

HEALTH, SAFETY AND ENVIRONMENT (HSE) PLAN

Optima International LLC

P.O. Box – 115858, Dubai, United Arab Emirates

Tel: (9714) 2949607; Fax: (9714) 2949608

E-mail: sales@optimain.ae

Optima International LLC

HEALTH, SAFETY AND ENVIRONMENT PLAN

<u>Section</u>	<u>Title</u>
1.	Health, Safety & Environment Management Plan.
2.	HSE Instructions for Contractors.
3.	Site Security Control Procedures.
4.	Lifting & Handling Operations.
5.	Control of Lifting Equipment.
6.	Scaffolding Procedures.
7.	Control of Material Safety Sheets.
8.	Safety Permit to Work.
9.	Temporary Electrical Equipment.

Optima International LLC

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

Issue – 1

Prepared by : HSE Manager Signed:

Reviewed by : Regional HSE Manager Signed:

Approved by : Project Director Signed:

New Issues and Revision

Issue / Revision	Date	Reason for Issue / Change	Signature
1/0	January, 2007	First Draft

Optima International LLC

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

CONTROL COPY DISTRIBUTION LIST

Sl. No.	Controlled Copy Number	Designation	Name	Location
1.				
2.				
3.				
4.				

Note:-

1. Control Copy Number.
2. Located at Regional HSE Manager Office for reference to Regional Manager, Commercial Manager.

CONTENTS

- FRONT SHEET
- CONTROL COPY DISTRIBUTION LIST
- CONTENTS
- 1.0 INTRODUCTION
 - 1.1 The Project Over View and Company Policy.
 - 1.2 Health, Safety and Environmental Plan.
 - 1.3 Review of the Health and Safety Plan.
 - 1.4 Continuing Liaison.
- 2.0 INTRODUCTION
 - 2.1 The Client.
 - Architect.
 - Consultant Engineers.
 - Contractors.
 - Sub-Contractors.
 - Project Director.
 - HSE Manager.
 - Client's Representative.
 - Programme.
- 3.0 THE EXISTING ENVIRONMENT & ASSOCIATED HAZARD CONTROLS.
 - 3.1. Site Context.
 - 3.2. Existing Services.
 - 3.3. Existing Traffic Systems.
 - 3.4. Existing Structures.
 - 3.5. Ground Conditions.

- 4.0 THE DESIGN.
- 5.0 CONSTRUCTION MATERIALS.
 - 5.1. Care or Substances Hazardous to Health (COSHH).
 - 5.2. Material Safety Data Sheets (MSDS).
 - 5.3. The HSE Manager.
- 6.0 SITE LAYOUT & CONSTRAINTS.
- 7.0 INTERFACE WITH CLIENT'S OPERATIONS & CLIENT REQUIREMENTS.
 - 7.1. Operation.
 - 7.2. Interface.
 - 7.3. Client Requirements.
- 8.0 PROJECT HSE MANAGEMENT STRATEGY.
 - 8.1. Pre-Construction Significant Risk Assessment.
 - 8.2. Project Specific Provision and Requirement.
 - 8.2.1. Security.
 - 8.2.2. First Aid.
 - 8.2.3. Logistics.
 - 8.2.4. Welfare Arrangements.
 - 8.3. Project Standard Provisions and Requirements.
 - 8.3.1. Training Requirements.
 - 8.3.2. Site Rules.
 - 8.3.3. Protection of the Public.
 - 8.3.4. Temporary Works.
 - 8.3.5. Waste Removal.
 - 8.3.6. Task Lighting.

Optima International LLC

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

- 8.3.7. Lifting Arrangements.
- 8.3.8. Permits to Work.
- 8.3.9. Environmental considerations.
- 8.3.10. Safety Meetings.
- 8.3.11. Audits and Inspections.
- 8.3.12. Site Safety Initiatives.

Appendix – 1

TA Integrated Management Policy

Appendix A

Location Map

1.0 INTRODUCTION.

1.1. The Project Over View and Company Policy.

The project work involves demolition of some existing buildings.

Main Contractor, Management Contractors for the complex developed the HSE Management Plan so that the potential hazards related to the work are identified and control measures taken.

The plan is based on the statutory regulations of United Arab Emirates, HSE approved code of practices, common law and Main Contractor Management System Manual and Company Procedures.

The Main Contractor Health, Safety and Environment Policy is appended at Appendix-1.

1.2. Health, Safety and Environmental Plan.

Designers and contractors are required to plan and resource their activities in order to maintain the highest standards of health, safety and environmental issues. This plan provides information which Designers and Contractors may use in conjunction with other contract documents to plan their work.

The construction phase HSE plan prepared by Main Contractor is based on the design prepared by the Designers and on information provided by the Client.

Works contractors are required to work within the requirements established by the Management Contractor as set out in the construction phase HSE Management Plan.

1.3. Review of the Health and Safety Plan.

The Project Director will advise on information and hazards identified by the designers during the detailed design stage and hazards identified by the Client in respect of his undertaking on the work.

Works contractors have a duty to review their HSE plan based on the plan prepared by Management Contractor to take account of the following:-

1. All aspects of health, safety and environment relevant to the anticipated contractor's methods of working.
2. Detailed health, safety and environment relevant to the anticipated contractor's work.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

3. Emergency procedures.
4. Any changes to the design proposed by any contractor, by agreement with the Designers and Project Director.
5. All relevant legislation.

1.4. Continuing Liaison.

The Project Director is required to monitor the implementation of the HSE Plan in relation to any design changes during the construction phase of the project. There will be a requirement therefore for the works Contractor and their Sub-Contractors to liaise and co-operate with the Project Director in order for him to perform his duty.

Any design changes, which occur during the construction phase must be the subject of risk assessments by the designers, these must be submitted to the Project Director.

In order to comply with the regulations, all training certificates, record information, Operation and Maintenance Manuals and all information related to hazards must be completed and passed to the Client not later than the date when the Project is completed.

Meetings with the client will be established to review the progress of project. The site layout and HSE plan will be updated as necessary following these reviews.

2.0 PROJECT DETAILS.

- | | | | |
|------|-----------------------|---|--|
| 2.1. | The Client | : | |
| 2.2. | Architect | : | |
| 2.3. | Management Contractor | : | Main Contractor |
| 2.4. | Works Contractors | : | Any Contractor and others who are engaged to carryout work on site. |
| 2.5. | Sub-Contractors | : | Any Sub-Contractor engaged by the Contractor to carryout work on site. |

Optima International LLC

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

- 2.6. Project Director : Main Contractor - Project Director
- 2.7. HSE Manager : Main Contractor - HSE Manager on Site.
- 2.8. Clients Site Representative :
- 2.9. Programme.

The Construction Programmes for each stage linked together with details of each trade package programme will be included in the tender documents relating to each package.

Key dates for the project are as follows:-

- Commencement :
- Overall Period :
- Completion :

3.0 THE EXISTING ENVIRONMENT AND ASSOCIATED HAZARD CONTROLS.

3.1. Site Context.

The site is located in a prime area, approached by busy roads, pedestrian routes and nearby offices. Project is immediately adjacent (location map at appendix A).

In addition to physical hazards, noise monitoring will be carried out around the site at locations agreed with the client to access the environmental impact of the work.

3.2. Existing Services.

Drawings showing known underground services are kept for viewing in the site offices. Underground electrical cables have been re-routed so that they don't interfere with normal construction activities.

Demolition of existing buildings will follow services termination and issue of a handover certificate by the Clients representative. However, it is possible that unrecorded or inaccurately recorded services exist underground. The contractors will be therefore have to take every precaution that is reasonably practicable to establish actual positions and status of services including the use of hand digging and electronic detection equipment by trained competent persons, as necessary.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

The contractor shall ensure that permits to work are obtained prior to any underground investigative, excavation or ground slab removal works or any works to terminate or modify any live services. Permits to excavate and confined space permits will be operated where applicable.

3.3. Existing Traffic Systems.

The site is approached through the public road system; a speed limit of 20 km/h is to be strictly observed. The road system has heavy traffic during the government office working hours.

The approach road has height and width restrictions at several locations. Works contractors are therefore obliged to survey the route prior to starting on site to ensure their plant can gain access.

3.4. Existing Structures.

The demolition contractor will be responsible for the removal of all chemical contamination and hazardous waste from all buildings the demolition. If any asbestos is to be removed, Main Contractor's procedure OEC-HSE-100 must be followed. All contamination is to be removed in accordance with the Law.

3.5. Ground Conditions.

Details of ground conditions are indicated in the geo-technical reports.

Water table is at approximately 0.5m MSL below ground, so water ingress to excavations will need to be controlled.

Each works contractors has a duty to report any substances found not to be consistent with the information contained within the geo-technical report.

4.0 THE DESIGN.

The details of each element of work are described in drawings, specifications and within the schedules of the contract.

Works contractors are required to identify hazards involved in the execution and control of their work.

5.0 CONSTRUCTION MATERIALS.

5.1. Care of Substances Hazardous to Health (COSHH).

Less hazardous, environmentally friendly materials should be used for construction wherever possible. Contractors will identify any proposed significantly potentially hazardous construction materials, carry out risk assessments and, if adopted, notify these documents regarding handling, use, storage, maintenance, cleaning etc. This information should also provide adequate evidence that consideration has been made of less hazardous materials in the form of a COSHH analysis for alternative processes and materials.

5.2. Materials Safety Data Sheets (MSDS).

All works contractors selecting or specifying materials must complete and forward MSDS to Main Contractor's HSE Manager as specified in procedure.

5.3. HSE Manager.

Main Contractor's HSE Manager will arrange for contractors to provide method statements, including appropriate risk, COSHH, manual handling, noise and PPE assessments. Suitable safe systems of work must also be in place to provide a safe working environment and protection of employees and all other people in and around the site.

The HSE Manager will retain the health and safety information with regard to materials in a file and pass this to the client on completion of construction.

6.0 SITE LAYOUT & CONSTRAINTS.

The site layout plan shall be prepared and will be updated as work proceeds.

7.0 INTERFACE WITH CLIENTS OPERATIONS & CLIENT REQUIREMENTS.

7.1. Operation.

The surrounding areas will be fully operational during the construction period.

Buildings adjacent to the site, including offices and establishments will be occupied.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

7.2. Interface.

After erection of the hoarding, all permits to work required within hoarded areas will be issued by Main Contractor site management team. During enabling works any areas, which are properly barricaded off from public areas and with appropriate signage in place, may, with the agreement of the client, be treated as a hoarded area.

7.3. Client Requirements.

In the site there can be no compromises on Safety, Health or Environmental protection. Many of our safe systems of work are accompanied by the uses of permits to work which incorporate safety and security measures. These may well be stricter than those you have encountered before.

To support this stance the procedures, contained within the HSE plan will be rigorously enforced by the Project Director and his site management team.

Contractors must ensure that all risk assessments and method statements are presented in good time prior to works commencing to enable sufficient time for the release of the appropriate approvals and permits to work.

8.0 PROJECT HSE MANAGEMENT STRATEGY.

This section identifies the Project Directors strategy for the effective management and control of HSE on the project. The system takes account of all aspects of safety including those of works contractors operations paying particular attention to site inspections, audits and effective remedies.

8.1. Pre-Construction Significant Risk Assessment.

Contractors shall record all the significant risks associated with his work and the interfaces with other contractor operations. Risk assessments must be specific. Generic Risk Assessments will not be acceptable for activities which require site specific assessments. Method statements will clearly identify the means by which the contractor will reduce and maintain the level of risk to its least practicable severity.

The above information shall be provided within the contractors Health and Safety Plans which are required to be submitted to the Management Contractor prior to the works being carried out. Where circumstances are encountered during the course of the works which present an additional level of risk, further risk assessments will be carried out and method statements altered if necessary.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

8.2. Project Specific Provisions and Requirements.

8.2.1. Security.

Security will be provided at the main entrance point to the site. All personnel entering or leaving the site will be issued a dedicated identity pass (including a photograph). Visitors entering the site will be given a short-term day pass but they will only be allowed to enter the works when escorted by personnel familiar with the project and the construction phasing who have been safety inducted.

The site will be enclosed in a minimum 2.4m high hoarding and will be securely locked at all times that security guards are not present, in order to prevent access by unauthorized persons.

