

MAS AFRICA ENGINEERING AND HYDRAULICS



SAFETY, HEALTH & ENVIRONMENT MANAGEMENT PLAN

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Purpose and Scope:	Develop and maintain the Occupational Health, Safety, and Environmental program.
Objectives:	Focus on continual improvement of the Occupational Health, Safety, and Environment.
Audience:	Employees, other individuals who may be affected by MAS Africa Engineering And Hydraulics facilities and operations.

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1. PURPOSE

The H&S Plan provides guidelines of a Health and Safety Management System which will enable MAS Africa Engineering And Hydraulics to control its occupational health and safety hazards and risks as well as to achieve and meet the managements health and safety objectives the life span of the client, associated with the scope.

The document also covers the responsibilities, supervision and monitoring procedures, all in accordance with the Occupational Health and Safety Act and Regulations, Act 85 of 1993 as amended, accompanying the Construction Regulations.

2. SCOPE

This H&S Plan will be applicable to all construction work conducted at the client site.

3 LAWS, REGULATIONS AND REQUIREMENTS

MAS Africa Engineering And Hydraulics shall comply with all applicable safety laws, regulations and shall take all necessary safety precautions related to or arising out of the risk assessment in order to protect the work, the personnel and property of client, and all third parties.

MAS Africa Engineering And Hydraulics shall meet or exceed the requirements of the nationally codes, standards and laws internationally

Furthermore, MAS AFRICA ENGINEERING AND HYDRAULICS and the CLIENT H&S Requirements as defined in contractual documentation shall be fully complied with during the performance of all works.

MAS Africa Engineering And Hydraulics warrants that it is familiar with the contents and implications of such applicable safety laws and regulations. Contractual H&S Requirements of MAS AFRICA ENGINEERING AND HYDRAULICS and the CLIENT shall be enforced. Implementation and formal acknowledgement of the receipt of these requirements is mandatory. The program will remain in place from the start of mobilization through site completion.



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4. SAFETY, HEALTH AND ENVIRONMENTAL POLICY

MAS Africa Engineering And Hydraulics is committed to the health and safety of our employees and any others that may be affected by our actions. We will ensure the prevention of harm to any of the employees as well as any others who may be affected by our activities.

H&S POLICY STATEMENT

Safety, Health and Environmental Policy

It is the policy of MAS Africa Engineering And Hydraulics to develop and maintain a SHE System aligned with the principles of the OSHAS 18001 Standard. The system is focused on prevention and the protection against environmental pollution, injuries and illness, and the promotion of quality service delivery, safe and healthful actions and attitudes, not only in MAS Africa Engineering And Hydraulics employees but also in other individuals who may be affected by its activities in the company relating to the provision of hydraulic services and installations including visitors, contract employees and persons in the surrounding community. MAS Africa Engineering And Hydraulics will comply with customer requirements in all facets of the above activities.

The model is used as part of our objective to focus on continual improvement.

This is achieved by:

Adopting the “ZERO HARM” philosophy in all works performed.

Establishing an effective monitoring system that will provide data useful in evaluating the system for continual improvement in terms of OH&S performance, appropriateness, and effectiveness, including an annual review of the system by Management to determine if it has met or made progress toward its objectives.

To ensure our Policies and procedures are relevant, appropriate and all our facilities continue to meet or exceed National and International Standards.

The immediate elimination of identified unsafe behavior and work practices.

Providing adequate resources to effectively apply loss prevention techniques and systems.

Including environmental, health and safety topics and discussions at all meetings, through all levels and at all locations within MAS Africa Engineering And Hydraulics.

Continuous safety presence at ground level.

Promote the Health and well-being of our people.

Creating an understanding among the work force that each employee is responsible for his/her safety as well as the safety of their co-workers.

Review this Policy annually.

This policy is upon request available to Clients, Authorities and Employees.



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5. COMMITMENT AND MOTIVATION

MAS Africa Engineering And Hydraulics is fully committed to this H&S Policy and will provide motivation through:

- Planning the work in a safe manner prior to executing the tasks, conducting risk assessments for all activities and equipment
- Providing safe plant, equipment, personal protective equipment and safe systems of work.
- Provision of suitable training, supervision, information and instruction to all personnel engaged on the construction phases of the site.
- Acceptance and accountability of the responsibility for accidents and incidents in the workplace.
- Introduction of systems to encourage active involvement of the management workforce and the local community in providing suggestions and proposals for improvements in H&S performance.
- Providing active support for the construction team by way of specialist advice in safety and quality areas.
- Assessment of risk and conveyance of this information to the workforce.

A continuous effort, driven by the Team, will be made throughout the construction phases to take an active part in safety issues.

6. TARGETS AND OBJECTIVES

6.1 H&S Objectives

The main objective is to shape an incident free environment.

MAS Africa Engineering And Hydraulics will establish a culture of safety for all people involved in the client Project Site.

MAS Africa Engineering And Hydraulics maintains open communication with all employees on Safety and Health issues by promoting a proactive approach. This will be achieved by the involvement of the entire MAS Africa Engineering And Hydraulics Site Management Team in continuous observation, education & reporting on MAS Africa Engineering And Hydraulics H&S programs, utilization of safety processes, such as the Job Hazard Analysis Program, participation in regular safety assessments and audits, and continuously communicating the following program objectives:

- To proactively manage the H&S risks on all sites and installations.
- Ensure all employees have sufficient training or experience to perform their job functions and / duties safely.
- Establish and maintain the highest possible standards during Site execution
- Establish and implement procedures to prevent pollution of the environment during execution
- Develop an affective system for monitoring and reviewing of all activities defined in the H&S Plan and procedures
- Establish effective communication measures (such as Safety Committees Toolbox talks, Safety Bulletins, Newsletter and relevant Safety information) as part of the program to



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promote active participation and co-ordination of the commutations between workforce and management.

- Record and measure all Accidents, Incidents and Near Misses in order to illuminate recurring incidents
- Maintain a ZERO tolerance to safety, motto within the company
- To continuous investigate new technology to improve our work performance
- Looking at new types of personal protective equipment to eliminate injuries to our workforce
- Enforce disciplinary action to ensure compliance with all procedures, rules and regulations
- Constantly inspect our tools, equipment and PPE and remove defective tools within the system
- Appoint dedicated people to control vehicles, stores and inspections
- Assign responsibilities to various people to control safety aspects within the company

Project HSE Objectives

The implementation of the HSE Program Site should help to achieve the following objectives:

- Zero incidents, i.e.
 - No unsafe actions, unsafe conditions and near misses
 - No incidents with first aid treatments as a consequence
 - No injury to people
 - No damage to materials or harm to the environment
 - No uncontrolled emissions
 - No unplanned fires
- No violation of MAS Africa Engineering And Hydraulics HSE regulations
- No external complaints as a consequence of odors, lighting or noise nuisance from the construction site
- No complaints about the management of waste materials
- No exposure to hazardous chemicals
- No exposure to excessive noise
- No damage to MAS Africa Engineering And Hydraulics reputation
- Manage the HSE risks on all projects, sites and installations
- Ensure proper induction and training or experience to perform their duties safely
- To establish and maintain the highest possible standards for safety, health and hygiene
- To ensure the legal and best practices are complied to in order of prevent pollution of the environment
- To monitor and review all activities defined in the HSE Plan
- To record and investigate all near misses, incidents, accidents to work

Site HSE Organisation and Responsibilities

MAS AFRICA ENGINEERING AND HYDRAULICS will perform the works safely as per the requirements of the SANS 10085 and the regulations promulgated in terms of the Act as well as Client's requirements as defined in SH&E Specification for Construction Sites.



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When reference is made to "MAS Africa Engineering And Hydraulics personnel" or similar, this always includes MAS Africa Engineering And Hydraulics employees and non-employees (e. g. freelancers).

Legal Appointments

MAS Africa Engineering And Hydraulics will comply and conform to all legal appointments and requirements as stipulated by prevailing legislation. MAS Africa Engineering And Hydraulics legal appointments are listed and kept up to date.

6.2 Objectives for this site / Measures to be used

	H&S Key focus areas	Objective
A	Fatalities Case FC	0
B	Lost work Day cases LWDC	0
C	Recordable cases RC	0.25
D	First aid cases FC	0.35
E	Near misses / Incidents	0.35
F	Environmental Incidents	0
G	Traffic / Transportation	0
H	Hours to be worked without a LWDC	200 000

7. MANAGEMENT STRUCTURE AND RESPONSIBILITIES

7.1 Management Structure roles and responsibilities

7.1.1 Project Managers

The Operations Manager has the overall HSE responsibility during the execution of the work on the work site. He/She is also the coordinator with regard to safe cooperation of all companies at construction site during construction. Appointed person has the duty to ensure that the HSE requirements are implemented in accordance with this project-specific HSE Program Site. In general this encompasses the following tasks:

Operational Managers are responsible and accountable for:

- Identifying safety and health hazards and environmental aspects and ensuring that all risks related thereto have been adequately addressed.
- Ensuring a safe and healthy workplace.
- Ensuring that all persons under their control are suitably qualified and competent and perform their work safely.



