3.1 Electrical rules

All site equipment, including contractor equipment shall be inspected prior to use to ensure it is fit for purpose. Electrical equipment shall be operated and maintained in such a manner as to avoid danger to all personnel and to permit the continued use of the equipment in service.

All equipment items shall be fitted with a coloured and numbered identification tag, which shall show the date the last test was performed, and the next due test date which is expiry date of approval. The month of expiry should be indicated by a different monthly colour, for ease of identification and enforcement. Tags shall be non-transferable and shall only be attached to the approved portable electrical equipment by an authorized electrician before initial use and at regular intervals as per risk assessment.

Equipment subject to quarterly testing and tagging shall display tags will the following colour identification;

- RED-January, February, March
- GREEN -April, May, June
- BLUE July, August, September
- YELLOW --October, November, December

Equipment should be inspected prior to each use, irrespective of testing date as faults may occur within this time period. Equipment failing to comply with the criteria given in this procedure shall be withdrawn from service immediately and an Out of Service Tag completed and attached. Equipment shall be removed from work area and reported to supervision for repair.

9.3.2 General electrical guidelines

Power extension leads shall not exceed 25 metres in length (one-piece total).

Power extension leads shall not be connected without the use of a protected distribution i.e. RCD

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All connection plugs shall have a bonded type or made of clear transparent material.

Power leads shall be positioned to prevent damage, wetting or becoming a trip hazard.

Where an electrical lead is elevated it shall be suspended using non-conductive material.

Power leads in use for more than one shift shall be removed from the work area at the end of shift unless otherwise approved.

All power leads shall be isolated when not in use and removed from the work area immediately after task completion.

Plug boards shall be utilized, however double adaptors shall not.

Portable power distribution boards eliminate the need for multiple extension leads and shall be used where practicable- where this is not possible, portable RCD boxes shall be used.

Only authorized licensed electricians shall make any repairs or alterations to power tools, plugs, fittings, leads or other electrical appliance or installation. Power tools shall be electrically isolated before changing out tool bits.

All power tools bought on site by contract companies must be within the appropriate and current test period and this shall be performed prior to arrival on site (as per above colour code).

9.3.3 High voltage electrical rules

Only persons specifically trained shall work on high voltage electrical systems.

High Voltage HV – is voltage above 1,000 Volts AC or 1,500 Volts DC.

Any High Voltage Electrical work shall be done in strict compliance with the high voltage procedures and is covered by the permit to work system.

9.3.4 Earth leakage relays

Earth leakage devices shall be installed, used and maintained on all SM operations.

Where practicable, the design of the protective device shall be such that the blowing of its fuse, failure of a critical component or the loss of its supply shall cause power to be disconnected from the protected zone.

All sockets above 32 volts shall be protected by approved earth leakage devices.

All portable earth leakage devices shall be recorded on a Register of Portable Earth Leakage Devices.

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All permanent earth leakage devices shall be recorded on a Register of Permanent Earth Leakage Devices.

All Generators and Lighting Plants earth leakage devices shall be recorded on form a Register of Generator and Lighting Plant Earth Leakage Devices.

All earth leakage devices must be checked by a qualified person on a regular basis.

9.3.5 General electrical installations

All electrical installations shall be installed to comply with relevant South African Standards.

Ground mounted switchboards installed in outdoor areas shall be installed at a suitable height above the ground to prevent corrosion and have a weatherproof (rain) cover provided.

Where electrical apparatus installed that requires persons working on it to be at more than 2 metres above ground level there should be safe access or precautions taken to perform the work as per the working at Heights procedures.

9.3.6 Electrical guarding

Except for equipment intended for use in a position not accessible to unauthorized persons, all equipment shall be so designed and installed that when the equipment is standing, supported or fixed in a normal manner, no person can inadvertently come into contact with any live parts.

9.3.7 Electrical fire control

The selection and application of materials and the design and construction of all equipment shall be such as will ensure, as far as is reasonably and economically practicable, that when the equipment is standing, supported of fixed, in a normal position and operating in a normal manner, and account being taken of ordinary wear and tear and other depreciatory factors which can be reasonably be expected, no person will be exposed to risk of injury or electric shock.

9.3.8 Isolation of electrical equipment

Electrical equipment and cable connectors, other than ELV circuits, must be provided with facilities for locking the electrical supply in a safe or isolated position.

9.3.9 Portable electrical equipment

Operation, adjustment and repair of hand held electrical tools must be restricted to experienced and licensed personnel. Any defective tools must be tagged with an Out of Service tag.

All portable electrical apparatus and equipment must be inspected by a competent electrician and have appropriate tags attached showing the inspection dates.

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All portable electrical apparatus and equipment must

be inspected by the user prior to use to confirm the current status of the inspection tag and the general condition of the apparatus or equipment.

All apparatus or equipment that does not have a current inspection tag or is in unserviceable condition must be immediately tagged out of service.

All electrical power tools shall be properly earthed and preferably be of the double insulated type.

All portable electrical apparatus and equipment must be property earthed and only used from an outlet protected by a 30-milliamp earth leakage device.

Guards must be fitted where tools are so designed and must be replaced after servicing has been completed.

All hand power tools shall be equipped with a momentary contact "on/off" switch (on the tool) which can be turned off with a single finger or hand motion.

Portable tools (i.e. grinders, saws etc.) shall not be used in a bench type manner nor otherwise clamped. The object being tooled shall be securely fastened.

Correct discs or grinding sheets, in accordance with the manufacturer's ratings shall be used.

Electrical cords shall be kept out of walkways, stairs and ladders and not placed so as to create tripping hazards, or be subject to damage from equipment or materials.

Hand held electrical grinders (127mm or larger) must not be used if they have a "lock-on" trigger but must be tagged "Out-of-Service" to have the trigger replaced with a non-lockable switch.

When preparing for the operation of portable electrical equipment the operating environment shall be considered.

The operating environment may increase the risk of electric shock or severe injury including cramped working conditions, multiple sources of supply, damp situations, heat, height or operational pressures to carry out work quickly.

9.4 MRMP - Working at Heights

All working at heights equipment shall comply and be used in accordance with relevant approved design standards and manufacturers specifications.

Single person anchor points shall be capable of withstanding I5kN (approximately 3,3721bf).

Where it is not practical to install dedicated anchor points (i.e. ad hoc work), anchor points capable of withstanding I5kN shall be identified through a risk assessment process and shall be approved by a competent person prior to commencement of work.

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Where personnel are required to work within 2 metres

of an opening where they could fall, they shall use personal fall restraint equipment, such as a fixed lanyard and harness as a minimum, which shall prevent them from falling over the edge.

Where there is potential to fall more than 2 metres, personnel shall wear appropriate personal fall arrest equipment. In such circumstances a full body harnesses, including shock-absorbing lanyard or inertia reel, is mandatory.

The use of body belts for fall arrest is prohibited, except for specialized tasks such as pole climbing belts worn by specially trained linesmen.

In situations where the lanyard has to be detached to allow movement a dual lanyard system must be used so the person is secured at all times.

All forms of portable and movable elevated work platforms and suspended work cages shall conform to relevant approved design standards. People in the work platform basket shall wear a correctly fitted harness attached by a lanyard to a suitable anchor point in the basket. This does not apply to people working from a properly constructed and certificated scaffold with the requisite handrails and toe boards.

Where there is potential to fall more than 2 metres in unprotected areas, access shall be restricted and controlled through risk assessment.

Where operators need to gain access to places at height on large plant and mobile machinery regularly (e.g. to clean windscreens or filters), then access ways shall be provided. Ideally these access ways shall have hand rails.

Where handrails cannot be installed, then fall restraint or fall arrest equipment shall be considered dependant on the outcome of a risk assessment of each situation.

The risk of fall shall be eliminated where reasonably practicable utilizing the Hierarchy of Controls.

Standard work procedures shall be in place for the correct wearing and use of personal fall arrest and fall restraint equipment.

There shall be a work permit system in place to control all working at heights.

All equipment shall be fit-for-purpose and undergo pre-use checks and a minimum of six – monthly (biannual) documented inspections by a competent authorized person.

An equipment register and tagging system shall be in place to indicate compliance with this inspection.

Testing shall be done in accordance with recognized standards.

Where the work method requires persons to detach and re-attach at height, a dual lanyard system shall be utilized to ensure that at least one connection point is maintained at all times.

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Where the use of personal fall arrest equipment is

required, a person shall not work alone and there shall be other personnel in the vicinity that can raise the alarm immediately should a person fall.

Persons working at height shall ensure that their safety helmets are secured by using a helmet chinstrap to retain the helmet on the head.

A system shall be in place to prevent tools, materials and other objects from falling from height.

Barricading and warning signage shall be placed on all lower levels where personnel or objects may fall.

Personnel operating elevated work platforms and cages shall be trained and certified for the specific equipment they are using.

The site emergency response plan/s shall include plans for the rapid retrieval of personnel in the event of a fall from height i.e. response time is critical if a person is to avoid suspension trauma.

Sites shall conduct a process to ensure selected personnel are fit to work from heights.

Specific consideration shall be given to personnel who suffer medical conditions, such as vertigo and epilepsy, as well as considering the weight of the person using the harness. (Note: many harness systems have a maximum weight limit of 136kg/300lbs.).

A competency-based training program for employees and supervisors shall be in place, which includes provisions for maintaining competence. All persons engaged in work covered by this Protocol shall be adequately trained and assessed for competency.

9.5 MRMP - Traffic Management

A site-based traffic management plan shall be in place including, but not limited to the following:

- Segregation of pedestrians, light vehicles and heavy mobile equipment where possible;
- Setting of appropriate speed limits, installation and maintenance of road signage;
- Right of way rules, including overtaking restrictions;
- Access planning in areas identified as hazardous and having significant associated risk;
- Systems to control movement of SME in areas accessible to pedestrians, into and out of workshops, and for controls on pedestrian and light vehicle movement around mobile equipment;
- Designated parking areas for heavy vehicles and light vehicles including around maintenance;
- Systems to control approaching, refuelling, parking, boarding, disembarking, and isolation by production and maintenance crews. Equipment operators or drivers shall be out of the cabin and dismounted onto ground level when their direct involvement with maintenance or servicing is not required;
- Guidelines for abnormal road conditions;
- Clear communication procedures for interactions between all vehicles;

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- Truck loading/unloading procedures- to avoid material or objects falling from the vehicle;
- Guidelines for wide or abnormal loads including offsite transport;
- Systems to control equipment use within the vicinity of overhead hazards;
- Risk assessment shall be carried out prior to traffic movement on road systems;
- Procedures should be in place which detail the maintenance which an operator is allowed to perform and that maintenance which personnel can carry out under testing conditions;
- A tyre management system shall be in place to address issues including fire, heating, explosion, electrical contact, separations, maintenance, tyre changes, etc.;
- Mobile phones, whether hands free or not, shall only be used by the driver of any vehicle or equipment whilst it is stationary and in a safe location;
- Recruitment and induction processes for SME operators shall encompass past work history, site testing, and a comprehensive medical examinations that confirms fitness for work;
- Site and area induction of operators shall be performed prior to starting work in a new area;
- A permit or certification system shall be in place to ensure drivers are competent to drive on site. In addition, a system shall be in place to verify that operators of SM vehicles have a valid license prior to operating SM vehicles off site;
- A fit for work policy shall be in place, incorporating defined action levels for drugs and alcohol;
- A system shall be in place to manage driver fatigue;
- Behaviour based observations shall include the operation of SME. Any need for specific retraining shall incorporate the results of these observations;
- Procedures should be in place to ensure that SME towing operations are carried safely and without damaging equipment;
- Procedures should be in place to ensure that SME recovery operations are carried out safely and without damaging equipment;
- There shall be no driving at night between the site and Conakry except in an emergency situation and with a risk assessment having been completed.

9.6 Journey management

SM recognizes the additional potential risks to personnel when driving in Morocco and in particular in poor road conditions, wet and muddy steep terrain, brought about by climatic and geographic conditions, the lease areas are a steep environment in places. Experience indicates that land transportation activities are responsible for a large portion of recorded injury accidents. Suitable procedures shall be introduced which eliminate, as far as practical, these additional risks to personnel and increase the safety of employees, clients, and the general public.