Delivery drivers will be asked to read a set of rules, and the driver will be required to sign to confirm that they have understood the rules and agree to follow them whilst on site.

8.2.2. First Aid.

- All works contractors will maintain the correct number of first aiders on site (minimum of one) and first aid box. This is a contractual requirement and also applies during hours of extended working and weekends if work is required. Works contractors must undertake an assessment of their own specific first aid needs.
- The Management Contractor will provide a competent First Aider and First Aid Cabin.
- A description of the contractors intended provisions for First Aid and copies of relevant training certification will be required by the Main Contractor HSE Manager prior to the commencement of works on site.
- Emergency number is via the national 999 emergency phone number.

Note: A full and current list of first aid and emergency contacts will be maintained and posed in the first aid cabin. First aiders are to have a sticker affixed to their safety helmet.

8.2.3. Logistics.

Site Access and Egress

Separate pedestrian and vehicular access and egress will be provided and maintained. The main entrance to the site for both is at the main security gate.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

Vehicular Access (Delivery)

Access to the site must be co-ordinated through Main Contractor. Works contractors trained banks men will guide vehicles from the main road onto the main road onto the site and back.

The Works Contractors Banks men will guide the vehicles to designated loading/unloading area, this is particularly important when revising.

It is critical that the unloading of vehicles is carried out in a safe manner and that vehicle and materials do not cause obstruction or block access/egress routes.

Only trained, competent and appointed personnel are to attach lifting gear to any loads being lifted by crane or Hiab. All loads are to be securely attached and test lifted before being lifted away from the delivery vehicle, prior to delivery to their landing place. Drivers of Hiabs and other vehicles with Lifting Equipment, such as Tail Lift and Forklift truck, must produce the relevant test reports required under procedure Main Contractor for examination by the receiving Works Contractor who in turn must keep a register of test reports examined for the verification of Main Contractor's HSE Manager.

During delivery and removal of skips ensure that the skip lorries are under the guidance of a banks man to ensure that the skip lorries are under the guidance of a banks man to ensure that pedestrian access/egress routes are manned to prevent any hazard to pedestrians.

8.2.4. Welfare Arrangements.

Suitable and adequate welfare facilities shall be provided for the duration of project. This will comprise of:

- Wash Room - The washing facilities will be provided and maintained within the immediate vicinity of the toilets.
- Fresh Drinking Water Supplies - A wholesome supply of drinking water will be provided at convenient locations within the welfare facilities and at dedicated locations throughout the site.
- Messing facility – Shaded enclosures with dining tables and seating, near the washing facility, with arrangements to dispose food waste.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

- Toilets - Suitable and adequate facilities will be provided and maintained in a hygienic condition. The facilities will be secure, well lit and ventilated.

Note: Where works contractors are to provide their own welfare facilities, this is indicated within the relevant contract documents.

8.3. Project Standard Provisions and Requirements.

8.3.1. Training Requirements.

Site Induction

All site operatives and managers will attend a site HSE induction course. The duration of the course will be approximately 1 hour identifying general HSE rules and standing instructions. Should the Works Contractors fail to maintain a satisfactory Health, Safety and Environment Standards; the entire workforce may be suspended from site until a further safety induction is undertaken, the cost of such induction will be borne by the Works Contractor. Security passes will only be issued to those operatives who have attended Induction Training. Contractors will also carry out their own inductions.

Management / Supervisors

Contractors should provide their site managers / supervisors with suitable Health and Safety Training. As a minimum a full one-day safety awareness course should be attended by all Site Managers / Supervisors organized either internally or externally. Certificates of attendance must be obtained. A copy should be held on site.

Work Related Training

Where applicable contractors operatives will be required to attend recognized training courses related to the work which they are to carry out. The contractor will allow for making these operatives available prior to commencing specific items of work which will be designated within the Contractors risk assessments. This also applies to the sub-Contractors appointed by them.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

8.3.2. Site Rules.

- a) Contractors are only permitted within the confines of the site and the designated access and egress routes.
- b) Suitable work dress, must be worn at all times.
- c) Any damage to existing buildings or other works Contractors works must be reported to the Site Manager immediately after it has become apparent.
- d) The site is to be kept tidy at all times.
- e) All drivers need to be aware that there is a large pedestrian flow within and around the site.
- f) Fires are not permitted on site.
- g) Children are not allowed on site.
- h) The carriage of passengers on vehicles not designed for passengers will result in the removal of the driver of the vehicle from site.
- i) Any persons found damaging or vandalizing any plant, materials, welfare facilities or safety equipment will be removed from the site immediately.
- j) Rubbish skips being moved by vehicles are not to be lifted by their welded lugs, a purpose build spreader beam and lifting cradle must be used.
- k) Site working hours are 7:00 to 17:30 hrs. Saturday to Wednesday & 7:00 to 15:30 hrs. on Thursday. Hours outside this timetable are to be agreed with the Site Manager.
- l) Deliveries and visits to the site shall be made within working hours unless pre-arranged with the Site Manager.
- m) Works Contractors are responsible for ensuring they have adequate fire protection and fire fighting equipment for their site accommodation and working areas.
- n) Works Contractors are responsible for ensure that no substances are discharged onto site or into the surface or foul water drainage system. Consult Main Contractor's HSE Manager before disposal.
- o) Works Contractors are not permitted to use the toilet areas under construction within the building.
- p) No access for private cars is permitted.
- q) Works Contractors shall not use the site for any purpose other than carrying out the works.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

- r) Works Contractors are responsible for protecting their own work and also for ensuring no damage is caused to the work for other Contractors.
- s) No (non prescription) drugs or alcohol permitted. Anyone suspected of being under the influence of drugs or alcohol will be removed from site immediately and action taken as per Law.
- t) Works Contractors storage areas and site cabins are to be kept clean, tidy and well maintained.
- u) Engines of mobile plant are to be switched off every time the driver dismounts.
- v) Noise & Emission from the plant and equipment will be kept within acceptable limits.

SMOKING IS NOT PERMITTED ON SITE

The designated smoking areas will be notified to contractors by the Site / HSE Manager.

Smoking in non-designated areas will lead to instant dismissal from site.

SITE DISCIPLINARY PROCEDURE

The following disciplinary procedure will be implemented for failure to comply with the above rules where immediate removal from site is not indicated:

FIRST breach of the rules - A verbal warning will be given.

SECOND breach of the rules - Removal from Site

8.3.3. Protection of the Public.

The Main Contractor Project Director will be responsible for ensuring that adequate precautions/control measures are provided to protect members of the public. This requires co-ordination of all works Contractors proposals with regard to their own operations and the activities of other Works Contractors.

The Works contractor shall not at any time "rely" on the Main Contractor Site Management to:

- Identify hazards to the public associated with the Contractors operations.
- Provide the necessary precautions for the Contractors operations.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

- Provide extra money for the provision of precautions which the contractor has clearly omitted to provide.

Typical precautions may include:

- Maintenance of public footpaths.
- Protection against damage to third party property.
- Protection against contamination from site operations (e.g. dust, sprays, noise, radiation from hot works etc.).
- Perimeter fencing shall not be removed or adjusted without prior agreement with Main Contractor Site Management.

8.3.4. Temporary Works.

Temporary works are defined as any temporary structures required to allow construction of a permanent structure or used to support a permanent structure during its erection until it has become self-supporting.

The hazards associated with Temporary Works are usually those of collapse and/or failure of equipment. This is mainly as a result of factors such as insufficient knowledge or experience on the part of personnel involved, design error, inadequate foundations, use of unsuitable or insufficient materials or equipment etc. Particular risks are those of personnel being injured from Temporary Works or falling from such works or into excavations, excavation collapse and damage to equipment.

Works Contractors will identify any Temporary Works requirements and appoint a competent Temporary Works co-ordinator who will:

- Identify items of Temporary Works.
- Identify responsibility for design and construction.
- Assess the level of risk.
- Identify the level of checking requirement dependant upon the risk category.

e.g. a) In house by sub-contractor.

b) External by third party.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

- Review Temporary Works submitted by any sub-contractor, which will be through the shop drawing transmittal procedures.

To Identify:

- Interfaces with other works.
- Safety & Environmental impacts.
- Are they adequate for the purpose?
- Additional loading which may occur.
- Liaison with other interested parties.
- Consider the effects on permanent works.

8.3.5. Waste Removal.

- Works Contractors are responsible for maintaining a high standard of site cleanliness within their area of works.
- A waste management system is in place and should be used to its full potential.
- Waste Contractors will provide persons to clear away rubbish from the work faces to the skips or receptacles provided as part of the waste management system.
- Waste and debris is not to block access or egress routes.
- Works Contractors will respond immediately to any reasonable instructions give by Main Contractor Management regarding waste removal.

NOTE

The Works Contractors may be subjected to a "Suspension of works" Notice if an adequate response to a rubbish removal instruction is not observed. The suspension will remain in effect until the instruction is complied with in full and the loss of production will be at the expense of the Contractor.

8.3.6. Task Lighting.

Task lighting at 110V is to be provided by the Works Contractor for all phases of the project. The following requirements must be met:

Halogen Lamps - Shall be with heat resistant glass cover.

Tungsten (Festoon) Lights - Demolition areas general light with lamp guard.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

Fluorescent Lamps - Offices, Toilets, etc.

Sodium Lamps / Mercury Lamps - Use for flood lighting purposes only.

Electrical Safety Standards are included in procedure.

8.3.7. Lifting Arrangements.

- a) All works contractors to discuss and co-ordinate all lifting operations with Main Contractor Site Management prior to lifting.
- b) All crane operatives are to have received approved training. Certificates confirming training are to be issued to Main Contractor HSE.
- c) Fully trained/certified banks men are to be sued at all times.
- d) In accordance with the manual handling regulations, manual handling should be kept to a minimum. The Works Contractor shall state in his method statement what manual handling he propose to undertake. A risk assessment of the proposed manual handling to be submitted to Main Contractor HSE for review.

Carnages and lifting activities present a major risk on site. The following procedures will be adhered to by all.

CRAWLER AND MOBILE CRANES

Main Contractor Site Management will co-ordinate in overall terms, all mobile crane-lifting operations.

The Works Contractor is to ensure that a trained competent banks man is present at all times to ensure that the load is properly slung and to give correct signal to the crane driver.

Cranes should only operate where ground conditions do not adversely affect stability.

8.3.8. Permits to Work.

Works Contractors must be in possession of a permit to work for the following activities:

Hot works

Excavations

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

Confined Spaces

Testing electronically isolated apparatus

Electrical switchgear isolation / energizing

Ionizing radiation activities

Working at height (in certain circumstances)

Working in secure areas

PERMIT PROCEDURES

Refer to Main Contractor document - Safety permit to work.

8.3.9. Environmental Considerations.

The requirements of the following environmental regulations will be observed.

R.D. NO.	-	Low of Handling and use of chemicals.
MD	-	Regulation of Air Pollution from stationary sources.
MD	-	Noise Pollution control in working Environment.
MD	-	Regulation for the management of solid non-hazardous waste.
MD	-	Regulations for the management of solid hazardous waste.

Works Contractors responsibility, once on site, will relate mostly to the disposal of waste materials, either in their original form or in some altered state (such as cured or gone off) and their packaging.

Where a material requires special disposal then the Main Contractor HSE Manager must be informed.

Waste requiring special disposal shall not be disposed of through the site waste system. It is the responsibility of the Works Contractor to remove all Special Wastes from site and to supply copies of the relevant documentation to the Main Contractor HSE Manager.

No waste shall be allowed to contaminate the water/drainage system on site.

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

Dust generated on site shall be considered under the COSHH regulations and kept to a minimum.

All Works Contractors are to implement best practicable means to minimize noise in accordance with current regulations. Works Contractors will be provide with their proposed method statement, a noise assessment that states how they will mitigate noise emissions.

8.3.10. Safety Meetings.

Pre-construction Safety Meetings will be held by Main Contractor HSE Manager with Works Contractors prior to their commencement on site.

A works Contractors Safety Co-ordination Meetings will take place on a fortnightly basis.

Health, Safety and Environment matters will also be discussed at the Works Contractors Progress meetings and co-ordination Meetings.

Each month or at more frequent intervals if required, throughout the duration of the project a meeting shall be held on monitor HSE.