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- Employees under their control are supervised properly to ensure incidents, injuries and quality concerns are kept to a minimum, but if they do occur, that they are reported, investigated and that corrective and preventive action is implemented.
- Where non-compliance to safe work procedures and practices is observed, disciplinary action shall be taken as necessary.
- Conveying H&S information to lower levels and to ensure that employees are informed.
- Conveying any concerns from lower levels to senior management.
- Bringing to the attention of the relevant Operational Manager any H&S problem or potential problems, which have, or may occur.
- Promoting a H&S culture and Zero Tolerance amongst all employees under their control.
- Carrying out regular inspections and audits of both plant and management systems. (E.g. OHSAS System and Plant Inspections).
- Forwarding the requirements to all the disciplines and involved parties.
- Instructing new employees and ensuring the instruction of the MAS Africa Engineering And Hydraulics employees by their superior on the local and project-specific health and safety precautions, health and environmental measures, alarm and contingency plans and required response in the case of emergency.
- Review the implementation of the work permit system
- Preparing the monthly HSE report
- Perform Risk Assessments for all activities performed by MAS Africa Engineering And Hydraulics personnel
- Implementation of the safety measures defined in the Risk Assessment Construction Site for MAS Africa Engineering And Hydraulics personnel.
- Coordination of the interfaces with respect to HSE matters.
- Compile a list of all First Aiders and other required HSE support functions and make it available for all people on site.
- Monitoring the adherence of HSE regulations; regular meetings to discuss HSE issues; performing regular construction site inspections along with the recording of HSE issues
- Assist in the reporting and investigation of incidents and accidents of MAS Africa Engineering And Hydraulics personnel.
- Approve the HSE Plans
- Implement and operate the waste management, including observing environmental regulations and requirements
- Update the HSE Program Site if requirements have to be modified and communicated the modifications to employees on site.
- Contribute to a positive safety culture by example.
- Ensure that management systems are in place and understood to provide a safe construction workplace.
- Contribute to and participate in the project HSE program.
- Participate in safety committees and safety meetings.
- Participate in audits, safety inspections and serious incident investigations.
- Focus on the elimination of unsafe acts, and rectify unsafe conditions quickly.
- Ensure safe management of contractors on the site.
- The Operations Managers must report to the Director of the company.
- The Operations Manager shall be responsible for allocating Supervisors on areas with dedicated crews. Plot plan must be obtained to locate the areas to different Supervisors.



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- Weekly meetings must be conducted with the Supervisors and records of the minutes must be kept for audit purposes

These responsibilities may be transferred to another person in charge, e.g. the Director or the Project Leaders. The overall accountability cannot be transferred.

The working relationships with the unions, any employer liability insurance association or similar organizations and institutes are to be organized and controlled by the Operations manager or by the HSE Manager in agreement with the CLIENT; regular construction site inspections are to be arranged with the applicable entity (e. g. authorities), if necessary.

7.1.2 Project Leaders

- Project Leaders, in their relevant sections, report to their Head of Departments.
- Project Leaders shall comply with the same requirements as the Head of Departments with the exceptions of developing the H&S Policy, attending the H&S Management Review meeting and the Central H&S/Technical Risk meetings, which are attended by the Head of Departments. However, the Section Leaders or their representatives may be requested to attend on an ad hoc basis.
- Project Leaders have been appointed as the responsible authority in a certain section/site to ensure that H&S related issues are performed.
- Pro-actively ensure process integrity by implementing and maintaining operational standards and programmes.
- Project Leaders shall ensure ongoing adherence to procedures, a safe and healthy workplace, environmental aspects are controlled and that production is maintained through the availability of plant and equipment.
- Where non-compliance to safe work procedures and practices is observed, disciplinary action shall be taken as necessary.
- Project Leaders will be responsible for identifying and managing H&S risks within their section/site as well as ensuring the provision and maintenance of complementary emergency response requirements.
- Project Leaders shall ensure that Section H&S meetings are established and appropriate corrective actions are taken on identified H&S matters. This forum will report directly to the monthly Departmental H&S meeting.
- Ensure compliance to the Change Management process
- Accountable for ensuring that all incidents are reported, approved and investigated as per the incident investigation procedure.

7.1.3 H&S Support Function

The H&S Function carries NO responsibility for line safety performance (this is purely a line function), but is responsible for providing the support required to develop and maintain the system. The H&S Function reports to the Operational Manager.



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The H&S Function is responsible for the following requirements of the H&S management system:

- To ensure the implementation and maintenance of the management programme as part of the H&S at MAS Africa Engineering And Hydraulics .
- To ensure that the Management Review meeting is conducted at planned intervals.
- Reporting to the relevant managers as frequently as may be necessary, on safety issues of importance. This information shall be conveyed to senior management without delay. However, it may be necessary for the budget for continuous updating of the Integrated H&S Legal Register.
- Attend all meetings that may be required in the process of implementing, administering or maintaining the H&S at MAS Africa Engineering And Hydraulics .
- Ensure that appropriate training and awareness is carried out with all employees, contractors and service providers, with regard to the OHSAS management system requirements, focusing on risk reduction.
- Report any repeated non-conformance/incident for specific H&S issues at the monthly Departmental and monthly Site H&S meetings.
- Ensure that Section Leaders rectify non-conformance with OHSAS management programmes or safety performance standards (external and internal).
- Development of the OHSAS management programmes in conjunction with the Section Leaders, to manage the significant H&S hazards and risks for MAS Africa Engineering And Hydraulics .
- Review and maintain the OHSAS documentation.
- Assess the progress of the OHSAS management programmes on a monthly basis through the reporting by the respective departments on their safety management programmes.
- Incorporate legal and policy requirements in the setting of targets and objectives during reviews.
- Liaise with the DOL on safety and health issues and on documentation required following an incident/accident.
- Commute any new H&S legislation with important implications to the way MAS Africa Engineering And Hydraulics does business or operates, at the monthly Site H&S meeting or directly to the corporate H&S Manager.
- Evaluate the effectiveness of the OHSAS management programmes on an annual basis and take this information to the annual H&S Management Review meeting and ensure that it is documented.
- Participate in the review and maintenance of safety policies and procedures and ensuring that they remain current.
- In liaison with the Site H&S Manager, coordinate internal and external H&S audits.
- Offer safety advice to all departments when required.
- Benchmark and ensure that safety best practices are applied in all areas.
- Ensure that hazard identification and risk assessments are conducted as required and in accordance with laid down practices and principles.
- To ensure that MSDS are used to train employees in applicable first aid procedures so these can be applied in emergencies.
- Ensure that the relevant first aid equipment is identified, supplied and maintained at specific locations within their section of all Sites.
- Review Emergency Preparedness and Response procedures in conjunction with the Site H&S Manager and ensure emergency equipment is checked and maintained.
- Support of the Operations Manager in fulfilling his HSE tasks.



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- Co-ordination of HSE planning. Setting up, implementation and management of the HSE Program Site for all phases of construction and commissioning. This includes also the co-ordination of the different disciplines with regard to HSE
- Review and verification of critical aspects with regard to HSE. Initiation of studies, verifications, reviews or audits when found necessary.
- Co-ordination of documentation, and when relevant, participation in meetings with authorities.
- Ensuring that the inspection processes for equipment that require them are in place
- Facilitate investigation of incidents and accidents
- Support in defining task specific safety measures and personal protective equipment.
- Keep an up-to-date SH&E filing system ('SHE file') according to "SHE File Index" which contains all the necessary documentation required for legislative needs as well for proof and control purposes.
- Keep a legal register of all applicable legislation as part of the SH&E plan
- Keep a list of incidents and conduct trend analysis on them
- Keep a list of all observations and conduct trend analysis on them
- Organize and conduct trainings as stipulated in the training matrix and keep the matrix up to date.
- Conduct a monthly HSE look ahead for the upcoming 30, 60 and 90 days.
- Conduct audits as stipulated in the audit schedule
- Ensure that all legal appointments are carried out as stipulated in the project list of roles and appointments and keep this list up to date.
- Not to use any documents, templates, forms etc. that are not approved by MAS Africa Engineering And Hydraulics or client.

7.1.4 The H&S Officer

MAS Africa Engineering And Hydraulics shall deploy a Safety Officers in a ratio of 1:50 (this includes the Site HSE Manager).

Report to the H&S Managers. Their responsibilities are:

- Promoting awareness of H&S Policy and its contents.
- Adhering to all H&S policies, procedures and standards.
- Managing the safety and environmental management programmes in their area of responsibility.
- Performing H&S inspections and reporting results to management.
- Assist/facilitate the investigation of incidents and injuries as well as ensuring the timely investigation, correctness and record keeping of the reports.
- Commucate H&S trends to the Heads of Department and make recommendations on improvement options.
- Facilitate risk assessments, when required.



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- Compile the H&S Plan and Guidelines for site work.
- Manage H&S functions site work.
- Coaching employees on changes to the H&S policy, procedures and work instructions.
- Facilitate closure of remedial actions following risk assessments, H&S incidents, inspections, audits.
- Assist auditors during an audit.
- Reporting on progress of the H&S management system
- Assist the H&S Representatives in their daily activities.
- Assist other disciplines on contractor management and H&S related issues.
- Ensure that new service providers/contactors comply to legal and MAS Africa Engineering And Hydraulics H&S requirements from tender to completion phases.

Safety Officers will assist the authorized Project manager in his duties and tasks by liaising / working directly with field supervisors, craft and workers.

They play an active role in daily field monitoring and advice to supervisors, craft and workers on safe practices and recommend on-the-spot corrective actions when needed. The Safety Officers must be approved by MAS Africa Engineering And Hydraulics.

The Safety Officers must be trained appropriately in HSE and have a minimum working experience of 3 years in the respective field of construction and in the supervision of HSE requirements with regard to the Client's scope of work. Training certificates and a resume must be submitted to MAS Africa Engineering And Hydraulics.

The described amount of Safety Officers must be available during all work carried out.

The Client reserves the right to instruct MAS Africa Engineering And Hydraulics to increase the number of its Safety Officers or to exchange the assigned personnel in the case of continuous disregards of the requirements stated in this HSE Program Site or if the HSE performance of MAS Africa Engineering And Hydraulics puts the achievement of the project objectives at risk.

7.1.5 H&S Representatives

H&S Representatives are nominated and elected by their fellow employees in their respective Divisions. In addition to their normal line functions, their H&S duties will include:

- Attend daily, H&S Divisional and Departmental meetings (Quarterly).
- The Chairperson of the H&S Representative Committee attends the Central H&S and sub-committee meetings, e.g. PPE Forum.
- Attend the Monthly H&S Representative meetings.
- Conduct ongoing informal and formal monthly H&S inspections and complete the inspection reports which will in turn, be submitted to the Shift Supervisor before passing to the Contracts Manager for attention to corrective actions.