Regular road trips between the project site and Conakry are part of normal business operations. These must be conducted in daylight hours except in emergency situations. An SOP must be developed to cover this journey.

The aim of the journey management process is to establish a system whereby the hazards to personnel associated with the driving of vehicles in remote and inhospitable conditions may be

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reduced to the lowest practicable level, and eliminate

vehicular accidents and thereby reduce the number of injuries within in-country Field Operations.

All driving of SM vehicles outside the site area is strictly subject to the prior approval of the Project Director or appointed delegate. Approval will only be granted for duty purposes or for reasons of extreme emergency when, in the opinion of the Project Director or appointed delegate, the journey may safely take place.

All travel to and / or from the interior by SM vehicles is to be strictly controlled and subject to prior approval of the Project Director or delegate at the Site or SM Operations Coordinator at Field Location(s).

It is the responsibility of the senior passenger and driver(s) of the vehicle(s) to complete a Travel Plan, and submit the application to the Senior Driver or Operations Coordinator for approval of the Project Director or delegate at Construction Site or other at Field Location(s). A separate travel plan is required for each journey to / and or from the interior.

The approved travel plan is to be retained by the driver, who is to hand it to the Senior Driver or Operations Coordinator immediately on arrival at destination.

Journey demarcation is anywhere outside the operating areas of the Mine Project Area, the following are to be applied:

- Vehicles are to be supplied with sufficient fuel, oil and lubricants;
- Water vehicles are to carry sufficient water to cater for the amount of personnel in the vehicle should it not be able to continue the journey for a minimum period of 24 hours;
- Sufficient Equipment including but not limited to: first aid kits, fan belts, tools to perform basic repairs, emergency triangles, spare tyre;
- All heavy vehicles will have a spotter / co-driver who will provide visual assistance to the driver in manoeuvring the vehicle. The spotter / co-driver will also assist the driver effect any light repairs that may be required i.e. change punctured tires;
- Communications SM vehicles will be fitted with Very High Frequency (VHF) radios or other reliable forms of communication (mobile phone or sat phone). Drivers are to maintain contact with the site and / or Field Location destination(s) throughout the journey.

9.7 MRMP - Equipment Safeguarding

New plant and equipment shall consider all energy sources and be designed to eliminate the need for guarding where practicable. Safeguarding shall be selected where other potential mitigation measures do not adequately protect personnel.

Plant and equipment safeguards shall be designed and constructed to comply with relevant legislation, standards, codes of practice and relevant recognized leading industry practices and considering maintainability and operability.

A formal system shall be in place to ensure the integrity of plant and equipment safeguarding.

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Where safeguarding and interlock systems are insufficient to protect people, access to plant and equipment shall be controlled and monitored.

Fail-to-safe switches or devices shall be installed on all manually operated rotating plant and equipment and power hand tools (e.g. saws, lathes, drill presses, etc.).

Guards shall only be removed for maintenance and repair after plant and equipment has been isolated, locked out and tested in line with the Isolation Protocol. Where the temporary removal of safeguards is necessary on operating plant and equipment, for the purposes of fault finding, testing and commissioning, a risk-based procedure shall be in place.

Guards shall be replaced prior to plant and equipment being put back into operation.

9.8 MRMP - Working Over, in or Around Water and Other Liquids

Working near water; means any environment where any person is in close proximity to water, whether tidal or non-tidal, where there is any potential for the person entering that water, either voluntarily or not.

This includes working in, on, near, over and under water and other liquids.

Applies to any worker who is potentially exposed to the hazard of falling into water or other liquids with a depth of more than 75 centimetres (29.5 inches) at any point.

Liquid - any substance in a condition in which it flows or a person or object can be immersed.

9.8.1 Liquid sites

- The ocean;
- Creeks that run through site;
- Water in pits;
- Water tanks;
- Water storage;
- Sediment control dams;
- Fresh water dams;
- Diesel tanks;
- Mud or slurry pits;
- Other 'Liquid Hazard' situations.

9.8.2 Working near or over water is a high-risk activity

People can very easily fall in and drown. Exposure to water i.e. Fatigue, heart attack and hypothermia. Exposure to biological hazards, e.g. blue green algal blooms and sewage.

9.8.3 Working alone

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In no situation is a person permitted to work alone where there is a risk of falling into water.

9.8.4 Personal Floatation Devices (PFD)

A PFD must be worn where there is a risk of falling into the water including:

- When within 2 metres of a berth face/edge where there is no barrier or fall prevention system in place;
- When working on a small vessel or pontoon in the water;
- When getting on or off a ship where there is a risk of falling into water;
- When working suspended over water in a workbox or platform.

9.8.5 Planning

When planning any operation which involves working near water/mud, a risk assessment must be carried out prior to carrying out the work activity to establish the risks, this should take account of the following:

- Is there suitable safe access?
- Is there suitable edge protection to prevent falling into the water?
- Is the structure/bank/material to be stood on or used sufficiently strong enough to hold the weight?
- Are there trip hazards present?
- The duration of the work and the proximity to the water/mud.
- The equipment to be used for the operation.
- The safety equipment available e.g. life jackets, throwing lines, first aid kits.
- Do staff need special training, e.g. fast water rescue, boat handling, first aid, water search etc.?
- Are there safe escape routes if things go wrong?
- Is there a risk of falling into the mud/water?
- Weather, including wind;
- Tidal effects which can cause strong currents or strand people;
- Any other hazards such as the presence of rocks, submerged trees or other underwater obstructions
- Temperature;
- Ability to swim/physical ability to do the work;
- The condition of the watercraft;
- Emergency response;
- Communications with others, including other emergency response;
- Suitable welfare provision, e.g. the capability to provide hot/cold drinks, food, sun screen and rest for staff in protracted operations.

9.8.6 Edge protection

Undertaking Work Over or Near Water Appropriate precautions should be taken to prevent people and materials from falling into the water. This commonly consists of edge protection which meets the following requirements:

• Guard rails with a minimum height of 950mm;

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- Intermediate guard rails or other rigid barriers
 such that there is no unprotected gap of more than 470mm;
- Toe-boards with a minimum height of 150mm to prevent persons from slipping under the intermediate rail and materials from falling.

If fencing or guarding is not reasonably practicable, PPE must be properly planned and personnel trained and supervised.

If a safety harness is not appropriate due to the nature of the work for example, a river inspection, then appropriate life jackets must be worn at all times when working next to deep or fast flowing water. Life jackets must be self-inflating with a minimum buoyancy of 150 Newtons. Note that buoyancy aids are not sufficient protection. They are not designed to turn an unconscious person so that the mouth and nose are above the water line.

When working near to aerated water, the aeration process reduces water density and therefore extra buoyancy lifejackets (275 Newtons) are required.

9.8.7 Working suspended above water

An exemption can be applied for from the requirement to wear a harness when working over water in a work box or EWP if there is a risk that the harness may be a hazard if the person fell into the water. Refer to Procedure Working at Heights for details.

9.8.8 Work afloat permit

A Work Afloat permit is required for any activities undertaken either over the face of a berth, under a berth, on the water in the river or on the water in the ocean, and utilising any vessel, pontoon, floating platform or barge as a means of transport and working platform. Refer to Permit to Work System.

The work afloat permit does not apply to operations that are permanent operations such as rescue boat, personnel transport boat or shipping operations.

9.8.9 Working in water permit

A Working in water permit is required for any activities undertaken where any person is required to enter the water.

Under no circumstances is a person permitted to dive head first into any water.

When a person is required to enter the water all other operations in the area must cease if there is a risk of interaction whether planned or unplanned between those operations and the person in the water.

Any person entering the water must be first assessed as a competent swimmer by demonstrating that they can freestyle swim unassisted and without a PDF for a minimum of 50 metres without stopping or touching the bottom.

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No person shall enter the water continuously for more than 20 minutes.

No person shall enter the water after dark except in emergency situations.

The working in water permit must as a minimum include that:

- Weather conditions to be safe to enter the water;
- The ability of the person to swim;
- Temperature of the water including chill factor;
- A determination of the safe amount of time the person can be in the water;
- Safe access and egress to and from the water;
- Take into account the type of work being performed in the water;
- Take into account any wildlife that may be in the water and a means to protect the person from the wild life;
- Flow of the water;
- Tides, rips, currents etc;
- Any hazards present such as rocks, submerged trees, roots or any other underwater obstruction
- Rescue plan.

9.8.10 Dive permit

A dive permit must comply with all conditions described in the working in water permit.

Where a dive permit has been issued, the requirements of the dive permit must be followed and the following documentation must be kept on site and available for inspection:

- Log Books (Normally pre-printed hard back books showing all relevant dives);
- Diving Medical Certificates (12 month validity);
- Divers' Competence Certificates;
- A formal written project plan and risk assessment covering the tasks to be undertaken;
- A diving operations log;
- Verification of Divers current Senior First Aid qualifications.

9.8.11 Fast flowing water

Where water is flowing sufficiently fast to carry a person away, only physical protection should be used. If working in an area where there is an identified possibility of a sudden rush of water, a robust chain or bar, downstream of the work location, should be used.

Grills must be provided at points where persons can be sucked or swept into pipes/conduits.

Account should be taken of weather conditions at all times. Time spent adjacent to water exposed to the sun increases the risk of sun stroke and sunburn due to the rays of the sun being reflected from the water.

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The wind is highly significant as it will affect the

condition of the water and buoyancy of items floating on it. The relative temperature is also dramatically affected by the wind especially if people get wet. Wind chill is a factor to be considered.

9.8.12 PPE

Adequate PPE will be provided i.e. gloves overalls and boots. The need for good hygiene practices should be emphasised. All personnel should be reminded of the need to wash hand and forearms before eating smoking or drinking. Any minor cuts and abrasions should be protected from contamination with water proof plasters.

Maintenance and Inspection of PPE:

- All PPE including life jackets, harnesses etc. must be checked every time they are used i.e. they should be checked to see that the pill is in place and the gas cylinder has not been breached;
- PPE should also be regularly checked. Checks should include the general condition and automatic inflation devices. A record of these checks must be maintained;
- Life jackets should be maintained in accordance with the manufacturer's instructions;
- Every month life rings and throwing lines should be checked for deterioration.

9.8.13 Boats

All seagoing workboats and rescue boats of up to 24 metres in length used on site must meet the requirements of The MCA Code of Practice.

Larger vessels will be subject to the full requirements of maritime safety legislation.

9.8.14 Training and competence

All persons required to use PPE including life jackets and or safety harness must be instructed in their correct use, pre use checks (pill in place, gas cylinder not ruptured) and storage.

All personnel must be trained on the rescue arrangements including:

- Man overboard procedures;
- How to use life rings;
- How to enter and exit the water;
- How to enter and exit the rescue boat;

9.8.15 Flooding

Following flooding staff should not enter any flood water.

Dirty contaminated water can also mask holes. These types of situation represent an unseen hazard even in the shallowest of waters.

Floodwater will contain substantial amounts of debris which could cause entrapment.

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Health hazards from water borne contaminants will be

present in floodwater. These hazards may derive from the flow of raw sewage into the water, or from nearby agricultural or industrial premises and include the following:

- Hepatitis, the virus is present in faeces which can be present in water courses;
- Gastro Enteritis: sewage contains a number of bacteria, which if ingested can cause Gastro Enteritis;
- Blue Green Algae: This is an algae found in fresh water in the summer months, when a bloom grows on the surface which is a blue green colour and can be toxic;
- Leptospirosis: (Wells Disease) This is a bacteria infection caused by rat urine in the water.

9.8.16 Rescue

Sufficient rescue equipment must be provided immediately next to the work location e.g. life rings with hauling lines / or throwing lines.

At all times where there is a risk of persons falling into open water a rescue boat must be on hand and be suitably equipped and manned by personnel trained in water rescue.

Means of communication must be provided so that emergency response teams can be contacted if an incident occurs e.g. a fully charged mobile phone or radio.

9.8.17 Emergency response

In the event of person/s falling into the water:

- Make sure that the person is conscious and that their PFD has inflated;
- If conscious assist the person to the nearest man overboard egress point and/or throw them a life buoy if required;
- If person has fallen overboard during a vessel movement advise Boat captains. If there is a risk of injury from vessels the vessel may have to take action to prevent it;
- If unconscious consider having someone enter the water to provide assistance (ensure the rescuer has a PFD on and is a capable swimmer);
- deploy the rescue boat;
- Provide first aid assistance and if necessary, call for Emergency response team and paramedic assistance;
- Raise the alarm verbally, by radio or phone as necessary.