Safety Tool Box Meetings

- a) All Works Contractors will ensure that Safety Tool box meetings are held on site.
- b) The meeting should be structured as follows:
 - 1. Frequency of Meeting Weekly.
 - 2. Duration of Meeting 5 – 10 Minutes.
 - 3. Attendance All of the Works Contractors site personnel
 - 4. Location At the workplace

Records of meetings to be maintained at site.

Nature of the Meeting

To inform or instruct the workforce in safety requirements for particular operations and General Safety rules. The Contractor's supervisor should select a suitable safety topic and address the workforce on the general safety requirements of that subject. e.g.

Working at height
COSHH
Safety Plan
Personal Protective Equipment (PPE)

HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT PLAN

Fire Action Plan (FAP)
Manual Handling
Excavations
Confined Spaces
Method Statements
Risk Assessments

Site Progress Meetings

Safety will be a subject on the agenda of every progress meeting and will appear as an individuals item within the minutes of each meeting.

8.3.11. Audits and Inspections.

Works Contractors have a duty to audit and monitor their own site activities to identify and rectify sub-standard safety practices and to ensure acceptable standards of safety are maintained at all times within their sphere of operations.

Each Works Contractor shall arrange for their own competent Safety Advisor to visit and inspect the site on a weekly basis. A copy of the safety Advisors report will be issued to Main Contractor HSE for information/action.

The HSE Manager will, on a regular basis, inspect all works on site and compile a report. The report will be issued to the relevant Contractors. Contractors will immediately correct any contravention and confirm so by returning the relevant section of the report. At the Project Director's request, members of the trade contractor's management teams are to participate in non-scheduled safety walkabouts at the workplace and site. All statutory registers will be kept on site for inspection by Main Contractor as required.

8.3.12. Site Safety Initiatives.

The site will run a number of Safety Initiatives, including an Award Scheme. Details of these will form part of the induction programme. Other initiatives and programmes will be devised throughout the course of the project and training provided to site staff as required.

Optima International LLC

Integrated management Policy

(Quality, environmental and occupational health & safety)

Optima International LLC is the trading name in Emirates and as such works to the corporate standards of Optima. To meet these it is the policy of Optima International LLC that all of its activities are carried out by understanding and meeting the needs and expectations of its clients, suppliers, sub-contractors, members of the public and employees.

We recognize Quality, Environment and Occupational Health & Safety and integral parts of our business performance and are committed to achieving continual and effective improvement through the setting and publishing of objectives and targets whilst complying with legal and other requirements as a minimum.

To achieve this we will maintain a proactive integrated management system that will enable us to deliver a high standard of work at all times. We consider this system to meet the requirements of BS EN ISO 9001: 1994, BS EN ISO 14001:1996 and OHSAS 18001:1999.

Optima International LLC will carry out its operations in a way, which provides safe and healthy working conditions and avoids risk of injury to anyone as a result of the activities for which the company has responsibility.

Optima International LLC recognizes that its activities directly impact on the natural, human and build environment. It is the policy of Optima International LLC to minimize this impact, prevent pollution and wherever possible through its activities, enhance the environment and be socially aware.

The management of Quality, Environmental and Occupational Health & Safety issues is a prime responsibility of all levels of line management throughout the company and we will ensure that adequate and appropriate resources are made available to implement the policy and that it is properly communicated to and understood by, all interested parties.

To this end we will regularly and systematically review the development needs of our employees and ensure they receive the appropriate training and experience to enable them to properly undertake their duties and responsibilities.

Management systems and procedures set up to implement the policy will be reviewed following periodic audits designed to test their effectiveness in achieving high levels of Quality Environmental and Occupational Health & Safety performance.

Optima International LLC

HSE INSTRUCTIONS FOR CONTRACTORS

Issue – 1

Prepared by : HSE Manager Signed:

Reviewed by : Regional HSE Manager Signed:

Approved by : Project Director Signed:

New Issues and Revisions

Issue / Revision	Date	Reason for Change	Signature
------------------	------	-------------------	-----------

1/0	January, 2007	First Draft	sd/-
-----	---------------	-------------	------

HSE INSTRUCTIONS FOR CONTRACTORS

CONTENTS

SECTION

SUBJECT

- | | |
|----|--------------------------|
| 1. | PURPOSE |
| 2. | SCOPE |
| 3. | PROJECT DETAILS |
| 4. | REFERENCE DOCUMENT |
| 5. | RESPONSIBILITIES |
| 6. | PROCEDURE |
| 7. | CONTRACTORS HSE POLICIES |
| 8. | RECORDS |

ATTACHMENTS

- | | |
|----|---|
| 1. | HEALTH, SAFETY & ENVIRONMENTAL INSTRUCTIONS FOR WORKS CONTRACTORS |
|----|---|

HSE INSTRUCTIONS FOR CONTRACTORS

1. PURPOSE

The purpose of this procedure is to provide a standard set of HSE instructions for issue to Works Contractors appointed to work.

2. SCOPE

The procedure defines the responsibilities of the works contractors and Main Contractor Site HSE Manager in providing HSE instructions to works contractors on site.

3. PROJECT DETAILS

Project HSE Management Plan

4. REFERENCE DOCUMENTS

Project HSE Management Plan
Lifting and Handling Operations
Control of Lifting Equipment
Scaffolding Procedure
Control of Material Safety Data Sheet
Incident/Accident Investigating and Reporting Procedure
Safety Permit to Work
Auditing and Management Review
Temporary Electrical Equipment

5. RESPONSIBILITIES

Project Director

Project Director has the following responsibilities:

- a) To provide the Works Contractors with the information required in advance of contract award, with all site rules, and procedures relevant to safe working.
- b) To inform the Works Contractors of known special conditions, including unusual hazards or risks that may impact on Works contractors execution of works.

Site HSE Manager

Responsibilities for developing, maintaining and updating the HSE instructions for Works Contractors

HSE INSTRUCTIONS FOR CONTRACTORS

6. PROCEDURE

The Main Contractor Site HSE Manager shall prepare HSE Instructions to works contractors, including individual supervisors undertaking (see attachment 1).

The Main Contractor Project Director shall include HSE instructions to works contractors and other relevant reference documents in all works contracts.

He shall ensure, in appointing works contractors, that all works contractors accept and agree to implement the HSE instructions for works contractors.

7. WORKS CONTRACTORS HSE POLICIES

Before commencing work, the works contractor must submit the following documents to the Main Contractor HSE Manager.

- A copy of the works contractor's Health, Safety & Environmental Policy.
- Copies of any safe working procedures which the works contractor issues to his own employees.
- A copy of the work contractors Project Specific Health, Safety and Environmental Plan before commencement of work and within 30 days of award of contract.

The Main Contractor Project Management Plan is readily available and will be given to and reviewed by the works contractor before commencing work.

8. RECORDS

- Agreed HSE Instructions for Works Contractors
- Works Contractors HSE Policy Statements
- Works Contractors HSE Procedures
- Works Contractors HSE Plan

ATTACHMENT 1

HSE INSTRUCTIONS TO WORKS CONTRACTORS

INTRODUCTION

These instructions are issued to Works Contractors carrying out the work on the project. They summarise the Health, Safety & Environmental rules and procedures which the Works Contractor is required to follow when undertaking work.

The instructions are produced primarily for the use by the Works Contractors management and supervisory staff who are required to ensure that the rules and procedures are brought to the notice of all the Works Contractors employees and that such rules and procedures are strictly followed.

If there is any doubt or misunderstanding about the contents of his procedure the Works Contractor should consult the Main Contractor Site HSE Manager for clarification. Where the works contractor requires special precautions or more detailed guidance on HSE procedures, he should discuss this with the Main Contractor site HSE Manager or discipline managers prior to commencement of his work.

THE RESPONSIBILITY FOR ENSURING THAT WORKS CONTRACTOR'S EMPLOYEES AND ITS LOWER TIER SUBCONTRACTOR'S EMPLOYEES UNDERSTAND AND COMPLY WITH THE RELEVANT HSE PROCEDURES RESTS WITH THE WORKS CONTRACTOR HIMSELF.

HSE INSTRUCTIONS FOR CONTRACTORS

SUPERVISORS UNDERTAKING

NAME OF CONTRACTOR :

ADDRESS :
.....
.....

TYPE OF WORK TO BE CARRIED OUT :

SIGNATURE :

POSITION IN COMPANY :

DATE :

Notes:

1. This undertaking must be signed by the receiving Supervisor. It must be returned to the Main Contractor Site HSE Manager with a copy to the Main Contractor Site Manager, before commencement of work.
2. This undertaking is only valid for the duration of the particular contract for which it was signed. Any subsequent contracts require a renewal of the undertaking.

HSE INSTRUCTIONS FOR CONTRACTORS

HEALTH, SAFETY & ENVIRONMENTAL INFORMATION FOR SUPERVISORS

SECTION	SUBJECT
1.	TERMS USED
2.	CONTRACTUAL OBLIGATIONS
3.	LEGAL OBLIGATIONS
4.	PERSONAL PROTECTIVE EQUIPMENT
5.	HSE ORIENTATION AND SITE ACCESS
6.	SUPERVISOR AND HSE OFFICERS - LANGUAGE
7.	HSE STAFFING
8.	PERMIT TO WORK
9.	RISK ASSESSMENTS
10.	METHOD STATEMENTS
11.	PRE-JOB DISCUSSION
12.	WORKING AT HEIGHTS
13.	MAN RIDING BASKETS
14.	SAFETY HARNESS
15.	SCAFFOLDING
16.	LADDERS
17.	STEEL ERECTION
18.	FIRE PROTECTION
19.	HOT WORK (GENERAL)
20.	WELDING
21.	USE OF GAS & OXYGEN EQUIPMENT
22.	EXPLOSIVES
23.	COMPRESSED AIR
24.	ABRASIVE WHEELS
25.	CARTRIDGE OPERATED FIXING TOOLS
26.	SUBCONTRACTORS TOOLS & EQUIPMENT
27.	MECHANICAL PLANT & EQUIPMENT
28.	MACHINERY GUARDING
29.	NOISE
30.	MOBILE CRANES
31.	LIFTING EQUIPMENT
32.	REPORTING OF ACCIDENTS/INCIDENTS
33.	WORK IN CONFINED SPACES
34.	THE EXISTING ENVIRONMENT AND ASSOCIATED HAZARDS
35.	ELECTRICITY
36.	EXCAVATIONS AND OPENINGS
37.	GRIT BLASTING
38.	WORKING OVER WATER
39.	CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH (COSHH)
40.	DIVING OPERATIONS
41.	RADIOGRAPHY
42.	HOUSE KEEPING AND REMOVAL OF MATEIALS
43.	ENERGY SOURCES
44.	TRANSPORT
45.	ACCESS
46.	FIRST AID FACILITIES
47.	WELFARE OF EMPLOYEES
48.	GENERAL RESTRICTIONS
49.	SITE NOTICES
50.	ENVIRONMENT

- 51. REGISTERS
- 52. AUTHORISATION

APPENDICES

- 1. CONTENTS OF FIRST AID BOXES
- 2. CONTROLS FOR HAZARDS COMMON TO THE CONSTRUCTION INDUSTRY
- 3. REFERENCE HSE PUBLICATIONS

HSE INSTRUCTIONS FOR CONTRACTORS

1. TERMS USED

- 1.1. Client :
- 1.2. Management Contractor :
- 1.3. Works Contractors : Any contractor who is engaged to carryout works on the project.
- 1.4. The Subcontractor : Any subcontractor and lower subcontractors progressing work on the project.
- 1.5. Approved : Approved by Main Contractor.
- 1.6. Shall : Action must be carried out.

2. CONTRACTUAL OBLIGATIONS

- 2.1. The Works Contractor shall ensure that all equipment, plant, machinery and apparatus brought onto or used on the project is safe and without risk to health, safety, or the environment and is maintained to an acceptable standard. All necessary test and examination certificates must be available at site for inspection by Main contractor at all times.
- 2.2. The company (Main Contractor) retains the right to stop any operation, activity or erection of plant/equipment, etc. If it is considered that there is a hazard to the safety and health of the site personnel (or others) or the possibility of environmental or ecological damage.
- 2.3. The works contractor, his employees and lower tier sub-contractors shall obey any reasonable written or verbal instructions given by Main Contractor, or in the case of emergency, by the Client Representative in respect of health, safety and environmental controls.
- 2.4. The Works Contractor shall ensure all employees are competent in their assigned position, are fit for work under anticipated conditions and are free from infectious disease as evidenced by medical examination.

