بـــن راشـــد
BIN RASHID
للنقليات والمقاولات العامة
Transporting & General Contracting Est.

PROJECT HEALTH, SAFETY & ENVIRONMENTAL PLAN

Issue Date	Originator	Reviewed & Approved by:	Signature	Revision
Initial Issue	HSE Eng.	*Project Director*		
		Project Manager		

بـــن راشـــد
BIN RASHID
للنقليات والمقاولات العامة
Transporting & General Contracting Est.

Disclaimer:

This document and any attachment herewith are strictly confidential and may be privileged or otherwise protected from disclosure and solely for the use of Intecsa industrial No part of this document may be copied, reproduced or transmitted in any form or by any means without written permission from the Management.

Table of Contents

1.0 INTRODUCTION

Intecsa industrial Environmental, Health and Safety Plan, hereafter described as "The Plan", reflects the management systems used to ensure compliance with the company HSE policy and with U.A.E. and Abu Dhabi EHSMS requirements. The goal is "Zero Accidents"; the company HSE policy and procedures have been prepared in accordance with the philosophy that this project can be completed with absolutely no injuries or no work related illnesses. The company has formulated this EHSMS to suit the requirements of its customers and other related HSE requirements, local laws, regulations, and international standards, where applicable. The management system conforms to the requirements of OHSAS 18001 and ISO 14001 standards and specifications.

Each individual member of the company's team is entrusted with the responsibility for leading their EHS by focusing on Zero Accidents. Therefore, it is the responsibility of everyone employed by the company, either directly or indirectly as a contractor's employee for this project, to clearly understand this Plan and to apply it consistently.

This document describes the structure for managing environmental, health and safety issues within the Company. Detailed guidance is provided in a number of supporting procedures. The EHSMS and associated procedures are documented to ensure that activities, conditions and tasks affecting environment, health and safety protection are planned, organized, executed, reviewed and improved.

2.0 PURPOSE

The Purpose of this Plan is to define a consistent and uniform approach for implementing Environmental, Health and Safety Plan and to give guidance on the EHS procedures to be followed. Provide details of the implementation of the HSE control processes and requirements related to the Construction phase of Project and to ensure regulatory compliance and managing Health, Safety and Environment in all phases of Project construction work in an economical and consistent manner.

بـــن راشـــد
BIN RASHID
للنقليـات والمـقـاولات العـامـة
Transporting & General Contracting Est.

3.0 PROJECT INFORMATION

3.1 PROJECT DETAILS

Project Name	**Gasoline & Aromatics Project**
Project Number	**6145**
Client	**(ADNOC) Abu Dhabi National Oil Company**
Consultant	**Intecsa Industrial**
Contractor	**Intecsa Industrial**
Contract No.	**TBA**
Starting Date	**TBA**
Completion Date	**TBA**
Project Location	**Abu Dhabi National Oil Company**

3.2 PROJECT LAYOUT AND LOCATION MAP

TBA

3.3 SCOPE OF WORK

Scope of works specific for construction for roads and infrastructures for Internal Road

The Scope of works for this particular contract shall include, but not be limited to all works as indicated on the drawings, BOQ, specification etc.., as summarized hereinafter:

a) Site survey and construction of purposed road storm water drainage system, curb, on-street parking bays, ADDC's water & power, ADSSC's sewerage network, Transco's trunk main relocation (SHM-6 only), telecommunication, street lights and electrical distribution, landscape and irrigation.
b) Grading, Cutting, Filling of surveyed area
c) Filling of sub base and road base for surveyed area
d) Road pavement markings and signage
e) Provision of all required labor, material, equipment, instruments, etc. which are needed for the works
f) Coordination with authorities for all permits; and Obtaining all required NOCs.
g) Ancillary works required to complete the works including soil investigation work.

The scope of works shall include any additional works instructed by the employer within the limit of the contract. The employer reserves the right to add or delete certain parts of the works within the limit of the contract.

4.0 PROJECT HSE MANAGEMENT

4.1 LEADERSHIP AND COMMITMENT

A pro-active Environmental Health and Safety Management System will be introduced on site to ensure that a level of excellence is maintained and that every effort is made to exceed international standards in health, safety and environmental control.

The HSE Management System increases safety awareness, measures environmental, health & safety performance and establishes an effective action program.

This HSE Management System is designed to ensure a consistent and effective approach on all **Intecsa Industrial** construction sites and individually empowers every employee including sub contractors working for **Intecsa Industrial** to work safely and to enforce environmental, health & safety control.

Through formal job training each employee shall:

- Know what HSE procedures to follow on the job
- Have the proper tools and resources
- Must be able to measure what they are doing.
- Be in a position to identify unsafe conditions and acts and take corrective action on these unsafe acts or conditions.

The collecting and analyzing of data is of great importance to manage the EHSMS properly. It is therefore important to encourage the reporting of all incidents.

In order for **Intecsa Industrial** to comply with the company's commitment to its Health and Safety Plan and also in terms of the applicable statutory requirements, the company will act as follows:

The Chairman appointed by the Board of Executive Members as the Company Chief Executive Officer is responsible for the control and compliance of the Company with the statutory requirements.

To assist the Company Chief Executive Officer in executing his duties, senior personnel will be appointed and responsibilities delegated in writing to ensure that all Company Operating Divisions comply with the Company and Legal requirements. With reference to a particular Project, the Company Chief Executive Officer will appoint the Project Director / Project Manager as the Project Chief Executive Officer to assist the Company Chief Executive Officer in executing his duties, which are specified in the project's organizational chart.

The Executive Divisional and Project Management Committees chaired by the relevant Chairman of the Project are holding monthly meetings. Environmental, Health and Safety discussions are listed as priorities on the agendas for information / action.

The forum is also used for problem solving, future planning, communication and promoting safety awareness to Project Management, Supervision and shop floor personnel at all Construction Projects.

A Company Environmental, Health & Safety Services Department is operational and headed by a HSE Engineer reporting directly as an advisor to the Company Chief Executive Officer.

This Service Department will appoint a Project Health and Safety Manager/Project in Charge who reports directly to the Project Chief Executive Officer (Project Director/Project Manager) as specified in the HSE organizational chart.

Implemented throughout the Operating Division is a comprehensive Company and Project Environmental, Health and Safety management Action Plan which is monitored / audited and administrated by the appointed HSE Services personnel and can be tailored to suit Project specific requirements.

4.2 ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT POLICY

The policy statement has been signed by the company's Managing Director and it is drawn to be addressed to all the company employees at all levels.

The Policy attaches the greatest importance to the prevention of any form of loss, in particular to the Health and Safety of all our employees as far, as is reasonably practicable.

We consider no area of our operation or administration as being of greater importance than having a "Zero Accident Plan". We therefore expect that each of our managers; supervisors or employees be held responsible for Health, Safety and Welfare within their respective areas.

The attitude and co-operation of each employee shall ensure that the Environmental, Health and Safety conditions are achieved and losses minimized.

The Project Management openly commits them to active participation in the implementation of this policy.

All employees will be informed and consulted regarding our legal duties, their personal duties to themselves and others and managerial and supervisory duties. Employees will be encouraged to participate in the making of policy as well as the implementation of procedures. Employees will be required, as a condition of employment, to observe safe working practices and co-operate with management in carrying out this policy. This policy and the HSE management system will be reviewed annually and updated as necessary; any revisions will be communicated to those affected by the changes.

4.3 OBJECTIVES AND TARGETS

Intecsa Industrial HSE objectives are equally as important as other business objectives, so targets will be set to ensure progressive improvements in HSE performance. Sufficient resources will be made available to achieve our HSE objectives. Set objectives in consistent with established HSE Policy, at relevant functions, project operations and levels within the organization. Including the commitments to prevent any adverse effect to the environment during the operations, the prevention of injury and ill health, to comply with any relevant legislative requirements and with other requirements to which the **Intecsa Industrial** subscribes, and to continual improvement.

Senior Management will be responsible for setting the Company's HSE objectives and targets taking into account the following:

- HSE Policy Statement
- Legal and other requirements
- Significant HSE risks relevant to Company operations
- Views of interested parties
- Operational and business requirements
- Financial and technological options

Objectives and targets set must be SMART and where necessary performance indicators must be established.

A management program which details the implementation plans for achieving the objectives and targets must be established, documented and communicated to all concerned.

A project specific objective includes:

- To promote standard of the environment, safety, health and welfare that comply fully with statutory requirements and approved codes of practice, and which take into account at the Project.
- To maintain a safe & healthy work place, to operate safety systems and methods of works and to protect employee, client and others, including the public, by striving to eliminate foreseeable hazards, which may result in personal Injury, fires, security losses or damage to property, through the systematic Identification of hazards the adequate assessment and control of risk.
- To secure the working environment for employees, adequate facilities and arrangements should be introduced for their health and welfare.
- To provide employees with the Information, Instruction, training and Supervision they need to work safely and to develop people as a key resource.
- To develop HSE awareness and individual responsibility for HSE among employees
- To encourage full and effective joint consultation on health and safety matters at all levels.
- Comply with all the HSE standards, regulations and guidelines set by clients, federal and municipal government levels in the UAE.
- Take all the necessary steps to prevent and limit pollution associated with our equipment and personnel in all our activities at site as explained in the environment section of the document.
- Promotion of sustainable use of resources, materials and energy in our activities.
- Providing the appropriate training to our employees, improve their awareness and knowledge of the environmental health and safety obligations to make responsible and accountable for their actions.
- **Intecsa Industrial** Management & HSE Team has decided to given the empowerment to each and every employee and task force to stop work if is highly critical unsafe, IDLH (Immediately Dangerous to Life or Health) and any eminent danger situation.

HSE objectives, targets and management programs/plans shall be reviewed at least annually (e.g., during Management Review), and amended as required.

4.4 AJT ORGANIZATION STRUCTURE

4.4.1 HSE Organizational Charts: See Appendix B

4.4.2 Roles and Responsibilities

Intecsa Industrial Chairman shall appoint the Site Project Director of the Project to be responsible and ensure that **Intecsa Industrial** complies with the required duties and requirements of the Federal Law No. 8 of the year 1980 and the Company Health and Safety Standards.

The **Intecsa Industrial** Site Project Director shall delegate and appoint responsible competent persons to assist him performing his duties.
Each appointee shall attend training sessions where so required and as arranged by the HSE Manager
The Site Project Director and his management team are responsible for the effective implementation of the **Intecsa Industrial**, Project HSE Plan in all areas under their direct control and to ensure a high profile of Health, Safety and Environment within these areas.

Implementing the requirements of HSE Legislation, Best Practice and Company Standard and Procedure, The Chairman and each board member are responsible for the overall management and control of **Intecsa Industrial** contracts. He shall delegate his duties to the Site Project Director and Site Management in writing to ensure the "employer" complies with the provisions of the UAE Safety Legislation.

Project Manager

- He is accountable to the Project Director and is responsible for the operational planning and also the implementation of the Project HSE Plan
- He shall be familiar with all relevant health and safety legislation.
- He shall ensure that all staff accountable to him is conversant with the relevant requirements of current legislation and the Project HSE Plan
- He shall ensure that each Section Engineer has adequate resources to carry out his duties and responsibilities in accordance with the Project HSE Plan.
- He shall establish and maintain a direct line of communication with the Site HSE Manager.
- He shall be the Emergency Coordinator with listed duties and if off-site, someone who is left in-charge notifying HSE Management and Project Management of his absence.
- He shall monitor the construction operation to ensure they are conducted in accordance with the Project HSE Plan and take urgent and appropriate action to prevent unsafe working practices or other infringements of statutory of the safety plan requirements.
- He shall ensure that all subcontractors comply with the requirements of the Project HSE Plan.
- He shall ensure those all-necessary work procedures, method statements, risk assessment and work instructions are prepared, approved by the client and issued for safe operation of the works on site.

Site HSE Manager / In Charge

- The Site HSE Manager/In charge shall be approved in writing by Client, accountable to the Project Director for the safety assurance of the construction and the supervision and monitoring of the Project HSE Plan.
- Site HSE Managers / In charge should keep HSE related documentation.

- He shall be empowered to stop immediately any work activity on the project and instruct employees of **Intecsa Industrial** or any subcontractor to take urgent action to make safe the Site and Works to prevent unsafe working practices or other infringements of the Project HSE Plan or statutory regulations.
- He shall also report situations positive or negative to the Project Director and Line Management.
- He shall monitor the implementation of the Project HSE Plan
- He shall advise management on:
  - Preventing injury to personnel and damage to plant and equipment.
  - To further improve safe working methods.
  - Ensuring Legal requirements affecting safety, health and welfare are being adhered too.
  - Monitoring the provision and use of protective clothing.
  - Train & assist identifying potential hazards before work starts.
  - Co-ordinate and monitor the Site Safety Organization.
  - Evaluate and implement methods of safe working arising from new developments.
  - Train & induct management and employees about changes in legislation and codes of practice.
- He shall direct the Site HSE Officers to carry out; safety inspections such as but limited to (safety random vehicle inspection and safety daily site inspection report) in association with site staff to ensure those safe methods of work are being observed. He shall personally carry out weekly inspections of all work areas. See attachment for Daily HSE Observation
- He shall report the findings to the Section Engineer and recommend what measure, if any are required to be taken as a result of the inspection. In the event of these measures not being adopted he shall bring the matter to the attention of the Project Director & Line Management.
- He shall ensure that daily safety monitoring is maintained and shall keep a daily diary.
- He shall determine the cause of any accident or near misses or dangerous occurrence and recommend means of preventing recurrence. For serious accidents he will form part of the accident investigation team as required by the Safety Management.
- He shall supervise the recording and analysis of information on injuries, damage and loss, assess accident trends and review overall safety performances.

- He shall assist with inductions and training for all levels of employee on safety.
- He shall prepare HSE training program.
- He shall prepare and update Emergency and other Safety Procedures in conjunction with the Project Director/Project Manager.
- He shall check all Work Procedures and Method Statements per work before they are issued to the client for approval to ensure that safety aspects of the operations they cover are in accordance with the requirements of the Project HSE Plan.
- He shall promote awareness of injury prevention and damage control to all levels of employees.
- He shall keep contact with government officials and professional bodies
- He shall keep up to date with the recommended codes of practice and new safety literature and also circulate information applicable to each level of employee.
- He shall keep registers of all First-Aiders with third (3rd) party certificate, competent persons, and examination reports and test certificates. He shall maintain Training Matrix that will be displayed at suitable location.
- He shall attend and participate in the meetings of the Site HSE and Site HSE Management Committees chaired by Project / Construction Manager and notes kept by Site HSE Manager.
- He shall prepare and submit to the Project Director a report on or before the last day of every month.
- He shall ensure that the Site HSE Management Plan and Procedure are issued in accordance with Quality Assurance Procedures and is updated as necessary

- He shall maintain safety boards at suitable locations on which will be displayed the up-to-date Site Safety Management Organization Chart, safety statistics, safety posters and other relevant information.
- He shall issue Non-conformance Reports for safety irregularities observed on site.

Construction Manager / Engineers

- He is accountable to the Project Director for the implementation of the Project HSE Plan and the operational planning of all areas under his control.
- He shall establish and maintain a direct line of communication between himself and the Site HSE Manager / In charge.
- He shall ensure that staff and employees under his control are conversant with the relevant requirements of the Project HSE Plan and those duties and responsibilities are assigned as appropriate for effective implementation.
- He shall ensure that all subcontractors under his control comply with the Site HSE Management Plan.
- He shall regularly review the health and safety procedures to ensure that they adequately cover site operations and where necessary produce Risk Assessments to develop further appropriate procedures to control those risks.
- He shall monitor all operations being carried out in the areas under his control to ensure that they are carried out in accordance with both the Project HSE Plan and relevant procedure.
- He shall attend and chaired in Site HSE Committee meetings.
- He shall ensure that all workers under his control, including subcontractors, attend the safety induction course, toolbox talks and other specific training courses related to works.
- He shall accompany the HSE Engineer / Officer and/or Labor Department officials on section safety audits and ensure remedial action is taken as necessary.
- He shall ensure that all incidents and any dangerous occurrences happening within his section are reported as required by the site incident reporting procedure.
- He shall make arrangements for ensuring that the HSE Engineer / Officer is notified in advance of any items of plant arriving on site, to enable him to check the certification and advised foreman to register it to the equipment register.
- He shall not permit the operation of any plant unless both the plant and operator are suitably certified.
- He shall ensure that periodic test; inspections and maintenance on plant and machinery are carried out

- He shall ensure that there is sufficient fire fighting, and first aid equipment available for activities within his section and shall ensure that the equipment is maintained in good order
- He shall ensure that subcontractors employ competent persons for planning, installing and inspecting the scaffold systems if being utilized. He should ensure that all sub-contractor are been oriented/inducted prior commencing for work and advise to follow **Intecsa Industrial** Project HSE Plan.

Site Supervisor / Foreman

- They shall be familiar with all safety procedures relating to the work being carried out under their supervision.
- They shall ensure that their subordinates receive clear safety instructions such as Safety Task Analysis Risk Reduction Talk (STARRT) and toolbox talks relating to the work that they are carrying out on a daily basis. *See HSE Form/ STARRT (Safety Task Analysis Risk Reduction Talk).*
- They shall ensure that the workplace is maintained in a safe and tidy condition.
- They shall take prompt action to rectify unsafe conditions in their areas of control.
- They shall give full co-operation to the Site HSE Engineer/ Officer and comply with his recommendations

- They shall ensure that all necessary safety devices are provided and used, all site personnel under their control are provide with and wear the necessary Personnel Protective Equipment (PPE), and that all safety procedures appertaining to the works are complied with.
- They shall carry out regular safety inspections of the workplace.
- They shall be familiar with all Emergencies and Incident Reporting Procedures ensure that they are known to their subordinated, and implement those procedures as required.
- They shall promote safety awareness through leading by example.
- They shall ensure that all new operatives under their control have received induction training before commencing work.
- Supervisors will also be responsible to carry out Safety Task Analysis Risk Reduction Talk (STARRT) prepared by the Site Engineers with their work crew before commencing work on a daily basis, to ensure that all employees are aware what type of work is going to take place, the hazards associated with the job & the preventative measures to be taken, and the required personal protective equipment to be utilized. Safety Task Analysis Risk Reduction Talk (STARRT) should be properly filled out and signed by the work crew and filed in Foreman file kept at their work station at the end of the day.

Site HSE Engineer

- Site HSE Engineer shall be responsible to the Site HSE Manager, as well as to the Section Engineer of the section to which they have been assigned.
- Their duty is to monitor at all times the safety being achieved on the section and in the event of it being substandard, shall request the Section Line Management to investigate action to have it rectified.
- They shall assist the Senior HSE Personnel in carrying out his duties as assigned by the Site HSE Manager.
- They shall arrange induction HSE training as is required.
- They shall liaise with subcontractors and foremen to ensure they observe the safety standards required under the Project HSE Plan.
- They shall assist with the safety aspects of risk assessments and planning duties as required by the Section Engineer.
- They shall assist with the promotion of safety on site.
- They shall carry out daily field inspections and review findings with supervisors and follow-up on corrective action taken.

Site HSE Officer

- Site HSE Officer shall be responsible to the Site HSE Manager, as well as to the Section Engineer of the section to which they have been assigned.
- Their duty is to monitor at all times the safety being achieved on the section and in the event of it being substandard, shall request the Section Line Management to investigate action to have it rectified.
- They shall assist the Senior HSE Personnel in carrying out his duties as assigned by the Site HSE Manager.
- They shall arrange induction HSE training as is required.
- They shall liaise with subcontractors and foremen to ensure they observe the safety standards required under the Project HSE Plan.
- They shall assist with the safety aspects of risk assessments and planning duties as required by the Section Engineer.
- They shall assist with the promotion of safety on site.

- They shall carry out daily field inspections and review findings with supervisors and follow-up on corrective action taken.