9.9 MRMP - Wheel and Rim Management

SM recognises that the following hazards, if not effectively controlled, have the potential to cause permanently disabling injuries or death.

Crushing due to the heavy and unstable nature of large rims and types.

Struck by projectile (stored energy), caused by incorrect fitment of lock ring components and/or components in poor condition and persons placing themselves in the "line of fire".

Chemical or pressure explosion (including fire and over inflation) or the tyre and rim.

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Incorrect selection and/or incorrect use of tyre handling equipment.

Loss of vehicle control should a tyre fail in a critical situation.

This will be achieved by:

- The application of managed procurement process;
- The development and upkeep of a tyre and rim register;
- The classification of all tyres;
- Competent persons being available to the appropriate skill levels;
- The maintenance of a skills register available to supervising staff;
- The provision of suitable equipment and competent personnel to permit safe loading and unloading of tyres and rims;
- The provision of the correct storage facilities;
- Adequate supply of the correct tools and equipment for the safe removal and assembly of all tyres and rims;
- Relevant Standard Operating Procedures compiled and adapted for all tyres and rims including;
 - Removal and assembly;
 - Operational use and maintenance;
 - Repair, re-lug, re-tread, re-groove and re-use;
 - Disposal.
- Tyres operating with the manufacturers/suppliers specification limits;
- An operational risk assessment conducted prior to equipment being operated outside the tyre use range given by the manufacturer/supplier;
- The development of response procedures for emergencies involving tyre fires or potential tyre fires.

9.10 MRMP - Encounters with Dangerous Wildlife

Encounters with wildlife including mammals, reptiles, insects, arthropods or fish during operations, normally within the natural habitats of such species, also including feral species or domestic animals presents a specific risk to the health and safety of all personnel.

These encounters can occur either accidently or by deliberate or unavoidable action.

To control these risks SM will:

- Treat all wildlife with respect and caution paying special attention to species that may be either protected by statute or endangered;
- At all times wildlife must be treated consistently in accordance with applicable legislation and IFC guidelines and SM policy;
- Local environmental studies must include consideration of wildlife which may be present, and take account of this in relation to legislation, conservation principles and local or regional needs and views
- So far as possible operations should have a neutral impact upon habitat, resources and presence of wildlife, unless this is deemed beneficial (i.e. mosquito clearance);

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- Responsible rehabilitation must be undertaken in keeping with legislated and contracted requirements, IFC and SM standards;
- Safeguarding of personnel from wildlife shall be undertaken with a view to minimising risk of negative impact to wildlife e.g. camps should be located and run so as not to attract wildlife to a food source.
- Any equipment used for deterrent purposes shall be as least harmful as possible;
- Protective equipment (i.e. mosquito nets) shall be of good quality, in good condition and the use and effects known to users;
- Firearms must not be used as a deterrent method;
- First aid and medical equipment must be provided that can cope with expected injury or trauma arising from wildlife suspected or known to be present (i.e. species of snake) and persons trained appropriately;
- SM must have due regard to the health risks arising from wildlife and provide protective measures where possible i.e. insect screening, mosquito nets, brush clearing, awareness and non –attraction measures;
- Ensure an adequate supply of potable water and avoid sites where wildlife drink;
- Ensure awareness of possible wildlife species in the areas where people are working or may be visited and take appropriate precautions, e.g. prophylaxis, snake bite guards, anti-venom.
- Be sure persons who may have severe allergic or other reactions to wildlife bites or stings are prepared medically with antidote where risks are present;
- Documented emergency procedures for field work and around camps must be in place and these should recognise and risk presented by wildlife;
- All site occupants including visitors must be given induction into the dangers presented by encounter with wildlife and the emergency response procedures;
- Appropriate emergency equipment including first aid and survival must be provided to cover expected encounters with wildlife;
- Site personnel will be trained in the use of the emergency, first aid and survival equipment;
- Certified medical support personnel must be provided on site at all times and be in sufficient numbers to cover operations.

10 WORK CLEARANCE PERMITS

A survey shall be conducted to identify tasks and work locations where a Permit to Work will apply. Records of this and a list of these tasks and locations shall be maintained on a register of permit to work tasks/locations. As a minimum they must include:

- Confined space entry;
- Working at heights;
- Hot work such as welding and grinding in fire or explosion risk areas;
- Essential services excavations for services e.g. power, water, gas;
- Non-standard work over or near water or other liquids;
- Radiation equipment;
- Work on live electrical systems;
- High powered hand tools;
- Heavy / Difficult crane lifts of equipment;
- Multi Point Isolation of Energy;

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- Working afloat;
- Working in or under the water.

Where a location or task is identified requiring a permit to work a risk assessment shall be performed on the task / location to detail any specific controls that may be required for works to commence. The reference to these risk assessments must be maintained in a register of permit to work tasks / locations.

Each work permit shall contain a checklist of precautionary measures and work practices required to be undertaken prior to, during and on completion of the work.

All supervisory staff shall be familiar with locations and tasks requiring work permits.

All employees shall receive training and be competent on the work permit system.

A copy of the work permit shall be retained by the person performing the task or the immediate supervisor at the work site for the duration of the task.

Regular checks shall be undertaken during the task to ensure compliance with all conditions required by permits.

Employees shall be trained in the use of hazard control equipment as required by work permits. e.g. Fire extinguishers etc.

11 SURFACE MOBILE EQUIPMENT

Surface Mobile equipment (SME) includes the following vehicle types: rear dump and water trucks, graders, dozers, loaders, EWP, bobcats, scissor lift, trucks over 4.5 tones GVW and cranes when in motion over the ground.

SME equipment shall have the following minimum safety features:

- Seat belts fitted for all occupants;
- Adequate lighting (headlight, tail, turn, brake, strobe, flashing light);
- Identified isolation/lockout point in accordance with Isolation Protocol;
- Adequate walkways, railing, steps/grab handle combinations and boarding facilities; including an alternative path of disembarking in case of emergency;
- Reversing alarm;
- Chock blocks for tyred SME;
- Horn;
- Effective windscreen wipers;
- Effective guarding of accessible moving parts (consistent with Equipment Safeguarding Protocol;
- Signage that allows clear and easy identification from a distance.

SME should have the following minimum safety specifications, unless exempted by risk assessment:

• Approved or certified roll over protection;

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- A suitable fire suppression capability;
- Two way radio or other forms of communication;
- Fall on protection;
- A method of transporting supplies and personal items to and from the operator cabin to enable drivers to maintain three points of contact whilst mounting and disembarking equipment;
- Design, inspection and maintenance requirements should be in place for all roadways including collision protection of hazardous and critical plant, equipment. Risk assessments should be conducted out prior to any changes in traffic movement;
- Layout of cabins should take into consideration the ergonomics of seating, operator controls, and retrofitted devices;
- Safety berms shall be in place along roadways, excavations and dump areas as determined by risk assessment.

12 REGISTRATION OF EQUIPMENT

A procedure shall be in place to ensure that all equipment requiring formal registration on the site is appropriately registered according to the requirements of the legislation.

13 ROPS and FOPS

A procedure shall be in place to define the requirements for the fitting, inspection and repair of Roll Over Protective Structures and Falling Objects Protective Structures.

14 FIRE PREVENTION AND PROTECTION

A Fire Protection and Prevention Survey shall be conducted by SM Safety Personnel other relevant competent persons.

Fire risk surveys shall be conducted at least every twelve months or when changes occur to workplace design or processes.

Fire Protection and Prevention Survey Report recommendations shall be actioned by provision or repair of equipment, employee training and fire safety programs.

A Fire Prevention Coordinator shall be appointed in writing to coordinate all aspects of fire prevention and protection at each workplace. The appointment shall be notified to all management and employees.

Each Fire Warden shall be appointed in writing and their name posted in the area they need to service.

The duties of the Fire Prevention Coordinator shall be defined and made known to the Coordinator. These shall include the responsibility for:

- providing fire protection and prevention training for employees and emergency services personnel;
- conducting fire risk surveys and inspections;
- organizing the maintenance of firefighting equipment.

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Fire detection and suppression systems shall be installed where recommended by the Fire Protection and Prevention Survey Report. Installations shall comply with the relevant South African standards.

Appropriate fire extinguishing systems, equipment and fire cabinets shall be provided and located for protection of identified risk areas.

Where portable fire extinguishers are provided, Dry Chemical Powder shall be used as a preference with the exception of selected electrical installations where Carbon Dioxide shall be installed. Flammable or combustible liquid stores shall have both foam and Dry Chemical Powder extinguishers.

A fire hydrant system shall be installed with hydrant outlets located at strategic points, where appropriate.

All fire protection and suppression equipment shall be clearly identified and shall remain accessible at all times. Equipment identification shall be in accordance with "Keep Clear" areas shall be defined at all fire equipment and emergency exit locations.

Audible alarm systems shall be installed to enable the warning of all occupants in the event of any emergency.

Alarm systems shall be installed at locations to ensure they are audible in all areas.

The location of alarms shall be clearly identified.

Emergency warning alarms shall have sound distinctive from other audible alarm systems.

Each emergency warning alarm shall be tested weekly by the Fire Prevention Coordinator and the results recorded. Any defects shall be actioned immediately.

Water carts or mobile water tanks shall be provided so that they can be used as mobile firefighting tenders in an emergency.

All fire protection installations and equipment shall be numbered and recorded in a fire equipment log book including type, capacity and location of equipment.

Fire protection installations and equipment shall be inspected monthly. Checklists shall be provided for inspections.

All personnel shall be trained in the emergency alarm systems.

All personnel shall be trained in the basic use of hand held fire extinguishers and what types of fires they can fight

A fire safety response team shall be formed to fight all other types of fires The fire safety response team shall be trained and competent to fight the types of fires they may be required to fight.

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Personnel shall not fight the following fires:

- Fires containing explosives;
- Tyre fires;
- Large chemical fires;
- Large Bush Fires.

15 GROUND CONTROL

The potential dangers to personnel from falls of ground in steep slope areas, surface mining, at stockpiles, dam walls, waste rock dumps, trenches and similar locations must be identified and managed.

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15.1 Ground Control Management Planning

SM shall develop ground control management plans and continuously monitor performance against the plan throughout the life cycle of the project. Minimum requirements of all ground control management plans shall include the following:

- A formal process of technical mine planning from pre-feasibility through the operations and closure phases shall be conducted and documented with the input of geotechnical experts;
- Technical competency requirements of personnel involved in the management of ground control (including inspections) and analysis of technical data;
- Specification of the technical data utilized in modelling, design, excavation, and construction of open pits, leach pads, and tailings impoundments and other structures where ground control risks exist;
- Specification of certifications required for stability enhancement materials (including rock fixtures).
- Directory of standard operating procedures or work procedures;
- Specification of mining methods which maintain wall, bank, and slope stability; particularly in locations where persons work or travel;
- Corrective action plans for removal of loose or unconsolidated materials in areas where fall of material constitutes a hazard to personnel and equipment operators and equipment;
- Safety specifications for methods of scaling loose or unconsolidated materials;
- Inspection frequency for ground control conditions which specify corrective action and emergency procedures;
- Specification of monitoring equipment for type, location, and frequency of data collection and review.

15.2 Fall of material

All open pit facilities shall establish procedures to manage the hazards of fall of material through risk assessment methodologies. The procedures shall as a minimum take into account the following:

 Minimum safe distances between equipment, catchment berms and highwalls or embankments for the purposes of maintenance or parking (heavy equipment and light vehicles);

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- Safe distances from highwalls and embankments for general travel while driving or walking through open pit operational areas;
- Safe equipment dismounts procedures in proximity to highwalls or embankments;
- Safe equipment parking practices;
- Controlled methods of removal of loose or unconsolidated material which poses a fall of material hazard that do not endanger persons and/or equipment;
- Wastes within catchment berms not exceed ³/₄ capacity.

15.3 Training

Personnel who are potentially exposed to the risk of ground fall shall be provided with ground control training before commencing work and no less than annually thereafter.

16 AWARENESS, COMPETENCE AND BEHAVIORS

16.1 Induction Training

All personnel, contractors and visitors shall undergo a formal induction training process in order to empower all personnel to make informed decisions about their own health and safety across the site.