3. LEGAL OBLIGATIONS

- 3.1. The Works Contractors, their employees and sub-contractors shall confirm, in all respects, to legal requirements issued under Law. The rules and regulations contained in this booklet do not relieve the Works Contractor from legal or contractual obligations. In the event of conflict between law requirements and requirements of this booklet, the more stringent shall apply.

4. PERSONAL PROTECTIVE EQUIPMENT

- 4.1. The Works Contractor shall ensure that his employees and those of his lower tier sub-contractors are provided with all necessary requirement and that his employees properly wear and store such equipment.

HSE INSTRUCTIONS FOR CONTRACTORS

- 4.2. The Works Contractor shall ensure that personnel protective equipment is properly maintained in good order and replaced at no charge when defective, or lost.
- 4.3. All protective equipment shall conform to a standard approved by Main Contractor, be fit for purpose and be comfortable.
- 4.4. Works Contractors employees shall wear the required personal protective equipment. Disciplinary action shall be taken against employees not doing so, and where appropriate, their line supervision.
- 4.5. PPE Standards

Safety Helmets – shall meet BS, AS, DIN or ANSI standards. Safety helmets shall be fitted with a chin strap where the regulations require it.

The colour of safety helmets shall comply with the following requirements:

Client, Main Contractor and other Staff	-	White
Works Contractors Supervisory Staff	-	White – with their company logo in front of the helmet across the crown.
Subcontractors workforce	-	yellow
Works Contractors Scaffolders	-	Red

Eye Protection

Eye protection for operations such as welding, burning, grinding, etc. shall meet BS, AS, DIN or ANSI standards. Where full face visors or welding visors are supplied, they shall be capable of being fitted to the safety helmet. In certain situations, alternative welders visors may be permitted with the written authorization of the Main Contractor Site HSE Manager.

Hearing Protection

Hearing protection shall consist of disposable ear plugs, ear insert plugs or ear muffs which meet BS, DIN, AS or ANSI standards. Attenuation characteristics shall be sufficient to reduce noise levels to below 85 db (a). Otherwise the exposure time of the workers shall be monitored and controlled.

Respiratory Protection

Respiratory Protection Equipment (RPE) must be suitable for the hazards presented by the workscope i.e the potential health problem which could arise. Disposable respirators for nuisance dusts shall comply with BS, DIN, AS or ANSI standards.

Respiratory protective equipment for other types of work i.e. paint spraying or using other toxic materials, shall be detailed exactly in the work method statement, a copy of which shall be given to the Site Main Contractor HSE Manager (see section 9 and 10). All such RPE shall comply with BS, DIN, or ANSI standards. A test and maintenance schedule shall be put in place for RPE, as required (e.g. BA sets).

HSE INSTRUCTIONS FOR CONTRACTORS

Safety Footwear

Shall be to BS, DIN, AS or ANSI standards. They shall have steel toe caps inserted into the boot.

Gloves

General purpose gloves shall be to BS, DIN, AS or ANSI standards. They shall have canvas backs and leather hide palms.

Welders gauntlets shall be to BS, DIN, AS or ANSI standards.

Rubber, vinyl or nitrile coated gloves issued to Works Contractors employees using hazardous substances shall meet BS, DIN, AS or ANSI standards. The type of glove, appropriate to the substance being handled shall be detailed exactly in the work Method Statement, a copy of which shall be given to the Main Contractor site HSE Manager (see section 9 to 10).

Safety Harnesses

Shall comply with BS or ANSI standards and shall be full harness. Safety belts shall not be used as fall arrest equipment on site unless prior authorization is obtained in writing from the Main Contractor Site HSE Manager.

Inertia Reels

Inertia Reels shall be to BS, DIN, or ANSI standards.

Overalls

The wearing of loose clothing or robes on site is not permitted. Within the construction site overalls of cotton or poly-cotton must be worn. Staff may wear shirt and trousers.

Welders shall be provided with fire Retardant Overalls (cotton or wool).

Other PPE

All personal protective equipment shall be to BS, DIN, AS or ANSI standards. Types of other PPE issued shall be detailed in the Work Method Statement, a copy of which shall be given to the Main contractor Site HSE Manager (see section 10).

- 4.6. Basic mandatory personal protective equipment to be worn by all site employees shall be safety helmet, safety footwear, gloves and overalls.
- 4.7. Works Contractors labour should be readily identifiable by bearing either the name or logo of their company on their helmet or overalls.

HSE INSTRUCTIONS FOR CONTRACTORS

5. HSE ORIENTATION & SITE ACCESS

- 5.1. The Works Contractor shall ensure that each of his employees attends the HSE orientation (induction) course organized by Main contractor in addition to their own induction.
- 5.2. The Works Contractor shall, before work commences, furnish the Main contractor Security Officer/HSE Manager with the following documents, for each employee intended to work on site.
 - Name and trade of the employee
 - 2 Nos. ID cards size photographs
 - Valid Omani Work Permit copy
 - Photocopy of Omani driving permit for any type of vehicle which he may wish to drive on site (for drivers and plant/crane operators)

6. SUPERVISOR & HSE OFFICERS – LANGUAGE

- 6.1. For effective communication, all Works Contractors Supervisors and HSE Officers shall be fluent in English and in the language of their workers for whom they are responsible.

7. HSE STAFFING

- 7.1. Where a Works Contractor employs more than 5 people onsite, the associated onsite discipline supervisor responsible for HSE must be experienced and trained in HSE matters and an offsite HSE Officer must be appointed to audit and advise on site operations.
- 7.2. Where a Works Contractor employs more that 40 people onsite, a Works Contractors HSE Supervisor shall be employed dedicated to HSE duties full time on site.
- 7.3. The ratio of Works Contractors site based HSE Supervisors to workers shall not exceed 1:100. With the addition of offsite based HSE support personnel, (clerical, training, induction, etc.), the ratio of overall HSE personnel to site based workforce is envisaged to be approximately 1:50.
- 7.4. HSE Supervisors shall be experienced in associated HSE issues and hold relevant qualifications from authorities recognized by Main Contractor.
- 7.5. All visiting Works Contractor HSE Officers shall report to the Main Contractor Site HSE Manager.
- 7.6. The Works Contractor HSE Officer shall submit on a monthly basis to the Main Contractor Site HSE Manager a detailed HSE Report.
- 7.7. Where a Works Contractor employs more than one HSE Officer on site, the above report may be a summation from all his Safety Officers i.e. submitted by the Senior HSE Officer.

HSE INSTRUCTIONS FOR CONTRACTORS

8. PERMIT TO WORK

8.1. Permit to work procedure is applied to protect personnel and plant. It consists of an organized and predefined HSE procedure forming a clear record of all foreseeable hazards which have been considered in advance. Correct operation of the system ensures that:

- Only one authority issues permits to allow personnel to work.
- Only authorized supervisors shall request and receive permits.
- All personnel are aware of safety measures required to be taken.
- The area affected by the work is clearly defined and isolated if necessary.
- The period of time during which the work may take place is clearly defined.
- The correct protective clothing and equipment is provided and used.
- Appropriate management are aware of the work in progress.

8.2. Permit to work shall be required for the following activities:

- Hot Work.
- Entry into equipment or any confined spaces.
- Temporary electrical work (where electrical isolation procedures apply).
- Excavation below 1.2 m in depth.
- Radiography.
- Spray painting and grit blasting, which might effect other workers on site.
- Use of cartridge tools.
- Use of man baskets.
- Diving operations, if any.

In addition to the above activities, permits shall be considered for any potentially hazardous activity where an extra degree of work control is considered to be appropriate.

8.3. Works Contractors supervisory personnel shall be authorized by Main Contractor to request and sign for receipt of permits to work, after suitable training.

8.4. In live plant areas, and during start-up and commissioning activities, additional permits shall be required.

9. RISK ASSESSMENTS

9.1. Works Contractors shall produce risk assessments for all works under their control. The risk assessment form shall give written information on the following at least 48 hours before the job commences.

- Identification of all hazards applicable to significant risk activities.
- Details of measures in place to control the risk.
- A justification that the existing control measures are adequate or if not, a detailed action plan on how the risk(s) shall be controlled.

HSE INSTRUCTIONS FOR CONTRACTORS

- 9.2. Generic risk assessments will not be acceptable for activities which require site specific assessments.

10. METHOD STATEMENT

- 10.1. Works Contractors shall submit for the approval of Main Contractor, work method statements for all work and where the Main Contractor Site HSE Manager or Construction Manager considers the risk from any activity to be significant, these should be issued to the Main contractor's Construction Manager at least 14 days before work is due to commence. Approved method statements will be stamped "For Construction", documented and returned to the contractor.
- 10.2. In addition to work associated with permits to work, overall work method statements shall be submitted for the following:
- Heavy lifts as specified by the Construction Manager.
 - All hot work.
 - Erection of steel (including flooring and handrails).
 - Excavation of 1.2 m or more.
 - Heavy lifts exceeding 10T, of a complex nature.
 - Pile driving.
 - Steel erection.
 - Grit blasting.
- 10.3. The work method statement shall detail:
- The job to be undertaken.
 - The individual activities required to complete the job.
 - The individual trades/disciplines involved in each activity.
 - Plant, equipment, tools to be used in each activity.
 - Any substance/chemicals to be used and where and during which activity they shall be used (together with a COSHH assessment).
 - The name(s) of the supervisor(s) for each activity.
 - The name of the person in overall charge of the job.
 - A detailed description of how the work shall be done including control measures and procedures to complete each activity and the overall job safely.
 - A risk assessment as mentioned in section 9.1.
- 10.4. All work method statements shall be reviewed and approved by Main Contractor construction Manager and/or the Main Contractor Site HSE Manager, as appropriate.
- 10.5. Compliance with the standards detailed on the work method statement and relevancy to current operations shall be monitored on a daily basis and reviewed during Works Contractors HSE Management meetings.

HSE INSTRUCTIONS FOR CONTRACTORS

11. PRE-JOB DISCUSSION

- 11.1. The Works Contractor shall ensure that its supervision, in direct charge of a job fully briefs and discusses with the employees doing the job, the following matters prior to the job commencing each day:
- Nature of the job.
 - Associated hazards.
 - Safe working method to be adopted and PEE requirements.
 - Requirements of the Permit to Work, if any.
- 11.2. The Works Contractor shall also ensure that all of its employees are aware of the requirements contained within these instructions.

12. WORKING AT HEIGHTS

- 12.1. Works Contractors must provide their own access arrangements, e.g. scaffolding, ladders, etc. unless otherwise agreed with the Management Contractor.
- 12.2. Where Works Contractors provide own means of access, such arrangements must be in accordance with all legal requirements and relevant site standards.
- 12.3. Scaffolding must only be erected or dismantled by suitably trained, qualified and competent scaffolders.
- 12.4. Any work which results in opening being created where persons can fall through, or removal of side walling/barriers where persons can fall must be effectively protected to prevent injury and shall require a detailed method statement, work permit and designated supervisor.
- 12.5. Materials, equipment and/or plant shall be properly secured to prevent them falling from height. Where there is a danger of falling material, effective steps ie. Solid barriers and warning notices must be taken to prevent access below and warn people about the hazard.
- 12.6. Crawling boards must be used by Works Contractors who work on fragile or sloping roofs where personnel can fall through or from the roof. Fall protection barriers must be erected around all roofs, before work commences.
- 12.7. Reference should be made to the section of these instructions covering "Scaffolding" (15), "Man Riding Baskets" (13) "Safety Harness" (14) etc where appropriate. Safety harnesses, lifelines and fall arresters shall be used where staging, scaffolding or other safe means of access is not practicable.

HSE INSTRUCTIONS FOR CONTRACTORS

13. MAN RIDING BASKETS

- 13.1. When the carriage of personnel by crane is required, the man riding basket must be suitably tested, have a current test certificate and be clearly marked "Man Riding Only". All wire ropes and other attached lifting equipment must also have a current valid test certificate.
- 13.2. All cranes used for carrying personnel must be provided with a dead man's handle facility to ensure that the brake is applied when the control lever is released. Crane hooks must be fitted with safety catches or equivalent and the operator must be in his cab at all times during crane operation.
- 13.3. At no time shall be crane be allowed to be used in a free fall situation. Cranes must have power lowering capabilities for carrying men.
- 13.4. Limit devices must be fitted to the cranes to ensure that the carrier cannot be raised above the over hoist limit of the crane. The limit switch must be tested, daily, before raising persons in the baskets.
- 13.5. All employees using man riding basket must be secured inside the basket by a safety harness. The safety harness must be secured to the master link of the supporting sling or to the hook of the crane except when working over water when a buoyancy aid must be worn.
- 13.6. Man riding baskets may only be used when an appropriate work permit has been issued by Main Contractor.