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- Report all defects from the inspections to the supervisors and follow up to ensure that supervisors submit work orders for the deviations.
- Form part of incident investigation teams when necessary.
- Participate in H&S Rep of the Year competition.
- Receive copies of minutes of the relevant H&S Committee meetings and provide feedback to all persons in area of responsibility.
- Monitor adherence to the H&S policies and procedures and applicable legislation within their area of responsibility, to ensure that all activities are conducted within an acceptable level of H&S risk.
- Accompany DOL representative during site visits.

7.1.6 Supervisors

The Supervisor must report to the Project Manager.

Supervisors are responsible for:

- Ensuring safe work practices and procedures are available, that subordinates are trained and ensure compliance to procedures. .
- Ensuring that employees under their control are aware of the hazards, aspects and risks in their workplace, and that appropriate actions are taken.
- Where non-compliance is observed, take the necessary disciplinary action.
- Properly supervise all tasks to ensure incidents, injuries and quality concerns are kept to a minimum, but if they do occur, that they are reported, investigated and that corrective and preventive action is implemented.
- Perform Planned Job Observations as per schedule.
- Conveying H&S information to lower levels and to ensure that employees and service providers are informed.
- Conveying any concerns from lower levels to management.
- Bringing to the attention of management any H&S or potential problems, which have or may occur.
- Promoting a H&S culture amongst all employees under their control. E.g. Zero Tolerance.
- Carrying out regular Safety Inspections and ensuring prompt close- out of remedial actions.
- Responsible for maintaining and updating H&S management systems, e.g. OHSAS System.
- Promoting H&S awareness within their respective working areas.
- Attend monthly H&S Committee meetings.

Supervisors are necessary if MAS Africa Engineering And Hydraulics has more than one worker on site. Supervisors must coordinate the tasks on site. On the construction site, it is the supervisor who performs or arranges the task-related HSE instruction to be performed.

The main HSE related responsibilities and functions of the Site Supervisor are:

- Participate in risk assessments and DSTI 's;



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- Ensure that work permits are been carried out properly;
- Monitor that in every working phase, all safety measures have been fully considered and that all personnel involved has been properly trained on the operations to be carried out;
- Monitor the correct use of hazardous substances;
- Report to the Section Leaders all incidents/accidents and Near Misses and where necessary undertakes immediate Corrective Actions;
- Be familiar with Client's SHE Requirements and Work Permit Procedures;
- Carry out the Project SHE Plan and relevant procedures;
- Organize toolbox meetings on site, before starting any operational phase, in order to appraise the potential hazards and the relevant safety measures to take;
- Ensure that personnel are properly trained in their duties to carry out the work scope;
- Organize work places for a correct performance of the activities;
- Ensure that equipment is in good working order;
- Ensure that personal safety equipment is made available and properly used by personnel;
- Ensure that the conditions stated in the work permits are correctly applied;

7.1.7 Workers

Workers shall:

- Comply with the instructions imposed by the employer and the management in order to ensure collective and individual safety
- Make appropriate use of machinery, equipment, tools, hazardous substances, transportation and working equipment, as well as the use of safety devices
- Make appropriate use of safety protection devices
- Immediately report to the Employer or the person in charge any deficiencies of safety devices, as well as any other hazardous conditions of which they have knowledge, in order to eliminate or minimize the deficiencies or hazards
- Not remove or modify any safety, signaling or control devices without permission
- Not undertake any work/activity for which they have not received adequate training or which can endanger themselves or colleagues
- Undergo pre/post medical examination
- Co-operate with all statutory obligations and I direct instruction of supervisors
- All accidents /incidents must be reported before the end of shift.

The roles, responsibilities and authorities described in this document pertain to the H&S requirements and do not reflect routine or normal work or other roles, responsibilities and authorities which employees have or are required to perform.

All personnel of MAS Africa Engineering And Hydraulics or on behalf of MAS Africa Engineering And Hydraulics must perform their work according to the site HSE requirements. Personnel must report any detected HSE deficiencies (i. e. unsafe actions and unsafe working conditions) and further incidents (i. e. near misses, accidents, occupational illnesses and environmental incidents) immediately to their supervisor. The worker must be familiar with safety risks of the work and the working area.



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7.1.8 First Aider

A First Aider is a person who provides first aid in case of an accident. First Aiders must be trained appropriately (e.g. according to local regulations or if not existing any recognized standard).

The minimum requirement of available First Aiders on the construction site must comply with Legal standards and requirements (1 First Aider every 50 employees).

8. GENERAL SITE REGULATIONS

8.1 Security

MAS Africa Engineering And Hydraulics shall adhere to the client security policies and procedures

8.2 Illegal Drugs, Alcohol and Firearms Policy

Policy regarding illegal drugs and controlled substances, alcoholic beverages, and firearms is:

- The use, possession, distribution, purchase or sale of any illegal drugs, alcohol or other controlled substances by any person while on the client and MAS Africa Engineering And Hydraulics premises is prohibited.
- The use of any illegal drug or other controlled substances or alcohol that cause or contributes to unacceptable job performance or unusual behavior, even if consumed outside working hours, is prohibited.
- The use, possession, transportation or sale of explosives, firearms or other weapons by persons while on the client and MAS Africa Engineering And Hydraulics premises is prohibited.

All Personnel at site must abide by this policy. Any person violating this policy must be removed from the client and MAS Africa Engineering And Hydraulics premises and will be denied future access to the client and MAS Africa Engineering And Hydraulics premises.

8.3 Discipline and Disregard of Requirements

Depending on the kind of offence, personnel violating the HSE or Security rules will be subject to disciplinary sanctions. Disregards of Regulations are divided into two groups:

- A. Slight offence, e.g.
- running on site
 - etc.



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B. Severe offence, e.g.

- Altercation, Exercise of violence against another person on site
- Incorrect usage of tools and equipment
- Commit a crime, theft etc.
- Not wearing PPE
- Smoking in unauthorized areas
- Consuming of drugs or alcohol on site
- Speeding
- Willful violation of HSE Regulations
- Removing, damaging, altering or bypassing HSE equipment (i.e. fire extinguishers, safety harnesses, lifelines, safety devices etc.)
- Working without permit if required or violating work permit conditions
- Working without appropriate fall protection measures with the imminent danger of falling (e.g. on not approved, on high levels above 1.5 meters without guardrail, mid-rail and toe board or being securely anchored)
- Transportation of personnel with forklifts, cranes or other unacceptable equipment
- Disregarding barriers
- Energizing / De-energizing a power source without proper authorization

Disciplinary Sanctions have five identifiable steps:

1. Verbal warning
2. Written warning,
3. Final written warning
4. Dismissal

Disciplinary Sanctions will be carried out as follows:

Offence	1	2	3	4
A	x			
A (1. repetition)		x		
A (2. repetition)			x	
A (3. repetition)				x
B		x*	x*	x*
B (1. repetition)				x
A+B or B+A			x*	x*
A+B or B+A (1. repetition of A or B)				x



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* Depending on the severity of the offence

** Not if sanction 2 is carried out

In case of repeated recurrence of violations by MAS Africa Engineering And Hydraulics personnel, that shows that MAS Africa Engineering And Hydraulics is not able to perform their task safely, CLIENT can consider this as a Breach of Contract.

Sanctions - except verbal reprimands - must be documented in the monthly HSE-Report.

8.3.1 Data base

MAS Africa Engineering And Hydraulics shall maintain a consequence management data base on the following:

- Name and Surname of employee
- Discipline
- Discipline action taken

The data base must be updated accordingly and send to Management on a monthly basis.

8.4 Supervision, discipline and reporting

MAS Africa Engineering And Hydraulics shall ensure that all work is performed under strict supervision, and that no unsafe or unhealthy work practices are permitted. Discipline regarding health and safety matters shall be strictly enforced against any of his employees regarding non-compliance by such employee with any health and safety matters.

MAS Africa Engineering And Hydraulics shall further ensure that his employees report all unsafe or unhealthy work situations immediately after they become aware of the same, and that he in turn immediately reports these to the Client and/or his representative.

MAS Africa Engineering And Hydraulics shall exercise strict supervision over industrial relations and ensure a sound industrial relations climate and ensure compliance to all relevant Labour Legislation.

The control and management of misconduct and unacceptable behavior shall include:

- a. The use of abusive, derogatory and offensive language;
- b. Racially abusive language;
- c. Assault or threat of assault;
- d. Sexual harassment.

The maintenance of a good safety programs will occasionally require disciplinary action. MAS Africa Engineering And Hydraulics is committed and responsible for correcting its own employee's work habits and, if necessary, the admonishing of an unsafe individual.



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MAS Africa Engineering And Hydraulics disciplinary plan may entail a first incident warning, second incident probation, third incident dismissal or immediate dismissal depending on the nature and seriousness of the offence.

8.4 Traffic and Transport

MAS Africa Engineering And Hydraulics personnel that will travel with company transport.

No employee must be transported on the back of an open vehicle or truck.

All material must be secured on the back of the vehicle to prevent it from falling

Prevention requirements and tips:

- All the requirements of the National Road Traffic Act and regulations, as Promulgated from time to time shall apply.
- Workplace Traffic Rules pertaining to road and road safety control in the client's Complex shall also apply.
- All vehicles, passengers, pedestrians and drivers entering client premises must comply with requirements as mentioned above.
- Compliance with the client's procedure for the transportation of passengers and goods (no passengers allowed to be transported on the back of goods vehicles unless the vehicle has been adapted as required).
- Users, be aware of an increase in vehicles and pedestrian volumes. Drivers, passengers and pedestrians must be trained in correct road use and behaviour by all employers.
- If visibility is limited, slow down and drive with caution especially at night or in poor weather conditions e.g. mist. Pedestrians and cyclists have to wear reflective clothing when applicable, and make use of infrastructure where it is provided for them.
- Road users to adhere to all temporary road signs and barricading, and instructions.
- Visitors may only park in demarcated parking areas, or on temporary parking as indicated.