This induction training shall identify all of the basic safety requirements of SM.

Further area specific induction training shall be given to personnel as required

16.2 H&S Training and Competencies

All personnel shall be trained and competent prior to undertaking any task except under the close personnel supervision of a trained, authorized and competent person i.e. when a person is in training.

All personnel shall be authorized in writing as being competent by the relevant manager prior to undertaking any task.

A study shall be undertaken to identify all processes on site.

The study shall identify all activities associated with each process

A risk analysis of these activities shall be conducted and shall identify all areas that require training of personnel to control any risks.

The competencies required to safely and productively fulfil each person's tasks shall be identified.

Formal competency-based training packages will be developed to address these competencies.

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Qualified trainers and assessors shall be used to deliver training packages.

Competencies shall be re assessed on a regular basis to reinforce training.

16.3 Planned Task Observations

Planned Task Observations shall be regularly performed by all supervisors in their area of operation to ascertain the appropriateness and suitability of Standard Operating Procedures (SOP).

Planned Task Observations are designed to identify non-conformance with procedures by personnel and contractors in order to determine their compliance with the documented procedures.

Any non-conformance with procedures shall be communicated with employees and reasons for non-conformance determined.

If a Planned Task Observation determines that a person needs re training in the task then the supervisor shall make provisions for re training.

If a Planned Task Observation determines that the procedure is inadequate then a risk assessment shall be completed and the procedure modified. All personnel affected by any changes shall then be re trained in the procedure.

Planned Task Observations shall not be used for disciplinary purposes

16.4 Behaviour Based Safety (BBS)

A behavioural based safety program shall be introduced into all SM sites.

The content of behavioural based safety is a simple process that focuses on peer pressures rather than instructions from managers or safety officers.

The process is a simple 4 step approach:

- Identify and communicate the key safety behaviours in the workplace;
- Use observation to measure performance;
- Reinforces safe behaviours and corrects at risk ones;
- Evaluates and repeats the process.

All personnel shall be trained in BBS techniques and shall be encouraged to use them in the workplace.

17 H&S COMMITTEES AND REPRESENTATIVES

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A Health and Safety Committee shall be formed to

promote cooperation / consultation between management and employees in instigating, developing and carrying out health and safety measures in the workplace.

H&S Representatives from different areas of the operation shall be elected by personnel within the area to represent them on the H&S Committee.

Where a major contractor is employed on the site for contracts more than 6 months duration an H&S Representative shall be elected by the contractor to represent the contractor's workers on the H&S Committee.

Other contractors shall be encouraged to send representatives to the committee meetings as observers only.

The committee shall be made up of an equal number of representatives from management and workers.

The function of the committee shall be:

- Discuss and review the workplace health, safety and environment planning;
- Assist management through the identification of unsafe acts and conditions and offering solutions;
- Initiating programs aimed at arousing and maintaining an interest in workplace health and safety;
- Review circumstances surrounding recent work-related injuries, illness and dangerous occurrences.

The Workplace Health and Safety Committee shall meet at intervals of one month or as deemed relevant by the Project Director in consultation with the committee.

The meeting shall be conducted to conform to an agreed agenda, which should address as a minimum guide:

- Introductions;
- Attendance;
- Apologies;
- Minutes of previous meeting;
- Review of injury, illness and dangerous occurrences;
- General business;
- Date of next meeting;
- Closure.

Accurate minutes are to be kept of each meeting, distributed to those present and placed upon the general notice board.

Items agreed upon by the committee are to be checked for completion by the Health and Safety Committee Representative at the appointed time stated on the minutes. Should the agreed action not be completed by the appointed time, the Project Director is to be informed immediately.

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17.1 Functions of H&S Committees and H&S Representatives

An H & S committee or an H & S representative has the following functions:

- to keep under review the measures taken to ensure the health, safety and welfare of persons at the place of work;
- to investigate any matter that may be a risk to health and safety at the place of work;
- to attempt to resolve the matter but, if unable to do so, to request an investigation by an inspector for that purpose;
- Such other functions as are prescribed by the legislation.

17.2 Internal H&S Communication

Communication and Consultation is integral to good management. The "team approach" has proved successful in opening up communication, improving productivity, commitment, morale and giving a sense of ownership at all levels. Having a shared vision and common goals can improve occupational safety and health performance. This approach will subsequently provide the management and employees of SM with the opportunity to work together to improve safety and health.

Promotion of "ZERO HARM" shall occur at all times. This shall be achieved through signage, continual reinforcement from all levels of management.

The prime objective to promote health and safety at the workplace is to foster a culture whereby health and safety becomes an automatic response by all persons at all times.

Safety posters shall be placed on poster boards that are strategically located and shall be applicable to company operations and maintained in good order.

A library of safety books and videos shall be established and shall be used in educating and training employees.

A safety notice board shall be located at the entrance of the operation and shall display the number of safe days, days since prior LTI, and previous best safe days.

Safety signage shall be posted at all appropriate positions that require their presence.

Other methods of promoting safety will be:

- Pre shift instruction sessions All personnel and contractor will be required to attend pre shift instruction sessions at the commencement of every shift. These meetings are designed to outline the planned tasks for the shift and identify any associated hazard. The pre shift instruction meeting also provides a vehicle whereby employees and contractors can convey problems or suggestions regarding the improvement of health and safety in the workplace;
- Toolbox (safety) Meetings these shall be held on a regular basis and shall provide a formal forum for the discussion of safety issues in the workplace. Items discussed are Standard Operating Procedures, Hazards, safety awareness, and recent incidents and

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shall be the forum used by health and safety representatives to report to the entire workforce;

• Safety committee meetings - Health and Safety Committee meetings will be held monthly, or at an interval decided by the project manager and the committee. The project manager, supervisors and worker representatives will attend the meeting. Accurate minutes of the meeting shall be kept and posted on the notice board for all employees to read.

17.3 H&S Handover

In order to ensure the safe continuity of operations an H & S Handover process shall be in place. The process shall identify all areas and controls that are safety critical to the job, equipment or facility at hand and shall communicate these areas and controls in the following situations;

- Shift change;
- Roster change;
- During changes of crews during permit to work activities;
- The handover of new equipment, facilities or plant;
- The handover of repaired equipment, facilities or plant;
- The handover of modified equipment, facilities or plant.

17.4 Issue Resolution

All employee and contractor personnel may refuse to undertake work where they have 'reasonable grounds' to believe that there is a risk of imminent and serious injury or harm.

All issues should first attempted to be resolved at the level at which it occurred. Should this fail the issue shall be elevated to the H&S Committee who shall by using the Risk Assessment process determine an outcome to the issue.

18 HEALTH

18.1 Medicals

All personnel shall be medically assessed by qualified professional medical personnel to ascertain they are medically capable of performing their duties without risking the health and safety of themselves or others.

All personnel shall be reassessed as part of the surveillance program on a yearly basis.

18.2 First Aid

First aid facilities shall be available across all areas of the site and a qualified senior first aid attendant or paramedic shall be available at all times in the first aid room.

All personnel across the site including contractors shall be encouraged to have current first aid certification

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As a minimum at least two persons in each work area will be required to have formal first aid qualifications.

18.3 Fatigue

Fatigue is recognized as a major contributing factor to accidents in the workplace. SM develops a strategy within the operation to effectively control the risks of fatigue.

This strategy will include but is not limited to:

- Identify the hazards of fatigue;
- Assess the risks of fatigue;
- Implement risk control measures; and
- Monitor and review the effectiveness of the controls.

A Fatigue Management Plan (FMP) will document the strategies the company has determined to control the risks of fatigue.

18.4 Fitness for Duty

All personnel on site are required to be fit for the job they are required to perform this includes;

- Drug and alcohol testing;
- Fatigue management;
- Psychological fitness.

A formal method of assessment of these issues shall be in place and provisions made for the assistance of personnel should they be found to be not fit for duty.

18.5 Injury Management and Rehabilitation

While it is the goal of the organization to prevent all accidents, it is acknowledged that accidents may occur.

If a person is injured, SM recognizes its responsibility to assist the person return to health.

Studies have conclusively shown that an early as possible return to work even in a limited capacity greatly assists in the recovery of injured persons.

To address this issue a formal rehabilitation process shall be in place to assist any injured personnel.

18.6 Travel health

A Procedure shall be developed to define the requirements for safe travel to or within high / extreme countries by all SM Employees and Contractors, to ensure that the risks related to health, safety and security are assessed and managed.

This procedure shall apply to all work-related high or extreme risk travel undertaken by SM personnel. The Procedure covers travels from the point where a need for travel is identified, through until the travel is complete and there is no potential for latent health effects.

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The procedure shall include but is not limited to;

- Travel itinerary;
- Travel approval;
- Post travel activities.

All personnel shall be trained in the requirements of Travel Health and are responsible for abiding by the requirements of the procedure.

18.7 Injury Classification

All injuries shall be classified according to the safety standard for injury classification which is aligned with the OSHA standards.

18.8 HIV

Taking into account the magnitude and severity of the HIV, SM will need to develop proactive strategies and solutions to the problems which are experienced by all employees and their dependants. To achieve this, the Company will attempt to keep informed and abreast of the developments regarding the epidemic and take appropriate action.

SM acknowledges the seriousness of HIV/AIDS as a medical reality with both social and economic implications for our employees, their dependants and communities, our service providers, customers and the infrastructure of the country.

In the spirit of the Sustainability Policy SM will;

- Have as their central focus areas in terms of a HIV/AIDS Policy and strategy the principles of;
- Caring for our employees;
- Reduction of the HIV prevalence rate within SM and our surrounding communities;
- Reducing the economic impact of the epidemic on the organisation and our employees;
- Promoting a non-discriminatory work environment;
- No person with HIV or AIDS shall be unfairly discriminated against within the employment relationship or within any employment policies or practices, including with regard to:
 - Recruitment procedures, advertising and selection criteria;
 - o Appointments, and the appointment process, including job placement;
 - Job classification or grading;
 - o Remuneration, employment benefits and terms and conditions of employment;
 - Employee assistance programmes;
 - Job assignments;
 - Training and development;
 - Performance evaluation systems;
 - Promotion, transfer and demotion;
 - \circ $\,$ Termination of services.

19 HYGIENE

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19.1 Exposure Standards

A set of exposure standards shall be established at the site to set limits of exposure to substances or physical conditions that may be encountered in the workplace.

Exposure standards shall be set for, but not limited to the following contaminants:

- Atmospheric contaminants;
- Biological contaminants;
- Chemical agents;
- Physical agents;
- Noise.

19.2 Workplace Assessment

An assessment of all workplaces in the operations shall be undertaken in order to determine the risks associated with exposures to substances, physical conditions or other occupational exposures that may be encountered in each workplace.

These assessments shall include but are not limited to the following:

- Atmospheric contaminants;
- Biological contaminants;
- Chemical agents;
- Physical agents;
- Noise.

19.3 Workplace Monitoring and Results

All identified exposure risks shall be monitored both at the workplace and on an individual level for all personnel who are at risk from substances, physical conditions or an occupational exposure on a regular basis.

The results of all workplace monitoring shall be made available to all personnel to inform them of any risks or hazards they may be encountering in the workplace.

Individual results shall be directly communicated to the person who was tested but shall remain strictly confidential unless with the express written permission of the individual or in an emergency situation.

19.4 Workplace Exposure Reduction

Where there are identified exposure risks a program shall be put in place to reduce the exposures to all workers.

The exposure reduction process shall be implemented in a timely manner and shall be conducted in a manner which delivers a result which is as low as reasonably practicable.

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SAMTA METALS AND ALLOYS S.A. 20 PERSONAL PROTECTIVE EQUIPMENT



Every reasonable and practicable measure is to be taken to eliminate hazards according to the Hierarchy of Controls (Eliminate, Substitute, Redesign, Separate, Administrative, and Personal Protective Equipment).

In controlling hazards, the use of PPE is considered a reasonable and practicable control and shall be accompanied by adequate training and education. All personnel are required to select and use PPE in order to provide themselves with the maximum level of personal protection.

All equipment shall be worn in the manner in which designers/manufacturers intended and as per the training and/or instruct ion received at the time of issue.