14. SAFETY HARNESES

- 14.1. Where it is impracticable to provide a standard working platform and the working height exceeds 2m, full body safety harnesses must be worn. When working on open steel or erecting/dismantling cantilever or handling scaffolding a securely attached safety harness and where required, an inertia reel, must be worn.
- 14.2. Safety harnesses must be approved to BS or ANSI standards, properly maintained and inspected at monthly intervals. A record of such inspections shall be kept by the Works Contractor.
- 14.3. Where safety lifelines are not adequate, an inertia reel shall be supplied by the Works Contractor. Six monthly examination and certification of inertia reels shall be carried out by an independent examiner, in addition to the normal monthly checks carried out by the Works Contractor.
- 14.4. Colour coding on inertia reels shall be as per lifting equipment (Section 31).
- 14.5. Works Contractor employees shall not move a distance of more than 3m (10 ft) horizontally away from the inertia reel secure anchorage point.

HSE INSTRUCTIONS FOR CONTRACTORS

15. SCAFFOLDING

- 15.1. All scaffolding must be manufactured to British Standards and be erected in compliance with BS 5973: 1993 Code of Practice for Access and Working Scaffolds and special scaffold structures in steel.
- 15.2. Scaffolding must not be disturbed or altered by any unauthorized persons. Where alterations are required, they must contact the authorized scaffolders who shall manage the performance of the work under competent supervision using experienced scaffolders.
- 15.3. Where materials are to be positioned on scaffolding the Works contractor must ensure that the scaffolding has been designed to carry the load, is of adequate strength and is not overloaded.
- 15.4. Before use, scaffolding shall be inspected by an authorized scaffold inspector who shall complete a 'scaffold tag' and secure it in a prominent position at the base of all ladder access points. The scaffolding tag shall clearly show the following information as a minimum:
 - Location
 - Reference No.
 - Requested by
 - Access Scaffold Classification
 - Maximum Distributed Load/Working Lift\
 - Date Erected
 - Erected by
 - Inspected by
 - Subsequent weekly inspections
- 15.5. Scaffolds shall be inspected at weekly intervals by the Authorised Scaffold Inspector who shall sign and date the "Scaffold Tag" after each inspection. Scaffolding not considered safe shall have the scaffold tag withdrawn and a prominent "DO NOT USE" sign displayed.
- 15.6. A scaffold register shall be kept by the Authorised Scaffold Inspector. This shall contain:
 - Date of first and subsequent weekly inspections
 - Individual identification of all Scaffolds which shall be cross referenced to the scaffold tag identify number.
 - Clear name and signature of the Authorised Scaffold Inspector against each separate scaffold inspected.
- 15.7. No scaffold may be erected which impedes normal access or can be accidentally struck by moving plant without prior consultation with Main Contractor so that a safe system of work can be agreed.
- 15.8. Works Contractors are not permitted to erect or carry scaffolding near live overhead electrical cables, or equivalent because of the danger of tubes making accidental contact with electrically charged apparatus.

HSE INSTRUCTIONS FOR CONTRACTORS

- 15.9. If there is any doubt about the security of any anchorage, suspension points or ties for a scaffold e.g. strength of existing building/structures, or those under construction, Main Contractor must be consulted before proceeding with erection.
- 15.10. All scaffolds must be provided with suitable access and where ladders are used for this purpose they must be of an adequate length and properly secured by lashing or fixing to prevent displacement.
- 15.11. Action shall be taken to warn personnel against using partly erected or dismantled scaffolds. A prominent "DO NOT USE" sign shall be clearly displayed.
- 15.12. An approved standard for scaffolding shall be issued to scaffolding contractors separately.
- 15.13. The siting of scaffold material racks/compounds shall be approved by Main Contractor.
- 15.14. Mobile scaffolders shall not be constructed with a height greater than 3 times the minimum base width, and shall only be used on paved or prepared surfaces.
- 15.15. Hydraulic platforms shall only be operated by approved, trained operators.

16. LADDERS

- 16.1. Only properly manufactured ladders to British Standards, or equivalent shall be used on site. Site assembled ladders of nailed timbers, welded re-bar, etc., shall not be permitted.
- 16.2. Ladders must be in good condition and free from defects i.e. broken rungs, split stiles.
- 16.3. Ladders must not be painted to hide defects.
- 16.4. Ladder must:
 - Be securely fastened at the top
 - Be properly positioned at the base
 - Extend at least 1m (5 rungs) above the working platform
 - Be at an angle of 300 mm (1') out for every 1.2 m (4') vertical drop.
- 16.5. Ladders shall be inspected and colour coded as per lifting equipment (Section 31) and a record of inspection retained by the Works Contractor.
- 16.6. Ladders used by electricians must be wooden or non conductive.

HSE INSTRUCTIONS FOR CONTRACTORS

17. STEEL ERECTION

- 17.1. The weight of each component in excess of 500 kg shall be clearly marked upon it.
- 17.2. Erectors must be fully informed of the correct erection sequence, by their supervision, prior to each stage of work commencing.
- 17.3. Vertical access provision should whenever possible be fixed to the steel before it is lifted into position. Where this is not possible, permanent access i.e. stairways, permanent metal ladders shall be installed as early as possible.
- 17.4. Where horizontal access along structural members is required, as much work as possible must be completed before the steel is lifted into position. This includes:
 - Fixing of handrails or posts for securing steel wire ropes to be used in conjunction with safety harnesses or inertia reels.
 - The fixing of scaffold tubes (needles) to the lower flange of an I-beam to allow a working platform to be erected.
- 17.5. Where scaffold tubes (needles) are used they shall not support a working platform wider than three boards, or one lightweight staging without being "picked up" (rakered back).
- 17.6. Where no ladder access, permanent stairway etc., leads onto working platform, as described above, employees shall use man riding baskets (see Section 13).

18. FIRE PROTECTION

- 18.1. Works Contractors must ensure that adequate fire precautions are taken whilst carrying out their activities, especially where these activities involve hot work, e.g. burning, welding, grinding, etc.

Adequate fire precautions include:

- Provision of the correct type of fire extinguisher (normally dry powder). N.B. Halon is not permitted.
- The ability of Works Contractors employees to use the fire extinguishers.
- Where there is a high fire risk or a risk of injury to other workers through sparks or hot slag, the area shall be sheeted in with flame retardant blankets.
- In high fire risk areas it may be necessary to sheet the work area with flame retardant blankets, provide additional fire fighting means and nominate a dedicated fire watcher.
- More than one escape route shall be provided from hot works being executed from access scaffold.

HSE INSTRUCTIONS FOR CONTRACTORS

- 18.2. Works Contractors must ensure that their employees are aware of the correct procedures to be followed in the event of a fire alarm/evacuation situation.
 - 18.3. Works Contractor employees must know the location and, have been trained in the correct use of:
 - Fire extinguishing equipment
 - Alarm call points
 - Emergency telephones
 - Escape routes and fire exits
 - Assembly points
 - Equipment stopping on alarm
 - 18.4. Works Contractors must ensure that their employees participate fully in any evacuation exercises.
 - 18.5. Works Contractors offices/cabins shall have at least one water type extinguisher and one dry powder, (if electric supply is connected), located at the access/exit door. No point within any office/cabin shall be more than 20m from a fire extinguisher.
 - 18.6. Any engine driven plant brought onto site shall have one Dry Powder extinguisher mounted on it.
19. HOT WORK (GENERAL)
- 19.1. Hot work is defined as burning, welding, grinding etc. (Any activity which could generate a spark is considered hot work).
 - 19.2. An adequate amount of dry powder fire extinguishers shall be located within close proximity of hot work areas (Halon is not permitted).
 - 19.3. In areas of high fire risk, a dedicated trained fire watcher shall be positioned at the worksite or risk area.
 - 19.4. All slag and sparks must be contained within the immediate work area.
 - 19.5. Temporary fabrication shelters must be made of flame retardant material.
 - 19.6. Welding and burning on certain materials may give rise to hazardous fumes. In certain areas local exhaust ventilation shall be used as agreed between the Works Contractor and Main Contractor. In other more open areas respiratory protective equipment shall be worn. (Welding of galvanized fittings is to be avoided, but when required, respiratory protection must be worn).
 - 19.7. Hot work shall not normally be carried out in office or accommodation areas.
 - 19.8. All hot works required a hot works permit.

HSE INSTRUCTIONS FOR CONTRACTORS

20. WELDING

- 20.1. Welding sets shall be in good condition, properly maintained and locally earthed.
- 20.2. Isolation switches on welding sets shall be readily accessible.
- 20.3. Terminals and live components shall be adequately protected.
- 20.4. Cables shall be frequently inspected to ensure the insulation is intact.
- 20.5. Damaged cables or electrical holders shall be properly repaired or replaced.
- 20.6. The welding return cables shall be secured onto the work piece. If this is not practical it shall be as near as possible to the work piece.
- 20.7. Proper cable connectors shall be used when connecting runs of cables.
- 20.8. Welders shall wear:
 - Face and eye protection with correct grade of filter
 - Welders gauntlets
 - Long sleeved flame retardant overalls (cotton or wool)
 - Neck protection cotton hoods
- 20.9. Welding areas should whenever possible be screened off using flame retardant sheeting or other suitable material.
- 20.10. D.C. Welding sources shall be used unless permission in writing is received from Main Contractor.
- 20.11. Cable routing shall be managed to keep runs as short as practical and to prevent trip hazards.
- 20.12. Electric arc welding equipment and accessories shall conform to BS 638 or equivalent.

21. USE OF GAS & OXYGEN EQUIPMENT

- 21.1. Where Works Contractors bring their equipment onto the project, such equipment must comply with approved standards.

Cylinders shall comply with BS or equivalent standards and shall be:

- In good condition and not suffering from corrosion
- Properly colour coded i.e. black-oxygen, maroon-acetylene, red-LPG, blue-argon, etc.
- Individually identified
- Accompanied by a valid test certificate

HSE INSTRUCTIONS FOR CONTRACTORS

Hoses shall be properly colour coded to the internally recognized standard for the gas being used, in good condition and fitted with hose connectors attached by permanent clips.

Check valves and flash back arresters must be used on both hoses at all times.

- 21.2. The equipment used by Works Contractors must be properly maintained. Suspected leaks may be confirmed by a soap solution. If the leak cannot be cured, the equipment must be withdrawn.
- 21.3. Users shall check the equipment for perished or damaged hoses, regulators, and pressure gauges, etc. Defects must be reported to their supervisors for repair or replacement.
- 21.4. Gas cylinders must not be left lying around. Arrangements should be made to store cylinders in a shaded, open mesh fenced compound. Before constructing any temporary gas compound or using an existing gas storage area, contractors must obtain permission from Main Contractor's HSE Manager.
- 21.5. The contractor must provide suitable facilities to minimize manual handling of cylinders.
- 21.6. Cylinders must be in trolleys, or tied off when on site.
- 21.7. Oxygen and fuel gas cylinders shall be kept separate with a minimum separation distance of 4m. Cylinders must never be stored or used in a horizontal position but must be secured in an upright position. Empty cylinders must also be separated from full cylinders.
- 21.8. All gas cylinders must be handled with care and they must not be misused or abused. Cylinders must be properly shut off when not in use and safety caps **MUST** be fitted when cylinders are moved.
- 21.9. Great care must be taken to ensure that gas equipment. Including hoses, are not allowed too cause obstruction of roadways, walkways, manholes, ladders or other means of access where they can cause hazards or be damaged. Hoses not in use must be coiled up and put in a safe place. Hose should wherever possible be supported off the ground.
- 21.10. Where any operation involves the use of gas and oxygen equipment in enclosed or semi-enclosed spaces, contractor's supervision must carry out frequent checks to ensure compliance with these procedures and that there is adequate ventilation.
- 21.11. During meal breaks and at stopping times, hoses and equipment must be removed from confined spaces. Oxygen or gas cylinders must not be taken into confined spaces. Oxygen or gas cylinders must not be taken into confined spaces for use or storage.
- 21.12. No modification to tanks or drums which have contained flammable liquid shall be undertaken at the site.
- 21.13. The torch shall only be lit using a lighter designed for this purpose.