General Workforce (All Personnel)

- Every person employed on the Project has a statutory duty to take reasonable care for the health and safety of themselves and others that may be affected by their actions or omissions at work.
- With regard to the statutory duties imposed on their employer, they must co-operate with their employer to enable him to comply with the relevant statutory provisions.
- No person shall intentionally or recklessly interfere with or misuse anything provided for safety, health or welfare under the relevant statutory provisions.
- All personnel shall wear or use the appropriate safety equipment or clothing and use the appropriate safety devices, this is to include visitors.
- All personnel shall familiarize themselves with the relevant requirements of the Project HSE Plan and Site Safety Rules.
- All personnel shall report any incidents and damage to property or equipment to their immediate supervisor, irrespective of whether persons are injured.
- All personnel are encouraged to make suggestions to improve health, safety and environment to their supervisor and the Site HSE Engineer / Officer.

4.5 LEGAL AND OTHER REQUIREMENTS

Intecsa Industrial have made a policy commitment to compliance with applicable legal and other HSE requirements that relates to its HSE hazards during the execution of the project. These include:

- **OCEMP** – Overall Construction Environmental Management Plan
- Abu Dhabi HSE Regulatory Instruments Code of Practices
- AD EHSMS RF (Regulatory Framework)
- Ministry of Labour and Social Affairs – **Federal Law No.8 of the year 1980**
- Ministry of Labour and Social Affairs – **Ministerial Order No.32 For the year 1982**
- **Law No.21** for Waste Management in the Emirates of Abu Dhabi
- **Law No. 16 of 2005** pertaining to the re-organization of the Abu Dhabi environmental agency (AED)
- Department of Transport (DOT) Environmental Health & Safety Management System (EHSMS) Transport Sector
- **Decree No. 42 of 2009** concerning the Environmental, Health and Safety Management System (EHSMS) in the Emirate of Abu Dhabi
- **Ministerial Decree No. 37/2 (1982)** About the Levels of Medical Care that the Employer should provide to their Employees

Intecsa Industrial has also take into account the following international standards:

- ***Quality*** ISO 9001: 2000 & ***Environmental*** ISO 14001:2004
- ***Health & Safety*** OHSAS 1800:2007

4.6 SUB-CONTRACTORS CONTROL PROCEDURE

This procedure defines minimum requirements for Subcontractors to perform all work in a safe manner that ensures the safety of **Intecsa Industrial** staff, Subcontractors' staff, property and environment; and ensures that work is done in compliance with regulatory and legal requirements.

They will comply with the **Intecsa Industrial** Project HSE Plan and monitored and enforced by the HSE team.

Specialist subcontractors shall be required to submit a method statement detailing how they intend to ensure safe working conditions given to **Intecsa Industrial** and submitted to the client by **Intecsa Industrial** prior to commencement of work.

The coordination and control of subcontractors work practices will be done by HSE staff by implementing a program of meetings, audits, inspections, trainings and on site coaching of HSE and construction staff. These activities will consist of the following:

- Weekly HSE meetings with subcontractors.
- Audits as per agreed audit schedule (To be developed and updated in line with the mobilisation of subcontractors).
- Weekly inspections – Management.
- Daily inspections – HSE team.
- Formal training sessions on all relevant plans, procedures and safe work methods before start of work as well as per identified trends.
- Monitoring of training effectiveness during construction activities and retraining as and when needed.
- On the job coaching to develop safe work practices.
- Monitoring construction activities to ensure tasks are performed within the scope of the PTW requirements as well as within the requirements identified in relevant method statements and task risk assessments.
- Close-out of audit, inspection and investigation actions shall be monitored on action tracking registers which shall be submitted on a monthly basis.

4.7 HSE RISK MANAGEMENT

Responsibilities

The Project Director/ Manager, assisted by the Site HSE In charge, shall review all contract activities. The Site HSE In charges shall identify potential serious hazards. Engineers/officers shall prepare a Job Hazard Analysis (J.H.A.) done in the field by the foreman on a daily basis.

All levels of management shall assist in developing work method statements and risk assessments

The Site HSE Manager shall liaise with supervision to ensure that conflict of interests is accommodated.

Ensure the requirements identified during the development of the method statement and assessment is adequate in terms of detail, and that it is effectively communicated to all personnel.

Risk Reduction Methods – Order of Precedence

The elimination or control of a hazard should be implemented according to the following order of precedence:

- Engineering Methods (make design changes and/or use engineering controls to eliminate or reduce risks);
- Substitution (use less hazardous processes, equipment, chemicals, etc., to reduce the risks);
- Administrative Controls (procedures, policies, training and other such methods to control exposure to known risks);

- Personal Protective Equipment (as a last resort to protect personnel from residual risks through the mandatory use of prescribed PPE).

4.8 COMPETENCE, TRAINING & AWARENESS

4.8.1 Competency and Recruitment

Intecsa Industrial shall ensure that all personnel recruited into Project site shall have HSE skills appropriate to the activities of the posts. Where necessary training deemed will be provided to meet HSE requirements on Project site.

4.8.2 Training Programs, Induction and Instruction Procedures

Intecsa Industrial Site HSE Team will conduct HSE Inductions for Project site employees (all staffs, workers and all sub contractors) that included Client HSE requirements prior starting work at Project site.

On completion of HSE Induction, induction sticker will be given to each inducted employee attended and to stick on the left side portion of their hard hats / safety helmet.

Site HSE Induction records will be kept by Project HSE Team for filing.

Personnel will not be allowed / permitted to work at Project site until they have undergone site HSE induction.

HSE Policy shall be displayed on notice boards at the temporary office facilities, training room facilities, workshops and general site areas.

A training matrix indicates a type and extent of training courses being planned for each category of employee.

Intecsa Industrial visitors to the Project site shall undergo HSE briefing induction and shall comply with Site Security requirements for visitor. Visitor will be accompanied at all times and required to be in **Intecsa Industrial** Site Security Badge that will be issue upon entering the Project site and retrieved when leaving.

Intecsa Industrial Site HSE Team will conduct HSE Legislation awareness training on applicable legislative statues and regulations that is included in the Labor Law 1982 U.A.E. Code of practice Federal Law No. 8 and any applicable International agreements or Treaties.

All workers, including managers and supervisors shall have training and instruction on general and job-specific HSE practices. Training and instruction shall be performed by the HSE Manager who shall be assisted by HSE Team. Training shall be provided as follows but not limited to;

- When the HSE plan is first established
- To all new workers
- To all workers given new job assignments for which training has not previously been provided
- Whenever substances, processes, procedure or equipment are introduced to the workplace and represent a new hazard
- Whenever the Employer is made aware of a new or previously unrecognized hazard
- To supervisors to familiarize them with the Health, Safety and Security hazards to which workers under their immediate direction and control may be exposed.
- To all workers with respect to hazards specific to each employee's job assignment.

- Training shall cover the following topics but not limited to:

SN	HSE Training Topic	Frequency of Training	Target Audience	Responsible Person
1	Induction Training	Initial	All Workforce	HSE Team
2	Accident/Incident Notification & Reporting Procedure	Initial & Annual	HSE Officer/Site Supervisors/Engineers	HSE Team
3	General Safety Awareness	Initial & Annual	All Workforce	HSE Team
4	Hand Tool & Power Tool Safety	Initial & Annual	Workers/Plumber/Carpenter	HSE Team
5	Safe Rigging and Slinging	Initial & Annual	Bank man & Rigger	HSE Team
6	Hazardous Chemical awareness	Initial & Annual	Safety Officer/Site Supervisors/Engineer/All Workforce	HSE Team
7	Heat Stress Awareness	Summer Season	All Workforce	HSE Team
8	Manual Handling of Material	Initial/Monthly	All Workforce	HSE Team
9	Permit to work System	Initial & Annual	Safety Officer/Site Engineer/Foreman	HSE Team
10	Noise at Work	Initial/Monthly	All Workforce	HSE Team
11	General Environment Awareness	Initial & Annual	All Workforce	HSE Team
12	Personal Hygiene	Initial/As needed	All Workforce	HSE Team
13	Abrasive Wheel Safety	Initial/Every 6 Months	Maintenance Workers	HSE Team
14	Personal Protective Equipment	As needed	All Workforce	HSE Team
15	Excavation/Trenching/shoring	Initial/Every 6 Months	Workers/Foreman	HSE Team
16	Confined Space	Initial/Annual	Workers/Foreman	HSE Team
17	Scaffolding Supervisor	Initial/Every 6 Months	Workers/Foreman	HSE Team
18	Safe Stacking of Materials	Initial/As needed	All Workforce	HSE Team
19	Movements of Plant Equipment	Initial/As needed	Driver/Operator	HSE Team
20	Waste Management	Initial/As needed	All Workforce	HSE Team
21	Oil Spill Prevention	Initial/As needed	All Workforce	HSE Team
22	Occupational Noise Awareness	Initial/As needed	All Workforce	HSE Team

4.8.3 Safety Task Analysis Risk Reduction Talk (STARRT)

A STARRT of specific jobs or operations is required for, but not limited to, the following:

- High risk jobs
- New jobs or tasks that present unspecified or unknown hazards
- Jobs or tasks involving new equipment, machinery, or procedures
- Major job categories that will be repeated frequently
- Job or tasks that have historically experienced a repeated or significant rate of accidents, injuries, exposures, or near misses
- Jobs involving environmental remediation of hazardous waste.
- Jobs or tasks that, in the professional judgment of the responsible EHS Representative, require a formal STARRT.

4.9 EHS INCIDENTS REPORTING AND NON-CONFORMANCES

Intecsa Industrial has developed a procedure for defining responsibility and authority for handling and investigating incidents, non-conformances, for taking action to mitigate any consequences arising from incidents or non-conformances and for initiating and completing corrective and preventive actions.

Procedures require that all proposed corrective and preventive actions shall be reviewed systematically prior to implementation.

Any changes in procedures resulting from corrective and preventive actions are implemented and recorded. The concerned department maintains these records.

Any corrective or preventive action taken to eliminate the causes of actual and potential non-conformances shall be appropriate to the magnitude of problem and commensurate with the EHSMS impact encountered

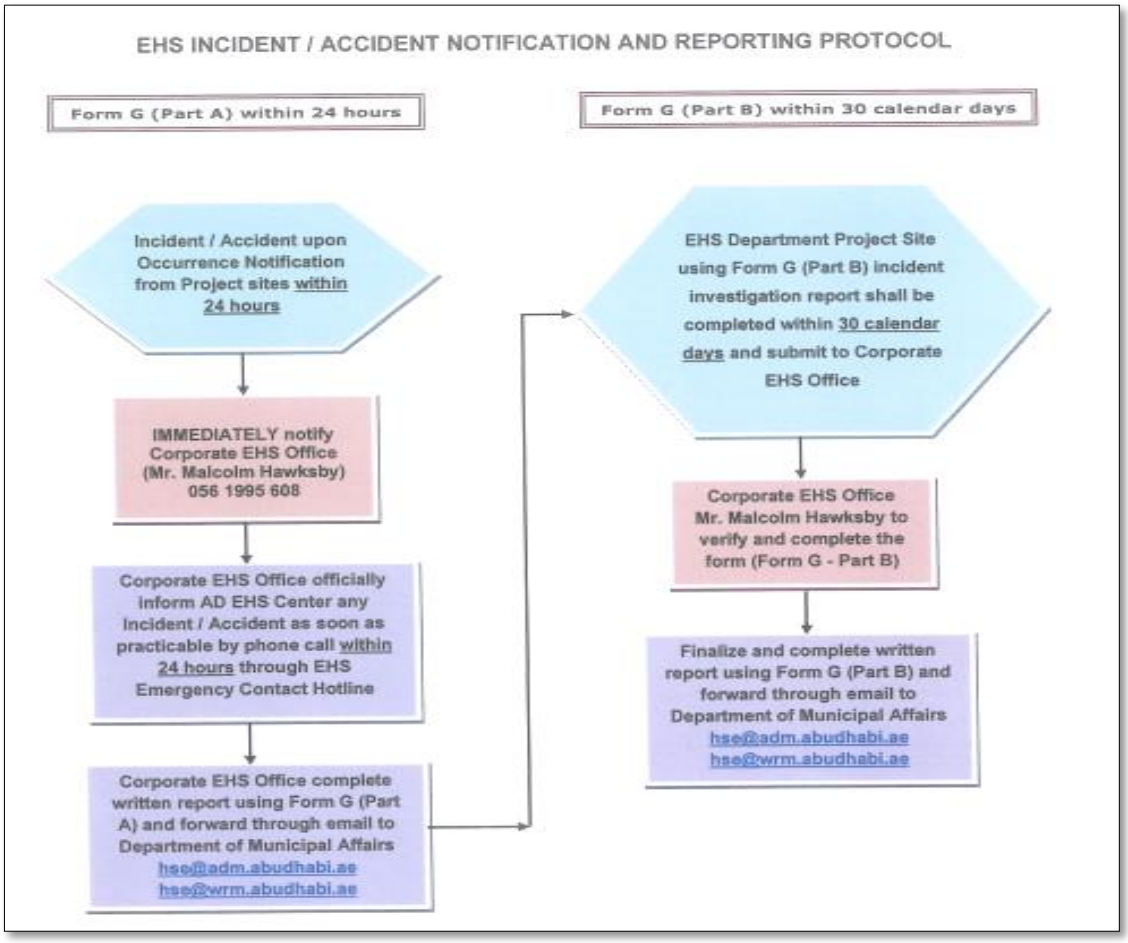
Corrective Action shall mean action taken to eliminate the causes of an existing non-conformity or defect or other undesirable situation in order to avoid recurrence.

Preventive Action shall mean action taken to eliminate the causes of potential non-conformity, defect or other undesirable situation in order to prevent occurrence.

Below are the standard procedures that should be followed to take effective corrective and preventive actions for any potential environmental or safety breach;

Incidents

- The incidents shall be recorded mentioning the date, time, location affected or people affected.
- The report shall be descriptive mentioning witnesses of the incident.
- The incident report shall also include 'near miss' incidents which had not resulted in impacts on environments or accident to people but could have led to them.
- As much as possible incident sites shall be photographed with date and time. The pictures taken shall be from all angles on the site giving full incident site information status.
- The HSE Department/ Management Representative shall conduct interviews with witnesses to the incident & record their information. Information shall also be sought from victims if any.
- The causes of incident shall be derived and listed in the order of probabilities. The root-cause shall be derived from the causes listed.
    - HSE department / Management Representative will verify the proper implementation of corrective and preventive action.
    - System procedures, work practices and / or training programs shall be modified and/or created where necessary to establish adequate controls for avoiding repetition of non-conformances and non-compliances.
- HSE Incidents at **Intecsa Industrial** are classified in accordance to *AD EHSMS EHS RI Mechanism No. 6*
- Formal notification to Consultant within 4 hours and reporting shall be made within 24 hours after completion of investigation within 72 hours.
- All reportable incidents shall be reported immediately verbally to the consultant and then prepare an incident investigation report according to the AD Municipality requirement using *Form G Part A Entity HSE Incident Reporting within 24 hours.*
- Incident investigation reports shall be completed within 30 calendar days and submit to Abu Dhabi Municipality Western Region.
- For other minor incidents reporting shall be made part of the routine entity EHS performance reporting.
- The HSE Department **Intecsa Industrial** is the appointing authority for any investigation team that should take the responsibility of investigating any incident irrespective of it classification at **Intecsa Industrial.**



4.10 CONSULTATION & COMMUNICATION

Intecsa Industrial, through the processes of communication and consultation, encourage employee participation in good health & safety practices and support organization HSE policy and HSE objectives from those affected by the activities or interested in its HSE management system.

4.10.1 Employee Consultation

Employee involvement and consultation arrangements must be adequately documented. Employees must also be:

- Involved in the development and review of policies and procedures to manage HSE risks.
- Consulted where there are any changes that affect workplace's health and safety.
- Represented on health, safety and environmental matters.
- Informed who their HSE representative is and specified management appointment.

4.10.2 Internal & External Communication

An internal communication has been developed among various functions and levels of the organization and for external communication with interested parties. That has effectively communicate information concerning its health and safety hazards and environmental aspects and its HSE management system to those involved in or

affected by the management system, in order for them to actively participate in, or support, the prevention of injury and ill health and prevent adverse impact to the environment as applicable. Including public shall made fully aware of the operations, necessary safety notice boards has been provided and maintain in an appropriate and prominent locations that are clearly visible, necessary safety signs shall be posted that describe the hazards on the operations and the relevant emergency contact information.

HSE Meetings

HSE shall be the first item on the agenda of the weekly progress meetings with HSE issues, actions agreed and individuals being delegated to lead and close out issues against appropriate time lines. The typical agenda for this meeting will be:

- Review of actions from the previous meeting
- Review of incidents, highlighting the existing control measures, and any new measures implemented to mediate the risk.
- Review of the project specific Plan related to HSE.
- Review of the HSE Action Tracking Register
- Identification of areas requiring resolution
- Discussion of HSE related interfaces with relevant authorities
- Agreed actions
- Allocation of task and responsibilities

Intecsa Industrial shall attend HSE weekly coordination meeting on clients / project management / consultant.
Daily toolbox talks will be delivered to **Intecsa Industrial** General Workforce in the language that they understand.

HSE Notice Boards

Site HSE notice boards will be placed at conspicuous places such as near rest areas and site entrance and where employees mostly gathered and it will be in English, Arabic, Urdu and Hindi (multi-language).

Site HSE notice boards will be placed at conspicuous places and where employees mostly gathered and it will be in English, Arabic, Urdu and Hindi (multi-language).

A variety of techniques shall be adopted, such as poster campaigns, the distribution of health and safety information sheets, newsletters and bulletins, to generally promote health and safety.

HSE Posters, Slogans, Banners, Videos, Project HSE Alerts and Bulletins will be utilized to promote the HSE message with the aim to continually upgrade the workforce awareness. Seminar and Trainings will be conducted.

HSE Incentive and Promotional Scheme

All of **Intecsa Industrial** is Project employees will be informed and encouraged to actively participate in any project related HSE Promotion Programmes. Certificate of excellence will be given.

The HSE Coordinator / Representative will ensure that an HSE Suggestion Program is implemented and on a periodical basis the author of the best suggestion that can be implemented and as decided by the Management team, will be rewarded.

Outstanding Health and Safety related performances, e.g. Safety Man of the Week /Month by employees would appropriately be rewarded and certificated.

HSE Violation System

A system shall be introduced for the recording of all safety violations and ensuring that disciplinary actions are being taken against offenders.

Safety violations ticket will be signed by the violator and records will be kept on file in the site office. Counseling will be also given by HSE team and to be witnessed by the offender immediate supervisors/foreman/engineer. HSE Violation Notice form.

4.11 OPERATIONAL MONITORING AND CONTROL

- **Intecsa Industrial** has established procedures to monitor and measure EHSMS performance on a regular basis and the key characteristics of its operations and activities that can have a significant impact on the HSE system.
- These procedures are documented to provide both qualitative and quantitative measures appropriate to meet the EHSMS Objectives.
- These procedures ensure that all equipments used in monitoring, measurement and testing key characteristics are calibrated and maintained to comply with the requirements. Records are retained as evidence.
- Procedures documented outline the requirements of the monitoring and measurement program and to periodically review regulatory compliance and report results to management on a yearly basis.
- The EHSMS performance is reviewed in the Management Review Meeting.
- **Intecsa Industrial** has defined, part of the risk assessment register, all the controls that needs to be exercised over those significant aspects with high risk hazards in order to control, reduce and mitigate its associated impacts or injuries. These documented actions are set part of this document to ensure all environmental significant aspects, health and safety hazards are managed effectively.
- Sub contracted activities are controlled through documented procedure, pre-qualification, risk assessment and periodical inspection during their work at site
- **Intecsa Industrial** is applying daily HSE observation report.
- The Foreman/supervisor/engineer carries out regular tool box meeting with staff highlighting to them main HSE issues arises during the past week. Minutes of Meeting and attendance shall be recorded and filed in HSE department.

4.11.1 Conducting HSE Inspections

Inspections shall be carried out per area and will be mainly the responsibility of the site HSE Officer and HSE In charge.

Every **HSE inspection** must, against the relevant checklist guideline, look at the facets of “who”, “what”, “where”, “when” and “how”. Particular attention will be given to safety hazards and environmental aspects most likely to cause unsafe or unhealthy conditions because of stress, wear, impact, vibration, heat, corrosion, chemical reaction or misuse. This should also include areas where no work is done regularly, such as lay down areas, rest areas, office storage areas, etc.