Sufficient PPE shall be provided to all personnel to safeguard them against the risks of their particular job

All personnel shall be trained in the use, storage and cleaning of PPE.

20.1 Minimum Requirements - All Site Areas

The following PPE requirements shall be considered a minimum standard.

Detailed PPE requirements should be further documented in task specific procedures, where appropriate.

At all site locations all personnel shall wear (but are not limited to):

20.1.1 Clothing

Long sleeved Hi Visibility (compliant with Day/Night requirements) shirts with collars shall be worn with the sleeves rolled down and cuffs buttoned at the wrist at all times.

Should the person not have high visibility shirt then a high visibility vest must be worn.

Long Sleeve shirts must be worn around the camp at all other times.

Long Trousers shall be worn at all times.

20.1.2 Safety helmets

Safety helmets complying with Approved Standards shall be worn in all areas. In addition, the following shall apply:

- Inside vehicles, offices, control rooms, machine cabins, crib rooms, and ablutions are exempt;
- No other headwear, such as caps, bandanas or beanies, shall be worn under the safety helmet.

20.1.3 Safety footwear

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Safety footwear (Steel/Kevlar capped footwear)

complying with Approved Standards shall be worn at all times unless in an approved and controlled environment (i.e. office) or approved by a Department Manager through the use of a suitable risk assessment.

Personnel completing environmental, heritage or archaeological surveys, where substantial amounts of walking (>2km/day) and climbing in undisturbed land is required, are permitted to wear hiking boots manufactured specifically for that purpose. These boots must be ankle length, lace up, have good heel support, a rigid sole and good tread (Vibram soles are recommended). Boots should be replaced when the heel support is compromised by extended wear-and-tear, or when the tread becomes worn to the point where traction is compromised. This type of footwear are not permitted to be worn in active mining, processing or industrial areas.

20.1.4 Hearing protection

Hearing protection shall be worn in designated areas and/or when undertaking noisy tasks e.g. grinding, using pneumatic rattle guns etc.

Personnel shall wear hearing protection whenever they are exposed to a noise level of 85-dB (A) over an 8-hour shift. For each 3 dB (A) increase in noise level the exposure time shall be halved (e.g. 4 hours at 88 dB (A) 2 hours at 91-dB (A) etc.

The following approved hearing protection shall be available:

- Disposable Ear Plugs;
- Ear Muffs (various attenuated ranges).

Suitable training will be conducted on a regular basis in accordance with statutory requirements.

The use of personal headphones with multimedia or personal music devices shall be restricted to office and crib room areas and must not be worn in operational areas where full awareness of the surrounding work area is required.

20.1.5 Fall protection

Fall protection is required at any time, when:

- There is a risk that personnel may fall and injure themselves;
- Working outside of a handrail;
- Working from any elevated work platform or man cage;
- An employee feels that such protection is required; and
- Undertaking a work task closer than 2.0m to an open edge.

All safety harnesses shall be full parachute type harnesses. Safety belts shall not be used.

All safety harnesses, lanyards and attachment slings and devices shall conform to applicable Approved Standards.

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20.1.6 Eye/face protection

Safety glasses with clear, or Day/Night and side shields complying with Australian Standard 1337 (including prescription glasses) shall be worn at all times when outside of office buildings, messes, amenity blocks or fully enclosed cabins of plant, trucks and light vehicles.

Safety glasses with clear, Day/Night tinted lenses shall be worn when working in all workshops, but excludes other processing plants (i.e. Concentrators, Crushing and Screening Plants, or like facilities) where only clear glasses shall be worn.

Only clear glasses shall be worn at night.

If conducting maintenance work within Administration buildings, then only safety glasses with clear or indoor/outdoor tinted lenses shall be worn.

Additional/alternative eye protection will be worn for tasks, which involve flying particles or the potential for eye damage/injuries to occur. Double eye protection shall be worn at all times when performing the following tasks.

21 WATER QUALITY

Water quality has been identified as a major risk to the operations.

Provisions shall be in place to provide sufficient quantities of potable water to all personnel. This can be achieved by:

- A water purification system shall be installed and shall be able to provide sufficient quantities of potable water to all personnel;
- Bottled water shall also be available on the site and shall be provided by an ISO accredited supplier.

Regular testing of the water shall take place to ensure water security.

22 DESIGN STANDARDS

Design Standards shall be determined by qualified personnel. If suitably qualified personnel are not available within the organization then suitably qualified contractors shall be used.

Specific design standards shall be set for, but not limited to the following.

22.1 Amenities and Hygiene

A survey must be conducted of all workplaces to ascertain the requirement for workplace amenities on the workplace amenities survey form.

Amenities must be provided as required by the International Labour Organisation and as far as practicable, must be provided in sufficient number and be so located as to provide easy access to employees.

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Amenities must be designed and used so as to minimise the accumulation of contaminants.

All amenities must be maintained in a clean and hygienic condition.

Potable water must be provided within easy access of employees.

Employees must maintain personal hygiene.

Inspections of amenities must be conducted on a as part of the monthly inspections and reported deficiencies be rectified.

All personnel on site must be trained in the location of facilities and the need for hygiene at the workplace.

22.2 Toilets

Number of Toilets - The number of toilets required depends on the number of employees, or users of the facilities, and the type of building. In assessing needs, also consider how many visitors or members of the public might come to your workplace, however the following ratios will be applicable to most workplaces:

| Employees | Closet Pan(s) | Urinals |
|-----------|------------------|----------------|
| Males | 1 per 20 males | 1 per 25 males |
| Females | 1 per 15 females | Not Applicable |

22.3 Rest Rooms

Employees may need access to a rest area for a period of short-term respite while at work. The need for rest may be due to illness, injury or fatigue.

Rest rooms may take a number of forms. If there is a first aid room, the rest area facilities may be part of that room. Alternatively, a quiet office with a comfortable chair may serve as a rest area. If it is not practicable to provide an appropriate rest area within the place of work, then other arrangements may be adequate. This may include transporting the employee to a nearby medical clinic, or home.

In general, a rest area should be:

- Clean, hygienic and comfortable (e.g. comfortable seating);
- Separated from the main working area (though not necessarily a separate room);
- Quiet and well ventilated;
- Conveniently accessible to toilets and washing facilities.

22.4 Shelter Sheds

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Outdoor workers, such as road maintenance workers

and gardeners, should be provided with reasonable access to shelter if weather conditions make work unsafe, for example, high winds, lightning, rain or very hot weather.

In some situations where employees have a vehicle nearby, this may provide appropriate shortterm shelter. Where larger numbers of workers require shelter a shed or caravan may be needed. Portable shade canopies may also provide shelter against the heat.

22.5 Dining Areas

Employees need to be provided with hygienic facilities for eating their meals and for preparing and storing food. In some workplaces, mixing working and eating areas can create risks to health and safety. Substances or processes used in the workplace may have the potential to contaminate food, posing a risk to employees.

In some situations, mixing working and eating areas may have the potential to spoil work being done, or equipment being used, e.g. crumbs in sensitive equipment. In such workplaces, employees need to be provided with appropriate facilities for eating during meal breaks. In many situations, an area within the workplace for making tea and coffee and preparing and storing food might be all that is needed.

In all workplaces, appropriate systems for the removal of rubbish associated with eating and dining areas should also be implemented.

The appropriate amenities for your workplace will be determined by examining the assessment factors. A range of options could be considered appropriate:

- For large permanent workplaces: A dedicated dining or eating area may be provided. The dining area should be separated from the work area and protected from weather. It should provide hot and cold running water; facilities for washing and storage of utensils; and hygienic storage and heating of food. Adequate numbers of tables and seats should be provided, as well as the appropriate crockery and cutlery;
- For smaller permanent workplaces: Where dining facilities are not practicable, there
 should at least be access to a separate area, which has a sink with running water, a clean
 storage cupboard, a facility for boiling water and a refrigerator to avoid food spoilage. In
 workplaces where work processes may contaminate food, no matter how small those
 workplaces are, a separate dining room is required;
- For temporary or remote workplaces:
 - Where the work involves travelling between different workplaces, or is remote or seasonal, employees need reasonable access to dining facilities. This may involve organising rosters for mobile to ensure that they are back at their base location for meal breaks. Alternatively, mobile workers may take their meal breaks on route;
 - It may be determined appropriate for some temporary workplaces, to provide portable dining facilities. Mobile caravans or transportable lunchrooms are suitable;
 - Employees working in remote areas, such as loggers or mining exploration workers, may face severe constraints in dining facilities. At times the only enclosed facility available to them may be their vehicle. In this instance portable food storage facilities may be required, such as a car fridge or insulated lunch box.
- Showering Facilities

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- Separate showering facilities should be provided for male and female employees. Each shower area should have a lockable door, and non-slip flooring;
- $\circ~$ There must be one shower for every 10 persons on the site.

Where workplace design standards are stipulated, they must be included in the sites inspection scheme.

22.6 Buildings and Structures

Building construction: Every part of a building must be constructed and maintained in compliance with the design specifications.

Buildings, structures and surrounds maintained: Buildings, premises (including those under construction, disused or abandoned) must be maintained in a safe and healthy manner to achieve the required level of performance, using materials that are not faulty or unsuitable for the purpose for which they were intended.

Temporary closed or abandoned buildings: Temporarily closed or abandoned buildings and premises, their surroundings, works and back yards must be securely protected where there is a danger of a person being injured.

Damage: Whenever damage occurs to buildings a report must be made on the SM accident / incident Report form.

Audits and inspections: Scheduled audits and inspections of buildings and their surrounds, works and back yards to identify damage and hazards must be conducted on a monthly basis.

Housekeeping: All buildings, premises, works, floor areas and back yards must be maintained in a clean and safe state of repair.

22.7 Signs, Colour Coding and Demarcation

22.7.1 Standardized signs

All signs required by relevant Acts or Regulations must comply with Moroccon legislation.

All signs must be maintained free of obstruction and in a clean, visible and legible condition. Faded or damaged signs must be reported and replaced.

22.7.2 Signage

Signage alone as a control is ineffective unless supported by actions and supervision. Standard signage that is to be displayed at the entry to all site locations in a prominent position are as follows:

- Safety and quality;
- Site safety rules;
- Accident / Injury performance status;

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• Statutory signage such as requirements to wear certain items of personal protective equipment.

22.7.3 Survey

A survey of operations must be conducted to determine the site requirements for signage, demarcation and colour coding.

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22.7.4 Information and training

A display board must be provided at project and plant entrances and locations where specified, to inform employees and visitors of the symbolic signs, colours for equipment and demarcation used and their descriptive meaning.

Employee induction training must include a description and meaning of each warning sign, safety sign, pipe colour code and general colour code and demarcation colours used.

A safety performance board must be erected detailing current safety performance such as injuries statistics, date of last LTI and days worked free of injury.

Safety posters must be placed on poster boards that are strategically located and must be applicable to company operations and maintained in good order.

23 ERGONOMICS

Ergonomic surveys must be carried out using the ergonomic survey form. Ergonomic surveys must be conducted annually. The surveys must include assessment of:

- Body posture: seating, comfort, condition, back rests, work station height, reach, space etc;
- accessibility to: valves, switches, sample points, control levers, stored items;
- movement: reach, repetitiveness, sustained position;
- equipment: access to and from, layout of controls, space, maintenance requirements;
- Controls: size, readability, type, operations etc.

Ergonomic surveys and assessments must include:

- the use of checklists;
- recording of results;
- recommendations;
- corrective action plans;
- follow up on the implemented corrective actions;
- Ergonomic Inspections;
- Ergonomic inspections must be conducted monthly (as part of planned inspections) and will involve observing employees during normal working activities.

Operator Comfort:

• All installations, plant, equipment and furniture must be designed, constructed and maintained so as to be ergonomically acceptable;

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- Where practicable, ergonomically acceptable access and equipment must be provided to ٠ all items of plant, equipment and storage;
- Damaged furniture must be repaired, replaced or destroyed to prevent further usage;
- Where any work of an urgent nature requires abnormal posture, position or action, such work must be supervised to ensure limited exposure of workers;
- Follow-up Action / Surveys as Required;
- Corrective action plans must be prepared and implemented following ergonomic surveys or for assessment follow up.

24 HOUSEKEEPING

Clean and Tidy Workplace: It is an overall requirement that all personnel on SM operations maintain a clean and tidy work area. This applies to all facilities, camps, offices, storage areas and any workplace within SM operations.