HSE INSTRUCTIONS FOR CONTRACTORS

21.14. Hoses shall be routed to avoid trip hazards or damage.

22. EXPLOSIVE

22.1. NO EXPLOSIVE SHALL BE ALLOWED ON SITE without the prior authorization in writing of the Main Contractor's Site HSE Manager, other than cartridges used in cartridge operated fixing tools (See Section 25).

23. COMPRESSED AIR

23.1. All air receivers and compressors shall be in good condition and properly maintained.

23.2. Air receivers shall be individually identified and marked with their safe working pressure.

23.3. Air receivers shall be accompanied by a valid test certificate which shall be kept on site by the contractor and shown to the Main Contractor's HSE Manager before bringing the vessel onto site.

23.4. All air receivers must be fitted with a properly set pressure relief valve.

23.5. Air receivers shall be examined and the pressure relief valves tested by an independent examiner at yearly intervals.

23.6. The contractor shall keep onsite all current certification and a register of all air receivers containing:

- Individual identification numbers
- Dates of independent inspections
- Name and signature of independent examiner
- Rated safe working pressure
- Pressure at which pressure relieve valve lifte

23.7. All compressed air fittings shall be wired and/or restrained to prevent them from whipping should the coupling to broken.

23.8. Only hose clamps designed for compressed air service shall be used. Worm drive (Jubilee) clips are not acceptable.

23.9. COMPRESSED AIR MUST NEVER BE USED FOR CLEANING CLOTHES

24. ABRASIVE WHEELS

24.1. Contractors must ensure that all of their employees authorized to change Abrasive Wheels have attended a Main Contractor approved training course and have been appointed in writing by contractor's site manager.

24.2. Contractor's employee authorized to change wheels must be in possession at all times on site, of a letter detailing their appointment in writing.

HSE INSTRUCTIONS FOR CONTRACTORS

- 24.3. Details of each employee trained must be entered in the contractor's Abrasive Wheels Register kept on site. Contractors must produce certificate and register on request.
- 24.4. Machines used to drive abrasive wheels must be in good condition, properly guarded and have the operating speed clearly marked on them.
- 24.5. Pedestal or bench mounted grinders must have an emergency stop button and be fitted with a properly adjusted tool rest.
- 24.6. All hand held grinders shall have a "Dead Man" switch.

25. CARTRIDGE OPERATED FIXING TOOLS

- 25.1. Contractors who intend using cartridge operated fixing tools must produce a written Method Statement detailing the following:

- Authorized users
- Training given
- Storage arrangements for machines and cartridges
- Control measures for issue and return of equipment
- Limitation on other type of work undertaken
- Safety precautions required during use
- Means by which cartridges shall be disposed or
- Type of cartridge(s) to be used

All such Method Statements shall be given to the Main Contractor's Site HSE and Construction Managers. (Timings for submission of Method Statements shall be as per Section 10).

- 25.2. Authorized persons must be properly trained and competent in the safe use of the equipment and must be in possession of a certificate detailing their appointment in writing.
- 25.3. Mis-fires, penetrations through the fixing material or other accidents/incidents must be reported to the Main Contractor's Site HSE Manager, in writing.
- 25.4. Tools, safety cartridges and fasteners must be from a single supplier to ensure compatibility.

26. CONTRACTORS TOOLS & EQUIPMENT

- 26.1. All contractors tools and equipment must be suitable and adequate for the purpose. Tools should be CE marked, (or comply with equipment standards).
- 26.2. Guards and electrical trip switches must work effectively and must not be altered, removed or by-passed.
- 26.3. All tools shall be maintained in a safe working condition.
- 26.4. The contractor shall provide suitable storage with suitable racks and bins for storing tools and equipment.

HSE INSTRUCTIONS FOR CONTRACTORS

- 26.5. The contractor shall nominate or employ the services of a competent qualified electrician to inspect and tag electrically powered hand tools, transformers, distribution boards, extension cables etc. on a three monthly basis at least. The tag shall display name and signature of the individual inspecting the tool, date of inspection and shall be ticked to indicate the tool is safe for use. The contractor shall forward the name and qualification of the qualified electrician to the Main Contractor's Site HSE Manager for approval prior to the appointment of the position.
- 26.6. The contractor shall keep on site a register of all electrically powered hand tools in use, including the following details:
- Individual identity number of the tool
 - Name, signature and company of the qualified electrician carrying out the inspection
 - Date of inspection
 - Remarks on condition of tool and whether repaired or withdrawn from use
- 26.7. No electrically powered hand tool shall be used unless it is tagged with a current "SAFE FOR USE" tag.
- 26.8. All electrical leads must be connected to the power source through standard colour coded industrial water proofed plugs and sockets, which shall be in good condition.
- 26.9. All electrical tools shall be 110V – 55V to earth, (see Section 34).
27. MECHANICAL PLANT & EQUIPMENT
- 27.1. Mechanical plant and equipment includes, but is not limited to:
- Earth moving plant
 - Road making plant and equipment
 - Concrete batching plant and mixers
 - Forklift trucks
 - Miscellaneous plant including generators and compressors
 - Powered access equipment (e.g. scissor lift, cherry picker, etc.)
 - Pile Driving Equipment
 - Mobile plant (mechanically propelled vehicles)
- 27.2. Maintenance
- 27.2.1. All times of mechanical plant brought on to the project shall be in a safe and sound condition and shall be properly maintained.
- 27.2.2. A programme of regular preventative maintenance shall be established by the contractor, as per the manufacturer's handbook, to ensure that all plant and equipment is systematically inspected, maintained and repaired as necessary.

HSE INSTRUCTIONS FOR CONTRACTORS

- 27.2.3. The preventative maintenance programme and the contractor's employee responsible for taking the action shall be clearly detailed, identified and submitted to Main Contractor.
 - 27.2.4. A safe system of work must exist during all maintenance and repair operations to ensure that no part of the machinery is set in motion while work is being carried out.
 - 27.2.5. Plant maintenance must not be carried out within the main construction site without prior authorization in writing from Main contractor.
 - 27.2.6. Where refueling is required, facilities provided shall be adequately covered by fire extinguishers, earthing, warning signs, bunding and proper fuel dispensers.
 - 27.2.7. All waste oils must be collected and recycled, or disposed as agreed with Main Contractor. A record of disposal shall be maintained by the contractor.
- 27.3. Competency
- 27.3.1. All drivers and operators of mobile plant shall in possession of the appropriate Emirates Licence for the classes of vehicle.
 - 27.3.2. All drivers, operators and banksmen of mobile plant shall be trained by the contractor. Main Contractor shall assess their competency through a short practical test and authorize them for site operations.
 - 27.3.3. The names and licence details of all proposed drivers and operators of mobile plant along with the class of vehicle to be operated shall be given in writing to the Main Contractor's Site HSE Manager at least 24 hours before work commences. All drivers and operators shall be tested on site by Main Contractor and given written authorization to operate.
- 27.4. General
- 27.4.1. Every dangerous part of machinery shall be securely guarded.
 - 27.4.2. Any guards removed for maintenance or repair purposes must be replaced before the machine is set in motion.
 - 27.4.3. Mobile plant shall not carry passengers unless a proper fixed seat is provided.
 - 27.4.4. Mobile plant must be parked on firm level ground, the engine stopped, brakes on, any load or attachment lowered to the ground and the keys left in the ignition when left unattended.
 - 27.4.5. No mechanical plant or equipment shall be sited on or operated on any area of the project without the permission of Main Contractor.

27.4.6. All items of mobile plant shall be fitted with a reverse warning audible alarm.

27.4.7. All drivers/operators of mobile plant shall strictly obey the instructions of the site security, traffic regulations and speed limits. A banksman shall be in attendance during reversing procedures.

27.5. Inspection.

27.5.1. Mobile equipment, including but not limited to pile drivers, HIABs, fork lift trucks, cherry pickers or similar equipment, or any type of mechanical man lifting equipment, shall NOT be permitted to enter the site until the relevant documentation and operator's competency are checked and cleared by Main Contractor. Request for entry/inspection shall be submitted to Main contractor HSE at least one working day in advance.

28. MACHINERY GUARDING

28.1. Non authorized personnel must not operate, interfere or tamper with plant or equipment.

28.2. Persons authorized to use machines must first check that guards are in position and that any other safety devices, e.g. emergency stops, are in working order.

28.3. All plant or equipment brought onto project premises must be properly guarded to prevent injury, and be CE marked, (or to a standard equivalent to the European Union Machinery Directive 89/392/EEC).

NO GUARD OR FENCE MAY BE ABSENT FROM MACHINERY DURING OPERATION.

29. NOISE.

29.1. Ear protection zones shall be clearly identified by the contractors. Contractors must ensure that their employees are provided with and use suitable approved hearing protection when working in these zones.

29.2. Where contractors bring plant or machinery onto site they must ensure that noise levels produced are as low as is reasonably possible, at least to manufacturers designed specification.

29.3. Contractors must advise Main Contractor HSE Manager if they anticipate excessive noise levels from their operations to enable all reasonably practicable precautions to be taken to protect persons who may be affected.

29.4. Where noise levels from operations exceed 85 Db(a) all employees involved in the operation shall be supplied by the contractor with suitable, Main Contractor approved hearing protection.

30. MOBILE CRANES.

30.1. All cranes, whether owned by the contractor or hired, must carry relevant test certificates and through examination reports, together with the manufacturers handbook. This documentation must be submitted to Main Contractor HSE for

- From to - Orange
- From to - Yellow
- From to - Dark Blue
- From to - White
- From to - Light Blue
- From to - Pink

- 31.2. Copies of all test and examination certificates must be available on contractors site premises for inspection by the Main Contractor Representative or visiting authority.
- 31.3. A register of all lifting equipment used by the contractor shall be kept by a contractor nominated employee.
- 31.4. The Main Contractor Site HSE Manager shall be notified by the contractor of the name of the nominated employee, charged with ensuring lifting equipment is inspected and the register maintained.
- 31.5. The nominated employee shall receive all lifting gear on its arrival on site and ensure its proper storage in a rigging store. He shall further:
- Ensure each item of lifting gear is accompanied by a valid certificate and keep all such certificates for examination by Main Contractor.
 - Enter the details of all lifting equipment received on site into the register which shall have details of the lifting gear identification number and safe working load.
 - Ensure that all items of lifting gear are properly colour coded as per 31.1 of Instructions and that a board showing the current colour code is prominently displayed at the approved rigging store and other appropriate places.
 - Keep a register of all issues of lifting gear, ensure that all items of lifting gear are returned for his inspection on a monthly basis and enter such inspections into the lifting gear register.
- 31.6. The issue of webbing (nylon) slings shall be closely controlled. The nominated employee shall issue webbing slings to a supervisor for one job only and they shall be returned on completion of the job for re-inspection by the nominated employee. The nominated employees shall keep a record of all such issues and returns.
- 31.7. All lifting equipment shall be properly supported by a load bearing member of sufficient strength for the load to be imposed. Where appropriate, beam clamps or proper packing shall be used.
- 31.8. Defective lifting equipment shall be withdrawn immediately from service and returned to the nominated employee.
- 31.9. No item of lifting gear shall be used to support a load greater than the safe working load of the lifting gear.
- 31.10. All lifting gear shall be examined by an independent examiner at 6 monthly intervals and all such examinations shall be entered into the register. Colour codes on every independently examined item of lifting gear shall be charged by the nominated employee as indicated in Section 31.1.

- 31.11. No item of lifting gear shall be used unless it has the current colour code.
- 31.12. No rope of any manufacture may be used for support of restraining purposes, unless certified as appropriate for that use.