Daily Inspections/Observation

Shall be conducted by the HSE Team as part of their normal activities. An inspection report. shall be prepared and filed in the HSE System. Unsafe conditions and unsafe behaviors shall be corrected as soon as possible through contact with workers supervision or other responsible persons.

Operators/Drivers carried out daily inspection of vehicles, plant/equipment prior to operate

Weekly Specific HSE Inspections

This inspection is more formal in nature and is conducted weekly with individual Contractors. The choice of the Contactor is dictated according to various criteria such as: risk profile determined by continuous inspection

reports, incident reports, the commencing of new activities, etc. Re-inspection also conducted for plant and equipment to determine it has been inspected accordingly by the responsible person.

The Weekly Contractor Specific inspection is a collaborative effort involving the participation of the following:

- Construction Area Superintendent or delegate;
- HSE Team Members
- Project HSE in Charge
- Sub-contractor HSE In charge (if any)
- Project Supervisor or Manager
- HSE Representative from Consultant / Client

Monthly HSE Reporting

A monthly report summarizing the HSE performance monitoring program including results of monitoring and measurement shall be submitted to Consultant.

The monthly HSE performance report submitted to Consultant shall provide information on:

a. Number of Environmental incidents, covering oil, fuel waste materials and other polluting substance.
b. Number of occupational injuries including fatality, lost time injury (severity and frequency rates), Total Reportable Case Frequency, and Near Misses.
c. Total number of manpower and total number of man-hours
d. Other Information covering warning notices and Prosecution.
e. Training status in the company covering number of: persons, Tool Box Talks conducted persons trained for Specialized Training (e.g. Lifting, Confined Space, etc.)

4.11.2 Site Audit Activities

Implementing a systematic auditing system measuring legal and program compliance site physical conditions and the health and hygiene of all facilities, management shall demonstrate their continued commitment.
The Company HSE Manager will on an unannounced visit to the Project site will carry out an audit to ensure that the Project and other requirements are implemented and managed by the Site Project staff.

Reports to this effect will be generated and distributed to Project and Senior Management, highlighting findings and action required.

If a full time HSE Coordinator is allocated to the Project, he will be required to carry out a Monthly Safety Audit and report his findings to the Project Management and to the Site HSE Manager.

In addition to carrying out regular audits, the HSE Manager shall provide in depth examinations of all operations and activities on the project including subcontractors.

The purpose of the actual audit for the auditor is to gain sufficient evidence that the audit criteria are being met. To do this, the auditor collects & verifies information relevant to the criteria.
Information collected during the audit should be verified information by the auditor and may then be considered "audit evidence".

After completing the audit, MR must conduct a private review of findings and should involve all the audit committee.

4.11.3 Non Conformances

The audit findings could be classified as the non- conformity; the non- fulfillment of requirement, which is failure and Non compliance

- Comply with the standard applicable to the organization.
- Implement EHSMS procedures specified by **Intecsa Industrial**.
- Implement legislation or contractual requirements.

The auditor should document his non-conformity and observations in the audit report.

Corrective Action

- HSE Department/ Management Representative and Department Managers are responsible for taking corrective and preventive actions appropriate to the magnitude of problem encountered and to mitigate the occupational hazard and risks encountered.
- Problems identified are recorded in Corrective Action Report by the HSE Department/ Management Representative and Departments heads.
- The root cause for the non-conformities is investigated and recorded in the Corrective and Preventive Action Report; accordingly the Corrective & Preventive Actions Log shall be updated.
- Appropriate corrective actions are taken to avoid the recurrence of the non-conformities and they are implemented by the concerned department manager. The actions taken shall be appropriate to the magnitude of problem and impacts & hazards and risks encountered.
- The details of corrective actions taken are recorded in Corrective and Prevention Action Report.
- The effectiveness of the actions taken is reviewed by the HSE Department/ Management Representative.
- Records of the actions taken and review of these actions are maintained by the HSE Department/ Management Representative.
- HSE Department/ Management Representative will verify the proper implementation of corrective and preventive actions taken.

Preventive Action:

- HSE Department/ Management Representative and Department Managers are responsible for taking preventive actions appropriate to the effects of the potential problem.

- All records and results relating to the Management System from data analysis shall be used as input for preventive action
- The results of Internal Audit non-conformances, HSE non-conformances, supplier performance reports, results of test of emergency preparedness and response, training effectiveness evaluation, incident investigation results, safety meetings, monitoring of HSE Management Programs form the basis for identifying the potential non-conformities and taking appropriate preventive actions.
  Preventive actions shall address:
  - Identification of potential non-conformances
  - Root cause of potential non-conformances
  - Preventive actions taken
  - Review of effectiveness of the preventive actions taken.
- The details of preventive actions taken are recorded in the Improvement & Analysis Report (Preventive Action) by the HSE Department/ Management Representative.
- Records of the actions taken and review of these actions are maintained by the HSE Department/Management Representative.
- HSE Department/Management Representative & Department Managers will verify the proper implementation of preventive actions taken.

4.12 HSE PLAN REVIEW AND UPDATE

The HSE Plan will be subject to periodic review with the management and updating as the project evolves to reflect a change that may occur. Review shall reflect base on the monitoring and measuring HSE performance on a regular basis and the key characteristics of its operations and activities that can have a significant impact on the HSE system. It should be carried out at least annually to ensure to ensure its continuing suitability, adequacy and effectiveness. Reviews shall include assessing opportunities for improvement and the need for changes to the HSE system, including the HSE policy and HSE objectives.

4.13 DOCUMENT CONTROL AND RECORDKEEPING

Procedures shall be established and maintained for the identification, maintenance and disposition of EHSMS records including results of audits and reviews. All records must be legible, dated, identifiable and traceable to the activities involved. They must be stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration or loss. Their retention times must be established and recorded.

Records may also be kept in electronic format as long as they fulfill the above conditions. Data integrity and security, including back-up data, must be ensured.

The procedures must indicate the process for revision of documents and disposition of obsolete documents.

The documents relevant to this HSE Management System include the following:

- HSE MS Manual
- HSE Policy Statement
- HSE Plan (Safety Plan)
- HSE Procedures, Guidelines and Codes of Practice
- Work Instructions
- HSE Standard Forms and Checklists
- Audit Results
- Management Review
- External Documents
- Other HSE Records (results of inspections, minutes of meetings, training records, certifications, etc.)

5.0 WORK INSTRUCTION AND ARRANGEMENTS

Intecsa Industrial established plans and procedures for managing and mitigating risk associated with the activities and appropriate control measures should be in place and ensure the effectiveness.

5.1 SITE SECURITY AND ACCESS CONTROL

All **Intecsa Industrial** employee and subcontractor (if any) shall comply with **Intecsa Industrial** security plan and Client security requirements.
Only vehicles with valid security pass will allowed entering the site.
No alcohol, drugs and deadly weapons allowed at Project site.
Watchman responsible for safely and securely control access to the Project Site as well as to specific areas within the Site.

Access to Delivery/Supplier of Materials

Access will be granted to Delivery/Supplier, the stipulation being that they must comply with this procedure and with the information given in the Services HSE Induction pamphlet. Upon arriving at the Main Gate, the Delivery/Supplier will explain the purpose of their visit and present their credentials.

Each person will receive and read the HSE Services Induction pamphlet available at the guard, which will be provided at the gate entrance. Once the visit is completed, each person will present their copy of the Services HSE Induction pamphlet to the watchman at the main entrance.

5.2 PERMIT TO WORK PROCEDURE

A Permit to Work system is a safety procedure designed to protect personnel and plant. It consists of an organized and predefined safety procedure. It forms a clear record of all foreseeable hazards which have been considered in advance. **Intecsa Industrial** shall comply with Client Permit to Work Procedure while working at Project in accordance with Client Permit to Work System.
Workers associated with hazardous works shall be trained prior to starting the work.
Records of toolbox talk given shall be maintained.
Everyone involved must understand PTW requirements
Supervisor must ensure that PPE is worn by the workers at all times

PTW Requirement & Responsibility of Issue

PTW is required for hazardous and non routine activities like:
Hot Works – any work that could create any source of ignition that could result of fire and explosion.
Example of Hot work included but not strictly tough.

- Welding and Torch cutting
- Spark producing tools such as grinders, chippers, and electrical power drills
- Used of Non- intrinsically safe electrical or electronic equipment

Confined space entry - is identified as any area with limited means of access/egress, and the area is subject to oxygen deficiency, accumulation of flammable vapors, or any airborne contaminant that exceeds established Permissible Exposure Limits

Excavation - a man-made cut, cavity, trench, or depression formed by earth removal.

- Responsibility for ensuring a PTW is issued lies with the Main Contractor.
- Comply with all the safety regulations as applicable for different type of works.
- Activity for which PTW is issued must have Risk Assessment done.
- Method of Statement and Risk Assessment shall be submitted and Approved before work commence

Lock Out / Tag Out Permit

- The following is an example of an isolation procedure for securing machinery and equipment. It is essential that all contractors working on the same project are consistent with their lock out procedure to insure the safety of all employees.

- The purpose of a lock out procedure is to render inoperative electrical systems, pumps, pipelines, valves, equipment, machinery and all other such energy systems that may accidentally be energized or started up while employees are working on them or before they are mechanically ready and released for service.

- A person designated by **Intecsa Industrial** Site Manager shall be responsible for controlling and administrating the lock out program. The contractor's and/or subcontractor's supervisor representative will issue all locks and applicable tags to their foreman, general foreman, superintendents and employees as they are requested. The contractor's supervisor representative will maintain a lock and tag logbook. The supervisor representative will also monitor the Lock out Program.

- One option for the lock and tag logbook is the use of a Lock out/Tag out Permit The Lock out/Tag out Permit is used when the amount of energy control activities taking place is extensive or the scope of the energy controls is complex.

- An unauthorized employee who removes a tag or lock belonging to another employee or person, or overrides a tag or lock in anyway, shall be terminated immediately. Written authorization has to be obtained from the foreman, general foreman, superintendent and Project Manager of the responsible contractor when a lock has been left on a piece of equipment and the originator is not available for removal.

General Requirements for Safety Tagging / Lockout

- Only trained, skilled and qualified personnel shall perform tagging and lockout operations.
- All safety precautions shall be in place and verified that adequate protection is in place to safety performs the work tasks.

- Following completion of work protected by the lock out / tag out the system configurations shall be re-established and the lock out/tag out devices removed.

Validity of Permit to Work

- PTW is valid only for the day on which it is issued.
- It can be renewed provided the work is continued by same group of workers & at the same location.
- PTW must be signed by the area supervisor.
- Explain hazards involved & precautions to be taken to the workers concerned.
- Display PTW & safety notices in the area where work is carried out.

Cancellation of PTW

- Work Permit can be cancelled if the work is being carried out in an unsafe manner.
- Cancelled work permit shall not be reopened.
- PTW to be obtained to continue the stopped work.

Closing of PTW

- PTW shall be closed only after work is completed in all respect.
- Proper housekeeping shall be maintained during and after completion of work.
- Keep the record of issued PTW for at least six months.
- Ensure fire watch for at least **1 hour** after completion of hot work

5.3 TRAFFIC MANAGEMENT PLAN

This Traffic management plan describes how the **Intecsa Industrial** team proposes to safely manage vehicular and pedestrian traffic during the construction phase of the project

This Plan applies to all phases of the project. It outlines the commitment, responsibility and strategies to be employed to ensure compliance with environmental approvals, legal and other requirements of relevant authorities/stakeholders.

- Traffic management objectives and targets:
- Constraints and risks:
- Potential traffic impacts:
- Organization and responsibilities:
- Management controls and measures to be applied to reduce potential impacts:
- Auditing, inspections and plan reviews; and
- Reporting.

Definition

II : Intecsa Industrial

بـــن راشـــد
BIN RASHID
للنقليات والمقاولات العامة
Transporting & General Contracting Est.

HSE : Health Safety and Environment
EMS : Environmental Management System
AD : Abu Dhabi
EAD : Abu Dhabi – Environmental Agency
TPM : Traffic Management Plan

Responsibility

Management Representative (MR)/ Logistics

The EMR/HSE department has the responsibility and authority for;

- Ensuring that Traffic Management plan of the company is established and implemented
- Ensuring that sufficient resources are allocated for the proper implementation of the requirements of the EMS on traffic management plan
- Regularly reviewing the policy and effectiveness of the traffic management plan and programs and ensuring that necessary changes are made and communicated to all concerned individual
- Ensure subcontractors, service providers and other related personnel in the business operations to comply with the traffic management plan
- Conduct regular audits/inspection to check that this plan measures are being implemented

HSE Department

- Taking all reasonable measures to ensure that the requirements of EAD, AD Municipality, and all other regulatory and statutory are enforced.
- Promote awareness and ensure adequate measures are taken to minimize any potential risks.
- Training and inducting staff in HSE and ensuring regulations is understood.
- Taking disciplinary action where necessary.
- Monitoring tools, materials and equipment, which are adequate for the safe execution of the work

Intecsa Industrial Workforce

- Every employee has the responsibility to take reasonable care of the HSE requirements for themselves.

- Cooperate with the department supervision to enable full compliance with relevant legislation.
- Adherence to use PPE and implementation of the traffic controls plans.
- Abide by traffic management plans and control procedures.
- Report any incident or any non conformity to immediate supervision.

Sub-Contractor/Service Providers

- Subcontractor, service provider, and other individual involved in the business operation shall abide to the requirements and guidelines of this plan
- Adherence to use PPE and implementation of the traffic controls plans.

Procedure

Traffic Management Plans specify the road safety and traffic management measures that will be applied by the **Intecsa Industrial** whilst undertaking construction works. The TMPs are based on the principles and strategies of the HSE manual, and the obligations under the Project Agreement, Environmental Documents, and the requirements relevant Authorities/stakeholders. TMPs will include the associated construction staging drawings, and where required, temporary woks drawings.

Intecsa Industrial will prepare an individual TMP for each construction stage to be implemented within each section

Isolation of Work Areas

Intecsa Industrial will maximize the safety for the road users and workers by isolating the active work areas from live traffic. This will be achieved by either providing sufficient clearance between the wok area and adjacent travel lanes, or through the provision of temporary safety barriers.

The types of hazards may include; deep excavations, heavy plant/machinery, construction materials, and site office facilities, etc.

If the required clear zone distances cannot be achieved, the hazard will be removed or temporarily safety barriers will be installed.

Maintaining a safe environment for workers is critical, particularly when operating, nor near high speed roads.

Intecsa Industrial will implement the required traffic controls, reduced speed limits, containment fences, and temporary safety barriers.

Maintaining Access for Heavy vehicles

The loads carried by heavy vehicles vary, and oversize loads are transported regularly. These loads vary in width, height, length and mass.

The transportation of oversize loads is only permitted during daylight hours.

To facilitate the movement of these heavy vehicles **Intecsa Industrial** will:

- Give consideration to the movement of heavy vehicles and oversize loads
- Avoid traffic control operations at night so as not to disrupt night freight movements;
- Limit obstructions and restrictions on the roadways, and when required provide alternatives to maintain access for transport operators including oversize load movements

Construction Access points

- A number of construction access points will be implemented along the site and side roads to facilitate construction activities.
- **Intecsa Industrial** will ensure access points have safe intersection sight distance, are designed to accommodate the turning movements of the largest heavy vehicle, and are constructed of a suitable all weather surface with appropriate drainage
- Temporary traffic controls will be implemented to facilitate short-term transport operations and over dimension site deliveries.
- All access points will have a unique identification number that will be sign posted on the approach, and at the access point.

Speed Limit

- Speed limits on the site, unless otherwise stated, will be 30 kph.

- Speed limit affected by several factors like:
  - Dust or smoke reduces visibility.
  - Loose materials on the road surface.
  - Road geometry is of a lower standard
  - Deep excavations next to the road.

Traffic Control Devices

Traffic control to ensure a safe and efficient traffic flow, shall be done in a continuous manner and shall include but is not limited to: signs, hard barriers, delineation devices, warning lights, the use of flagmen or traffic controllers. Traffic control must comply with the requirements of AD EHS Regulatory Instrument Code of Practice 44.0 Traffic Management and Logistics. Before work commences, signs and devices at the approaches of the work area shall be erected in accordance with the installation plan in the following sequence: Daily inspection carried out by assigned traffic safety officer to identify significant changes or deficiencies on traffic control devises.

- Advance warning signs (erect approach and departure signs at the approaches of the work site)
- All intermediate advance and positional signs and devices required in advance of the taper or start of the work area;
- All delineating devices required to form the taper including the illuminated flashing arrow sign at the end of the taper where required (Install delineation devices and lane closures);
- Delineation past the work area;
- All other required warning and regulatory signs.

Intecsa Industrial acknowledges the importance of traffic control devices and how they influence safety for road users, in particular where temporary traffic controls are implemented at work sites. During all project phases, **Intecsa Industrial** will assess the need for traffic control device correctly, and conduct regular maintenance.

Emergency Arrangements

Emergency services will have continual access to **Intecsa Industrial** Site and the worksite; hence no specific facilities are required. A Traffic Controller shall assist emergency vehicles requiring entering and/or traveling through the worksite. Emergency services shall be notified.

Vehicle breakdown and/or crashes can cause considerable delay and congestion. Police communications will be requested, by the Emergency Response Superintendent, to render assistance where required.

Site Access

Work vehicles, plant and personnel entering and leaving the work site shall do so at the designated security gate. Drivers accessing the **Intecsa Industrial** Project are required to approach the site slowly and signal their intention. The site Access Control procedure sets forth additional requirements for site access.
The maximum speed of 30 km/h is enforced on site.

Pedestrian Access

For the busy work zone, area temporary pedestrian detour shall be identified or rendered unsafe due to the construction.

Detours and Diversions

At detours, traffic is directed onto another roadway to bypass the temporary traffic control zone.
Detours should be signed clearly over their entire length so that motorists can easily determine how to return to the original roadway.

At diversions, traffic is directed onto a temporary roadway or alignment placed in or next to the Right-Of-Way (ROW), e.g., median crossovers or lane shifts.

5.4 MATERIAL HANDLING AND STORAGE

An efficient handling and storage of materials are vital action in every activity carried out to ensure continuous flow of a certain operation and to avoid any potential undesirable circumstances.

All workforces involved should be trained and educate, applying general safety principles—such as proper work practices, equipment, and controls—can help reduce workplace accidents involving the moving, handling, and storing of materials. Whether moving materials manually or mechanically, workers should know and understand the potential hazards associated with the task at hand and how to control their workplaces to minimize the danger.

Awareness shall be given to the worker in handling and storage of materials of such factors as the materials' height and weight, how accessible the stored materials are to the user, and the condition of the area where the materials are being stored when stacking and piling materials. To prevent creating hazards when storing materials, responsible person must ensure storage areas free from accumulated materials that cause tripping, fires, or explosions, or that may contribute potential hazards. Responsible person (site supervisor) shall consider the importance of controlling hazards associated with materials handling and storing and hold them accountable for workers awareness that aims to motivate workers to continue using necessary protective gear and observing proper job procedures. Instituting such a program, along with providing the correct materials handling equipment, can enhance worker safety and health in the area of materials handling and storing.

Limitations of Safety Material Storage

Stacking materials can be dangerous if workers do not follow safety guidelines. Falling materials and collapsing loads can crush or pin workers, causing injuries or death. To help prevent injuries when stacking materials, workers must do the following:

- Stack lumber no more than 16 feet high if it is handled manually, and no more than 20 feet if using a forklift;
- Remove all nails from used lumber before stacking;
- Stack and level lumber on solidly supported bracing;
- Ensure that stacks are stable and self-supporting;
- Do not store pipes and bars in racks that face main aisles to avoid creating a hazard to passersby when removing supplies;
- Stack bags and bundles in interlocking rows to keep them secure; and

- Stack bagged material by stepping back the layers and cross-keying the bags at least every ten layers (to remove bags from the stack, start from the top row first).

During materials stacking activities, workers must also do the following:

- Store baled paper and rags inside a building no closer than 18 inches to the walls, partitions, or sprinkler heads;
- Band boxed materials or secure them with cross-ties or shrink plastic fiber;
- Stack drums, barrels, and kegs symmetrically;
- Block the bottom tiers of drums, barrels, and kegs to keep them from rolling if stored on their sides;

- Place planks, sheets of plywood dunnage, or pallets between each tier of drums, barrels, and kegs to make a firm, flat, stacking surface when stacking on end;
- Chock the bottom tier of drums, barrels, and kegs on each side to prevent shifting in either direction when stacking two or more tiers high; and
- Stack and block poles as well as structural steel, bar stock, and other cylindrical materials to prevent spreading or tilting unless they are in racks.