General Requirements:

- Although the permissible blood alcohol content on national roads is 0,05% per 100ml and breath 0,24 per 1000ml, on client's premises it is 0.00%, and also applies to pedestrians.
- The speed limit as indicated per site.

Incident Handling:

Minor collisions:

- Phone MAS Africa Engineering And Hydraulics Directors.
- All drivers, pedestrians and witnesses involved should submit their statements without delay at client during office hours.



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Serious Collisions:

- Vehicles or any evidence should not be moved or disturbed at all.
- Traffic control and safeguarding of the collision or injured should be initiated.
- Road safety staff will take over control of the scene and advise involved parties of further actions required.
- All drivers, pedestrians and witnesses involved should submit their statement without delay at the Road Safety offices.
- In addition to the process followed by Road Safety, the incident owner is responsible to lodge a full investigation and report on each incident. The relevant Client SHE Department should be involved.

Administration process – Service Providers:

Contractors' representative for all road safety related matters, including the following:

- Communicating all traffic rules and procedures to their employees,
- To communicate daily with the road safety section in order to confirm any traffic notices or awareness due for collection,
- To escort their employees to the road safety offices in the event of access cards being blocked,
- To sign for copies of traffic notices and ensure that the prescribed disciplinary process is completed without delay, as per the guideline – handling workplace traffic rule violations,
- To ensure that the required feedback is given promptly in order to finalize pending cases.
- Written confirmation of disciplinary action taken must be supplied to road safety.
- Disciplinary action is required in respect of all violations committed.

8.5 Working Hours

Working hours must comply with local legislation and MAS Africa Engineering And Hydraulics regulations as per particulars given below:

MAS Africa Engineering And Hydraulics Directors will decide on the working schedule. Changes and modifications need to be agreed with them and if necessary with the relevant authorities.

Lengthening of MAS Africa Engineering And Hydraulics working hours or similar modifications have to comply with the local legislation and always must be decided on the basis of a risk assessment or a Job Safety Analysis (see section 6.1) due to the increased risk of incidents. If necessary risk mitigating actions have to be defined.

A Rotating schedule must be implemented per crew if longer hours are required on site.

The Operations manager must make sure that all supervision understands the schedule and work accordingly.



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8.6 Temporary Site Facilities

The Client must indicate an area whereby MAS Africa Engineering And Hydraulics can set-up temporary sanitation facilities and a lay-down area for the Insulation material. MAS Africa Engineering And Hydraulics shall make use of Sani-Tech and will ensure that the ablution facilities are cleaned at least twice a week. The amount of toilets shall be determined on the amount of employees on site.

8.7 Solitary Work

As a basic principle solitary work is forbidden. Nobody must stay alone at site. Nobody must accommodate on site outside site facilities made available for this purpose.

9. ADMINISTRATIVE REQUIREMENTS AND LEGAL APPOINTMENTS

9.1 (a) Administrative requirements

- *Compensation for Occupational Injuries and Diseases Act*

Attached also please find Letter of Good Standing as regards our situation concerning the Compensation for Occupational Injuries and Diseases Act

(b) Legal appointments

Legal appointments have been made in terms of the Mine Health and Safety Act, 1996 (Act No. 29 of 1996) and Regulations.

10. NATURE OF WORK AND PROCEDURES

10.1 Introduction

Work includes installing and testing of Hydraulic piping systems.



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10.2 Safe Working Procedures

Safe Working Procedures have been developed and communicated to all relevant personnel. Detail method statements will be developed and safe operating procedures be reviewed should the specific area and or environment necessitate this.

10.3 Risk assessments

Aligned to the Construction Regulations and other legislative requirements, MAS Africa Engineering And Hydraulics personnel will conduct Job Specific Risk Assessment.

Risk assessments will be conducted for the tasks associated with SOW activities.

Daily work shall be subjected to a daily risk assessment review, forming part of the toolbox talks, involving all those taking part in the work activity. Personnel will be informed, instructed and trained on the task specific risks.

MAS Africa Engineering And Hydraulics Baseline Risk Assessment forms the basis for all project related risk assessments or similar risk/hazard studies.
A Risk Assessment for the routine work and standard activities must be carried out by all parties before starting work

MAS Africa Engineering And Hydraulics is responsible for carrying out their project specific Risk Assessment for their work. The Risk Assessment must comprise at least the following aspects:

1. Definition of work systems (e.g. excavating ...) including the description of the method applied (e.g. manual lifting or material handling)
2. Identification of hazards
3. Evaluation and assessment of risks
4. Identification of applicable regulations, standards
5. Definition of necessary protective measures

The Risk Assessment form can be either according to Client standard or according to MAS Africa Engineering And Hydraulics Job Safety Analysis form.

The Risk Assessment must be handed over to the Site HSE officer who will review it. The review is a mandatory precondition to start work.



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Mutual risks due to interfaces will be verified based on the HSE Coordination by MAS Africa Engineering And Hydraulics

MAS Africa Engineering And Hydraulics must plan and arrange its work execution in such a way that there is a minimum of risk.

As a general guideline the risks must be reduced down to a maximum extend by:

- combating the risk at source,
- collective protective (engineering, organizational) measures or
- Individual protective measures (e.g. PPE, training, labelling etc.)

Typical hazards, potential risks and related measures present at site must be specified by Client production personnel.

All Supervision must be trained on the task risk assessment format used on site. An assessment must be done to determine their knowledge and understanding of the document.

10.4 Job Safety Analysis (JSA)

A JSA always has to be carried out when planning critical work tasks with high risks

If existing procedures, method statements, risk assessments or further regulations exactly describe the job related risks involved and the measures to take, it is not necessary to prepare a separate JSA.

A JSA also has to be carried out when planning work tasks involving risk elements that have not been sufficiently described and controlled through procedures, method statements, risk assessments or further regulations.

The JSA - if required

A Job Safety Analysis (JSA) must contain at least the following aspects:

1. Definition of work systems including the description of the method applied
2. Identification of hazards
3. Evaluation and assessment of risks
4. Identification of applicable regulations, standards
5. Definition of necessary protective measures.

The level of detail of a JSA is higher than that of a risk assessment, since specific safety measures for the respective activity have to be defined rather than general safety controls (e. g. exact definition of anchor points for the use of a safety harness vs. the general statement to "wear a safety harness").

10.5 Site Safe Declaration

Site safe declaration must be completed by MAS Africa Engineering And Hydraulics supervisor designated for that area and work may only commence once it is accepted and declared safe based on the site conditions before any work can commence.



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10.6 Planned Task Observations

A minimum of Planned task observation must be conducted monthly by the supervisors and safety officer a Section leader must conduct a observation on his supervisor.

10.7 Key Performance Indicators

KPI's shall be conducted on Supervision and HSE officers on different sites. MAS Africa Engineering And Hydraulics will keep a data base on all employees which KPI's was conducted on and follow-up date for the KPI on the employee.

KPI's shall conduct on employees on a three monthly basis. Each Senior Supervisor, Supervisor and HSE officer must be covered within the three monthly periods.

10.8 Work Permit System

MAS Africa Engineering And Hydraulics shall work according to the clients specifications.

10.9 Personal Protective Equipment

Employees will be issued with appropriate PPE as per risk assessments and will be required to wear such PPE where applicable.

11. TRAINING AND COMMUNICATION

11.1 Training & Communication

MAS Africa Engineering And Hydraulics will ensure that arrangements exist for employees at all levels to receive sufficient training and are competent to carry out their duties and responsibilities assigned to them before starting the job.

The knowledge and experience of employees will be assessed and dependent on their competence level, and will be trained where need exists.

This training can include:

- Own Safety induction
- Site specific induction
- Operational standards, including safety rules
- Safety practices and procedures
- Site Specific Safety Induction



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- Emergency and Evacuation Procedures
- Correct usage of PPE, limitations and storage thereof.
- This will include practical demonstration of the correct usage of PPE.
- Working on heights and fall prevention.
- Safe handling, storage and inspection of tools.
- Working in confined spaces
- Working with hazardous substances, chemicals etc
- Transportation
- Work with tools
- Working on elevated platforms
- Carrying out job safety analysis
- Inspection of construction equipment
- Fire extinguisher use

MAS Africa Engineering And Hydraulics will have procedures for ensuring that pertinent safety and health issues are communicated to and from employees and to other interested parties.

Employees will be:

- Involved in the development and review of policies and procedures to manage risk
- Involved in the Consultation where there are any changes that effect workplace health and safety
- Involved in any representation considering in any health and safety matters
- Introduced to new technology, equipment or chemicals.
- Involved in health and safety training
- Involved in emergency planning

11.2 Training Matrix

MAS Africa Engineering And Hydraulics Directors with support of MAS Africa Engineering And Hydraulics Project Manager has to ensure that the relevant trainings are executed and the matrix is maintained continuously.

The following training can be conducted for each discipline in order to declare the employees competent (dependant on SOW and client requirements):

WORKING FORCE

- 1) Legal liability
- 2) Mine Health and Safety Act
- 3) HIRA
- 4) Construction Regulations
- 5) Company procedures and Policies
- 6) Client requirements
- 7) Internal risk assessment training and must be assessed
- 8) Disciplinary action code

SUPERVISORS

- 1) Legal liability
- 2) Occupation Health and Safety Act



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- 3) HIRA
- 4) Construction Regulations
- 6) Company procedures and Policies
- 7) Client requirements
- 8) Internal risk assessment training and must be assessed
- 9) Disciplinary action code

11.3 Training Records

A record of any safety relevant training undertaken by each employee must be documented and contain at least:

- the date of the training,
- the name of the trainer,
- the topic of the training,
- the participants' names and signatures.

Every training record must be placed in the SHE File.

The records must be kept until the end of the construction and/or commissioning period

All training records must be kept at the HSE office at all times. Copies of the training and module must be provided to the Client

12. MEETINGS / REPORTS AND SCHEDULES

12.1 Supervisory Meetings

At least once a month regularly scheduled meeting will be conducted by the H&S Officer and attended by all supervisors:

The agenda will include the following:

- discussion of the previous accidents /incidents,
- any unsafe work, any unsafe material or equipment reported
- Records of attendance must be kept.