32. REPORTING OF ACCIDENTS / INCIDENTS

- 32.1. Contractors must ensure that their employees report all injuries immediately to the Main Contractor HSE Manager.
- 32.2. Contractors must comply fully with the Reporting of Accidents and incidents as detailed in the Main Contractor Incident Investigation and Reporting Procedure.
- 32.3. Details of all accidents / incidents must be submitted to Main Contractor. The contractor's supervisor assisted by the Main Contractor Representatives shall conduct an investigation, complete the Main Contractor Incident Investigation Report Form and forward it to the Main Contractor HSE Manager within 24 hours of the accident / incident.
- 32.4. Facilities, serious injuries, multiple injuries, potential lost time accidents or any incident which could have resulted in any of these injuries, serious damage or loss to plant, equipment, structures or the environment must be reported immediately to the Main Contractor Site HSE Manager who shall inform, where applicable, other authorities.
- 32.5. In the case of serious incident, the contractor shall provide Corporate Senior Management to assist in investigation and review.
- 32.6. Contractors shall not disturb the immediate area surrounding an accident until authorized by Main Contractor.

33. WORK IN CONFINED SPACES

- 33.1. Hazards can be encountered where work is carried out in excavations, tanks, vessels, pipes, or other confined spaces. For this reason the contractor shall be required to produce a detailed method statement.
- 33.2. The following process are especially dangerous when carried out in confined spaces:
 - Paint spraying
 - Extensive preheating (naked flame)
 - Welding
 - Arc air gouging
 - Use of cleaning fluids (Solvents)
 - Grit blasting
 - PUF Spraying

The dangers involved include:

- Asphyxiation
- Explosion
- Fire
- Oxygen enrichment or deficiency
- Dust and fumes
- Noise

(N.B. Many types of equipment will have been filled with nitrogen to prevent corrosion during shipping).

- 33.3. Contractors shall not enter or commence work in any excavation, tank, vessel, pipe, chamber or other enclosed space, unless a valid permit to work has been issued. Where contractor operations may result in a dangerous atmosphere arising during the work activity the Main Contractor permit to work issuing authority must be made aware of this before permit issue.

No new activity shall be introduced into a confined space without the permission and signed approval of the Main Contractor permit to work issuing authority.

- 33.4. Whilst work is ongoing within a confined space, the contractor shall be required to provide a stand by / tally man.

NB: Reference should be made to the "Use of Gas & Oxygen Equipment" section 21 of this procedure if work in confined spaces involves this type of equipment.

34. THE EXISTING ENVIRONMENT AND ASSOCIATED HAZARDS

34.1. Site Context

The project is located in a busy area and is bound by the palace, the sea & jebels.

In addition to these hazards, noise, vibration, dust, water and delivery, vehicles must be controlled to avoid nuisance to the palace, office workers and location residents.

If necessary, a series of vibration and noise monitoring stations will be located around the site at locations agreed with the client to assess the environmental impact of the work.

34.2. Existing Services

Decontamination and demolition of existing buildings will follow services termination and issue of a hand over certificates by the Client's representative. There are no accurate record drawings of the services on the site. The Works Contractors will therefore have to take every precaution that is reasonably practicable to establish actual positions and status of services including the use of hand digging and electronic detection equipment as necessary, by trained competent persons.

It should be appreciated that demolition will be taking place within island sites and services supplying remaining buildings adjacent will remain live during the demolition and construction process.

The Works Contractor shall ensure that Permits to Work are obtained prior to any underground investigative, excavation or ground slab removal works or any works to terminate or modify any live services.

Permits to Excavate and Confined Space Permits will be operated where applicable.

34.3. Existing Structures

The demolition contractor will be responsible for the removal of all chemical contamination and asbestos from all buildings during the soft strip demolition.

All asbestos is to be removed in accordance with The UK Asbestos Regulations. All contamination is to be removed in accordance with The Environmental Protection Act 1990 and as amended, Control of Pollution Act 1972, Waste Management Regulation 1996 & 1997 but not limited to the aforementioned.

35. ELECTRICITY

- 35.1. The contractor will be expected to provide their own electrical power supplies on the work site, unless otherwise specified.
- 35.2. Contractors must not interfere with, or work on, any electrical installation or equipment without prior written consent from Main Contractor Site manager/ M&E Manager.
- 35.3. Where Contractors have to work in the vicinity of electrical equipment in excess of 110 V, they shall apply for a permit to work from Main Contractor. Contractors must take all necessary precautions to avoid accidental contact with live conductors, etc.

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

- 35.4. Repair or installation of any electrical equipment must only be carried out by a competent qualified electrician.
- 35.5. The electrical supply to powered hand tools must not exceed 110 volts, the tool must be centre tapped giving 55 volts to earth. Where this is not possible, due to the type of tool being used, the prior approval of Main Contractor in writing shall be required.

Electrical lighting for use in confined spaces must not exceed 24 volts (and be explosion proof where applicable). Powered hand tools used in confined spaces should, where possible, be air operated.

- 35.6. Contractors requiring to install temporary electrical supply equipment shall submit a temporary electrical supply procedure to Main Contractor for approval. The procedure shall, where necessary, cover installation of 380/440V systems, installation of 110V systems, lighting systems, welding equipment installation, inspection, testing, operation and maintenance of temporary electrical systems.
- 35.7. No temporary electrical supply shall be installed or modified without the arrangement and approval of Main Contractor.
- 35.8. Any tool, plant or equipment exceeding 110 Volts (55V to earth) shall be double insulated, connected to an earth leakage circuit breaker (ELCB), and only used with Main contractor permission.
- 35.9. Cable management to avoid tripping hazards is required.

36. EXCAVATION AND OPENINGS

- 36.1. No excavation work of more than 1.2m in depth (or 0.3m in depth in areas of known buried services) shall be commenced by the contractor unless a valid excavation permit is issued by Main Contractor.
- 36.2. Where "live" services are present, hand excavation must be carried out, for excavations to any depth, until the locations of the services have been identified and made safe.
- 36.3. The contractor must erect suitable hard, (i.e. guardrails) edge protection around excavations or openings. During the hours of darkness any excavation, openings or obstructions near or on roadways and walkways must be indicated by a sufficient number of warning lamps. Guardrails shall not be taken to mean bunting, tape or string.

All excavation work to a depth greater than 1.2m must be properly shored to suit ground conditions.

- 36.4. All excavations to a depth of greater than 1.2m shall have proper ladder access points provided.
- 36.5. Spoil from excavations must be piled at least 1 m from the edge of the hole.
- 36.6. Barriers are to be suitable for the purpose intended, suitably supported, secured, minimum height of 1m and maintained.
 - a) Hard barriers must be used to stop persons falling from one side to the other in situations where injury could result. Acceptable materials for barrier construction include:
 - b) Soft barriers, which will not stop a person falling from one side to the other, are used for demarcation purposes only in situations where injury would not result. Acceptable materials for barrier construction include:
 - Plastic tape
 - String and tape streamers
 - Smaller sized timber

37. GRIT BLASTING

- 37.1. Grit blasting shall be carried out in an enclosed, designated, leveled area, with sufficient safe access both to the area and around the work items.
- 37.2. The grit blasting area shall be indicated by prominent warning signs.
- 37.3. Only proper grit blast, e.g. copper slag, material shall be used. Under no circumstances shall sand be used as an on site operation.
- 37.4. Personnel involved in the actual blasting of material shall be protected by a blast hood meeting approved standards and providing both respiratory and eye protection.
- 37.5. The nozzle shall be fitted with a properly functioning dead means handle and a standby man shall stay by the blast pot.
- 37.6. Stand by men shall be provided with suitable respiratory and eye protection.
- 37.7. Spent grit shall be collected and disposed of properly, (See Section 38.12).

38. WORKING OVER WATER

- 38.1. The contractor shall provide a buoyancy aid to any employee working over, or near, water where there is any possibility of falling in the water.
- 38.2. The contractor shall also supply a sufficient number of life buoys to be permanently located at the point(s) of danger. The life buoys shall be attached to a throwing line.
- 38.3. Where rescue of a person falling into the water may be difficult, Main Contractor may require the contractor to supply a standby boat crewed by a competent boatman, trained in resuscitation techniques. Provision for landing any casualty should be provided.
- 38.4. A detailed method statement for the associated works shall be submitted to Main Contractor.

39. CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH (COSHH)

Refer to project Procedure, control of Material Safety Data Sheet.

- 39.1. Hazardous substances shall be brought onto site without the approval of the Main Contractor Site HSE Manager.
- 39.2. No hazardous substances shall be brought onto site without the approval of the Main Contractor Site HSE Manager.
- 39.3. A copy of the Material Safety Data Sheet (MSDS) and COSHH assessment for the substance must be given to the Main Contractor Site HSE Manager 15 days before its planned arrival on site to comply with UAE Royal Decree.
- 39.4. Hazardous substances onsite shall:
 - Be kept to a minimum
 - Be securely locked or fenced off
 - 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 fighting extinguishers (appropriate to the substance) and other emergency equipment, including spill retention/recovery equipment located nearby the containment area.
- 39.5. Storage facilities for hazardous substances must be approved by the Main Contractor Site HSE Manager.
- 39.6. Substances shall be held in appropriate secure containers with the international hazard symbols and substance clearly identified on the exterior of the container.
- 39.7. All containers holding hazardous substances must have their lids replaced as soon as they are not in use. Only minimum quantities required should be removed from the approved store at any one time.
- 39.8. It is the contractor's responsibility to complete a COSHH assessment and ensure that users of substances are properly informed, instructed and trained in the hazards and control measures to be used.

- 39.9. The contractor shall complete a training form and give it to the Main Contractor HSE Site manager. This shall detail names of all persons trained and training received in handling hazardous substances.
- 39.10. Empty containers must be removed as soon as possible and arrangement made for their safe disposal (See Section 38.12).
- 39.11. Hazardous substances must not be discharged onto the ground or into water drains where they can cause pollution or an explosion.
- 39.12. All hazardous substances must be disposed of by the contractors in a controlled manner or by removal from the project to a bonafide company for proper disposal as previously approved by Main Contractor, in accordance with current UAE legislation and Main Contractor IMS procedure.
- 39.13. Products containing PCB (Polychlorinated biphenyls) or asbestos shall not be used.

40. DIVING OPERATIONS

- 40.1. Diving operations if any shall only be carried out by a specialist contractor, having suitably qualified professional divers, certified

 **1 page missing in this Book. Please check the HSE document.**

- Radiography is carried out only at the times agreed upon with the Main Contractor.
- A Main Contract work permit is valid for specific, radiography work performed.

- 41.2. Contractors and subcontractors who are not involved in radiography work must ensure that their employees observe warning notices, alarm and barriers in use where such work is being carried out.

42. HOUSEKEEPING & REMOVAL OF MATERIAL

- 42.1. Contractors must keep their work areas tidy and not allow rubbish or scrap to accumulate. If a storage area is required, an approach shall be made to Main Contractor so that any request can be considered and where appropriate an area allocated for this purpose.
- 42.2. All waste shall be segregated and disposed as agreed by Main Contractor. The burning of waste is not permitted.
- 42.3. Combustible rubbish must be deposited of at the end of each shift or more regularly if necessary.
- 42.4. The contractor shall ensure that dedicated housekeeping crews are allocated to keep work areas clean and tidy. The number involved in the housekeeping

crew shall be dependent upon the type of work and numbers of personnel employed to carry out the work.

- 42.5. In the event that housekeeping is unacceptable, Main Contractor reserve the right to mobilize housekeeping crews to maintain standards and back charges contractors accordingly.

43. ENERGY SOURCES

- 43.1. If authorization is given to connect tools or equipment to Main Contractor energy sources, the contractor shall check that the operating voltage is correct for the purpose. Contractors must ensure that they employ competent workmen who are familiar with appropriate energy system.

44. TRANSPORT

- 44.1. Only vehicles necessary to the construction operation shall be permitted to enter the construction site.
- 44.2. Contractors must not bring vehicle onto work site premises unless they are roadworthy and conform to the legal requirements. All vehicles must be well maintained and exhaust emissions must be clean, with no visible black smoke.
- 44.3. Contractors must ensure that only licensed and authorized personnel are allowed to drive vehicles.
- 44.4. Loads shall be within the safe weight limit for the vehicle and should not project beyond the vehicle body in such a manner as to present a hazard to other vehicles, pedestrians or adjacent structures.
- 44.5. Passengers must never be carried unless a proper seat is provided. If necessary, other additional safeguards e.g. guard-rails or access ladders shall be provided.
- 44.6. Personnel must not be permitted to get on or off any vehicle whilst is in motion.
- 44.7. All vehicles must be parked on level ground with the hand brake applied. Onsite, keys shall be left in the ignition unless at an authorized car park.
- 44.8. Vehicles shall not block access or emergency points.
- 44.9. All drivers of vehicles shall be in possession of the appropriate UAE Licence for the class of vehicle.
- 44.10. Vehicles driven outside the project complex, must only use roads designated to avoid damaging the local environment and must comply with UAE regulations.
- 44.11. Vehicles servicing the project should, where practicable be restricted to driving on the public high ways during daylight hours.
- 44.12. Contractors shall submit to Main Contractor a road safety policy which shall minimize the risk of traffic accidents on the public highways.