In addition, workers should do the following:

- Paint walls or posts with stripes to indicate maximum stacking heights for quick reference;
- Observe height limitations when stacking materials;
- Consider the need for availability of the material; and
- Stack loose bricks no more than 7 feet in height. (When these stacks reach a height of 4 feet, taper them back 2 inches for every foot of height above the 4-foot level. When masonry blocks are stacked higher than 6 feet, taper the stacks back one-half block for each tier above the 6-foot level.)

5.5 HSE SITE RULE

This HSE rules apply equally to every employee of **Intecsa Industrial**, have an obligation to provide a safe working environment as far as is practicable and in there are obligations on employees to cooperate with the employer in employer's provision for occupational health and safety in work place.

- All employees to attend HSE Induction training prior mobilization at site.
- Comply with HSE rules and regulation at Project site (e.g. wearing of PPE)
- Comply with housekeeping rules
- Comply with the STARRT for certain activity as per approve method of statement
- Know what to do in case of emergency (e.g. Fire)
- Comply with site speed limit at Project site (30kph)
- Comply with Security rules and regulation
- Comply with No Alcohol and Drugs Policy
- No smoking in workplace
- No Horseplay
- Observe all sign

A breach of any one of these rules may result in serious injury of one or more people. Therefore the key personals have the duty and authority to take appropriate disciplinary action after violation of any of these rules.
Stopping of Work and Prohibition of Unsafe Practice and Environmentally Damaging Acts.

The Consultant Representative shall have the right to suspend work being performed by the contractor has or is about to violate statutory or *AD EHSMS Regulatory Instrument*. The cost of such stoppage of work in this regard will be shoulder by **Intecsa Industrial** Management.

5.6 HSE EMERGENCY PREPAREDNESS AND RESPONSE PLAN

Intecsa Industrial Management has identified incidents arising from abnormal operations activities, potential accidents and emergency situations, and has established, implemented and maintains an emergency preparedness and response plan to ensure appropriate response if these situations arises.
The plan includes instructions that describe the actions to undertake in order to mitigate the environmental impacts and risks associated to the identified situations such as:

- Fire fighting , clean up , evacuation and shut down emergencies
- Potential of falling objects or injury
- Damage to property
- Electrical shock

The plan shall be reviewed after the occurrence of an incident or emergency situation, and revised if necessary.
The plan shall be tested at least once a year and such drill / test results are recorded and maintained. The plan shall be re-evaluated after the real incident takes place.

Intecsa Industrial has EHSMS procedures to identify potential and respond to incidents, emergency situations, for preventing & mitigating the likely environmental pollution and safety risks associated with it.

Emergency response planning is a structured process, requiring arrangements to be in place, which relates to likely emergency scenarios. The process describes the identification of events, which could give rise to a major incident involving fire or explosion or other events, which may require evacuation.
Intecsa Industrial Top management has established processes and procedures to:

- Identify potential accidents and emergency situations and controls necessary to prevent their occurrence; Accident.
- Assess the risks to the business unit;
- Develop and implement action plans to respond to accidents and emergency situations to prevent and mitigate the environmental impacts that may be associated with them;
- Develop an escalation matrix or similar tool that shows clearly what people or functions need to be contacted in the event of an incident;
- Identify an Emergency Team that will be responsible for analyzing and communicating information, making decisions, and coordinating action;
- Periodically review and revise, where necessary, its emergency preparedness and response procedures in particular, after the occurrence of accidents or emergency situations;
- Periodically test such procedures.

Intecsa Industrial has implemented an incident management procedure to effectively handle incidents involving public health & safety and environment, natural or man-made disasters.
Management ensures effective interface for incidents into the corrective and preventive action system, as appropriate.

Intecsa Industrial has clearly defined a documented procedures for site evacuation and emergency procedures.
The following procedures describe actions to be taken whenever an emergency incident occurs;

- Fire evacuation and fire fighting
- Property Damage
- Electrical Shock
- Oil or used oil spillage
- Insect Bites

- Chemical Contact

- Scaffold Collapse
- Crane Collapse
- Confined Space

5.6.1 Emergency Preparedness Procedures

To facilitate the reporting of emergency situations the Safety Officer shall arrange for the following emergency telephone numbers to be displayed on site and updated regularly:

Emergency Co-coordinator (TBA) ---------- **TBA**

Emergency Hospital: (TBA) ---------- **TBA**

Civil Defense ---------- **999**

Ambulance---------- **999**

Police---------- **999**

In addition the Safety Officer shall arrange for the off-duty contact telephone numbers of the Project Manager, Safety Staff and Construction Manager to be available on site.

CONTACT PERSON	DESIGNATION	CONTACT No.
TBA	Project Director	TBA
TBA	Project Manager	TBA
TBA	Construction Manager	TBA
TBA	Site Manager	TBA
TBA	Site Admin Manager	TBA
TBA	HSE In charge (Manager)	TBA
TBA	Environmental Manager	TBA
TBA	HSE Officer	TBA
TBA	Environmental Officer	TBA

In order to ensure an appropriate response to an emergency situation, an adequate number of suitably trained site personnel, who are competent in the use of firefighting equipment and provision of first aid, shall be appointed.

The HSE Officer shall liaise with the Civil Defense, Police, Hospitals, Ambulance Services and other authorities to ensure that emergency procedures are in place for action to safeguard staff, the works and the public in the event of an emergency situation

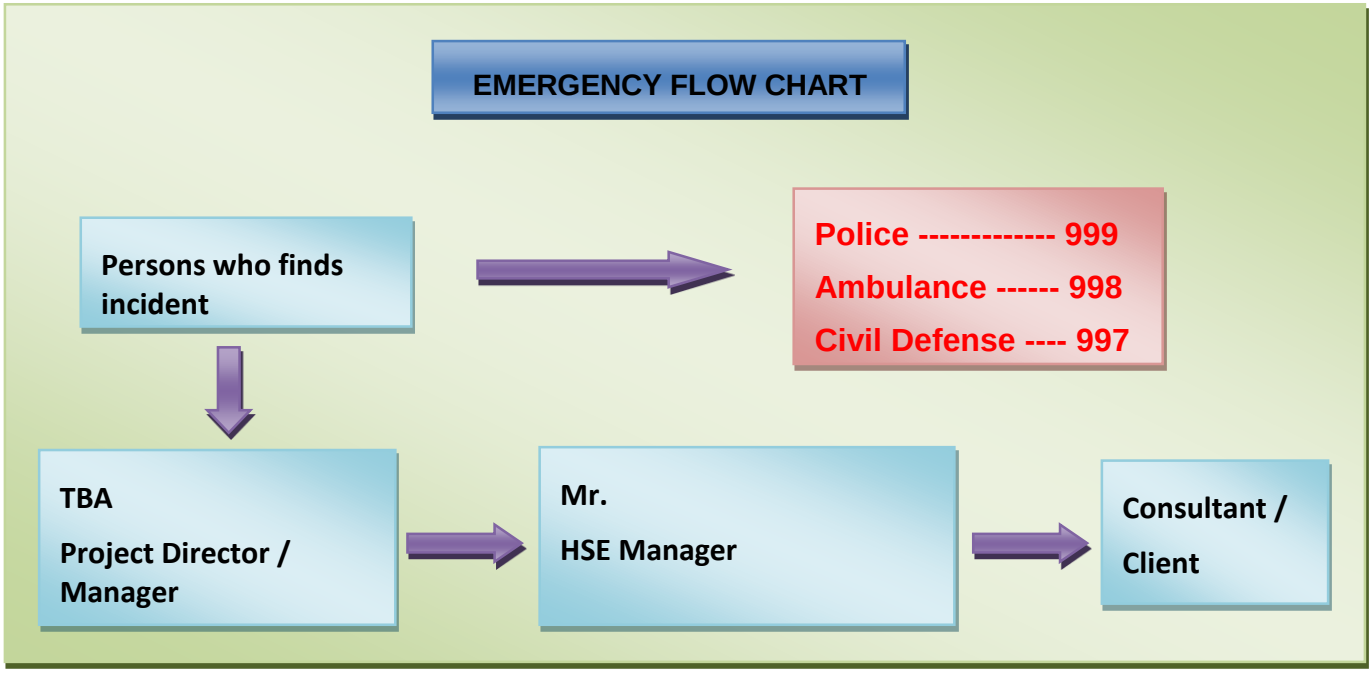
All emergency/rescue teams shall participate in regular simulated emergency drills of various types, organized by the HSE Officer. The intervals between such drills shall not exceed two months.

Register all employees with the Department of Labour, as per UAE legislation and that all claims are handled confidential and without delay.

Have a procedure in place to handle emergency medical rescue operations.
Introduce adequate means to protect assets against fire and theft.

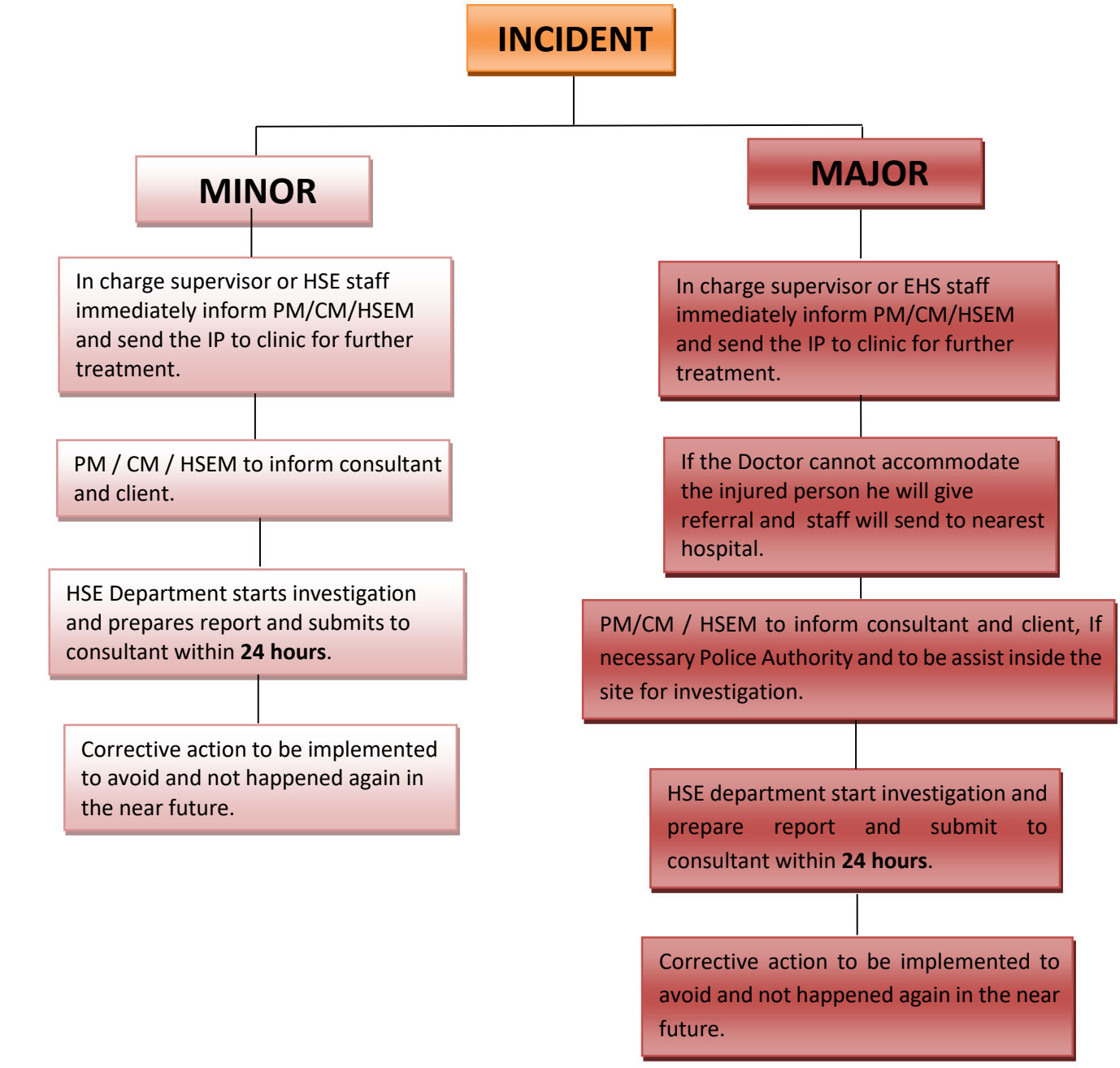
Assist the project in preventing access for any unauthorized persons especially publics attempting to access on the project site and secure the health and safety of any authorized visitors shall be implemented. These arrangements shall be included in the Safety Management Procedures.

بـــن راشـــد
BIN RASHID
للنقليات والمقاولات العامة
Transporting & General Contracting Est.



بـــن راشـــد
BIN RASHID
للنقليات والمقاولات العامة
Transporting & General Contracting Est.

INTECSA INDUSTRIAL EMERGENCY RESPONSE PLAN FLOW CHART



بـــن راشـــد
BIN RASHID
للنقليـات والمـقـاولات العـامـة
Transporting & General Contracting Est.

1. **Emergency Numbers**

A) Civil Defense Emergency No ---------- 999

B) Abu Dhabi Police---------- 999

C) Emergency Hospital :----------(TBA)

D) ADWEA Emergency Nos. (Electricity)---------- 02 554 4866

(Water)---------- 02 554 6300

E) Abu Dhabi Municipality Tel No. ---------- 02 678 8888

Fax No. ---------- 02 677 4919

2. The Receptionist shall maintain and provide a list of contact numbers of employees around the premises and Posts main telephone numbers of Police, Civil Defense, and Ambulance and nearest Hospital
3. The EHS Department shall prepare clear instructions regarding Evacuation Plan of the building in case of fire.
4. Emergency exit doors in the work place shall be properly identified.
5. **Intecsa Industrial** has a special layout diagram for each site / premises that shows exits and assembly points.
6. Assembly points are identified in various locations within the sites;
7. Supervisors/foramen will act as Fire Marshals. The role of fire Marshals is to ensure that no single employee remains at work when they hear the alarm. Fire Marshal will record any employee name that refused to leave work. Fire Marshal will direct people to the nearest exit.
8. The HSE Department will call all fire Marshals for a meeting and explain their roles and request for their commitment.

- ***Damage of Property***

1) Upon discovering any property damage or incident, notify the HSE Department.
2) Secure the site.
3) The HSE Department shall ensure the safety of staff working in the same area by evacuating staff to the nearest assembly point
4) Other assets around the damage area shall be safeguarded from further damage.
5) Any electrical power shall be cut from the area being affected avoiding any deterioration or escalation of incident impact

- ***Electrical Shock***

1) Speed is essential in dealing with electrical shocks and quick response must be made
2) Cut electrical power immediately
3) Report incident immediately to EHS Department
4) Call for medical emergency as it requires immediate medical treatment

- ***Oil spillage***

1) Chemical spills should be cleaned only by trained personnel
2) Always read and follow labels carefully
3) Use the proper Personal Protective Equipments
4) Ensure that special signs are placed to avoid slippery of people if applicable.
5) Used absorbent material (sand) to absorb the spill
6) Collect the contaminated sand.
7) Put the contaminated sand in special containers and are segregated from normal waste.

8) Disposed the contaminated sand as special waste with an approved waste contract.

- ***Insect Bites***

1) Stop Bleeding

- Apply direct pressure until bleeding stops.

2) Clean and Protect

- For a wound or superficial scratch from an animal bite:
- Gently clean with soap and warm water. Rinse for several minutes after cleaning.
- Apply antibiotic cream to reduce risk of infection, and cover with a sterile bandage.

3) Get Help

- Get medical help immediately for any animal bite that is more than a superficial scratch or if the animal was a wild animal or stray, regardless of the severity of the injury.
- Continue reading below...
- If the animal's owner is available, find out if the animal's rabies shots are up-to-date. Give this information to your health care provider.
- If the animal was a stray or wild animal, call the local health department or animal control immediately.

4) Follow Up

- The health care provider will make sure the wound is thoroughly clean and may prescribe antibiotics.
- If there is any risk of rabies infection, the health care provider will recommend anti-rabies treatment.
- The person may require stitches, depending on the location and severity of the animal bite.
- The person may also require a tetanus shot or booster.
- The health care provider may recommend ibuprofen or acetaminophen for pain.

- ***Chemical Contact***

1) Skin Contact:

- Drench the affected area with clean running water for at least 10 minutes and until no chemical remains in contact with the skin.
- Remove contaminated clothing, which is not stuck to the skin, as soon as practicable after commencement of washing.
- If there is any injury cover with clean, non-fluffy material to protect from infection and, or if skin absorption is suspected, transfer casualty to hospital.

2) Eye Contact:

- Flush the eye with clean running water for at least 10 minutes.
- Obtain medical examination of the affected eye.

3) Ingestion:

- Do not make the casualty vomit.
- Wash out the mouth with water.
- Give 1 pint (500 ml) of water to drink.
- Transfer casualty to hospital.

4) Inhalation:

- Remove the casualty from exposure.
- Rest and keep warm.
- If the casualty has been seriously affected obtain medical attention.

Scaffold Collapse

1) Upon discovering scaffold collapse, notify the HSE Department.
2) Secure the site.
3) Advice the exact location of the incident and any other relevant information you have
4) Assist others who may need assistance. If you cannot assist others direct emergency personnel to them
5) Call for medical emergency as it requires immediate medical treatment

Crane Collapse

1) Should a crane tip over or a crane boom collapse, immediately turn off electrical generators and water supply. When approaching the crane ensure there is no danger from further collapse of the equipment or the load or any other hazards that may be present (e.g. power line contact).

2) Personnel safety is most important and takes precedence over any property damage concerns. If there are any injuries, immediately summon first aid and, if necessary, an ambulance. If the operator can be safely removed from the machine without further injury, do so. If the operator has injured their back or neck do not attempt to remove them from the machine - wait for the ambulance.

3) Do not change anything at the accident location except to prevent further injury. Immediately call the office and inform the project manager or EHS Department of the occurrence.

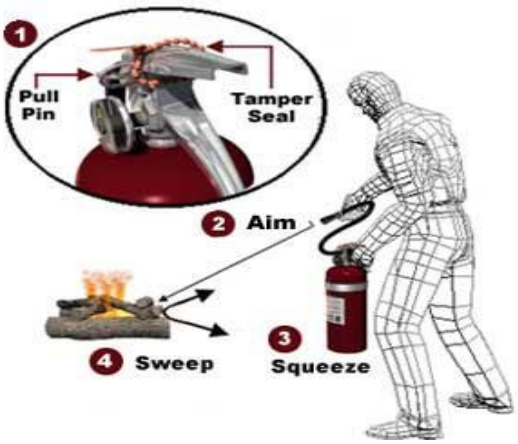
Confined Space

1) Harness to be worn / available with safety line securely fastened to a solid support outside the vessel
2) A standby man must be in attendance outside the vessel in a position to observe person(s) working inside the vessel
3) Standby man must be in contact with the control room
4) The communication system must be tested and maintained
5) Breathing apparatus (suitable) and safety harness must be at hand outside the vessel and tested before entering vessel

6) On hearing the works or plant emergency alarm or deterioration of conditions in or around the vessel, standby man must instruct person(s) to immediately leave the vessel, inform the control room and proceed to a safety assembly point. Entry permit must be cancelled and re-entry prohibited until re-issued by plant management
7) If inside man is unable to leave the vessel unaided, standby man should immediately call Operations / Emergency Services for additional breathing apparatus, safety harness and assistance
8) The second man will then assist the standby man to pull man out of the vessel. If a lifeline was not being worn the standby man will prepare to enter the vessel wearing breathing apparatus and lifeline tied to a solid support. The second man will hold the lifeline and keep the wearer under observation until assistance arrives from Security Department.
9) If breathing apparatus was not being worn by the inside man then a set should be taken into the vessel by the standby man affecting the rescue. Fit BA onto injured person and stay with him until security arrive.