12.2 SHE meetings

- The SHE officer shall attend all meetings requested by the Client. The SHE officer will attend meetings with the Client if requested. If the SHE officer is not available to attend the meetings, the Site Supervisor must then attend.
- Feed-back of the meetings must be communicated to the Project Manager and Supervisor.



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- Monthly safety committee meetings will be held with all safety committee members and Supervisors.
- SHE kick-off meetings must be attended by the Project Manager and SHE officer of MAS Africa Engineering And Hydraulics.

12.3 HSE Meeting Schedule

HSE must be a permanent subject and the first topic within all regular meetings. Meetings must be scheduled as follows:

<i>Meeting</i>	<i>Frequency</i>	<i>Participant</i>	<i>Agenda</i>	<i>Documentation</i>
PDA	Once before the start of work	<ul style="list-style-type: none"> • MAS Africa Engineering And Hydraulics Project Manager • MAS Africa Engineering And Hydraulics HSE officer • Client personnel • Supervisors 	HSE (amongst others)	According to checklist Presentation
Toolbox-Meetings	weekly (and on demand)	<ul style="list-style-type: none"> • MAS Africa Engineering And Hydraulics Supervisor and work force. • MAS Africa Engineering And Hydraulics Safety Officer 	HSE, HSE-Findings	Record

12.4 HSE Meeting Agenda

- As a minimum the following topics must be discussed:
- Work look ahead / Forthcoming high hazard activities
- Accidents / Incidents (reports, investigations)
- Client findings during site inspections
- MAS AFRICA ENGINEERING AND HYDRAULICS findings during site inspections
- Identified Trends (incidents, observations)
- Non Conformances
- Medicals (entry, exit)
- Matters arising from Client’s HSE Meetings
- Work Permits (when applicable)
- Trainings (matrix, inductions etc.)
- Emergency Preparedness
- SH&E Plan / Work Procedures Compliance
 - PPE
 - Housekeeping
 - Traffic / Transport



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- Work at Height

12.5 Manpower Report

MAS Africa Engineering And Hydraulics must report on a daily basis prior to each work shift a list of workers present at site to Project Manager.

12.6 Monthly HSE Report

MAS Africa Engineering And Hydraulics must report to the author of the Monthly HSE Report the necessary information (e.g. worked man-hours, type and number of incidents) by the end of the first working day of the next month.

12.7 Final Construction and Commissioning Reports

MAS Africa Engineering And Hydraulics Project Manager must prepare the Final Construction Report. He must submit this report to the Relevant Manager of the Client.

The report must include comments on:

- Effectiveness of the HSE Program
- Problems which were not anticipated – how they were overcome and recommended future approach
- Successful positive aspects that should be considered for future activities
- Any damage to equipment and recommendations for how to avoid similar damage in future operations
- Suggested work routine improvement
- Incidents

MAS Africa Engineering And Hydraulics must report to the author of the Final Construction Report the necessary information in due time.

12.8 Non Conformity and Corrective Actions

Reference is made to "Non-Conformity Management Construction Sites".

12.9 Toolbox Talks

Toolbox talks will be held daily prior to commencement of tasks at hand for the day with crews. This is to ensure that every worker is quite conscious of his day's duties and their hazards, answer any question, initiate discussions. All tools and PPE's will be inspected



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during toolbox talks and replaced if necessary. All accidents and deficiencies, if any that have occurred during the previous day will be discussed to prevent re – occurrence
Records of attendance must be kept.

12.10 On the Job Training (One on One communication)

Supervisors while on his daily job site inspections shall hold individual one-one discussions with personnel involved in the construction that are in violating of safety rules and regulations or in unsafe acts or conditions. The names of such persons will be recorded on a register.

12.11 H&S Suggestions

MAS Africa Engineering And Hydraulics will conduct H&S promotions thereby demonstrating its commitment to H&S matters in all their activities. Promotions such as a Suggestion Box will enable Employees to share their knowledge and expertise to the benefit of the employees / employer.

12.12 Communication for removal of SHE officers / Reps

When a SHE officer or SHE rep is removed from site, a written document stating the reasons of removal shall be submitted to the Client. No employee will be allowed to be removed from site without the Project Manager approval. If an employee was removed, a replacement must be placed immediately and the Client must be notified and approve.

12.13 Incident Reporting and Investigation

The Construction Supervisor shall be responsible in reporting all Accident/Incident, personnel injuries, casualties, damage and fires to client Management and in some cases to the local Authority / Department of Labour as required.

Investigation and Reporting shall be implemented as follows:

- In the event of fatal accidents or serious injuries investigation will be carried out by the H&S Officer and Construction Manager, and will be reported immediately to MAS Africa Engineering And Hydraulics, client Site Management.
- All events involving fire and/or damage to the MAS Africa Engineering And Hydraulics and Client property, plant and equipment will be reported immediately to MAS Africa Engineering And Hydraulics and Client Site Management.
- Monthly safety reports shall be submitted to MAS Africa Engineering And Hydraulics and Client Site Management
- Accidents shall be reported using MAS Africa Engineering And Hydraulics ACCIDENT/INCIDENT Report Form by client Report Form if specifically required.
- Any engineering review or investigation committee shall be in accordance with legal



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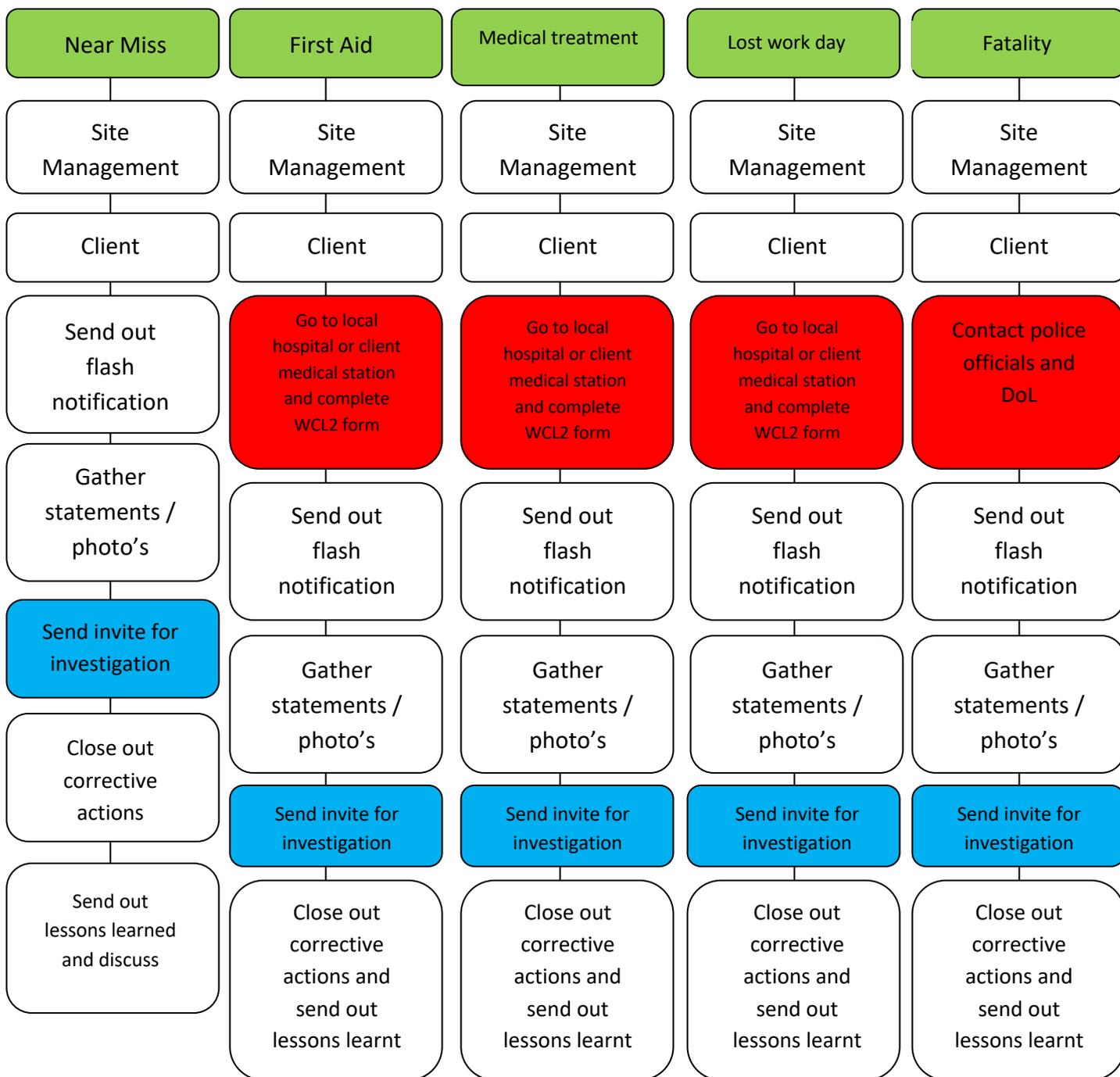
Requirements

- Incident reporting and investigation shall be in accordance with MAS Africa Engineering And Hydraulics and Client Site Procedures.
- All incidents must be reported and investigated. Employees must be encouraged to participate in this process, in order that every employee will experience the incident procedure as a learning process.
- Incidents include Unsafe Working Conditions or Practices, Near Misses, First Aid Cases, Medical Treatment Cases, Restricted Work Cases, Lost Time Injuries, Occupational Illnesses, Commuting Accidents, Environmental Incidents, Damages to Property and Major Incidents.
- Additionally the following incidents have to be reported to CLIENT :
- All visits from Department of Labour,
- Any condition that may endanger the adjacent and surrounding plants
- Any condition that may endanger the construction activities
- All reportable incidents as required by legislation (flying or falling objects, machinery out of control, failure of safety or alarm systems, dangerous substance spilled or uncontrolled release of substance under pressure)



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The tasks of MAS Africa Engineering And Hydraulics personnel in the Incident Reporting and Investigation processes are described in "Incident Reporting" and "Incident Investigation".