Floors and access ways: It is essential to provide and maintain clearly identified access ways and adequate lighting and protection. In addition, materials should be neatly stacked and maintained. Floors should be regularly cleaned and kept clear and tidy.

Ventilation: Adequate ventilation should be provided and maintained; no work is to be carried out without adequate ventilation.

Clean up and rubbish removal: An adequate supply of rubbish containers shall be provided and placed in an easily accessible location. Standards and responsibilities concerning clean ups should be determined with contractors before any contractor commences work on site. Each crew is responsible for removal and disposal of rubbish on their shift.

Storage of materials: Sufficient and suitable storage should be provided for all materials, including flammable liquids, solids and gases. Appropriate signs should be put in place. All loose materials are to be secured to prevent accidental movement.

Emergency equipment: Ensure that extinguishers, hose reels, sprinklers, stretchers and first aid equipment are kept in unobstructed areas and ready for use.

Site deliveries: Scheduling and planning of site deliveries should be done to allow safe stacking and storage of materials. At all times access ways should not be obstructed.

Hazard identification: Develop and maintain onsite procedures for identifying and rectifying onsite hazards. Risk Assessments are to be carried out on a continuous basis and identified hazards controlled. The Health and Safety Committee should be involved in the identification and rectification of hazards that are beyond the influence of individuals

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Amenities and change rooms: Ensure amenities/change rooms are established in accordance with the appropriate regulations. Amenities and change rooms should be cleaned and maintained on a regular basis.

Dangerous hazards and situations: Many dangerous situations can arise on the job. Loose ground near embankments. Slippery or rough ground underfoot, projecting nails, moving vehicles, chemical hazards, poor visibility and poor ventilation are all examples.

25 LIGHTING

Design and installation of lighting:

- Lighting systems, both natural and artificial, must be designed, installed and maintained so as to effectively reveal the task and provide a safe and comfortable visual environment;
- All fittings must be designed for their operating conditions;
- Intrinsically safe lighting must be used in areas where flammable or explosive substances are stored;
- To ensure adequate lighting between dusk and dawn, automatic control systems must be used where fixed outdoor fittings are required to illuminate work areas and thoroughfares;
- Lighting contrasts that make areas of adequate illumination appear dim must be avoided;
- Natural light must be used where possible;
- Reflectors and diffusers must be used where appropriate.

Lighting in the workplace must meet the levels prescribed as follows:

| Work Area | Minimum lux level |
|----------------------------|-------------------|
| Inside bathrooms | 80 |
| First Aid rooms | 400 |
| Inside kitchens | 400 |
| Inside lunch rooms | 80 |
| Outside in pit lunch areas | 20 |
| Muster area | 160 |
| Light vehicle ready lines | 20 |
| Heavy vehicle ready lines | 20 |
| Inside general offices | 400 |
| Training rooms | 400 |
| Inside workshops/repairs | 160 |
| Outside workshops | 20 |
| General walkways | 40 |
| Bulk store shed | 80 |
| General stores area | 80 |
| Car parking areas | 10 |
| Mobile fuel depot | 80 |
| Fixed fuel depot | 80 |
| Inside switch rooms | 160 |

Table 1: Illumination levels in the workplace

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| Indoor substations | 160 |
|---------------------|-----|
| Outdoor substations | 20 |

Emergency Lighting: Emergency Evacuation Lighting and Exit signs must be installed in all buildings and structures to allow for safe egress from the building or structure in the advent of a power failure. This includes but is not limited to work areas, passages, stairways and where there is a safety or security hazard.

Guarding: Light fittings must have protective guards if mounted less than four metres above a work area and there is potential for the light fittings to be damaged during work processes.

Lighting Surveys:

- An initial lighting survey must be conducted of existing work areas, including mobile equipment. The initial survey must consider both day and night lighting requirements;
- A lighting survey must be conducted at any time a new workplace is established;
- Additional light surveys must be conducted on an annual basis, or whenever alterations to the work area occur, such as extensions, renovations or "tinting" of windows;
- Lighting levels must comply with the levels prescribed in table 1;
- A record must be kept of all lighting surveys and findings, and action taken to correct nonconformances;
- Where required, Work Requests must be raised for correcting non-conformances.

Areas with Poor Light Conditions:

- Portable lighting must be used for work performed in an area without sufficient light;
- Areas made hazardous due to poor lighting must be reported and corrected;
- Poorly lit work areas must be identified and rectified.

Windows and natural light:

- Where windows and other sources of natural light are use, they must be kept clean and free of obstructions;
- Where glass is used as a safety screen, only toughened or laminated glass must be used;
- Large areas of glass that are difficult to perceive must be marked to make them visible.

Inspection and Maintenance:

- The inspection and replacement of blown or damaged lights, light fittings, windows and skylights must be included in routine maintenance;
- The cleaning of reflectors, diffusers and globes must be an integral part of housekeeping routine;
- All lighting including emergency provisions must be checked and tested as part of the Weekly Inspections;
- Lights that are defective or fail to operate must be reported to the immediate supervisor;
- No more than 10% of the lights must be faulty at any time in a given area.

26 VENTILATION

A survey shall be conducted of SM operations to determine ventilation requirements.

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Sufficient air of atmospheric quality shall be available in the workplace to ensure the health and safety of employees.

No person shall enter or work in a workplace where the ventilation is inadequate.

Ventilation systems, both natural and artificial, shall be designed, installed and maintained so as to comply with relative legislative requirements, effectively ventilate the task, provide a safe and comfortable workplace and prevent contamination of the environment.

Motors shall be constructed to prevent corrosion and the risk of fire and explosion if required in areas of exposure to corrosive or flammable fumes.

Areas designated (by risk assessment) where welding and grinding operations are performed.

Where flammable or toxic fumes are (determined by risk assessment) to be generated. In the case of flammable fumes, fans and their connections shall be flame proof. These fans shall be designated and checked under an approved register.

Vehicle maintenance pits shall be suitably ventilated.

When any new work is to be done on the mine or plant areas, a risk assessment shall be conducted by a nominated team to determine the ventilation controls to be used.

Where natural ventilation is inadequate, Air movers or fans shall be used to remove pollutants and fumes.

27 ROADWAYS AND OTHER DESIGN STANDARDS

27.1 Haul Roads

All main haul roads will be constructed to ensure safe two-way traffic operations can be maintained.

Main haul roads and ramps must be constructed to a minimum travelling surface width of:

- For dual access three (3) times the width of the widest haul vehicle required to regularly travel the road;
- For single access one and a half (1.5) times the width of the widest haul vehicle required to regularly travel the road. Passing areas will be designated by the Mine Manager where required on single access roads.

Where roads do not meet this standard, a Job Hazard Analysis shall be performed and documented to ensure a safe operation is maintained eg. Defined passing areas, one-way traffic, two-way communications.

Roads shall be constructed of competent material and where required for safe operations it will be sheeted with a suitable surface layer.

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Main haul roads should be graded to 10% (1 in 10)

where practicable but must not exceed 12% (1 in 8.5) unless authorised in writing by the Mine Manager.

Where access ramps are steeper than 10% then a Job Hazard Analysis shall be performed, and suitable precautions or corrective actions put into place.

Cross grades will take into account OEM reference material. Where there is no reverence available, 3% is an acceptable limit to provide for crowning and drainage.

All bends or corners in haul roads are to be constructed to maintain the stability of equipment regularly using the corner or bend. Maximum cross grades for super elevation on high speed corners is 6%.

Where the difference in level between the haul road and the adjacent surface is greater than 1 metre, the situation will be risk assessed, and applicable construction measures will be taken.

The options are that:

- A trafficable shoulder at no more than a 1:3 gradient; or
- A windrow at least axle height of the largest truck using that road will be constructed along this section of the haul road.

Where any haul road is constructed within 10 metres of a highwall or low wall, a windrow is to be established. The minimum height for the windrow is to be half the wheel height of the largest haul vehicles required to regularly travel the road. The shape and size should be consistent with preventing a breach by the haul vehicles using the road.

Temporary haul roads may be established that do not meet main haul road standards. Operators must ensure that they take the necessary precautions to reduce speed and drive according to prevailing conditions on these temporary roads.

Intersections will be designed to minimise interaction and maximise visibility between vehicles. All roads must be designed to self-drain to prevent water build-up on the running surface. Reflective markers will be provided along all main haul roads at a maximum of 250m intervals.

27.2 Roads General

Road maintenance, grading and watering, will be undertaken during mining operations in accordance with the directions of the Open Cut Examiner.

Sight distances must be considered when designing mine roads; the following speed and sight distances are to apply.

- 40kph 50 meters sight;
- 60kph 80 meters sight.

Where practical, intersections should meet at 90 degrees to reduce the likelihood of blind turning.

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All road pavements shall be constructed of select

materials and prepared in such a manner that wherever practical an even non-slip surface is provided.

A mine official shall install at the following locations and as deemed necessary, appropriate signs. These locations are:

- Intersections;
- Locations where speed limits change;
- Major changes in the grade of roads;
- General road hazards;
- Access Ramps.

Ore haul ramps at sites are essentially temporary haul roads and may be constrained in design by the edge of remaining overburden and ore height. The access ramp should be as wide and flat as possible.

If width, grade or visibility is compromised then operators hauling ore from the pit and returning to the loader must communicate their intention to approach the access ramp by 2-way radio.

27.3 Dumps or Stockpiles

All regular overburden dumps must be of sufficient area to allow the haul trucks to turn in a forward direction.

A windrow is to be established on the tipping edges of all dumps. The minimum height for the windrow is to be half the wheel height of the haul vehicles using that section of the dump.

The shape and size of a windrow should be consistent with preventing a breach by the vehicles tipping.

Scraper dumps must be formed to minimise cross grades on the area that the scraper unloads.

Ore stockpiling and loading will be done in accordance with the site Mine Stockpile Operations Safety Management Plan and the directions of the Mine Manager

All dump surfaces must be drained to prevent water build-up.

28 STACKING AND STORAGE

Use of materials handling equipment: Personnel shall be trained and competent to use materials handling equipment for the purpose of storage and stacking.

Stacking and Storage Practice:

- Racks shall be designed and constructed to safely accommodate the load of the material to be stacked;
- All racks and elevated storage areas with a load exceeding 25kg shall be labelled with the Safe Work Load (SWL);
- Designated areas for storage and stacking shall be clearly marked according to standard Signs, Colour Coding and Demarcation;

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- All materials and equipment shall be stacked in designated storage areas and shall not obstruct access to safety equipment (e.g. fire extinguishers, safety showers) or access ways. No stacking is allowed in aisles, in front of doorways, firefighting or first aid equipment, electrical switches;
- Where ever possible heavier items shall be stored on lower levels of racks;
- Heavy items that are transported by manual handling shall be stored at a level that does not require the persons handling the equipment to bend over or stretch upwards to lift or lower the equipment. The ergonomic design of the racks shall be that such items are stored at a level that does not require bending or stretching;
- Round or unstable items shall be secured against movement;
- Correct equipment shall be used when handling or packing/strapping materials, e.g. ladders, trolley, lifting platform or forklift;
- Storage and stacking of items in cupboards and on shelves shall be neat and tidy;
- Stacks are to be erected as per the formula. Maximum height = 3 x shortest base measurement;
- Stacking is allowed only on level floor surfaces, sufficiently strong to carry the mass of the stack;
- Any stack found to be hazardous or unstable must be broken down immediately and restacked under supervision;
- Breaking down of stacks should always take place from the top;
- All stacking of boxes, bags etc. must be properly bonded and interlocked to ensure stability of the stack;
- All steel plates and sections will be packed in racks according to the thickness / type and grade of material.

Prohibited Stacking:

- Stacked items shall not obstruct lighting or ventilation;
- Items shall not be stacked on top of cupboards in any area not designed for storage unless stable and not at the risk of falling;
- Hazardous storage or stacking situations will be corrected, and shall always be reported to the immediate Supervisor.

Storage: Cupboards, shelves, open surfaces neat and tidy:

- Stacking / storage in racks and in cupboards must always be orderly, neat and tidy;
- No stacking is allowed on window sills or on top of cupboards;
- Stacking of heavy articles above head height must be avoided when there are no means of lifting equipment available;
- When stacking circular items e.g. shafts, wheels, oil drums, pipes, conveyor idlers and pulleys, etc. wedges / chocks must be used to secure the stack;
- No paint (Aerosol or tinned) or any other flammable liquid may be stored in unauthorised areas;
- All gas cylinders must be stored in an upright position, and are individually chained to prevent them from falling over.