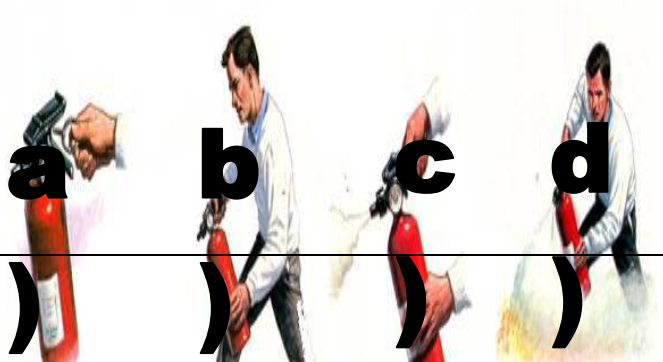
Use of Fire Extinguisher

A. Parts of a Fire Extinguisher:



B. Operation:

- Pull the PIN (Lock)
- Aim the NOZZLE (to the base of the fire)
- Squeeze the HANDLE



- Sweep the NOZZLE side to side

C. Fire Fighting System

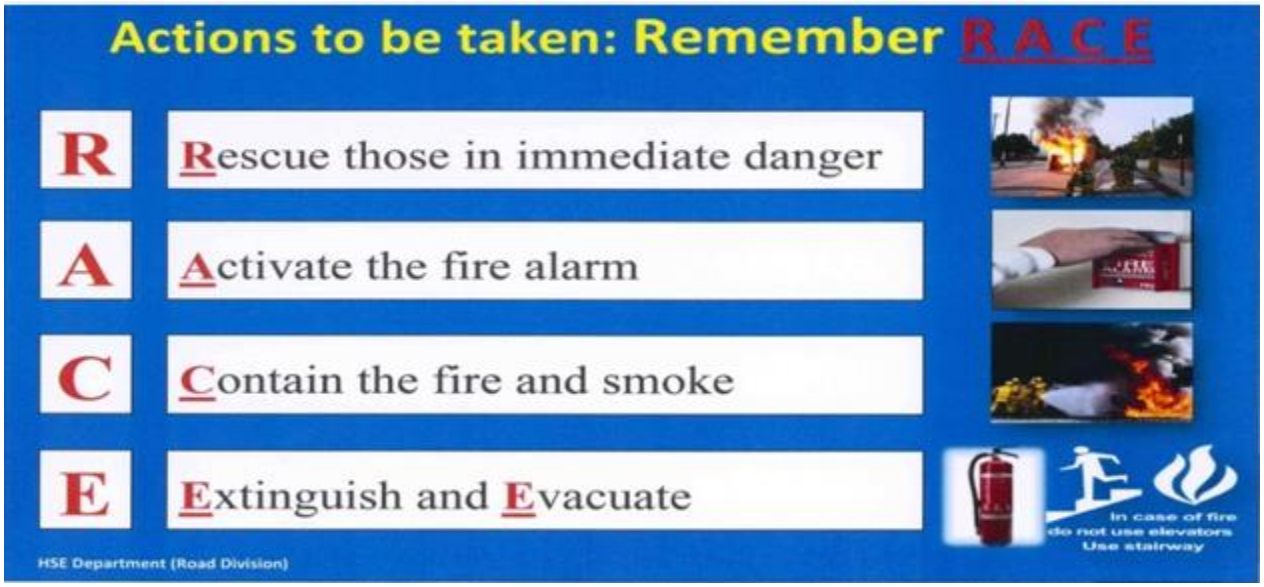
The fire fighting system should be available at all times e.g. Fire Extinguisher, fire blanket (for Hot work activities), fire water tanks, etc.

All company's fire extinguishers and fire fighting system are maintained by external supplier.

Fire extinguishers at site are located at all fire point areas including vehicles and equipments are adequately equipped with appropriate fire extinguisher.

Fire extinguisher shall be visually inspected and documented monthly, defective units are to be taken out of service. A current inspection tag shall be displayed on each fire extinguisher.

D. RACE



5.6.2 First Aid Arrangements

This plan is to provide guidance to all employee of **Intecsa Industrial** on the provision of first aid in our workplace in compliance with AD EHS - RI - Code of Practice 4.0 – First aid and Medical Treatment

We are committed to provide a safe and healthy environment workplaces to our all employees and to appoint a qualified first aiders in able to ensure our site premises will have access to first aid assistance if injury or illness occur.

- Availability of first aid boxes at service vehicles of trained and certified First Aiders at site mostly site supervisors, site engineers and site safety officers. Listed below names of certified first aider with their contact number and attached certificate.
- Medicines will be stored in site clinic (locked on cabinets).
- First aid boxes will be equipped with all necessary first aid equipments.
- In case of serious injury, the victim will take to Hospital by Site Ambulance.
- Emergency Contact List will be displayed on strategic location (Site Offices, Security Gates, EHS Notice Boards, Lay down Area (if any), Garage/Workshops).
- Emergency response topic will be discussed during EHS induction and trainings and to be briefly discussed in daily toolbox meeting.
- Such First Aid cases shall be reported and recorded.
- First aid facilities provided inside the Site Office Clinic (First Aid Room) are as follows:

1. Portable Oxygen Equipment
2. Dressing(s) with bandage(s)
3. Adult Stethoscope
4. Thermometer with low temperature capability
5. Gluco-meter
6. Medicine(s) with locker
7. Examination Table
8. Blood Pressure apparatus
9. Syringes
10. Rubber hot water container
11. Refrigerator
12. Chairs
13. Office Furniture (for nurse)
14. Toilet & Hand Washing Facility
15. Blanket, Bed Sheets and Pillows
16. Spine Board & Stretcher

- Monthly inspection on first aid boxes shall be carried out and record shall be keep at HSE Department.

5.7 MANUAL HANDLING OPERATION

Responsible person must ensure that specific requirements and procedures for manual handling activities should adhere to avoid any possible injuries such as back injury. Includes designing work methods, to eliminate so far as reasonable practicable, the need for workers to manually handled heavy materials.

Mechanical aids shall be designed into work methods with adequate access to eliminate the need for workers to over exert or over stretch or responsible person shall conduct risk assessment and must be observed accordingly. STARRT session shall also conduct with the workers prior activity commences.

Significant factors should be considered during the assessment of Manual handling Operations:

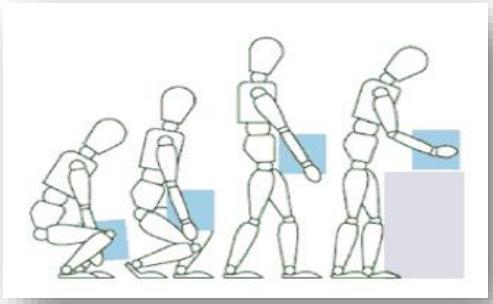
The Task

Do they involve?

- Holding or manipulating the loads at a distance from the body?

- Unsatisfactory bodily movements or posture, especially:
  - Twisting the trunk
  - Stooping
  - Reaching upward or overreaching
- Excessive movement of loads, especially:
  - Excessive lifting or lowering of loads
  - Excessive carrying distance

  Excessive pulling or pushing of loads
- Risk of sudden movement of loads
- Frequent or prolonged physical effort
- Insufficient rest or recovery period
- A rate of work imposed by the process



The Loads

Are they heavy; bulky or unwieldy; difficult to grasp; unstable or with contents likely to shift, sharp, hot or potentially damaging?

The Working Environment

Are There?

- Space constraints preventing good posture
- Uneven, slippery or unstable work surfaces
- Variation in level of work surfaces
- Extremes of temperatures or humidity
- Conditions causing ventilation problems or gusts of wind
- Poor lighting conditions

All workers involved must be adequately trained to understand the consequences in performing their task, it should overview on back injury prevention, stretching and correct lifting methods. Topics that can be included to manual handling and back injury prevention such as:

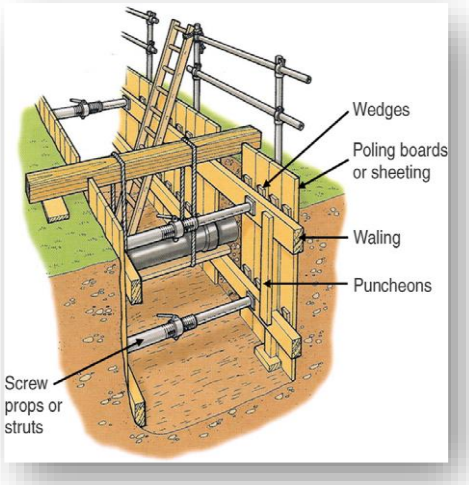
- Potential hazards (job or task specific)
- Unfamiliar handling operations
- Proper use of handling aids (tools, equipment)
- The working environment and personnel safety
- Housekeeping
- Factors affecting individual capabilities
- Good handling techniques

5.8 MECHANICAL PLANT AND EQUIPMENT

- No mobile plant (mechanically propelled vehicles) shall carry passengers unless a proper fixed seat is provided for that purpose.
- All driver and passenger seats shall be fitted with seat / lap belts.
- Mobile plant (mechanically propelled vehicles) must be parked on firm level ground when unattended, the engine stopped, brakes on and any load or attachment lowered to the ground and the keys are left in the ignition.
- No mechanical plant or equipment shall be mobilized on site or operated on any area of the Project without the permission of Client.

- All items of mobile plant (mechanically propelled vehicles) shall be fitted with a reverse warning audible alarm, reversing lights, rotating beacons (orange color), fire extinguisher and seat belts.
- Mobile equipments used in live areas where space is constrained shall be fitted with boom and slew limiters subject to the permit to work.
- All drivers / operators of mobile plant (mechanically propelled vehicles) shall strictly obey the instructions of the site security, traffic regulations and speed limits.
- A banks man shall be in attendance during all hazardous reversing procedures.
- All mobile equipment (mechanically propelled vehicles) shall be inspected by a competent person appointed by **Intecsa Industrial** prior to use on site.
- A programme of regular, preventative maintenance shall be established by the **Intecsa Industrial**, as per the manufacturers' handbook, to ensure that all plant equipment is systematically inspected, maintained and repaired as necessary.
- All drivers and operators of mobile plant (mechanically propelled vehicles) shall be in possession of the appropriate driving license for the class of vehicle and certification for operation of the vehicle.
- All drivers, operators and banks man of mobile plant (mechanically propelled vehicles) and static plant shall be trained by **Intecsa Industrial**.
- Machine Operators are expected to have a minimum of 2 years experience.
- Daily inspection carried out by the operator/driver and record to be submitted to HSE Department

5.9 EXCAVATION



- No wooden ladders shall be use on the site, use alternative ladders such as (i.e. aluminium, fibreglass)
- Whether inside or outside restricted areas, it requires excavation certificate and PTW from the HSE Department.
- Exposure of any suspected under-ground services shall take place only by hand digging.

- Sloping / benching are required for excavations of a depth greater than 1.2 meters. No wooden ladders are to be used. Ladders are to be placed at 15m intervals and secured tied.
- Temporary crossing for personnel shall be provided over any trench in excess of 0.5 meters in depth. Due to the number of open trenches expected on the construction site at various stages of the construction activities this will be monitored and risk assessed. Based on the outcome of the assessments the depth of trenches for which crossings must be provided might be decreased.
- All pits, trenches, and excavations shall be roped off and provided with barricades, suitable warning signs. Flashing lights will be provided at the edge of excavations where the excavations are situated next to roads and where it poses a threat to vehicle, plant and equipment movement on site during hours of darkness.
- **Intecsa Industrial** shall ensure that the neighbourhood or public are protected from activities involving cofferdams and caissons by setting up fenced and clear warning signs are displayed.
- Public footpaths and rights of way shall be protected wherever reasonably practicable or alternative public access shall be provided.
- Risk Assessment carried out by **Intecsa Industrial** HSE Department shall take into account the safety of the general public and ensure the control measures are put in place so that the public are not exposed to risks associated with the work.

Prior to starting any trench or excavation work, the proposed works shall be adequately assessed and planned to ensure that they are executed safely and without risks to health and safety. The factors to be considered include:

1) A thorough survey of the area to determine the presence of any underground or overhead services. The survey shall include a review of drawing provided by the project site management, and a physical survey using service locating equipment.
2) The nature and stability of the material being excavated and the need for temporary support of walls and/or roof.
3) The effect of excavation of nearby structures.
4) The foreseeable presence of hazardous contaminants.
5) The proximity of mobile plant.
6) The provision of edge protection to prevent materials, plant and personnel falling into the excavation.
7) Access and egress.
8) Flooding.
9) Ventilation.

5.10 LIFTING EQUIPMENT AND LIFTING OPERATION

Intecsa Industrial lifting operation equipment shall be inspected and certified "fit for use" by approved 3rd party agency.
Only lifting operation equipments that are certified and colour coded according to Ministerial Order 32, colour coding specification shall be used at Project work sites.
Record of all the checks, inspections and certificates shall be maintained at site premises.
The **Intecsa Industrial** Operators involved or assigned to lifting operation activities must be trained and certified by an approved 3rd party agency and with the presence and assistance of trained and certified "Rigger" and "Banks Man".

The Lifting / Rigging Supervisor must:

- Be competent and must be in possession of valid and relevant certification.
- Identify lift categories and must ensure all appropriate preliminary activities and controls are in place. In the case of non-routine/complex lifts, this shall include participation in the assessment and planning of the operation; consultation and dissemination of information and plans with others where necessary.

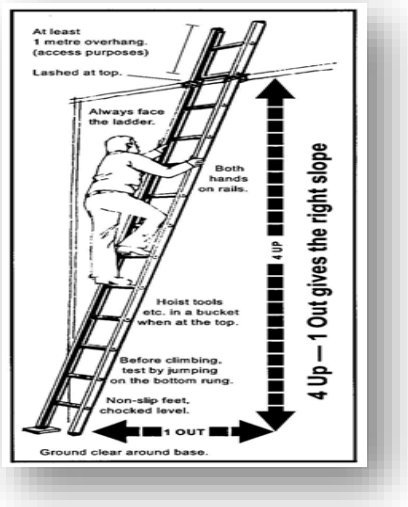
- Ensure changes to the lift plan are evaluated and those that are significant are implemented to ensure the continued mitigation of risk to ALARP levels. Where necessary, and prior to activity commencement, further consultation with participating entities and personnel shall be undertaken
- Ensure the competence of all personnel involved in the activity is commensurate with their designated tasks.
- Ensure a Task Risk Assessment is in place that is suitable and sufficient and a TBT is conducted before lifting activities are to be undertaken.
- Inspect the lifting equipment prior to the commencement of the activity and ensures technical requirements are being adhered to.
- Coordinate and control the lifting activity.
- Not physically operate equipment during the lift.
- In conjunction with the equipment operator, determine when to suspend lifting operations if the wind speed has reached the safe operating limits (as set out in the crane operating manual / technical passport)

Mobile Cranes

- All cranes will carry relevant test certificates and thorough examination reports, together with the manufacturer's handbook. This documentation will be submitted to the Client for inspection before shipment to site.
- Only trained persons who are licensed competent and authorized will be allowed to operate cranes. The project management will be able to prove, to the satisfaction of the Client, the competence of their employees to operate such equipment prior to its use.
- Crane operators or other competent persons will carry out daily inspections and enter these in the crane register. A maintenance program, in accordance with manufacturer's specifications is in place for all project cranes and equipment.
- Travel routes for cranes and crane standing will be agreed with a responsible person of the Client in order to avoid such things as overhead lines and other structures, underground services, excavations, made up ground, etc.
- Crane capacity charts (Load Radius Tables) will be displayed on or be available in the crane for easy reference.
- All cranes will be fitted with:
  - A safe load indicator
  - A reverse warning audible alarm
  - Crane hooks with Safety Catches
  - All of which will be serviceable.
- Rigging and de-rigging of any crane components, including fly jibs, will only be done under the supervision of a competent lifting supervisor and to manufacturer's specifications.
- A lifting supervisor will be appointed to oversee all lifting operations.
- The Client must ensure that adequate ground bearing capacity is available for all lifts carried out on the project

5.11 LADDERS

- Wooden ladders will <u>not</u> be used on site; (as an alternative fibreglass or aluminium) can be used; However aluminium <u>shall not</u> be used on areas where electricity are present.
- Damaged ladders shall be removed from the job site, and repaired or destroyed.
- Ladders must not be painted.
- Ladders should only be used as a last resort.
- Only one man can be on a ladder at a time.
- Do not use a stepladder to gain access to roofs or other elevated surfaces.



- Fully open the stepladder on four legs and never lean it against walls for support.
- Never stand on the top step.
- Extend 0.9 meter (3-feet) above the landing.
- Set at a 4:1 slope (vertical / horizontal).
- Tied off to a secure structure
- Overlap ladder sections by 1.2 meters (4-feet) up to 11 meters (36-feet) in length. Overlap ladders by 1.5 meters (5-feet) up to 14.6 meters (48-feet).
- Put a man at the ladder base to hold it steady.
- Do not carry tools or material. Lower or raise tools or material by a rope and / or bucket. Keep both hands free for climbing the ladder.
- Do not lash or tie ladder sections together.

Inspection of ladders

- Every ladder should carry an identification mark, as detailed above. A written record should be kept of all inspections, defects and repairs.
- A colour code system shall be used and the colour changed every 6 months as a minimum (unless the client stipulates a shorter period)
- Wooden ladders must not be painted or otherwise treated in any way and that would hide or conceal any defects. They may be treated with a transparent coating such as shellac, varnish or clear preservative

During the inspection of ladders attention should be paid to the following points.

There should be no:

- Damaged or worn stiles, particularly at the head or foot of the ladder
- Broken, missing, loose or worn rungs
- Mud or grease on the rungs
- Rungs supported solely by nails, screws or spikes etc.
- Movement in the rungs or stiles
- Decayed timber or the corrosion of fittings
- Insecure tie-rods
- Warping, sagging or distortion; check that the ladder stands firmly

The condition of any ropes and cords, along with pulleys, hinges and any other fittings, should be checked for fraying to ensure that they are all secure with no sign of damage.

5.12 HOTWORKS OPERATION

Specific precautions outline below to be taken prior to and during any hot work operation to prevent the possibility of fire and explosion, which may results to harm to persons involved in the activity and any person affected or damage to property.

5.12.1 Welding and Cutting

- Equipment for welding and flame cutting shall comply with approved standards.
- Ignition of oxy-acetylene or propane torches must only be made using the “gas lighters” (friction lighters)
- Personnel engaged in welding, cutting, chipping and grinding operations
-
-
- must wear the appropriate protective clothing / equipment such as welding aprons/bibs and full face shields are to be provided and be competent in their use and proper documentation.
- Where gases / fumes are produced, they must be effectively disposed of either by natural ventilation or forced mechanical extraction ventilation.
- No welding or cutting may be done without a method statement and hot work permit.
- When working at a height, precautions must be taken to prevent welding rods and spent stubs from falling.
- Blowpipes and hoses must not be left in vessels or enclosed spaces, when they are not in use, e.g. during a meal break or overnight.

- Pressure regulators that filter the gas and provide a constant delivery pressure shall be provided also flashback arrestors shall be used.
- All welding sets, cables, connectors and terminators must be maintained in good condition.
- Welding / cutting cylinders when in use shall be clamped vertically or in a suitable trolley.
- Diesel driven welding sets must be approved for the area in which they are used. Machines must not be refuelled whilst in operation.
- For all AC welding transformers, the transformer low voltage winding must NOT be earthed, but the transformer case must be effectively bonded to an earthting system adjacent to the equipment.
- Fire fighting equipment such as fire extinguishers, fire hoses etc, shall be kept available at hot work area.

Competent Person

For the purpose of this procedure any Subcontractor company involved in W/C operations on site, shall appoint a competent person, approved by **Intecsa Industrial**, to have overall control of the W/C operations.