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12.14 Notification and Reporting:

Each incident by MAS Africa Engineering And Hydraulics must immediately communicated telephonically or per radio to CLIENT SHE department and MAS Africa Engineering And Hydraulics Management.

Exception: Unsafe working conditions or practices must be addressed immediately. If the unsafe situation remains after being addressed, the deficiencies must be documented.

MAS Africa Engineering And Hydraulics in this matter will react immediately to inform CLIENT in this matter

MAS Africa Engineering And Hydraulics internal notification timeline is defined in "Reporting Timeline and Addressees – Incidents at Construction Sites". This includes all management personnel up to the Executive Board (for Major Incidents) and the Board of Directors (for all Recordable Cases) respectively.

All first-aid and recordable cases will be treated by Client's medical facilities, which will include the classification of incident that needs to be attached to the preliminary report to CLIENT.

1. Report the status of the injured to the CLIENT HSE manager on progress or deterioration of the injured.
2. MAS Africa Engineering And Hydraulics Project Manager must ensure daily medical treatment and fresh change of dressings to avoid secondary infection and keep a diary thereof.

12.15 Investigation:

Each incident has to be investigated by MAS Africa Engineering And Hydraulics and within 2 days after the incident has occurred; an investigation report pertaining to the bellow mentioned requirements shall be prepared:

- date, time and place of incident,
- description of incident,
- type of injury (if any)
- medical treatment provided (if any)
- persons involved,
- names of witnesses,
- immediate causes, underlying causes, root cause of incident (A recommended corrective action to prevent recurrence (if this is not practicable within the time frame, then it is to be submitted at a later date agreed to by MAS Africa Engineering And Hydraulics

In general COMPANY's Investigation Report forms shall be used "Detailed Investigation Report", "Simplified Investigation Report".

The investigation must be facilitated by MAS Africa Engineering And Hydraulics. CLIENT construction management personnel, MAS Africa Engineering And Hydraulics Incident Investigator as well as management personnel (and CLIENT if they require participating) must participate in the investigation. The Investigation Report shall be approved by COMPANY.



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When an injury is sustained MAS Africa Engineering And Hydraulics must complete an incident report and this form will be completed within 24 hours and issued to CLIENT .

12.16 Lessons Learnt and Communication:

After completion of the above mentioned investigation process of any recordable case the CLIENT Site HSE Manager or Safety Officer must prepare a "Lesson from Incident" bulletin and distribute it to the Lead Construction & Commissioning as well as to all Site and HSE Managers. This bulletin must include a discussion of the lessons learnt not only for construction contractors but also for MAS Africa Engineering And Hydraulics corporate site HSE management system.

For each flash notification or lessons from incident bulletin (also from another projects), the Site HSE Manager must ensure that this information is discussed in the safety meeting and any other meeting and toolbox talks if deemed necessary. The lessons from incident bulletin must be posted at prominent locations on site and within MAS Africa Engineering And Hydraulics and CLIENT facilities for a reasonable duration. In cooperation with the Site Manager the HSE Manager or Safety Officer must evaluate if any changes or improvements of the existing HSE system (HSE Program Site, Risk Assessment etc.) are necessary. Proposals to change the existing HSE system must be addressed to the Lead Construction and Commissioning HSE.

All lessons learned shall be distributed and communicated to all MAS Africa Engineering And Hydraulics employees on projects, maintenance as well as the preventative measures.

12.17 Training:

Internal training on the Incident Reporting and Investigation process shall be done with "Reporting and Investigation of Incidents".

12.18 Logging:

All Incidents have to be logged in the Incident list - Incidents (List & Trends).

13. TREND ANALYSIS

13.1 Trend Analysis:

In order to identify major sources of hazards on site ("trends") an evaluation of the identified incident causes and deviations logged has to be carried out by the HSE Manager on a weekly basis by use of "Incidents (List & Trends)" and Observations (Log & Trends) .

13.2 Potential trends are:

- Significant increase or high number of a certain category (course of incident, injured body part, weather conditions etc.)
- Significant increase of site deviations and what measures will be used to mitigate them effectively.
- Significant increase or high number of incidents of a certain discipline
- Significant increase or high number of incidents of a certain contractor



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13.3 Trends must be identified as such and be addressed, if:

- Number of incidents of a certain category is more than 50%. Each item and category will be dealt with accordingly, taking into account the risk exposure and where the root causes are and what measures will be put into place to action it.
- Significant differences in the number of incidents of a certain discipline or contractor with consideration of the respective manpower

On the basis of these identifications, necessary and preventive safety measures, persons responsible for the implementation and due dates have to be defined. The implementation has to be tracked by the HSE Manager.

Incident and accidents will be investigated, reported and tracked. Root Cause Analysis will be conducted to determine the cause of accidents. Trend analysis will be conducted and reported.

13.4 Incident recall:

Incident recall must be conducted by MAS Africa Engineering And Hydraulics after the incident occurs as well as once a month as a refresher for new and employees who have been on site for long periods.

13.5 HSE Information Board

Important HSE Information must be announced on an HSE Information Board to be provided by MAS Africa Engineering And Hydraulics (see Appendix 4), e. g.

- HSE Performance of the project (e.g. no. of working days without LTI)
- List of all First Aider
- Location of first aid equipment
- Name of person in charge of the first aid equipment
- Important phone numbers
- Emergency Plan (1 pager)

14. GENERAL

14.1 Medical

All staff will be required to pass the prescribed medical examination to work on site, and will also be required to attend an exit medical examination.

All injured persons shall be transported to the local hospital or client medical station.

14.2 Housekeeping

Good housekeeping will receive care and attention. It will be the responsibility of each and every employee of this company to ensure that we operate in a neat and ordered environment that encourages safe working habits.



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Falling of objects while working at heights must be avoided by the use of boxes or other containers for carrying tools, materials, working equipment and waste.

All working areas must be kept clean and tidy, waste must be disposed in the provided bins and working material and equipment must be removed out of working areas daily.

Openings with the hazard to fall into or to stumble must be closed or barricaded.

14.3 Fall Protection

As staff work at elevated positions they are exposed to a very high risk if falling. In order to reduce this risk the procedures set out in attached “**Fall Protection Plan**” will be implemented.

The Supervisor will ensure that the Fall Protection Plan is communicated to relevant personnel.

14.4 Survey's

The following surveys must be conducted by the Client before rewarding a contract:

- 1) Noise survey
- 2) Environmental survey
- 4) Emergency evacuation / assembly point survey
- 5) Ergonomical survey

The Client must provide MAS Africa Engineering And Hydraulics with a copy of all survey's in order to train the employees in hazardous areas.

14.5 Confined Space / Restricted Area

MAS Africa Engineering And Hydraulics and Client Site safe work procedure must be applied. A confined space is not only classified in tanks, drums, excavations and vessels, but in restricted area such as small spaced between pipes, structures and limited movement for employees



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14.6 Illumination

When work is performed in darkness or in areas where daylight is obscured, MAS Africa Engineering And Hydraulics must at their own expense provide artificial lighting to carry out work efficiently, satisfactorily and safely, and to permit thorough pre start inspection. The access to all required areas where work is required to take place must also be clearly illuminated.

The working environment must comply with the Environmental regulations pertaining to the legally required LUX.

14.7 Noise

In areas where the noise exposure level of 80 db (A) over an 8-hour Time Weighted Average or the peak level of 135 db (C) is exceeded, MAS Africa Engineering And Hydraulics must provide hearing protection to its own employees.

In areas where the exposure level of 85 db (A) or the peak level of 137 db (C) is exceeded, ('high noise areas') employees must wear hearing protection continuously.

All workers on site must wear hearing protection with a noise reduction rate of 29dB.

Workers working with impact wrenches and equipment which is above 137 db must wear hearing protection with a noise reduction rate of 35dB or combine both as the noise reduction is roughly 50% on ear plugs and a 30% noise reduction on ear muffs.

14.8 Transportation of flammable liquid to site

A drip tray must be placed on the back of the vehicle with a fire extinguisher when chemicals (including paint, diesel ect) are transported.

14.9 Storage of flammable liquid

The chemicals must be placed inside a flammable liquid store situated next to the Insulation store.

The flammable liquid store must comply with the following set standards:

- a) Signage
 - Responsible person
 - Maximum capacity of chemical storage
 - No smoking signs
 - Storage area to be labelled according to the product
- b) Documentation
 - Material safety data sheets available



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- c) General - Daily inspections to be conducted
Store must be locked
Hazardous coordinator must be appointed and trained
Fire extinguisher must be visible and inspected daily

14.10 Working at Height

MAS Africa Engineering And Hydraulics safe work procedure "Working at Height" must be applied. This procedure meets the requirements of preparing a "fall protection plan".

14.11 Tools and equipment

Records of the inspections will be kept at the safety department for audit purposes.

14.12 Hoisting of material

When equipment is hoisted with a rope.
The rope must be spliced and inspected on a daily basis.

Rope:

A 12mm spliced Manila rope must be used to lift or lower loads and material.
Client's rigging department will splice the ropes and will put a safe working load on.
Ropes must be on register and inspected daily.
All ropes must be tagged and have a unique number which must correspond with the register.
Only light weight hoisting allowed (Less than 20kg)
Inspection to be done daily and recorded

Lifting / lowering equipment with the rope:

The rope must be wrapped once around the ledger or handrail in order to lift or lower a load.
Two people must handle the rope on top of the scaffold platform or structure platform.
One person must stand at the bottom with a guide rope attached to the load at all times.
Rope must be placed at the back of the two employees when lifting or lowering the load.
Both employees must secure the material or pipes before pulling it in on the platform.
When lowering the load, one employee must slowly place the load over the handrail while the other person secures the rope and prevent the load from falling.
Both employees must wear and tie down their safety harnesses.
Both hooks must be hooked above their shoulders.
Load must be lifted or lowered slowly while guided with a guide rope from the ground level.