Inspections: Inspection of all storage facilities shall be included as part of workplace area inspections.

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29.1 Contractor Management

PARTNERS

It is recognized that contractor management is one of the highest risks on the site.

Most injuries and incidents that occur at a operating sites can be directly attributed to contractors

To control these risks SM will introduce a Contractor Management Plan.

A contractor manager shall be appointed to each contract and shall be responsible for the overall management of the contractors including their compliance with legislation, policies, procedures and instructions with regards to occupational health and safety.

A typical contractor management plan consists of but is not limited to the following:

- Definition of contractors;
- Contractor safety and environment standards;
- Contractor safety and environment guidelines;
- Pre-qualification, tendering and evaluation;
- Contractor administration and contract completion.

The above procedures and relevant procedures shall be made available to the contractors via intranet or through site contacts e.g. Contract owner, H&S personnel.

The contract owner will be responsible for monitoring compliance, and where necessary to offer advice and directives to align with SM safety management system.

The contractor's safety management plan will be subject to audit and review in line with SM requirements and forms part of the site continuous improvement policy.

Compliance:

- At SM all suppliers, contractors, service providers and partners are required to comply with the site's safety and health management system that includes relevant statutory requirements, H&S standards, procedures and fatal risk control standards;
- Verification of compliance will be required and systems are in place under the SM Contractor H&S Management to monitor and review their effectiveness. This includes periodic auditing and inspections. Inspections and PTO's are used to monitor compliance;
- Key Performance Indicators (KPI's) shall be established in line with SM's systems.

29.2 Document Control and Record Keeping

Document Control is a critical part of ensuring that SM operations are always current and documents are up-to-date and that all documents and records are available.

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Also documents that become obsolete need to be monitored and removed from distribution.

To ensure all SM procedures, documents, manuals and work instructions are controlled a Document Control Procedure will be formalized to fully describe all SM requirements in Document Control.

29.3 Change Management

It is recognized that change will occur in the workplace. To identify formal areas of change and in order to track the effect of these changes a documented change management process shall be in place.

Change management shall be undertaken in accordance with the risk management processes and shall be communicated to all affected areas of the operation.

29.4 Operations and Maintenance

SM will have systems procedures, guidelines and standards, in place for operations and the maintenance of plant and equipment. These systems will be established, implemented and maintained to ensure that operations and maintenance activities are managed to bring the H & S risks and impacts to as low as reasonably practicable.

Where a statutory requirement exists under the Moroccon Mining Legislation procedures will be developed in consultation with a cross section of the workforce.

Personnel operating or working on equipment shall be trained in the safe operation or maintenance of the equipment.

No person shall operate any equipment until they have been deemed competent and authorized by the appropriate manager.

The provision of safe equipment shall apply to all equipment on site including contractors.

Standard Operating Procedure (SOP) will be developed to cover all aspects of operations and maintenance.

29.5 Guidelines

Guidelines will be developed to provide additional information to implement the SOPs or provide task specific guidelines.

29.6 Defect Management

Personnel are required to conduct pre-start inspections of plant and equipment prior to operation. A defect management system will be developed to ensure that any faults, damage or other issues are promptly reported and rectified, or scheduled for repair or maintenance attention.

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29.7 Maintenance

Maintenance activities are managed under a maintenance contract and they are required to comply with all SM Health and Safety Management practices as part of their normal contract conditions.

A system of planned routine maintenance and document maintenance shall be in place throughout the maintenance department. This includes plant, equipment, areas, infrastructure, stock and systems scheduled for regular and random inspections.

Contractors are responsible for scheduling the regular inspection, testing, calibration and certification as necessary. Where non-conformances are observed work orders including H&S requirements are placed for closing out the non-conformances.

Scheduled H & S inspections are conducted by competent personnel as part of the SM Safety Management Plan.

29.8 Design Data & Operating Limits

Design data and operating limits are contained in equipment manuals and kept be the contractors. These details are reviewed during introduction of equipment as part of risk assessment throughout the life of the plant and equipment and forms part of the maintenance planning schedules.

Operating limits are supplied by the manufacturer of plant and equipment though various drawings, communiqués, service manuals and instructions. These are maintained on file and available at the individual contractors.

Some examples of these limits may include:

- Forklifts;
- Jacks;
- Lifting equipment;
- Mobile equipment.

A plant engineering standard shall be developed to reference all plant and equipment on site and addresses all phases of plant from introduction, through the life of the equipment to decommissioning and disposal.

Where operating limits require review, a change management system is applied as necessary.

29.9 New, Modified and Replacement Equipment

All new and modified equipment is inspected and tested with regard to their technical integrity and H&S considerations through the risk assessment process. This will include any equipment that is being replaced. Scheduled inspections will be tracked and records maintained.. Where such modification or change is necessary, including any proposals to modify operating or design limits change management procedure is used

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29.10 Equipment Integrity, Calibration and Certification

Where plant, equipment and instrumentation require periodic calibration in accordance with manufacturer's instructions or legislation, this equipment is scheduled for periodic inspection as well as pre-use inspection and testing. Where certification is required, then this equipment shall not be used if the certification date has expired.

Reporting systems shall be in place to ensure that the equipment is within its expected design envelope and procedures are in place to ensure that non-calibrated or faulty equipment is removed from service and reported as a non-conformance.

This shall include a number of standard work guidelines and engineering standards which include the areas of:

- Inspection;
- Testing;
- Maintenance;
- Calibration; and
- Certification.

Other plant and equipment requiring integrity testing either by the manufacturer of the equipment or in accordance with Approved Standards, H & S Management Standards or Fatal Risk Control Protocols is tested in line with best industry practice. This may include but is not limited to:

- Boilers;
- Pressure equipment;
- Bulk storage vessels;
- Pipelines; or
- Critical equipment.

29.11 Identification Of High Risk Activities, Situations And Critical Plant

SM sites have identified high risk activities and situations through the risk management process and include these in the Risk Register. Including but not limited to:

- Ladder Register;
- Confined Spaces Register;
- Working at Heights Register;
- Critical Equipment & Special Systems Register;
- Fire Equipment Register;
- First Aid Register;
- Hazardous Materials Register;
- Lifting Equipment Register;
- Jacks and Stands Register.

30 CRITICAL OPERATIONAL SYSTEMS AND PROCEDURES

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SM will develop procedures, standards and guidelines

for safe operation, inspection, maintenance and testing requirements. Where operational systems are critical Trigger Action Response Plans (TARP) will be developed to monitor the deviation from operational systems.

Critical operational systems will be monitored through a control room.

30.1 Protective Systems

Where prevention and monitoring fails, protective systems will be established as a contingency to prevent escalation of hazard. Some of the protective systems established are:

- Fire and evacuation alarm systems;
- Fire-fighting equipment such as fire hose reels and extinguishers;
- Water deluge systems;
- Surface mobile equipment fire suppression systems;
- Fire Hydrant, fittings and hoses;
- Inspection and test records are maintained for the above.

30.2 Simultaneous Operations

Limited systems exist at SM which involves simultaneous operations.

Where SM operators are required to conduct tasks that may impact other operations, cross section of employees from both sections shall be involved to assess the H & S hazards and to develop control measures.

31 WORK SPECIFIC RISK CONTROLS

In addition to the controls outlined in section 11 of this plan (Fatal Risk Management) further standards, procedures and work instructions shall be developed for all other routine operations on the site, these include but are not limited to:

- Access systems Ladders, Stairs, Walkways and Scaffolding;
- Angle grinders;
- Authority to work;
- Barricading;
- Camp Safety;
- Chainsaw Use;
- Clearing of Land;
- Construction activities;
- Drilling operations.;
- Earthworks;
- Firearms;
- Fuel tankers / trailers;
- Hand tools;
- Lightning;
- Lighting Plants and Generators;
- Pressure vessels, compressed air and gas Equipment;

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- Manual handling;
- Office safety;
- Radiation in sunlight;
- Radioactive equipment;
- Remote work;
- Security;
- Site access;
- Snake handling and removal;
- Water pumps;
- Welding and welding machines;
- Working in hot or cold environments;
- Working on high pressure equipment.

The work specific risk controls shall be identified using the risk management process in consultation with the workforce, qualified personnel, contractors and any other associated parties.

All personnel and contractors shall be trained in the work specific risk controls for their area of operation

No person shall be authorized to undertake any task in which they have not been trained and deemed competent including the relevant Standard Operating Procedures and Work Instructions.

32 INCIDENTS AND EMERGENCIES

Emergency Management

- While the Safety Management Plan and Systems will be proactive and be focused on the prevention of all accidents it is recognized that accidents may occur;
- For this reason a detailed emergency management process shall be in place. This process shall identify the; who, what, when, where and how of emergency management and shall be conveyed to all personnel in the workplace.

The emergency management plan must include detailed provisions for response to emergencies both in a marine environment and emergencies that may occur due to SM operations in or around the host communities.

All personnel shall be trained in the emergency management processes during their induction to the site.

Regular emergency "drills" shall be conducted so all personnel are fully conversant with the emergency management plans.

32.1 Withdrawal Conditions

According to the risk levels identified withdrawal conditions shall be determined. These are indicators where an evacuation or the area or facility shall take place and all personnel accounted for in a formal manner.

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32.2 Crisis Management

A formal crisis management procedure shall be put in place in order to control and prevent where possible the escalation of certain incidents that may have a major effect on the operation or community

Crisis management provisions shall be determined using the risk management process.

Appropriate personnel shall be trained in the crisis management requirements.

32.3 Prescribed Accidents and Incidents

Any prescribed accidents and incidents shall be reported to government authorities according to the requirements of the legislation.

32.4 Accident and Incident Investigation and Reporting

It is critical that the organization is able to fully investigate in an open and transparent manner any incidents and accidents that may occur in order to identify any areas where shortcomings have contributed to an accident or incident.

To achieve this requirement a formal accident and incident reporting and investigation process ICAM will be used.

All accidents and incidents will be required to be reported by all employees, contractors and visitors.

Appropriate personnel will be formally trained in up to date accident investigation processes.

A risk assessment shall be part of all accident and incident investigations.

Safety representatives shall be involved in all accident and incident investigations.

Details of accident and incident investigation reports shall be communicated to all employees.

Revision of practices and procedures shall be undertaken according to the outcome of accident and incident investigations.

Accident investigation is fact finding not fault finding.

33 MONITORING, AUDITING AND REVIEW

33.1 Statistics

Statistical monitoring shall take place and shall measure both "lag" and "lead".

Lead Indicators (before any event) including but not limited to:

• Hazard identification per individual rate;

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- Planned task observation rate;
- Workplace Task Audit Program Completion;
- Workplace Inspection Completion Rate;
- Standard Self-Assessment Score;
- Program Implementation;
- Program Completion against Plan;
- Routine Health Monitoring Program Completion Rate;
- Action Close-Out Rate;
- Audits completed against plan;
- Inspections completed against plan.

Lag Indicators (after the event):

- Lost time injury frequency rate;
- Medical treatment injury frequency rate;
- Combined lost time injury and medical treatment injury frequency rate;
- First aid injury frequency rate;
- Total recordable injury frequency rate;
- Severity rate;
- Duration rate.

33.2 Reporting

To enable evaluation of the effectiveness of the Safety Management System, regular periodic reporting is in place, and is required to be adhered to by the Managers. The information contained in these reports [which includes that specifically detailed in Section 21 of this document] will assist Management in evaluating safety performance, identify training needs and determine /set a course of action to improve the safety system.

Types of reports shall include:

- Injury / Incident Reports (including Near Miss Incidents);
- Accident Investigation Reports;
- Weekly First Aid Reports;
- Safety Reports:
 - o Safety Committee Meeting Minutes;
 - Toolbox Meeting Minutes;
 - Safety Inspection Reports;
 - Safety Audit Reports;
 - Monthly Safety Data Reports.

It is absolutely necessary that all reports are completed with sufficient and correct information to ensure all facts regarding events and outcomes are adequately recorded. Failure to do so may jeopardize our position in the event of future investigations, claims, legal action, etc.