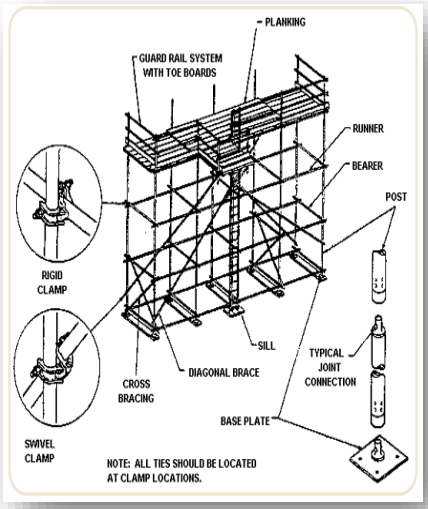
His duties shall specifically cover:

- Assessment and planning of W/C with regard to the selection of Safety gear, equipment, instruction and supervision
- Ensure that the equipment selected has been adequately inspected and maintained.
- Ensure that an effective procedure is in place for reporting defects, taking into account remedial actions.
- Taking responsibility for the organization and control of W/C operations
- Stopping any unsafe operation and reporting any incidents.

5.12.2 Compressed Gas Cylinder

- Storage areas for both full and empty cylinders shall be purpose-built secure Compounds in the open air, shaded and fenced to a height of two meters.
- Gas cylinders should always be kept and stored in a safe location and not present any risk to the surroundings.
- Gas cylinders shall be colour coded in accordance with the content and as per the international colour code system such as BS 349 and 1319.
- Only hoses that conform to BS 5120 shall be used to connect welding and cutting torches to the gas cylinders.
- Hoses shall be new, in very good working condition and comply with the following colour coding:
    - Blue for Oxygen
    - Red for Acetylene
    - Orange for Propane
- Flashback arrestors must be installed on both oxygen and fuel gas lines.
- Travelling with equipment attached to the cylinders is prohibited. Protective valve caps are to be fitted where provided.
- Whenever gas cylinders are to be left unattended, valves shall be closed and the line drained.
- The main cylinder valve shall always be kept shut during transit and valve protection guards or caps shall be fitted when in use shall be secured in upright position or in a cart.

- Safe work practices shall always be applied when working and dealing with gas cylinders and the necessary caution / safety signs are provided.



5.12.3 Scaffolding:

- All scaffolding to be used by any project personnel must be manufactured to International Standards, and be erected in compliance with BS5973:1993 ANSI or Equal and Working Scaffolds, and special scaffold structures in steel.
- Scaffolding will not be disturbed or altered by any unauthorized persons. Where alterations are required Authorized Scaffolders will carry out the work under competent person supervision using experienced scaffolders.
- Where materials are to be positioned on scaffolding the Client must ensure that the scaffolding has been designed to carry the load, is of adequate strength and is not overloaded.
- Scaffolds will be inspected at weekly intervals by the authorized scaffold inspector who will sign and date the "Scaffold Tag" after each inspection. Scaffolding not considered safe will have the scaffold tag withdrawn and a prominent "DO NOT USE" sign displayed.
- A scaffold register will be kept by the authorized Scaffold Inspector.
- Individual identifications of all scaffolds which will be cross referenced to the Scaffold Tag identity number.
- Clear name and signature of the authorized scaffold inspector against each separate scaffold inspected.
- No scaffold may be erected which impedes normal access or can be accidentally struck by moving plant or cranes without prior consultation with The Project Management so that a safe system of work can be agreed.
- If there is any doubt about the security of any anchorage, suspension points or ties for a scaffold e.g. strength of existing buildings/structures or those under construction the safety of the erection must be ensured.
- All scaffolds will be provided with suitable access and where ladders are used for this purpose they will be of an adequate length and properly secured by lashing or fixing to prevent displacement.
- Action will be taken to warn personnel against using partly erected or dismantled scaffolds. A prominent "DO NOT USE" sign will be clearly displayed.
- An approved standard for scaffolding will be issued to scaffolding contractors separately.
- Rolling scaffolds will not be constructed with a height greater than 3 times the minimum base width, and will only be used on paved or prepared surfaces.
- Hydraulic platforms will only be operated by approved, trained operators.

5.12.4 Fall Prevention and Protection (Working at Height)

Contractor will issue a dedicated “Fall Prevention and Protection Procedure” according and in agreement to local legislation and Consultant requirements.

Introduction:
Working at heights has proven to be amongst the most hazardous activities during construction. Therefore contractor and its Subcontractor’s shall ensure strict adherence to site rules and regulations stipulated in this subsection.

Goal:
To provide 100% fall protection & prevention for all personnel working 1.8m (6 ft) and above ground level.

Minimum Requirements:
Maximum use will be made of primary fall prevention systems, such as scaffolds, aerial lifts, personnel hoists, hand rails, etc.

Fall protection equipment i.e. Full Body Harness shall be inspected and color coded by a competent person on a Quarterly basis. Prior to each use the user shall inspect the Full Body Harness to make sure that there is no visual damage.

Contractor and its Subcontractors shall adopt a 100% fall protection policy. Employees shall wear full-body harness with double lanyard complying with CE and local standard while working or traveling 1.8 meters and above ground where a fall exposure exists.

All fall protection devices shall be manufactured and used in accordance with a recognized international standard acceptable to Company.

Equipment shall be selected, used and maintained in such a manner to maximize personal safety and minimize risk to the user.

All personnel will be trained on the safe and proper use of fall protection equipment.

Safety Belts are banned from use on site.

5.12.5 Floor and Wall Openings
Contractor shall review the fall hazards involved in their scope of work and construct standard handrail systems where required. Handrails shall be constructed with the top rail 120 cm (42 inches) from the floor or platform level and shall have a mid-rail and toe-board. Handrail shall be capable of withstanding at least 90 kg load acted sideways. Toe-boards shall extend 100mm (3 inches) or above the floor or platform level.

Contractor and Subcontractors shall install vertical support posts for handrails at intervals of not more than 2.0 meters (6 feet).

Contractor and SUBCONTRACTORS shall barricade all floor openings, or install secured, properly labeled and substantial covers (able to withstand at least twice the anticipated load). All floor opening covers shall be stenciled or painted with this statement: "OPEN HOLE - DANGER, DO NOT REMOVE."

5.12.6 Roofing Work
Prior to performing any work, including preliminary inspection, the structural integrity of the roof will be verified (i.e., is the roof capable of supporting the intending loads?).

Roof access shall be prohibited during inclement weather unless authorization has been obtained from the HSE Manager or his designee.

Roof access and work shall be prohibited at night unless appropriate and adequate illumination is provided and authorization is obtained from the HSE Officer in charge.

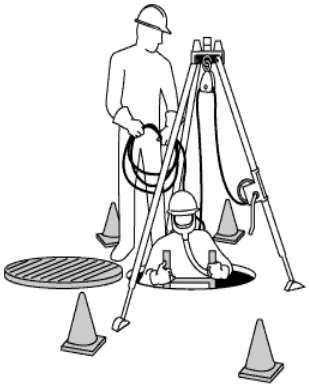
5.12.7 Work / Entering in Confined Spaces

Intecsa Industrial shall develop detailed method statement and risk assessment to obtain approval from Client to carry out any jobs in confined spaces such as excavations, tanks, vessels, chambers, pipes etc.

Intecsa Industrial shall not enter or commence work in any excavation, tank, vessel, pipe or chamber or other enclosed space, until a valid Permit to Work has been issued.

Method statements for work in confined spaces should address the following as a minimum:-

- Work scope and method
- Nominated Supervisor
- Testing of the air quality in the confined space
- Testing and precautions for presence of radioactive and iron sulphide materials
- Rescue procedures and equipment
- Training
- Tools & Equipment used
- Lighting requirements, including standby / emergency
- Explosion proof fittings
- Low voltage or pneumatic tools
- Ventilation
- Access
- Bonding to prevent both electrical shock and static discharge
- Work cycles, to reduce risk of heat exhaustion
- Fire safety and extinguisher requirements
- Appropriate PPE



5.13 TOOLS AND EQUIPMENT

Tools and equipment are such a common part of our lives that it is difficult to remember that they may pose hazards. Serious accidents often occur before steps are taken to identify and avoid or eliminate tool-related hazards. Workers must learn to recognize the hazards associated with the different types of tools and take the safety precautions necessary to prevent those hazards.

- Tools and equipment must be suitable and adequate for the purpose. Tools shall be CE marked (or comply with equivalent standards).
- Tools shall be provided with proper safeguards and used only in applications for which they were designed.
- Only competent trained persons shall use tools.
- Homemade and improperly modified tools shall not be allowed at site.
- Portable power tools shall be of the double insulated type or three wire grounded type.
- Power tools shall be inspected and colour coded as per approved Project colour coding system.

5.13.1 Hand Tools

- All hand tools shall be regularly inspected before and after use, and before storage.
- If wear or damage is observed, the tool should be withdrawn from use for repair or for disposal.
- Hand tools are regularly cleaned and, where necessary, lightly oiled as a protection against corrosion.
- Chisels with mushroomed heads shall either be reshaped or discarded before being struck by a hammer.
- Broken handles on hammers, shovels, or other tools shall not be used. Tape repairs are not allowed.

- Hand tools shall not be misused, i.e., a wrench for a hammer, a screwdriver for a chisel, or pliers as a wrench.
- Hand tools shall be properly stored and preserved.
- Use of shop-fabricated tool (home-made tools) is strictly prohibited.

5.13.2 Power Tools

- All portable power tools should not exceed 110 volts rating, are manufactured of sound materials, and are free from defects and properly grounded.
- Shall be plugged into a Ground Fault Circuit Interrupter (GFCI).
- Proper PPE shall be worn when using electrically operated hand tools.
- Rotating tools should be switched off and held until rotation has completely stopped before they are set down.
- Shall have a 3-wire ground cord and 3-prong ground plug, or be electrically double insulated.
- Systematic maintenance shall be carried out as per schedule for all power tools

- Before using any power tool it should be inspected for defects and cord damage, e.g., cuts, splices, or exposed internal wires at plugs etc.
- Defective electric tools shall be repaired or replaced.
- A functioning dead-man switch shall operate all portable electric tools. Trigger locking buttons shall be disabled.
- Any powered tool designed with guards shall be equipped with those guards during use. (Guards protect against contact with belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, and saw blades and other moving parts).
- Hand operated circular saws shall have a guard that can be adjusted, so that it only exposes that part of the blade making the cut.
- Provide an emergency shut-off switch clearly identified and accessible on each fixed tool.
- Proper PPE shall be used while using power tools.

5.13.3 Abrasive Wheels

Abrasive wheels are potentially dangerous because of their high speed of rotation with the resultant possibility of break-up under centrifugal stress.

For these reasons, only properly trained and nominated people may mount new wheels. A register of people trained in this skill should be maintained by the department.

A summary of basic safety instructions is listed below:

- Isolate the power supply before adjusting or working on an abrasive wheel installation.
- Check that the speed of the spindle does not exceed that marked on the wheel.
- Do not mount a wheel on a machine for which it is not intended.
- Brush, clean and examine for any damage a new wheel before mounting.
- Make sure that there is a blotter (a large washer) on each side of the wheel when mounted.
- When securing a new wheel, ensure that the direction of tightening the flange nuts is opposite to the direction of rotation of the wheel and that nuts are just tightened sufficiently to cause the wheel to be driven. Over tightening may cause the wheel to crack.

Operators of abrasive wheels must take full and proper account of the safety mechanisms provided, e.g. guards and rests for the work pieces.

- Serious friction burns, crushed fingers and loss of eyesight are common injuries arising from accidents which happen when people are using abrasive wheels. The main dangers arise from pieces of the wheel or work piece coming away, workers coming into contact with the wheel, and workers trapping their fingers between the wheel and the work rest.

Equipment and Maintenance issues:

- All components used with abrasive wheels, including flanges, blotters, washers, bushes and nuts must be appropriate and approved for the kit to which they attach.
- Abrasive Wheels should be stored on racks or bins, in a cool dry area where they cannot roll or fall over.
- Fixed machines eg Grinders should be stable and securely fastened to the bench.
- Worn abrasive surfaces – the wheels should be replaced for safety purposes not just efficiency.
- Local Exhaust Ventilation (LEV) – to protect the whole workplace from emitted contaminants. Personal Protective Equipment will only protect the operator, and in the event of damage will “fail to danger”.

5.13.4 Pneumatic Tools

- Air compressors shall always be used under the supervision of a competent person.
- All compressed air hoses shall be of the correct size to fit the tool being used. Any joint in the hoses shall be made with a proper coupler and secured by safety wire (whip lash). The hose length shall be kept as short as possible and placed so as not to be subjected to damage.
- Do not exceed manufacturer's safe operating pressure for tools, hose, pipe, valves, or fittings.
- Install and use safety clips or retainers on impact tools to secure attachments from being expelled.
- Nailers, staplers, etc., shall have a muzzle device to prevent fastener ejection unless in contact with work surface.
- High pressure airless spray guns shall have devices to prevent trigger pull until the safety device is manually released.
- Proper PPE shall be used while using any pneumatic tools.

Pressurized Hoses/ Utility Hoses/ Connections

- All pressurized hoses connections shall use adequate and standard hose connections/couplings and supported/ linked with whip checks to prevent whipping of hoses during hose connection failures.
- All pressurized hoses should have inspection tags and colour coding adapted and done by competent person workshop supervisor.

- Inspect air hoses regularly for damage
- Ensure hoses and couplings are in good condition
- Ensure the end of the hose is connected securely to equipment and air outlets before turning on the supply
- Ensure couplings which have provisions for safety locking pins, and use the safety locking pins
- Hoses with larger than 30mm bore, must be coupled with the correct clamps provided with the couplings. These hoses must also be fitted with an internal steel cable connected to each coupling with locking pins.
- A whip check or chain must be used on the outside of couplings.
- Compressed air must not be used to clean down clothing, blow dust out of hair, or provide body cooling.
- Before turning on the compressed air supply to a machine or air tool, ensure that the controls are in the off position.
- In each work place where compressed air is used, at least one warning sign is to be prominently displayed.

5.14 HOUSEKEEPING ARRANGEMENT

- **Intecsa Industrial** shall keep their work areas tidy and not allow rubbish or scrap to accumulate. Housekeeping will be included as part of periodic audits and inspections. A high standard of housekeeping shall be maintained on the site. **Intecsa Industrial** shall remove rubbish and debris associated with construction of the Project and litter generated by the workforce on regular basis
- Hazardous wastes shall be properly contained, identified and segregated from other waste and disposed off accordingly.
- **Intecsa Industrial** shall place a sufficient number of bins and skips around the site. Skips shall be marked with the various types of scrap and surplus materials i.e. metal, wood, cable, plastics, general etc. for ease of recycling.
- De-nailing of used timbers / concrete forms must be performed immediately following removal of concrete forms and whenever it is necessary such as in the case of timber crating generated from delivered construction equipment / instruments / materials. De-nailing must be performed in a designated area, identified with appropriate notice as 'DE-NAILING AREA' and properly roped off.

5.15 TRANSPORT

- Only vehicles necessary to the construction operation will be permitted to enter the construction site.
- All vehicles will be roadworthy and conform to legal requirements. All vehicles will be well maintained, and exhaust emissions will be clean, with no visible black smoke.
- The project management will ensure that only licensed and authorized personnel are allowed to drive vehicles.
- Loads will be within the safe weight limit for the vehicle and, as far as is reasonably practicable, should not Project beyond the vehicle body in such a manner as to present a hazard to other vehicles, pedestrians or adjacent structures.
- Passengers will not be carried unless a proper seat is provided.
- Personnel will not be permitted to get on or off any vehicle whilst it is in motion.
- General use vehicles will not be parked in such a manner as to block access or emergency points.
- All drivers of vehicles will be in possession of the appropriate UAE license for the class of vehicle.
- Vehicles driven locally outside the Project complex will only use roads designated by the Client, to avoid damaging the local environment, and comply with UAE regulations.

- Vehicles servicing the Project will, where reasonably practicable, be restricted to driving on the public highways during daylight hours.
- Transport of personnel will be in vehicles designed for that purpose only. Personnel will not be transported in the back of pick-ups, dump trucks or mobile plant. Seat belts must be worn at all times while the vehicle is in motion.
- All transport vehicles shall be fitted with revolving amber lights.

5.16 ELECTRICITY

- All electrical system and circuits shall be at all times be designed, constructed, operated, inspected, tested and maintained done by Electrical Engineer / competent electrician in accordance with applicable local and international standards, as to prevent, so far as is reasonable practicable.
- Every work activity, including operation, used and maintenance of electrical system and work near an electrical system, shall be carried in such a manner as not to give rise, so far as is reasonable practicable.
- **Intecsa Industrial** shall ensure that specific precautions are implemented for electrical works in known or potentially explosive environment.

ALL EQUIPMENT WILL BE TREATED AS "LIVE" UNLESS ISOLATED / LOCKED OFF AND TAGGED

- Repair or installation of any electrical equipment will only be carried out by a trained and competent qualified electrician.
- Any tool, plant or equipment exceeding 110 volts (55v to earth) will be double insulated, connected to an earth leakage circuit breaker (ELCB), and only used with the Consultant permission.
- Cable management to avoid tripping hazards will be implemented.
- Electric power tools should be regularly inspected and maintained by a competent electrician.

5.17 UNDERGROUND AND OVERHEAD SERVICES

When work is to be carried out on overhead cables the Competent Person shall ensure that the following precautions are taken, in addition to all other requirements of AD EHS RI – CoP 39.0 – Overhead and Underground Services.

a) Ensure that the cable has been correctly identified.
b) At both ends of the cable, isolate the switching device and lock using safety padlocks.
c) Attach a Caution Notice to each padlock.
d) On cables, prove that the conductors are dead, and then apply a circuit main earthing.
e) Apply safety padlocks at all points of supply, if the cable feeds a motor, then apply the precautions for work on high voltage or low voltage motors.
f) At the worksite, use an approved spiking tool to cut the cable and demonstrate that the cable is dead.
g) Place all safety padlock keys in the lock-out box.

5.17.1 Underground Services

General Requirements;

a) **Intecsa Industrial** shall comply with the requirements of AD EHS RI – CoP 39.0 – Overhead and Underground Services.
b) **Intecsa Industrial** shall ensure that prior to any excavation, piling or boring works being carried out all reasonably practicable control measures shall be taken to identify underground services. These control

measures shall include but not limited to the use of cable, pipe detectors, and locators, followed by manual excavators.

c) **Intecsa Industrial** shall approached all excavation, direct piling or boring works with cautions and assumed the presence of underground services until such reasonably practicable control measures have been taken to demonstrate that the area is safe and free from underground services.

5.18 FIRE PREVENTION

- The project management will ensure that adequate fire precautions are taken whilst carrying out their activities. Adequate fire precautions are:
  - Provision of the correct type of fire extinguisher (normally dry powder).
  - The ability of contract employees to use the fire extinguishers.
- The project management will ensure that their employees are aware of the correct procedure to be followed in the event of a fire alarm/evacuation situation.
- Project employees will be made aware of the location of and where necessary, be trained in the correct use of:
  - Fire extinguishing equipment.
  - Alarm calls points.
  - Emergency telephones.
  - Escape routes and fire exits.
  - Assembly points.
  - Equipment stopping on alarm.

- The project management will ensure that their employees participate fully in any evacuation exercise.
- The project offices/cabins will have at least one powder type fire extinguisher located at the access/exit door. No point within any office/cabin will be more than 20m from a fire extinguisher.
- Any engine driven plant brought onto site will have one Dry Powder extinguisher mounted on it.

5.19 ASPHALT OPERATION

- Area to be asphalted shall be fenced off to prevent other trades and the general public entering the area of work and are protected from injury.
- Vehicles delivering materials are directed to the location of the work in a safe manner.
- When vehicles are reversing they should have audible warning in operation. If vehicle has no audible warning, it must have its emergency flashing indicators in operation and the vehicle must be controlled by a competent banks man.
- Plant and Equipment shall be certified by 3rd party company including operator/driver.
- Signs of the type of work must be prominently displayed.
- Direction signs must be in place from the site entrance to the place of work, prior to commencement.
- The area of work and the routes to the area of work to be checked for open manholes gullies etc., prior to work commencing.