14.13 Site Communication

Supervision and Managers will be in cell phone communication to improve the communication on site



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14.14 Dispatch area

Each site must have a dedicated dispatch area in order to maintain discipline on site with the employees. When employees do not have a task to complete on site or is used as a stand-by crew, they must wait at the dispatch area.

No employee to walk around on site or leave their crew during working hours.

14.15 Handover of tasks

Each Supervisor must be trained in the handover of task procedure in order to provide correct information to the charge hands on site

14.16 Slam Risk

Slam Risk assessments will be done before start of each task.

14.17 Best practices

Best practices must be investigated constantly to promote safe working practices on site.

14.18 Employees criteria

When an employee is employed by MAS Africa Engineering And Hydraulics, a sticker will be placed on the hard hat with his / her engagement date to stipulate his experience as a new comer.

Tracking method: Supervisor to monitor on a monthly basis.

15. H&S AUDITS AND INSPECTIONS

15.1 H&S Audits and Inspections

A formal assessment of work area(s) will be conducted on a monthly basis. Participants of the assessment will include, as a minimum, all Safety Officers. Site Managers and senior Supervision will be requested to join these assessments where particular areas of concern have been identified during the previous period.

The findings, corrective actions required and responsible supervisor will be documented. A copy will be issued to the MAS Africa Engineering And Hydraulics Manager and Site Manager. A documented action monitor and close out system will be used to ensure implementation

Unsatisfactory performance will be addressed through the contractors site supervisor.

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15.2 HSE Inspections and Verifications

MAS Africa Engineering And Hydraulics Safety Walks

The implementation of all requirements, procedures and measures on site will be checked by regular safety walks (reference is also made to Safety Walk-Through on Construction Sites).

<i>Inspection</i>	<i>Frequency</i>	<i>Participants</i>	<i>Focus on</i>
Safety walk	daily	MAS Africa Engineering And Hydraulics Site HSE officer MAS Africa Engineering And Hydraulics Supervisors	Inspection of project site, safety measures
Safety walk	daily	MAS Africa Engineering And Hydraulics SHE officer	Inspection of project site, safety measures
Management Safety walk	weekly	MAS Africa Engineering And Hydraulics Project Manager, MAS Africa Engineering And Hydraulics HSE officer CLIENT's Project Manager*, CLIENT's Site HSE Coordinator* further personnel on demand	Inspection of project site, safety measures

MAS Africa Engineering And Hydraulics documentation and reporting system must include:

- Responsible persons (Project manager, supervisors, etc.) must be involved in this process.
- Clear definition of responsibilities and timing for measures to be taken
- Well-defined workflow:
 1. Identify discrepancy and notify responsible persons (supervisors, etc.)



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2. Responsible person takes action
 3. Close issue
- Each of the above mentioned steps has to be confirmed by signatures

15.3 HSE Audits

Additionally CLIENT will carry out HSE audits on a monthly basis of MAS Africa Engineering And Hydraulics after giving sufficient notice.

Documents to be used are:

- Occupational Health & Safety Audit - Protocol & Report
- Follow-Up HSE Audit/Site Review Report

15.4 Authority Inspection

Authority inspections will be performed under the terms of local law. Authority inspections of MAS Africa Engineering And Hydraulics work must be reported to CLIENT immediately.

16. EMERGENCY RESPONSE / RESCUE AND EMERGENCY EQUIPMENT

16.1 Emergency Response / Rescue and Emergency Equipment

MAS Africa Engineering And Hydraulics Management will familiarize him/her self with the Emergency Procedures which apply to the areas in which he has men working.

Training in the Emergency procedure must be provided to all employees on site.

MAS Africa Engineering And Hydraulics will be responsible for providing the client with an accurate head count of the total number of employees accounted for and unaccounted for.

16.2 General

Emergency response during the construction and commissioning phase will be managed by CLIENT comprising of

- a) an Emergency Response Plan and
- b) an Emergency Evacuation Plan

These procedures are described in "Emergency Plan".



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16.3 Emergency Response Plan

The Emergency Response Plan must cover different types of incidents that may endanger human life, material or the environment and where immediate action is required.

This includes:

- Fire / Explosion
- Hydro carbon release – (unforeseen)
- Pollution of water and air
- Personal injury and First-Aid needed
- Terrorism, war
- Strikes
- Severe weather
- Customer operation causing hazardous events

The plan must cover procedures regarding to the above mentioned subjects.

Additionally an Emergency Telephone List must be prepared to give an easy and quick overview on emergency telephone numbers and responsible departments in an event of an emergency situation.

The Emergency Telephone List must be provided at Site and must be kept updated at any time. It should be structured in general as follows and a road map should be attached to it:

- Local resources Site
 - Ambulance (Telephone Number list)
 - Fire Brigade (Telephone Number list)
 - Security Service
 - Emergency Response-Leader on duty
 - Authorized HSE representative
- Local resources external
 - Ambulance, Hospital
 - Police, Environment Clean-up services
- MAS Africa Engineering And Hydraulics Home Office
- CLIENT emergency response controls



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16.4 Emergency Evacuation Plan

The Emergency Evacuation Plan must give an overview of:

- location of assembly areas
- course of escape routes
- location of medical stations
- location of fire response units - location of first aid stations and material
- location of fire extinguishers
- location of rescue equipment
- location of safety / eye shower
- alarm signals
- information about routine test alarms

16.5 Rescue and Emergency Equipment

Client must keep ready rescue and emergency equipment readily available to rescue its own employees. Necessary equipment should include:

- Rescue lifting devices
- Rescue harnesses
- Rescue loops
- Descending devices
- Stretcher

Rescue and emergency equipment must be tested, inspected monthly and stored properly to be ready when required. Personnel supposed to use the equipment must be trained properly. The records of training must be submitted to CLIENT upon request.

17. PREVENTIVE MEDICAL TREATMENT

MAS Africa Engineering And Hydraulics employees who will perform work on the project construction site must undergo pre-medicals, annual routine and exit medicals acc. to legal standard. The medical surveillance frequency and tests for this construction project is once per year. Medical Check-ups must be organized by MAS Africa Engineering And Hydraulics themselves.

MAS Africa Engineering And Hydraulics is responsible for checking the employee's fitness for work and performing the necessary medical pre-examinations according to their works. MAS Africa Engineering And Hydraulics must provide documentation of pre-employment and medical examination and must submit it to CLIENT upon request.



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If pre-examinations become necessary due to site conditions, the information provided by this program must be considered (chemicals, noise, working on high levels, etc.).

17.1 First Aid

MAS Africa Engineering And Hydraulics SHE Officer has to compile a list of all First Aiders and make it available for all people on site.

Emergency facilities must be organized by each party if not otherwise specified. Special facilities such as eye showers and emergency showers must be available if required by risk assessment. These emergency facilities must be ready for use at any time. First-Aid kits must be easily accessible on site and in non-stationary site facilities.

A first aid kit is available at the MAS Africa Engineering And Hydraulics main yard premises.

In the case of hazardous works with significant or high risk are carried out where no emergency kit is close-by an additional first aid kit must be present.

Any first aid case must be recorded. All incidents must be referred to Client's medical station for treatment. Classification regarding the incident must be forwarded to CLIENT for recording.

18. DEFINITIONS / ABBREVIATIONS

Lost Time Injuries/ Disease (LTI) - Those occurrences that resulted in a fatality, permanent disability or time lost from work of one day/shift or more, on any work day/shift subsequent to the occurrence occurring or being identified.

Medical Treatment Case (MTC) - A medical treatment case is a work-related injury or illness that results in a person receiving treatment from a qualified medical practitioner. The treatment must be one that is normally outside the qualification of a Paramedic or Occupational Nurse.

Restricted Workday Case (RWC) - A restricted workday case is any work related illness or injury that results in the person being unable to perform any of their normal duties on any scheduled day/shift subsequent to the injury occurring or the illness being identified.

Recordable Cases - Recordable cases are the sum of lost time injuries, restricted workday cases and medical treatment cases.



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First Aid Cases (FAC) - A first aid case is a work-related illness or injury, which results in a person receiving medical treatment from a site/office first aid attendant or nurse, paramedic, or physician.

19. HEALTH AND ENVIRONMENT PROTECTION

19.1 Severe Weather Conditions

Employer must make arrangements according to climate and season of site work.

19.2 Cold weather:

All employees must carry clothes to protect themselves against cold conditions. MAS Africa Engineering And Hydraulics must set up facilities to warm-up and getting hot drinks. Employees must pause periodically to warm-up. Open fires are not allowed on site.

19.3 Hot / tropic weather:

MAS Africa Engineering And Hydraulics shall provide cool fresh water and water bottles or similar for each individual.

Sun protection must be supplied free of charge to prevent severe sun burn and cocoons or temporary shelters must be provided where possible to prevent heat stroke.

Employees must be trained by the MAS Africa Engineering And Hydraulics and CLIENT safety personnel on the effects of heat stroke and the preventative measures put into place.

19.4 Nutrition

Nutrition must consider weather, local and working related conditions.

Employees must be informed in toolbox talks etc. on correct nutrition and eating habits also taking into consideration their health conditions e.g. diabetes, heart conditions, Hypertension, and Asthma.

19.5 Environmental Protection

Ensure that spillages are prevented through suitable refueling and vehicle maintenance and service arrangements, and that where spillages do occur that they are immediately reported, and that there is appropriate remedial action

20. WASTE

20.1 Disposal of Standard Wastes

Waste management must comply with local legislation and MAS Africa Engineering And Hydraulics regulations as per particulars given below:



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All waste producers are responsible for the management of their waste incl. collecting, storing and disposal.