In order to maintain required levels of conformance with the requirement of the safety management system a formal process of monitoring, auditing and how to address non-conformance with any identified items shall be used.

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33.3 Inspections

The site shall be divided into inspection areas and management personnel shall be directly responsible for the implementation of, and compliance with legislative and corporate environmental, health and safety requirements as they apply to their designated area.

Appropriate personnel shall be trained and certified to perform inspections and audits.

A formal inspection scheme in consists of but is not limited to the following:

- Work area standards (determined in consultation with employees and other stakeholders);
- Mechanical inspection scheme (determined in consultation with qualified mechanical engineer and employees);
- Electrical inspection scheme (determined in consultation with qualified electrical engineer and employees);
- Production areas inspection scheme (determined in consultation with qualified mining or civil engineer and employees);
- Workshop inspection scheme (determined in consultation with employees and other stakeholders)
- Camp and Kitchen inspection scheme (determined in consultation with employees and other stakeholders.

33.4 Auditing

Regular audits shall be performed on all areas of the operation.

These audits will be performed by both internal and external personnel.

All non-conformances identified by audits shall be formulated into an action plan to address the non-conformances in a timely manner according to the risks involved

Results of audits shall be communicated to the management and employee.

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Appendix 1 – Take 5 and JHA Risk Matrix

Table 2: Risk Consequence Assessment Criteria

| Risk Consequence Assessment Criteria | | | | | | | |
|--|--|--|-----------------|-------------------|----------------|--|--|
| High Consequence | Medium Consequence | Low Consequence | High Likelihood | Medium Likelihood | Low Likelihood | | |
| Classified Injury (LTI or restricted work case) Moderate effects on environment | Medical Treatment Minor short-term damage to environment | First Aid Treatment Limited damage to area or low significance | 60% | 30% | 10% | | |

Table 3: Consequence and Liklihood

| | Likelihood | | | | | | |
|--------------------|-----------------|-------------------|----------------|--|--|--|--|
| Consequence | High Likelihood | Medium Likelihood | Low Likelihood | | | | |
| High Consequence | High | High | Medium | | | | |
| Medium Consequence | High | Medium | Low | | | | |
| Low Consequence | Medium | Low | Low | | | | |

Using the table above estimate the risk (consequence and likelihood) on the dangers identified under each of the job steps and put in the final column.

If an item comes in at high risk a WRAC risk assessment must be completed prior and risks reduced to ALARP prior to the commencement of works.

| Risk Score | Actions | Risk Score | Priority Ranking |
|---------------|--|------------|---------------------|
| High | UNACCEPTABLE POTENTIAL RISK - Action : Immediately Stop & consult a safety advisor before commencing the works. Full RA required | High | 1 |
| Medium | MEDIUM POTENTIAL RISK - Action: Review the JDEA and look for further controls to reduce the risk. Seek the assistance of a safety advisor. | Medium | 2 |
| Low | LOW POTENTIAL RISK - Action: Access and control as required according to the requirements of this JDEA. | Low | 3 |

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Appendix 2 – WRAC (formal Risk Assessment)

The responsible person shall approve the risk assessment prior to the task being commenced. Any proposed controls shall be actioned and initialed by the person completing the action prior to the commencement of the step, the proposed control relates to. The original shall be kept on file for the duration of the project.

IF RISK SCORE IS IN THE 18 - 25 RANGE AT THE COMPLETION OF THE RISK ASSESSMENT THE TASK CANNOT COMMENCE -SEE H & S MANAGER

| Step 1 - Determine the Consequences | | | | Step 2 - Del | Step 2 - Determine the Likelihood Step 3 - Calculate the Risk Rating | | | | | | | |
|-------------------------------------|--|---|---|-------------------|--|--|------------------------|-------|---------|------------|---------|------------|
| Cat. | Injury | Environment | Community / Media / Government | Damage | 1 | LIKELIHOOD RISK RANKING | | | | | | |
| | 8.7 | | | | | | | Low 1 | Minor 2 | Moderate 3 | Major 4 | Critical 5 |
| Critical 5 | Multiple fatalities / health effects to > 50 persons | Severe damage to environment with long-term effects | Serious public or media outcry | \$15M- \$150M | Almost Certain 5 | Common or frequent, Once per week | Almost Certain 5 | 11 | 16 | 20 | 28 | |
| Major 4 | Fatality or severe permanent disability | Significant environmental damage | Significant adverse national media/public attention | \$1.5M- \$15M | Likely 4 | Is known to occur, it has happened, once a month | Likely 4 | 7 | 12 | 17 | 21 | 24 |
| Moderate 3 | Classified Injury (LTI or restricted work case) | Moderate effects on environment | Attention from media and / or heightened concern from community | \$150K- \$1.5M | Possible 3 | Could occur, I've heard of it happening, once a year | Possible 3 | 4 | 8 | 13 | 18 | 22 |
| Minor 2 | Medical Treatment | Minor short-term damage to environment | Minor, adverse local public or media attention and complaints | \$15К- \$150К | Unlikely 2 | Not likely to occur, once every 10 years | Unlikely 2 | 2 | 5 | 9 | 14 | 19 |
| Low 1 | First Aid Treatment | Limited damage to area or low significance | Public concern restricted to local complaints | \$0-\$15K | Rare 1 | Practically impossible, once every 100 years | Rare 1 | 1 | 3 | 6 | 10 | 15 |

| Risk Score | Actions | Risk Score | Priority Ranking |
|------------|---|------------|------------------|
| 18 - 25 | UNACCEPTABLE POTENTIAL RISK - Action : Immediately Stop & Consult the Safety Manager | 18 - 25 | 1 |
| 10 - 17 | HIGH POTENTIAL RISK - Action: Introduce an interim barrier immediately (soft barrier) Implement a permanent barrier as soon as practicable (hard barrier) | 10 - 17 | 2 |
| 6-9 | MEDIUM POTENTIAL RISK - Action: Plan and schedule the implementation of a soft barrier e.g. SWP | 6-9 | 3 |
| 1-5 | LOW POTENTIAL RISK - Action: Access and control as required e.g. Tool box talks | 1-5 | 4 |

Figure 1: WRAC

Appendix 3 – Material Risk Matrix

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Table 4: Material Risk Matrix

| Level | Health and Safety | Environment | Community | Reputation | Legal | Financial | Factor |
|-------|--|---|--|--|---|---|--------|
| 7 | >50 fatalities. Permanent impairment >30% of body to more than 500 persons. | Permanent severe impact/s to land, biodiversity, ecosystem services, water resources or air. | Severe, widespread community health, safety or security impacts (>1000 households) or human rights violations; complete destruction of >1000 houses or community infrastructure; complete irreversible desecration of multiple structures/objects/places of global significance. | Crisis event or publication of highly confidential material information resulting in international media, government, regulator, NGO campaigning and employee condemnation of the company (>6 months). Long term damage to company reputation. | Bankruptcy, closure, nationalization of operations. Hostile takeover, Withdrawal of funds by shareholders. Shareholder discontent leading to the removal of Chairman/CEO/Board. | ≥ US\$75 million | 1000 |
| 6 | >20 fatalities. Permanent impairment >30% of body to more than 100 persons. | Severe impact/s (>20years) to land, biodiversity, ecosystem services, water resources or air. | Extensive community health, safety or security impacts (>200 households) or human rights violations; extended serious disruption to people's lives (>1000 households); extensive damage to >1000 houses or community infrastructure or structures/ objects/places of global cultural significance. | Crisis event or publication of confidential material information resulting in international media, government, regulator, NGO campaigning and employee condemnation of the company (< 6 months). Ongoing condemnation results in damage of the reputation of the company. | Lack of valid operating title, forced closure of an operation, competition, anti-corruption international trade law or tax breach; Major personal injury class actions | ≥ US\$10 million to <us\$75 million</us\$75 | 300 |
| 5 | 2-20 fatalities. Permanent impairment >30% of body more than 10 persons. | Serious or extensive impact/s (<20 years) to land, biodiversity, ecosystem services, water resources or air. | Serious community health, safety or security impacts (>50 households) or human rights violations; extended disruption to people's lives (>200 households), extensive damage to >200 houses or structures/ objects/places of national cultural significance. | Serious national and international negative media attention. General public and NGO adverse reaction with interest from regulators (< 3 months). Structured campaigning from employees, NGOs or communities having a major impact on the Business / Asset reputation. | Prosecutions for criminal breaches resulting in jail terms for employees or agents or defendant to major civil litigation. | ≥ US\$2.5million to <us\$10 million</us\$10 | 100 |
| 4 | Single fatality. Permanent impairment >30% of body to one or more persons. | Major impact/s (<5 years) to land, biodiversity, ecosystem services, water resources or air. | Serious community health, safety or security impacts (<50 households). Multiple allegations of human rights violations; extended disruption to people's lives (>50 households); extensive damage to >50 houses; moderate irreversible damage to structures/ objects/places of national cultural significance. | Adverse national media attention. General public and NGO adverse reaction with interest from regulators with no material outcome. Structured campaigning from employees, NGOs or communities having a major impact on the Business / Asset reputation. | Significant civil litigation. | ≥ US\$500,000 to <us\$2.5million< td=""><td>30</td></us\$2.5million<> | 30 |
| 3 | Permanent Impairment <30% of body to one or more persons. Restricted or lost days due to injury or illness. | Moderate impact/s (<1 year) to land, biodiversity, ecosystem services, water resources or air. | Moderate community health, safety or security impacts (<50 households). Single allegation of human rights violations; moderate disruption to people's lives (<50 households); extensive damage to <50 houses; moderate reversible damage to structures/objects/ places of national cultural significance. | Attention from regional media and/or heightened concern by local community. Criticism by community, NGOs or activists. Asset reputation adversely affected. | Breach of regulation. Lack of valid exploration title. | ≥ US\$100,000 to < US\$500,000 | 10 |
| 2 | Objective but reversible impairment. Medical treatment injury or illness. | Minor impact/s (<3 months) to land, biodiversity, ecosystem services, water resources or air. | Minor community health, safety or security impacts (<10 households) or human rights infringements; inconvenience to livelihoods <6 months; moderate damage to <50 houses or community infrastructure; minor, reversible damage to structures/ objects/places of regional cultural significance. | Adverse local public or media attention and complaints. Heightened scrutiny from regulator. Asset reputation is adversely affected with a small number of people. | Minor legal issues and noncompliance with commitments. | ≥US\$10,000 to <us\$100,000< td=""><td>3</td></us\$100,000<> | 3 |

| Level | Health and Safety | Environment | Community | Reputation | Legal | Financial | Factor |
|-------|---|---|---|--|------------------------|---|--------|
| 1 | Low-level short term subjective symptoms or inconvenience. No medical treatment. | Low-level impact/s to land, biodiversity, ecosystem services, water resources or air. | Single low level community health, safety or security impact; low-level inconvenience <2 weeks; minor, reversible, low-level disturbance or minor damage to a single house or structure/object/place of regional cultural significance. | Public concern restricted to local complaints. Low- level interest from local media and/or regulator. | Low-level legal issue. | <u\$10,000< td=""><td>1</td></u\$10,000<> | 1 |

Table 5: Likelihood Table

| Uncertainty | Operations | Construction | Likelihood Factor |
|----------------|--|--|----------------------|
| Description | Based on professional and industry experience and expected future conditions, the risk event: | Based on professional and industry experience and expected future conditions, with similar projects, the risk event: | |
| Almost certain | Could be incurred more than once in a year. | Could be expected to occur more than once during the project delivery. | 10 |
| Likely | Could be incurred over a 1 - 2 year budget period. | Could easily be incurred or has generally occurred in similar projects. | 3 |
| Possible | Could be incurred within a 5 year strategic planning period. | Incurred in a minority of similar projects. | 1 |
| Unlikely | Could be incurred within a 5 - 20 year time frame. | Known to happen, but only rarely. | 0.3 |
| Rare | Could be incurred in a 20 - 50 year timeframe. | Has not occurred in similar projects but could. | 0.1 |
| Very rare | For a system failure: This consequence has not happened in the industry in the last 50 years. | Conceivable, but only in extreme circumstances. | 0.03 |
| | For a natural hazard: The predicted return period for a risk of this strength/ magnitude is one in 100 years or longer. | | |