- All operatives shall be trained and wear necessary PPE such as reflective vests, safety footwear, helmets, and wear gloves where applicable.
- Medical Surveillance shall be made available as outlined below to all workforce subject to occupational exposure to asphalt fumes;

a) AJT policy to provide such medical examinations and treatments as required ensuring the health and safe working ability of all its employees engaged for asphalt paving works.

b) AJT monitoring fitness for work of all staff is regularly monitored and persons suffering from chronic disease or ill health will be kept under surveillance. All employees will get annual physical check up.

c) Provision of health surveillance of individuals or groups can be undertaken by a Doctor or qualified nurse of AJT in-house medical facilities.

5.20 WELFARE FACILITIES

This plan is to provide guidance to all employee of **Intecsa Industrial** on the provision of welfare facilities in our workplace.

Welfare facilities are those that are necessary for the well-being of your employees, such as toilets, washing room, shelter/rest areas and somewhere clean to eat and drink during work breaks.

Toilets

Suitable sanitary arrangements at site offices, garage/workshops and construction sites will be provided to comply too the following:

Number of Employees	Minimum number of facilities
20 or less	1-toilet seat
20 or more	1-toilet seat and 1 urinal per 40 workers
200 or more	1-toilet seat and 2 urinals per 50 workers

Every sanitary convenience shall be sufficiently ventilated with proper lighting and reasonable accessible.

- Toilets will be easily accessible. Outside toilets will be of neat construction and will be provided with doors and locks and will be secured to prevent them from blowing over. Toilets will be placed outside areas susceptible to flooding.
- Sanitary arrangements will be to the satisfaction of project management, the local authorities and legal requirements.
- Fresh water will be supplied by **Intecsa Industrial** water tankers for washing and cleaning purpose.
- Soaps will be provided on the hand wash basin and toilet paper in holders hanging on the wall. Waste bin will be near the wash basin.
- Toilets sign will be placed to guide the workers for the location of toilet facilities.
- The sanitary holding tanks will be provided with each toilet underneath with it. Project management will arrange for regular emptying, cleaning and disposal of waste off site (on daily basis) and will ensure that the toilets are emptied before recognized holidays.

Potable Water

- An adequate supply of potable water shall be provided in all places of work.
- Portable containers (water jug) used to dispense drinking water shall be capable of being tightly closed and equipped with a tap. Water shall not be dipped from containers. And will be keep in shades not to exposed in direct heat of sunlight. Containers shall also sealed and regularly maintain its cleanliness and sanitary condition.
- Drinking water supplied during hot weather shall be cooled. Water will be delivered on site by insulated water tanker with ice. And electrolytes supplements will also be added to cold potable drinking water.
- Mobile Drinking Water tankers will be attached filtered taps behind the tankers.

- Mobile Drinking Water tankers already displayed with signage of "Drinking Water" written in English and Arabic both sides.

Washing Facilities

- **Intecsa Industrial** shall provide adequate and suitable washing facilities near the proximity to the work site.
- Washing room facilities should keep clean, adequately ventilated and lit.
- Washing room facilities should have clean running water, soap and tissue paper for drying hands.

Shelter/Rest Area and Eating Places

The employer shall provide adequate and suitable:

- Shelter during work interruption with tables and seats for taking meals and drinking water.
- Shelters and eating places shall be kept clean and orderly and not used for the storage of materials or equipment.
- Ensure the provision of appropriate size of shelter that could accommodate the maximum number of workers at a given time during the entire duration of project.
- Shelter and eating places adequately ventilated and lit.
- Work areas can be counted as rest area and eating facilities provided that they are adequately clean and there is suitable eating areas on which food to be place.

Lighting

The natural lighting available in all work areas, if not sufficient, must be supplemented by artificial lighting to meet the minimum levels in accordance with the Ministerial Order No. (32) Of the year 1982 table no. 1 Suitable lighting.

A Lighting survey must be conducted for all work areas at least once every six months and prior to work commencing for the first time in any area.

Lights not functioning or suspected “Dark Area” must be reported, by the designated Health and Safety Representative to the Health and Safety Committee and appropriate action must be taken, as soon as is practicable to rectify the situation.

Windows and translucent sheeting must be kept clean at all times and clear of obstacles. Light fittings, i.e. lenses and reflectors must be kept clean at all times.

Large clear glass openings must be clearly marked so as to avoid being inadvertently walked into, or the clear glass openings are to be of “Safety” or re-enforced glass.

- Provide adequate lighting to maintain acceptable levels of productivity.
- Comply with statutory requirements in regards to minimum intensities.
- Area lighting shall be sufficient for men and vehicles to move about safely
- Every part of the area shall receive light from at least two different directions to avoid dangerous, dense shadows
- Illumination should not be less than the minimum illumination intensities listed.

Table 1: Suitable Lighting

AREAS OF OPERATION	LUX
General construction area	50
Concrete placement, excavation, waste areas	50
Access ways, active storage areas, loading	50
Platforms, refueling & field maintenance area	85
Tunnels, shafts & general underground work areas	100
Gen. Construction plant & workshops, living quarters & Toilets	100
Offices	400

5.21 PERSONAL PROTECTIVE EQUIPMENT (PPE)

All P.P.E. shall be issued by the Company. Record shall be kept of issuance and when it was returned.

They shall meet and comply with International Standards e.g. BS, ANSI or EURO. The sub contractors shall insure that the appropriate P.P.E. is issued and used by their Sub Contractors. All authorized visitors will use P.P.E. while on site. The supply of P.P.E. shall follow at a minimum (U.A.E. Federal Labor Law No. 8 1980) and in accordance to the task being carried out.

All items of Personal Protection Equipment (PPE) should be regarded as a "Last Resort" hazard control measure. Hazard and the risks they pose should ideally be eliminated, minimized or controlled by mechanical, procedural or other means. PPE is not the sole method of control.

As a risk control measure the following PPE will be provided for use as required

- Safety Helmet
- Safety Glasses

- Gloves (Degree Of Protection as required)
  - *Cotton/Cotton Rubber*
  - *Rubberized Chemical*
  - *Leather*
- Safety Shoes or Boots
- Coveralls for general work force (at a minimum of 2)
- High Visibility Vest
- Respiratory Protection (Degree Of Protection as required)
  - *Full Face Mask*
  - *Half Face Mask*
  - *Dust Mask*
- Ear Protection
- Fall Arrestor – Full body harness
- Full Protection equipment of welders
- Other special PPE as required.

Mandatory use of PPE

The wearing and use of PPE is mandatory on the work site except where this has been excluded in site EHS rules. Mandatory wearing/Use of PPE shall always be started as applying to a particular piece or type of PPE, a specific location and group of people.

Training in the use of PPE

Most items of PPE will perform better, last longer and be more hygienic if the user is properly trained. Training for additional items of PPE and specialist equipment will be carried under the auspices of the Safety Department as required and documented attendance.

Storing and Maintenance of PPE

Certain types of PPE required special storage conditions and maintenance if they are to remain effective. Shelf Lifted items should be marked and arrangements made for a suitable turnover of stock. Storekeepers are responsible for ensuring that the requisite storage conditions and maintenance is provided.

Provision of PPE by Subcontractor

Subcontractors working at any **Intecsa Industrial** work sites are responsible for providing any PPE required by their staff as determined by the **Intecsa Industrial** Site HSE Manager.

Charging of PPE

All required PPE will be provided without charges to company employee. Employee who prefers to buy their own PPE may apply to the HSE Department for assistance to the value of **Intecsa Industrial** issue item. PPE thus purchased by an individual becomes the property of that individual.

Respiratory Protection

Respiratory Protection Equipment (RPE) must be suitable for the hazard presented by the work scope i.e. the potential health problem which could arise.

Disposable respirators for non toxic dusts shall meet the standard requirements.

5.22 REMOTE / LONE WORKING PROCEDURES

When lone working and / or working in remote locations has been identified, the **Intecsa Industrial** shall develop a procedure that incorporates the specific instructions employees are to undertake in the event of working alone. The employer may incorporate these instructions into general procedures that are task specific.

Where persons will be working alone and / or in remote locations, **Intecsa Industrial** shall prepare a procedure for the employee to check in on a regular basis. The check in procedure shall include the following items.

- A daily work plan so it is known where the lone employees will be and when,
- Identify one main person to be the contact at the office, plus a backup;
- Define under what circumstances the lone employee will check in and how often;
- Stick to the visual check or call in schedule. You may wish him to have written log of contact;
- Have the contact person call or visit the lone employee periodically to make sure he or she is ok;
- Pick out a code word to be used to identify or confirm that help is needed;

- Develop an emergency action plan to be followed if the lone employee does not check in when they are supposed to, and;
- Each procedure shall be individual to each employee who will be lone working and shall be updated on a regular basis.

5.23 OCCUPATIONAL HEALTH ARRANGEMENTS

Health issues relevant to the activities planned for the project and control measures and minimum requirements in managing health on **Intecsa Industrial** project and to direct all workers including subcontractors to the relevant project procedures for specific requirements and standards.

5.23.1 Noise

Noise levels in targeted rehabilitation and maintenance activities are dominated by road traffic sources and use of earthworks machinery. Noise control measures may be required where noise levels exceed the EAD standards of noise pollution levels and when working close to residential areas. However, main roads are not adjacent to residential areas in general. Noise shall be monitored and recorded.

During construction, noise will be generated from various machinery and equipment used for earthwork activities. This will have a temporary impact on the surrounding environment. According to the EAD technical guidance documents „Development of a OCEMP - Onshore and the more recent „Technical Guidance Document for OCEMP (January, 2012), all noise nuisances from construction sites, whether they are from general construction activities or from movement of vehicles servicing the site, must be reduced by the following control measures.

5.23.2 Site Hygiene

- Sanitary conveniences shall be provided and maintained in accordance with the requirements of 'Ministerial Order No. (32) of the year 1982'.
- Washing facilities, including soap and towels, shall be made available for the use of the labour force. Drainage from these wash places shall ensure no accumulation of tainted water occurs, especially where food utensils are cleaned.
- Drinking water shall be provided in terms of the requirements of 'Ministerial Order No. (32) of the year 1982'.
- On Projects where chemical toilets are provided, one toilet for every twenty five employees will be allocated.
- All toilets shall be cleaned daily, disinfected and provided with toilet paper.
- Change rooms shall be provided and there shall be kept clean and free from odorous at all times.

- Where Client's canteen and toilet facilities are used on site, they shall be left in clean and hygienic conditions after use.
- The Hygiene, Health and Safety Representative shall inspect these facilities at least once a week.

5.23.3 Control of Substance Hazardous to Health (COSHH)

- No hazardous substance shall be brought onto the site without the approval of the Consultant Site HSE Manager. Hazardous substances include any flammable liquid or any substance likely to give rise to toxic, corrosive, irritant or harmful risk.
- A copy of the Safety Data Sheet (SDS) for the substance shall be given to the Consultant Site EHS Manager before its arrival on Site.
- Detailed COSHH assessments shall be submitted to the Consultant Site HSE Manager for review,

- Storage facilities for hazardous substances will be approved by Consultant. The locations of storage areas shall be marked on to a site plan showing details of substance type and quantity, supported with a copy of the MSDS for the Emergency Plan and use of the emergency services.
- Third party training to be provided to those who will be handling chemicals in the site (HAZMAT/COSHH)

Substances shall be held in secure appropriate containers with the substance clearly identified on the exterior of the container. Substances shall:

- Be securely locked or fenced off.
- Be kept to a minimum.
- Have appropriate warning notices affixed to the storage facility.
- Have "No Smoking" notices affixed to the storage facility where flammable substances are stored.
- Have fire extinguishers (appropriate to the substance) and other emergency equipment, including spill equipment located nearby the containment area.

Empty containers must be removed as soon as possible and arrangements made for their safe disposal. Hazardous substances must not be discharged onto the ground or into drains where they can cause pollution or an explosion. All containers containing hazardous substances must bear international Hazard Symbols as required within Hazard Information and Packaging Regulations.

5.23.4 Dust Control

Dust Control is an ongoing air emission issue during construction. It is generated by both material handling and earth disturbance activities, as well as by wind and other weather conditions. It is important that the potential for dust generation be assessed prior to undertaking activities that generate dust. In nearly all cases it is much easier and cost effective to avoid or minimize its generation than implement control measures to limit its impact once generated.

Construction Team shall, in coordination with the HSE Department, review work packages for earth moving and other construction activities to identify opportunities for avoiding or minimizing dust generation. This may include stabilizing construction roads with gravel immediately after grading, and other stabilization methods for materials storage.

Once ground cover has been removed, dust control moves from prevention to mitigation, meaning that efforts are focused on limiting the amount of dust generated as well as its impact both on and off the site.

Traditionally, water spraying and regular road cleaning are the primary methods used to control dust at construction sites.

5.23.5 Heat Stress

To avoid the heat related hazards to affect the worker's health & safety a program for hot weather condition shall be implemented.

Heat Stress Awareness

- Workers should be informed of the nature of heat stress, its negative effects as well as the protective measures provided in the workplace.
- Operatives should be taught that the heat stress tolerance of individual falls into two general categories:
  - First is the inherent characteristic of the individual that is beyond his control like body size, gender, ethnicity, and age.
  - Second is the acquired characteristic like physical fitness, heat acclimatization, obesity, medical conditions, and self-induced stress.

- Weekly toolbox talks shall be conducted to discuss the importance of drinking enough water, balance diet avoiding alcohol and caffeine, sign and symptoms of heat related disorder which includes dizziness, faintness, breathlessness, heat rashes, sunburn, heat cramps, etc.
- Awareness posters and bulletins on heat stress will be displayed on work areas in different languages.

Administrative Controls

- Provide cool drinking water in Water Jug for each team. It shall be located as near as possible to the workers.
- Increase the frequency and length of rest.
- Schedule hot jobs to cooler times of the day
- Assign additional workers or slowdown work pace
- Make sure everyone is properly acclimatized.
- Train workers to recognize the signs and symptoms of heat stress and start a "buddy System" since people are not likely to notice their own symptoms.
- Workers should salt their food well (workers with low salt diet should discuss this with their doctor)
- In case of very hot and humid condition, rehydration powder mixed solution (Hydralyte Solution) will be supplied to the workers.

Engineering Controls

- Increase air movement if there is no air movement by providing Pedestal Fans to each team.
- Reduce the physical demands of task through mechanical assistance (hoist, trolley, etc)
- Utilizing the air-conditioned rest areas if provided.

Personal Protective Equipment

- Light and loose clothing should be worn to allow free air movement and sweat evaporation.

Health hazard related to hot weather condition:

Heat Stroke

This is the most serious hot weather health problem. The victim's heat control mechanism just stops. The victim has hot, dry skin with a high temperature, chills and mental confusion. It is not cooled off quickly; the result can be brain damage or even death. Persons with a medical history of heat stroke are likely to get it again under the same conditions.

Heat Exhaustion

This is caused by loss of body fluids from sweating. The victim sweats but is dizzy or very tired. Rest and plenty of water usually produce quick recovery to this common heat ailment.

Heat Cramps

These result from loss of salt in the working muscles, usually as part of heat exhaustion. So watch out during sudden hot spells, until you get used to the heat. Acclimatize the first day of hot weather, until you get used

to it. Drink lot of water. Be sensible with alcoholic beverages after work, since the alcohol actually dehydrates your system.

Fainting

Not enough blood flowing to the head, causing loss of consciousness.

Heat Rash

It is caused by hot humid environment and plugged sweat glands. This will result in a red bumpy rash with severe itching on the skin.

Sun Burn
Too much exposure to the sun. Its symptom is a red, painful, or blistering and peeling skin.

5.23.6 Inclement Weather Conditions

Hot Weather
Hot weather conditions can directly or indirectly cause accidents and incident occurrences. The importance of monitoring weather condition serves good prevention.

When the humid rating is in the 40 - 45°C range, most people would it uncomfortable. However, many kinds of work must be restricted when the humid is above 45°C. At such state of condition, the stress level of person increases that leads to a high probability of accident. In such a way, heat stress management system shall be applied.

Windy and Dusty Condition
High wind speed can cause serious accidents especially when working at heights, crane operation, or falling materials. Windy condition can also limit the visibility level that is a very dangerous situation in construction works. Severe dust storms can put the health and safety at risk. The weather reports from local authorities shall be the basis of the action plan.

Work at heights, erection and dismantling of scaffolds and crane operation shall not take place if the wind speed exceeds the manufacture's recommendation. Operatives shall be taken to a safe place when dust levels are a serious threat to their health and safety. Loose or light and stocked materials shall be properly secured. It shall be removed away from the excavations. High standards of housekeeping shall be maintained.

Rainy Weather
Although rain rarely occurs in this part of the world but when it rains here, it creates serious problems such as floods, loose soil, and traffic accident.
All operatives working in the open area shall be brought to covered area during heavy rain. Except for emergency cases, all work in an open area will be stopped.

Special attention shall be given to excavation, electrical equipments and power lines, and civil structures during and after the rain. Flooded excavation and trench shall be dewatered and its wall shall be checked for possible loose soil.

5.24 HEALTH SURVEILLANCE & MONITORING

- **Intecsa Industrial** operations and support functions use acquires handle stores or operate several kinds of chemicals. Employees are exposed to potential hazards.
- **Intecsa Industrial** has defined an internal company housekeeping policy that is adequate to company's operations and potential health risks.

- The company has defined areas for lunch, breaks and welfare facilities. These are inspected and controlled by this EHS MS

- **Intecsa Industrial** and as part of its monitoring plan conducts noise measurement. This assists in identifying level of exposures of staff. **Intecsa Industrial** ensures that level of exposure is reduced by providing necessary PPE's and by reducing staff exposure time to be in line with regulations.
- **Intecsa Industrial** has defined part of its HSE monitoring plan all the key characteristics that should be monitored on routine basis including the frequency of HSE monitoring.

5.24.1 Medical and Health Arrangement

- Policy: - **Intecsa Industrial** maintains an able and healthy workforce through the provision of daily on-site first aid facilities. It is **Intecsa Industrial** policy to provide such medical examinations and treatments as required to ensure the health and safe working ability of all its employees. All employees have medical cards.
- Fitness for work: - **Intecsa Industrial** recruits only personnel declared fit for work in the region during pre-employment (visa) medical examinations, and where necessary conducts additional medical checks following the arrival in country of new employees. The continuing fitness for work of all staff is regularly monitored and persons suffering from chronic disease or ill health will be kept under surveillance. All employees will get annual physical check up.

5.24.2 Occupational Health & Hygiene

- Occupational Health Surveillance: - When required, health surveillance of individuals or groups can be undertaken by **Intecsa Industrial** in-house medical facilities.
- Health & Hygiene Facilities: - **Intecsa Industrial** provides adequate drinking water on the project site, and laundry facilities for primary work clothes in its camp. Suitable coveralls, gloves and other personal protective equipment are supplied as required, or designated by HSE Manager. They will be made available to workers without charge. **Intecsa Industrial** undertakes to maintain a satisfactory level of health and hygiene for **Intecsa Industrial** workers. **Intecsa Industrial** provides mess halls for the workers to dine in.
- Cleaning & Housekeeping: - Every effort will be made to keep work areas clean and as clear of obstructions as practicable. Housekeeping inspections will be included in all safety and routine inspections by management staff including toilets.

5.24.3 Medical Facilities

- A Certified First Aider or HAAD Certified Nurse will be stationed on the site, First Aid Room or station.
- An ambulance will be available on call at all times.
- HSE Staff and other selected personnel will be 3rd party trained in First Aid and may be identified at site by first aid stickers on their helmets or a notices posted on office/site.
- All employees shall be made aware of the availability of first aid and medical facilities available through the initial safety induction and kept updated of changes through the toolbox talk program and safety bulletins.

5.24.4 Medical Emergency

- In the event of an employee sustaining anything beyond a first aid injury the casualty will be taken to the nearest hospital.
- **Intecsa Industrial** shall ensure compliance with Client Site Emergency Plan. Key personnel shall be trained to respond and coordinate the response. Fire wardens and first aid trained personnel will be appointed and nominations are posted on notice boards, within Project site.
- Ensure emergency medical treatment is immediately available where hazardous materials are being used.

- Ensure all persons working with such chemical are well aware of the first aid principles that must apply in a case of accidental contact.

5.25 ENVIRONMENTAL MANAGEMENT

Our mission statement is to achieve our declared business objectives with recognition of our responsibilities towards customers, investors, management and employees, the community and our environment.