Waste from construction site must be separated in:

- Domestic
- Paper
- Cardboard
- Steel
- Wood
- Plastic

20.1 Disposal of hazardous Wastes

Ensure that all materials brought on site have adequate material safety data sheets and that these are accessible for deciding on appropriate remedial action in the event of a spill.

MAS Africa Engineering And Hydraulics will make use of Client's hazardous chemical substances bin to dispose of emptied bins.

21. PERSONAL PROTECTIVE EQUIPMENT

21.1 Personal Protective equipment

All employees shall be issued PPE free of charge when employed by MAS Africa Engineering And Hydraulics; however, if the company investigates possible abuse to his / her PPE, he/she will be liable to pay for the PPE.

21.2 PPE requirements can include:

Hard hats

Safety Shoes

Long sleeve overalls

Safety glasses

Specialized PPE will be issued on risk base for the project and area.

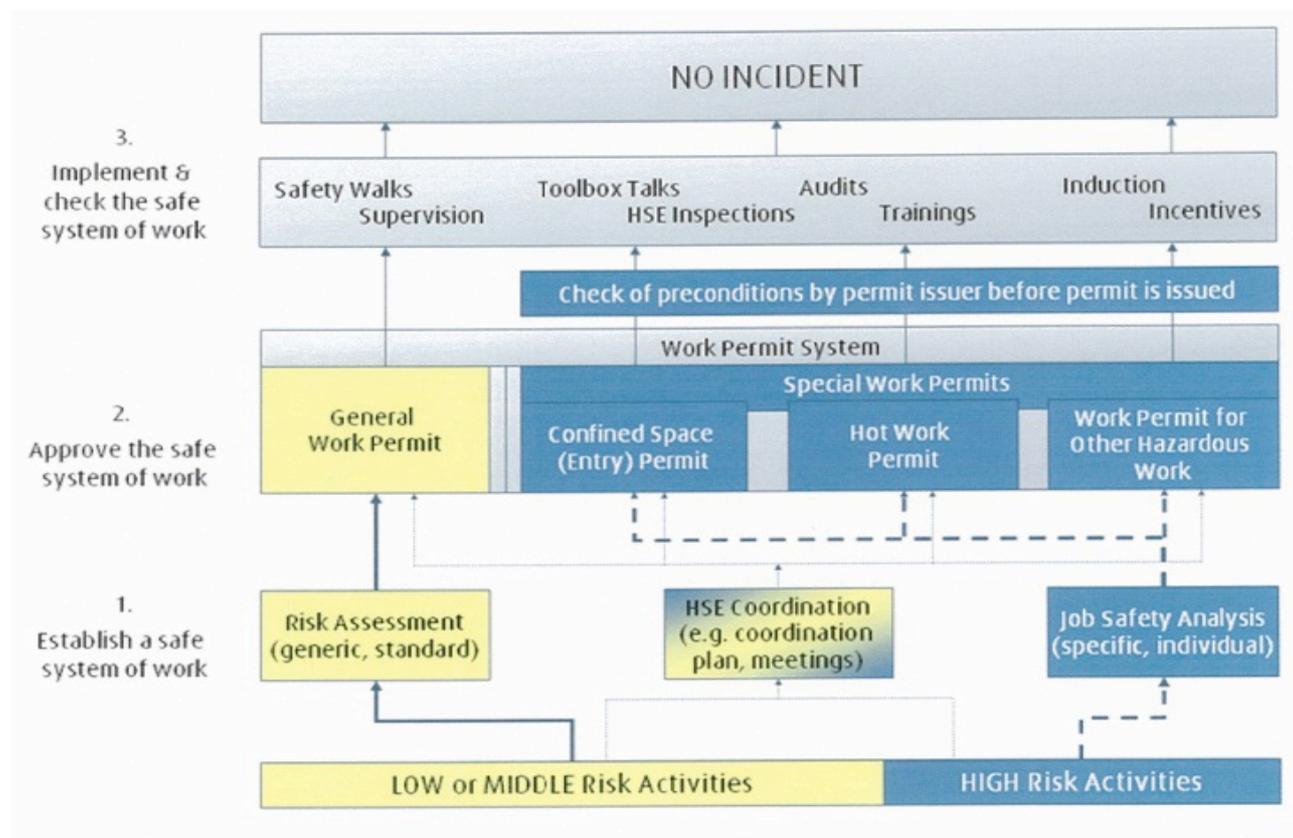


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21.3 PPE will be issued in these frequencies:

Overalls (Long sleeve Flameproof)	-	One every 6 months (or as needed)
Safety shoes	-	One pair per year
Gloves	-	As needed
Safety glasses	-	As needed
Ear plugs	-	As needed
Hard hat	-	Once and if damaged

22. APPENDIX 1: RISK CONTROL CONCEPT





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23. APPENDIX 2: LIST OF HIGH RISK ACTIVITIES

Work at Height

- Work with a possible height of fall greater than 1.5 m (or 0 m above water or any other surface with the hazard of drowning). Typical work with high risk of falling are for example: Following work is to be seen as exception and is not categorized as high risk activity. This is as they are usually covered by standard regulations and operational instructions and therefore do not require the definition or implementation of specific or individual measures against falling:
 - Employees shall be declared competent and certified to work at heights.

Entering or Working in Confined Spaces

- Entering or working in confined spaces

Work with Hazardous Materials

- Different Chemicals (see SDS)

Work on Live Systems and Electrical Hazards

- None

Pressure Testing

- Testing of lines after installation and before commissioning

Lifting

- Lifting with ropes, if
 - the lifts are less than 20kg's
 - ropes inspected daily and registered
 - Manual material handling
 - Ropes spliced as per requirements



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24. APPENDIX 3: CONTRACTUAL HSE REQUIREMENTS FOR VENDOR'S

23.1. HSE Responsibility

MAS Africa Engineering And Hydraulics are responsible for managing all Health, Safety and Environment aspects of their own work in accordance with their contracts, local legislation and the following HSE requirements.

23.2. HSE Documentation

MAS Africa Engineering And Hydraulics delegated employee(s) must present the following documents to CLIENT prior commencement of any activities at site:

- Documentation of risk assessment covering the activities related to the contractual work
- Proof of having received a corporate safety instruction or training on HSE related aspects of the activities to be carried out (e.g. working at height, use of PPE etc.)
- Proof of medical fitness regarding the activities to be carried out (e.g. use of breathing apparatus etc.) as far as reasonably possible under local legislation
- List and Material Safety Data Sheets of hazardous materials that will be applied
- Proof of equipment inspection or certifications by a competent person or third party

MAS Africa Engineering And Hydraulics will check and approve the documentation and request remedial actions in case of any deficiencies.

23.3. HSE regulations at construction site

MAS Africa Engineering And Hydraulics staff must:

- Perform their work according to local legislation, MAS Africa Engineering And Hydraulics risk assessment and the site HSE regulations defined by CLIENT
- Maintain a good standard of housekeeping, especially
 - Keep working areas clean and tidy
 - Dispose waste in the provided bins
 - Remove working material and equipment out of working areas daily
- Report any detected HSE deficiencies (i.e. unsafe actions and unsafe working conditions) affecting their personal health and safety and further incidents (i.e. near misses, accidents, occupational illnesses and environmental incidents) immediately to CLIENT
- possess adequate and sufficient first aid equipment
- participate in CLIENT safety orientation (if provided)
- obey the regulations of the project specific systems administered by CLIENT .
- safely conduct any work activities carried out at workplaces with a possible height of fall above 1.5 meters. The following requirements must be adhered to:



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- Workplaces must be protected by fall prevention measures (barricading, guardrails or coverings) or by fall arrest systems, otherwise personal protective equipment against fall from a height must be applied
- It must be ensured, that no loose material may fall off from overhead locations
- Adequate clearance to overhead power lines during all working operations including all personnel as well as equipment and tools utilized by them must be ensured to protect the equipment and personnel against electrical hazards of high voltage
- In general no ladders should be used for frequent access or as workplace. Mobile platforms, lifts, elevators or towers are preferred
- In general personal protective equipment against fall from a height must be used when working on straight ladders. Exceptions are only possible if
 - ladder is used for access only
 - no proper anchor points are available
 - the height of fall is < 2 meters



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Appendix 4: SH&E/HSE Performance Board (when and if required)

PROJECT NAME

COMPANY NAME & LOGO

SH&E PERFORMANCE BOARD

ACCREDITED BY AND SAFETY LOGO

Risk Ranking (T1 to T4)	<input type="checkbox"/>	Date of Assessment	<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>
9T1 to T4 WORK DAY CASE RATE			
<u>ACTUAL</u>			
LOST WORK DAY CASE RATE			<input style="width: 20px; height: 20px;" type="text"/>
RECORDABLE CASE RATE			<input style="width: 20px; height: 20px;" type="text"/>
HOURS WORKED WITHOUT A LWDC			<input style="width: 20px; height: 20px;" type="text"/>
HOURS WORKED WITHOUT A RC			<input style="width: 20px; height: 20px;" type="text"/>
DATE OF LAST LWDC			<input style="width: 20px; height: 20px;" type="text"/>
DATE OF LAST RC			<input style="width: 20px; height: 20px;" type="text"/>
TOTAL PROJECT HOURS WORKED			<input style="width: 20px; height: 20px;" type="text"/>
TOTAL VEHICLE ACCIDENTS			<input style="width: 20px; height: 20px;" type="text"/>
DAYS WORKED WITHOUT A RECORDABLE CASE			<input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/> <input style="width: 20px; height: 20px;" type="text"/>
<u>TARGETS</u>			
LOST WORK DAY CASE RATE			<input style="width: 20px; height: 20px;" type="text"/>
RECORDABLE CASE RATE			<input style="width: 20px; height: 20px;" type="text"/>
LWDC FREE HOURS			<input style="width: 20px; height: 20px;" type="text"/>
RC FREE HOURS			<input style="width: 20px; height: 20px;" type="text"/>

25 REVISION RECORD		
Rev No.:	Status/Change	Date
0	HSE plan for projects	Jan 2016