A Health, Safety and Environment (HSE) Policy illustrating **Intecsa Industrial** commitment to environmental protection as well as health and safety management during the construction phase of this Project has been

provided in **Intecsa Industrial** developed this policy in order to meet the requirements of Environmental Management Systems ISO 14001 and Occupational Health and Safety Assessment OHSAS 18001.

With regards to the ENVIRONMENT:

We will 'PROMOTE AND PRESERVE ENVIRONMENTAL QUALITY' in all activities, not only through adherence to official regulatory polices by in a wider frame of participation and co-operation with environmental conservation organizations, and in practical terms with specific reference to:

- Prevention of pollution of waterways, dams & oceans.
- Preservation of flora and fauna around the construction sites and works.
- Cleanliness of the site at all times.
- Protection of material, plant and equipment for avoidance of dust and fumes, both in storage and construction use.
- Consideration of noise levels.
- Control off and management of potential marine and water pollutants.
- Site restoration on completion of works.
- Hazardous substances and empty containers etc. will be disposed off to designated areas as per local rule.
- Dust will be controlled by water spray.
- Noise should be controlled before protection is considered by engineering it out.
- Waste and sewerage will be disposed through municipality sewerage system.

Every effort will be made to lessen the impact of our operations on the environment, and to educate our employees on the reasons for such a policy.

All employees will have a short training on environmental awareness as part of the induction process. Where possible this training will be carried out in the language of the employee. Environmental awareness training will be carried out as required.

Site Management will endeavor in their planning to avoid unnecessary damage. Environmentally sensitive areas outside of actual construction areas will be sign-posted and treated as 'no go' areas.

All construction activities will be carried out in compliance with the client's Environmental Protection Requirements.

5.25.1 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

A comprehensive Construction Environmental Management Plan (CEMP) shall be developed as per EAD guidance to highlight all potential environmental impacts related to the project activities and to find out the required control measures and applicable legal regulations.

The Construction Environmental Management Plan will be developed by an approved environmental consultancy and it will be submitted to EAD for approval.

Tebodin Middle East Ltd has been employed to be the environmental consultant for developing the CEMP and issuing the environmental NOC for the subject project.

The CAMP has been prepared and submitted to EAD for review and approval.

The implementation of the CEMP will be a responsibility of project's management, construction team and EHS team.

5.25.2 ENVIRONMENTAL IMPACT

With regard to the project activities and with considering the project location the following environmental impacts have been identified.

Air Emissions Impacts

- Dust: Subsequent sections detail the potential air emissions sources and their impacts to the receptive environment.
- Gaseous Pollutants and Particulate Matter Impacts: The operation of diesel operated earthmoving equipment and DG unit at the worksite will result in emissions of exhaust gases containing pollutants such as CO, NOx, SO2 and unburned hydrocarbons (UHC).
- Odor: There no significant odor generating sources except from open drains or accidental leakages onto land during handling/transport of wastewater and other solid wastes. Further, there are no villages in immediate vicinity of the area, where the Early Works will be carried out. In addition, the various mitigation measures will be undertaken to minimize such impacts.

☐ ***Soil and Groundwater Impacts***

The impacts on land and groundwater are likely from contamination due to inappropriate disposal of wastes and wastewater and accidental releases of hazardous materials, wastes and wastewater during storage and handling. Adequate control measures will be in place to insure that potential accidental releases are mitigated.

☐ ***Terrestrial Ecology Impacts:***

As the proposed project is located within a dedicated remote area. The potential impacts to faunal communities will be Negligible. Further, past baseline studies conducted in the area indicate the area to devoid of any terrestrial habitats.

☐ ***Noise and Vibration Impacts:***

The earthmoving equipment and DG unit that will be used during the primary source of noise. Activities such as excavation, material transportation, grading, etc., will also generate noise. The vehicles used for transportation of men and materials will generate noise along their travel route. The earthmoving activities such as excavation, rock breaking, grading, etc., will be carried out only during the day time and therefore, the associated noise will be

restricted to the daytime. Movement of vehicles will be restricted to daytime from various equipment expected to be used presented in Table (1).

Table 1: Typical Noise Levels from Construction Equipment

Source of Noise	Duration of Operation	Noise Level (1m from Source)
Excavators, Bulldozer, etc	Day time only	70 to 80 d.B (A)
Compactors	Day time only	78 d.B (A)
DG unit	Continuous during construction	80 to 85 d.B (A)
Trucks	Day time only	75 to 80 d.B (A)

☐ ***Traffic Impacts:***

The movement of heavy vehicles carrying material and waste to and from the project site are not expected to put stress on the traffic on the aforementioned road. This supposition is based on the magnitude of the project and the few numbers of vehicles associated with the preparation works. Considering the above, stress on traffic is construed to below.

☐ ***Waste Management Impacts:***

The overall quantities of waste generated from the project are expected to low in magnitude. Accordingly, the overall impacts from the waste generated from the project are not expected resulting in stress on existing waste handling facilities.

- Solid Waste:

The various solid wastes generated from the project as well their method of storage and disposals are as presented through Table (2).

Table 2: Solid Waste Streams during Project Construction

Source	Waste Generated	Type of Waste	Storage and Disposal
Site clearing activities	Wastes such as tyres, wood scrap and debris	Non-hazardous	Stored at appropriate storage area at the site and disposed via VES nearby approved municipal site
Cutting and filling activities at the site	Rocks and debris	Non-hazardous	Partly used for filling within the site, feasible and rest disposed to municipal waste disposal site
General Refuse	Kitchen waste, food waste, paper and other scrap	Non-hazardous	Stored in appropriate skips and disposed-to municipal waste disposal site via VES

- **LIQUID WASTE (EFFLUENT)**

Potential sources of liquid effluents during construction phase will include wash-water from site offices and storm water (in case of rains). Equipment and vehicle washings/run – off will also contain oil and grease and suspended solids. Sewage generated from domestic use of water at the site offices and accommodation camp will contain both SS and TDS, with relatively high biochemical oxygen demand (BOD). The various liquid effluent sources onsite along with its method of storage and disposal are as presented in Table 3.

Source	Type & Quantity	Storage	Disposal & Treatment
Sewage from site office and accommodation camp.	Domestic wastewater, continuous throughout construction	Stored in holding tanks for treatment	Treated in the camp's STP and reused for irrigation.
Sewage from mobile toilets at site	Domestic wastewater, continuous throughout construction	Stored in holding tanks for offsite disposal	Disposed to nearest ADSSC discharge site
Dewatered water	Ground water	Stored in holding tanks for reuse on site (for dust control)	Reuse for dust suppuration at site (after testing).

- **HAZARDOUS WASTE**

The various hazardous waste streams generated along with its method of storage and disposal are presented in Table 4.

Source	Waste Generated	Type of Waste	Storage and Disposal
Maintenance Workshop	Used oil, lubricants, batteries, oil filters, contaminated rags …etc.	hazardous	Stored in dedicated contained storage area and recycled as feasible, rest disposed through VES (approved environmental service providers).
Accidental Spills	Spill absorbing materials and contaminated soil	hazardous	Stored in dedicated contained storage area and disposed via VES (approved environmental service providers).
Clinic and fist aid activities at site	Sharps, syringes, needles, cartridges, glass vials, contaminated broken glass human pathological waste , blood products	hazardous	Medical waste is considered as an infectious waste and for that reason it shall be segregated from the waste stream and stored separately in appropriate containers at secluded areas and disposed via VES.

5.25.3 ENVIRONMENTAL MITIGATION MEASURES

☐ ***Air Quality Control Plan***

Control measures to manage air quality impacts during the construction works are described through this Control Plans.

☐ ***Dust Management***

To reduce the impact of dust emissions from the project the following control measures to be implemented

- Water sprinkling is undertaken onsite on a daily basis
- Tarpaulin is used to cover all vehicles carrying excavated materials onsite;
- Vehicle speeds limited to 20km/hr at the project site;
- Stockpiles onsite will be minimized to the extent feasible. Stockpiles should have a maximum height of about 2m or equal to or lower than the average height of surrounding structures.

➢ **Gaseous Pollutants Management**

- Standard and well maintained equipment with relevant clearance from Abu Dhabi police to be used onsite.
- Periodic maintenance such as engine tuning, lubrication, filter cleaning / replacement, oil changes, replacement of required spares etc., of construction equipment such as DG unit and other construction equipment are conducted so as to reduce emissions.
- The construction equipment and vehicles, when not in use, are switched-off or throttled down to the minimum in order to minimize emissions.

➢ **Odor Management**

- All holding tanks/ drains will be adequately closed/sealed (as applicable) to minimize odor emissions.
- Any spillages onto land will be immediately cleaned and disposed by a CWM -approved environmental service provider.

☐ ***Soil and Groundwater Contamination Control Plan***

- Waste collection bins/skips are to be provided for segregated collection and storage of hazardous wastes
- Waste collection bins are to be provided at appropriate locations at the construction sites and labour camps;
- Adequate spill collection facilities are in place.
- Appropriate storage area, designed to prevent any run offs, is to be provided for storage of non-hazardous wastes

☐ ***Wastewater Management***

- Collection systems and holding tanks for domestic wastewater are to be provided for proper collection of domestic wastewater to enable transport to the approved disposal area by ADSSC.
- Approved contractor to be used for transportation of the sewage for working sites to the approved disposal area.
- Waste logs and consignment notes to be established for transportation of wastewater to the approved disposal area.

☐ ***Waste Management Control Plan***

This control plan provides control measures to minimize waste and to ensure that proper management and disposal of all wastes (solid and liquid) will be collected and disposed of by a CWM approved environmental service provider (VES).

The following hierarchy for waste management is always preferred:

- Waste avoidance and/or reduction.
- Reuse
- Recycle

Diverting the waste stream in these ways means that waste storage, treatment and disposal options can be reduced. Minimizing the amount of waste on site not only does it protect the environment, but also cut down costs that may be incurred by AJE or the proponent for handling and disposing of the waste.

➢ **Minimization, Reuse, and Recycling**

- Adequate segregation of various waste streams (as feasible) is practiced.
- Potential opportunities for recycle/reuse are to be considered for all wastes as feasible
- Potential for returning to the suppliers is being explored for waste.

➢ **Solid Waste Management**

As previously mentioned the quantities of waste generated from the project are minimal. Nonetheless, the various solid waste management practices in –place are discussed in subsequent sub-sections.

➢ **Hazardous Waste Management**

Appropriate handling methods are established for hazardous waste. Any spills/leaks will be immediately remediated to minimize contamination of soil and groundwater.

☐ ***Noise and Vibration Control Plan:***

- Equipment and vehicles that may be in use only intermittently;
- Periodic maintenance of noise generating equipment such as DG set; and
- Signboards indicating high noise areas are displayed onsite and access to working areas strictly restricted.

☐ ***Traffic Control Plan***

The various elements of the traffic control plan are as presented below.

➢ **Onsite Provisions**

- Adequate parking areas to be provided for parking of passenger, goods and heavy vehicles;
- Suitable signboards indicating speed limits, site office, waiting areas, and unloading areas etc., to be provided;
- Within the site, signboards are provided indicating directions to various locations and speed limits; and
- The access roads to the site and site internal roads are adequately maintained in order to facilitate safe movement of vehicles.

➢ **Vehicles**

- Vehicles in good maintenance condition are used onsite. Appropriate vehicle maintenance plans including periodic inspections (with a defined an inspection check to be established and ;
- All the required safety and emergency equipment should be available in the vehicles;
- Vehicles are to be loaded as per specified vehicle capacities and locations will be earmarked for unloading; and.
- Storage areas / lay down areas are be designed in such a way as to provide appropriate access to vehicles in order to avoid delays in loading and unloading activities, and safe handling of materials.

➢ **Travel Routes and Travel Schedule**

- Prior to commencement of travel, it is ensured that the routes are properly identified;
- The identified roads are to be followed unless in case of emergencies or unavoidable circumstances;
- Safe and shortest routes are selected;
- The movements of heavy peak hours on main roads, in order to minimize traffic congestion; and
- Sufficient time including time for rests, food, etc., is considered for each trip in order to ensure safe travel.

➢ **Driving Rules**

- The driver are instructed to ensure road traffic and safety rules, and should follow defensive driving methods;
- Over-speeding is not permitted; the maximum speed is limited to 80 km/h on graded roads and 20km/hr onsite
- Journey Management System to be established and implemented effectively. Night driving to be avoided.

☐ ***Storage and Handling of Hazardous Materials:***

All liquid Hazardous Materials storage will be done in accordance with the following requirements.

- All liquid hazardous materials will be stored within sealed drums, containers or tanks.
- All storage units will be in good condition (e.g. not rusty).
- Drums, containers and tanks will be positioned on a secondary containment area with concrete bass and bund walls.
- The bund containment area must have capacity to contain 110% of the capacity of the tank.
- The walls of the bund must be positioned a sufficient distance from the walls of the tank, so that spray/puncture leaks will be contained within the bund.
- Level gauge will be installed within the storage tanks to avoid any overflow.
- All individual drums, containers and tanks must be labeled showing current contents (see photo (3&4).
- Material Safety Data Sheets (MSDS) for all chemicals must be kept nearby the storage area.

➢ **Location of Storage Areas:**

The location for storage of Hazardous Material's drums, containers and tanks must be as the following:

- Away from drains and other environmentally sensitive areas (such as offices, or worker accommodation);
- In such a way as to minimize the potential for damage by vehicle collision or vandalism (barriers will be placed around the storage area);
- Above ground surface.
- Away from heating or ignition sources (for example, do not locate near a welding area).

➢ **Usage of Storage Areas:**

- The storage area must be kept free of combustible materials and debris;

- Hoses, hand-pumps and fittings used for fuel dispensing should be kept within the bund or storage area when not in active usage;
- Do not drill, puncture or allow holes to be made in the bund walls for pipes and cables.

➢ **Monitoring and inspection:**

The HSE team should conduct daily inspection for all storage areas of hazardous materials, concerning but not limited to the following issues:

- Tanks, drums, containers, pipe work and seals must be kept in a sound condition to prevent leakage or rupture;
- The storage area and bund must be regularly inspected for damage, build-up of sand/sediment, accumulation of spilt liquids, and improper usage.

☐ ***Spill Contingency Plan***

With reference to the sources of impact described above, an accidental spillage can mainly occur on site primarily from handling and dispensing of diesel to meet the onsite fuel requirements.

The prevention of spills and leaks will be the primary measures to be taken by **Intecsa Industrial** during the construction activities. However, in the unforeseen event of accidental spills, spill response procedures have been developed. The purpose of these procedures is to allow an immediate and effective response that will limit the environmental impact as much as possible. The magnitude of the spill will determine the extent of the actions that have to be taken. The key actions in responding to a spill are as follows

➢ **Early Detection:**

Regular inspections of the construction site and training for all staff to be carried out to enable early detection. Awareness sessions to be conducted onsite to ensure personnel are acclimatized with the procedures to follow during the advent of a spill occurrence.

➢ **Notify Safety Manager and Engineer**

- Each member of the construction staff will be introduced to their prospective HSE Engineer during their HSE introduction and associated trainings.
- The HSE Engineer will be immediately notified in case any environmental incident occurs. Awareness sessions on emergency services and response procedures are to provided to onsite personnel.

➢ **Assess Safety Risk to Humans**

- If spilled material is flammable, the emergency response procedures will be adopted.
- Evacuation of onsite personnel will be conducted by the emergency response team;
- Secure the area and establish perimeter control at a safe distance from the spill.
- Appropriate supplies of spill response equipment will be kept available onsite at storage and re-fuelling areas where they are most susceptible to spills;
- Identify and remediate the source of spill.

➢ **Contain Spill (if Liquid)**

- Liquid spills - If the spill is liquid, its path will be blocked or diverted and then soaked up using an absorbent material such as sand;
- Gaseous spills / leaks - A gaseous leak will be stopped at the source as soon as possible and it will then disperse in the air. It is not practically possible to contain a gaseous leak, but weather conditions will be checked to assess the most likely direction the pollutant will take if it poses a risk to human health and then area can be evacuated accordingly.

➢ **Clean up**

- No spills/contaminated material will be allowed to wash away.
- Contaminated soils and clean - up materials from spills will be handled, stored in adequately sized and labeled containers for subsequent disposal
- Any stockpiles with contaminated material will be covered to prevent dispersion.

➢ **Disposal**

Contaminated soils and used clean-up materials (if any) will be stored as hazardous waste and disposed accordingly by VES. **Intecsa Industrial** will retain waste logs/consignment notes of the same.

➢ **Spill Response Equipment**

Spill response and pollution control materials, such as sand, buckets and shovels, brooms, sorbent materials, and storage containers, will be stored in the form of spill kits in a safe location onsite in close proximity to waste storage and re-fuelling areas.

➢ **Documentation of Incident**

In line with the incident response procedures of **Intecsa Industrial**, the HSE Engineer will be entitled to ensure that an incident response form is completed, containing information on the nature, scale and location of the spill and leakage, the action taken, as well as the date and time of occurrence.

☐ ***Environmental Awareness and Training***

Intecsa Industrial shall insure that all personnel on site are aware of the main components of the HSEMS/CEMP and it is implementation throughout the construction phase.

A comprehensive HSE induction training to be conducted for all personnel employed at the project. Most importantly, efforts are initiated to ensure that fully aware of the incident response procedures, including the emergency response to spills during construction. This is established through appropriate training sessions prior to the commencement of construction works. The Environmental Control Plans and Incident Response Procedures will be addressed in the CEMP can be used as a point of reference for the training

The onsite training sessions aims to address the following aspects:

- Air Quality Environmental Control to instruct site staff how to avoid or minimize impacts on air quality from the activities on site.
- Soil and Groundwater Control to instruct site staff how to avoid or minimize impacts to soil and groundwater from the activities on site.
- Waste Environmental Control to instruct site staff on how to deal with waste to avoid or to minimize impacts from waste generated on site.
- Traffic Control to instruct site staff on how to avoid or minimize impacts from traffic.

☐ ***Incidents and Emergencies:***

Incident: Any undesired event or condition that results or could have resulted in harm to people, damage to environment or damage to assets.

Incidents are categorized into three different tiers according to their significance, with a major incident being referred to as an emergency.

Table (5) provides the three tiers of environmental incidents, examples and responsibilities. In the event of a moderate and major incident / emergency, the relevant authority must be informed.

Table (5): Incident Classification:

Tier	Definition	Example	Responsibility
Tier A	**Minor Incident** One that is easily brought under control and prevented from re-occurring by the Contractor	▪ Small, containable spills within the site boundary ▪ Minor nuisance but controllable and preventable from re-occurrence ▪ Minimal environmental damage but controllable and preventable from re-occurrence	Following the incident response the HSE manager will be responsible for notifying the HSE Manager / Environmental Manager / Construction Manager.
Tier B	**Medium Incident** need to be brought under control and prevented from re-occurrences in consultation with the HSE manager	▪ Un-containable or uncontrollable spills within the site boundary ▪ Excessive uncontrollable incidents which are likely to re-occur to cause nuisance or when a complaint is received ▪ Un-rectifiable environmental damage and likely to re-occur	Following incident response the HSE Manager / Environmental Manager / Construction Manager will be responsible for notifying the local authorities and detailing actions to prevent re-occurrence.
Tier C	**Major Incident** (Emergency) One which cannot be controlled by the Project or that effects local authorities or independent parties	▪ Un-containable or uncontrollable spills outside the site boundary or which affect authorities supply networks ▪ Excessive uncontrollable incidents which will re-occur to cause danger, nuisance, numerous complaints or significant impact to proponents reputation and / or principles ▪ Massive environmental damage at the site which will re-occur to cause long term major impacts.	Following incident response the HSE Manager / Environmental Manager / Construction Manager will, in agreement with proponent, be responsible for implementing the relevant authority's response plans.

Incident investigation & reporting

In case of any environmental incident at site the following should be implemented:

A. **Intecsa Industrial** will verbally notify the PMC within 4 hours of the occurrence of Environmental incident (Major or Minor).
B. The **Intecsa Industrial** environmental manager will oversee the root cause investigation of the incident, and the construction team will lead the investigation.
C. **Intecsa Industrial** shall complete and forward a copy of an initial investigation report to the PMC within 24 hours from major or minor environmental incident, then full detailed report will be repaired and submitted to the PMC within 3 days.