45. ACCESS

- 45.1. Recognized gangways and access ways must not be blocked unless a clear, safe diversion has been provided.

- 45.2. Only authorized routes must be used to and from work sites.
- 45.3. Guardrails or barriers must not be removed from structures without a Main Contractor permit to work. A person must be prior positioned to warn others, where any guardrail or barrier is removed.
- 45.4. No road shall be closed off without the issue of a Road Closure Permit.

46. RIST AID FACILITIES

- 46.1. The contractor shall provide First Aid Boxes, for emergency only, when they are more than 4 minutes from the nearest first aid centre (See Appendix 1, for the contents of first aid box).
- 46.2. Main Contractor shall provide necessary first aid facilities. Contractor shall either make use of this facility or appoint their own first aid nurse.
- 46.3. The contractor shall ensure that an appropriate number of his employees are trained in First Aid Ratio:
 - Fully Qualified First Aider - 4 Day Course
 - Basic First Aider - 1 Day Course

47. WELFARE OF EMPLOYEES

- 47.1. Compliance with Industrial Practices.

Except as otherwise stated in the Contract, the contractor shall comply with all measures required to provide for the health, safety and welfare of employees including, where specified, for those of subcontractors.

- 47.2. Water and Sun Shades.

Main Contractor shall ensure that a supply of cold potable water, together with shaded rest areas, is provided around the site. The workforce shall be allowed reasonable access to water and rest areas sufficient to prevent heat stress.

- Drinking water standards shall as a minimum adhere to those described in "Guidelines for Drinking Water Quality – World Health Organization: 1993".
- Main Contractor shall provide sufficient cold potable water per person per day as per set standards.
- The water shall be stored in clean, rustproof galvanized or reinforced fibre glass tanks, properly disinfected and insulated such to avoid excessive temperatures.
- A proper water tanker or trailer coloured UAE blue shall be used solely for Transporting potable water. On the water tanker shall be clearly written in Arabic and English "POTABLE WATER".
- No eating shall be permitted within the construction site other than Designated messing cabins or sheds.

47.3. Main Contractor shall provide toilet facilities and wash hand basins on site, at the ratio of one per 25 for first hundred and one per 35 above hundred.

48. GENERAL RESTRICTIONS

48.1. Intoxicating Liquor and Drugs.

No employees shall be permitted to enter the site under the influence of intoxicating liquor or drugs. Contractor's employees shall accept the right of Main Contractor to refuse admittance to or evict them from the site if they are believed to be under the influence of intoxicating liquor or drugs.

The possession or consumption of any drugs, other than for medical purposes, or any alcoholic liquor on site is strictly prohibited.

Main Contractor shall operate a random drug and alcohol testing policy on the project.

48.2. Conduct.

48.2.1. The contractor shall ensure that all persons under its control conduct themselves in a safe, orderly, and responsible manner on the project and shall not indulge in hooliganism or horseplay.

48.2.2. The contractor shall take such steps as is practical to make his employees aware of local community requirements, social aspects and measures to protect the local culture. All reasonable steps must be taken to minimize the impact of the influx of a large group of contractors into the area both towards the community and environment.

49. SITE NOTICES

49.1. The contractor shall comply with all official notices on the site issued by Main Contractor from time to time.

49.2. The contractor shall obtain the permission of Main Contractor before erecting any notices or direction signs.

50. ENVIRONMENT

The contractor shall comply with the environmental requirement within the Project HSE Management Plan and the Main Contractor Management System and Company Procedures.

51. REGISTERS

51.1. The following Registers shall be kept on site:

- | | | |
|---|---|------------|
| • Inspection of Excavations | - | Contractor |
| • Inspection of Lifting Gear | - | Contractor |
| • Cartridge Operated Tools | - | Contractor |
| • Inspection of Electrically Powered Hand Tools | - | Contractor |

- | | | |
|---|---|--|
| • Inspection of Pressure Vessels i.e. air receivers | - | Contractor |
| • Persons authorized to change abrasive wheels | - | Contractor |
| • Inspection of scaffolding | - | Authorized Scaffold Inspector & Contractor |
| • Inspection of Cranes & Other Lifting Machines | - | Contractor |

52. AUTHORISATION

52.1. The following persons shall carry Contractor authorization identification at all times during their work:

- Drivers/Operators of mobile cranes
- Banksmen for mobile cranes
- Persons authorized to change abrasive wheels
- Drivers of cars, lorries, vans, pickups
- Drivers/operators of mobile plant (mechanically Propelled Vehicles)
- Persons authorized to use cartridge operated fixing tools
- Firewatchers
- Standby Man (Confined Spaces)
- Permit to Work Requesters / Receivers
- First Aiders

Appendix 1

Contents of First Aid Boxes

Item	Numbers / Size of items required		
	Up to 10 persons	10 to 50 persons	Over 50 persons
Small Sterilized Dressings	6	12	24
Medium Sterilized Dressing	3	6	12
Large Sterilized Dressing	3	6	12
Adhesive Wound Dressing	12	24	36
Triangular Bandages	2	4	8
Zinc Oxide Plaster	1" x 5 Yards	1" x 10 Yards	1" x 10 Yards
Sterilized Cotton Wool	1.5 oz	2.5 oz	6.5 oz
Sterilized Eye Pads	1	4	8
Rubber Pressure Bandages	1	1	1
Packet Safety Pins	1	1	2
Water Proof Dressing and Plasters	Assortment	Assortment	Assortment
laerdal – Type Pocket Masks for CPR	2	2	2
Pairs OF PVC Gloves	4	8	16
PVC Aprons	2	4	6
Pairs of Eye Protection (Glasses / Goggles)	1	1	1

Items shall be immediately replaced following use

Appendix 2

Controls for Hazards Common to the Construction Industry

The following table identifies those chemical agents frequently encountered during construction activities. Methods of control are summarized, where prevention of exposure is found not be practicable. The application of appropriate standards as issued by recognized national, industry and international bodies is implicit.

Substance and Hazards	Activities	Control Methods (where prevention of exposure is not possible)
1. DUSTS		
ASBESTOS: Toxic by inhalation. May lead to asbestosis, mesothelioma, lung cancer on chronic exposure.	Demolition/alterations to existing buildings	Asbestos is not to be used in construction works. When asbestos is required to be removed from an existing building a full certified specialist contractor must be used.
CEMENT: Dermatitis from chromate impurities, skin burns, eye, mouth and nose contamination from lime contents and when wet.	Masonry and plaster work in particular	Minimise spread of dry materials. Respiratory protection for dry mixing/handling, gloves, water proof boots, personal hygiene, barrier creams before and after working.
MAN MADE MINERAL FIBRE: Mineral wool, irritant to respiratory tract, eyes and skin.	Insulation work in particular	Minimise cutting and handling. Respiratory protection. One piece overalls, gloves, eye protection
GYPSUM: Irritant to throat, nose and eyes.	Plastering and masonry work	Control – Similar to cement.
SILICA: Silicosis, and increased risk of respiratory irritation.	Grit blasting of masonry, tunneling in silicate rock, stone crushing and dressing, power cutting of furnace brick work/liners	Wet method. Process enclosure with dust extraction. Respiratory protection. N.B. No form of silica shall be used for blast cleaning.
WOOD DUST: irritant, allergic reaction (e.g. western red cedar and other hard woods) may cause nose cancer, resin bonded materials very irritating, or sensitizing. Dust from treated wood (e.g. with fungicide) may pose further hazards.	Carpentry work. Most problems connected with use of power machinery, e.g. belt sanders.	Off site preparation under exhaust ventilated plant. On site enclosure and exhaust ventilation. Duct extraction on portable tools. Respiratory protection.
GRTI (from grit blasting): Harmful effects from the blast materials used and the surface being cleaned.	Cleaning Surfaces.	The abrasive material shall not contain sand or any form of silica. Surface shall be mechanically cleared of loose paint and deposits before commencing to minimize risks of large pieces of debris. Reduce airborne dust by wet cleaning. Appoint one person responsible for the operation and maintenance of the cleaning materials.

		<p>Safety helmets, overalls with hoods, gloves, safety boots, goggles, hearing protection and respiratory equipment shall be worn. The respiratory protection factors shall be specified. Overalls shall be taped at the ankles, cuffs, and collars.</p> <p>Keeping cleaning equipment in a secure location.</p>
--	--	--

Substance and Hazards	Activities	Control Methods (where prevention of exposure is not possible)
-----------------------	------------	---

2. FUMES AND GASES

<p>Welding, brazing and cutting produce a wide variety of fumes depending on metals being worked, the electrodes used, fluxes etc. Fumes are highly irritating to respiratory systems. (acute mainly in effect). Main gases evolved are carbon monoxide, nitrous fumes and ozone.</p>	<p>Welding etc. and exposure of other trades working in the vicinity. Confined spaces are particularly hazardous.</p>	<p>Local exhaust ventilation first choice for confined spaces. Good general ventilation. Air supplied helmet.</p>
---	---	---

3. CHEMICAL PRODUCTS

There are many thousands in use in mixture form. The list below gives broad categories of product.

<p>SOLVENTS e.g. toluene, xylene, trichloroethane etc. are present in many construction products e.g. paints, lacquers, glues strippers, thinners, solvents are harmful, entering the body is via inhalation (or accidental ingestion) and via skin contact dermatitis can also result.</p>	<p>Used in many activities, but particularly decorative applications, tile fixing, use of resin systems on site. With most materials risks increase in relation to quantity used and frequency/duration, particularly spray application of work in ill ventilated or confined places.</p>	<p>Select safest materials and method of application. Ensure good ventilation. Confined spaces procedures including mechanical ventilation/ use of air line or self contained breathing equipment and similar standards for spray work. "Airless" or "mist-less" spray techniques should be considered. Impervious protective clothing and good washing facilities/barrier creams important.</p>
<p>RESIN SYSTEMS: ISOCYANATES e.g. MDI, TDI, polyurethane surface coating or adhesives. Known respiratory irritants causing sensitization/ asthma. Paints, however, are less hazardous when brushed or rolled.</p> <p>EPOXY: severe irritants and sensitizers. Toxic, particularly to liver.</p> <p>POLYESTER: Styrene vapour both toxic by inhalation (liver), also narcotic and irritant to eyes and skin.</p> <p>Some resin system may contain carcinogens.</p>	<p>MDI for thermal insulation or buildings (e.g. roof sprayed)</p> <p>Polyurethane for decorative work by brush, roller or spraying also one and two.</p> <p>Work using high strength adhesive for joint structure units, floor tube and pipe coatings.</p> <p>Glass fibre-reinforced structure work, claddings and coatings.</p>	<p>For application by brush, roller or spreader maximize natural ventilation. Supplement with mechanical extraction air mover. Otherwise respiratory protection and impermeable gloves for hands. For sprayed work, air line breathing apparatus offers best protection, impervious coverall for spraying activities. In all cases, good standards of washing and eating facilities, away from work area. Health surveillance may be appropriate.</p>
<p>PESTICIDES e.g. timber preservatives, fungicides. Vapour irritant to skin damage to nervous system, other organs from range of active ingredients.</p>	<p>In-situ timber treatment particularly in confined spaces or work of long duration.</p>	<p>Respiratory protection, impermeable gloves, coveralls and cleanliness.</p>
<p>LUBRICANTS: Mineral oils cause dermatitis, acne and possible skin cancer, Respiratory damage in</p>	<p>Near Machines: Mould release agents in form work. Mist from compressors and air tools in</p>	<p>Filteration to reduce mist from machines. Good ventilation, Respiratory protection and</p>

mistform	confined spaces. Handling mineral oils.	protective clothing (impervious to oil). Good personal Hygiene facilities.
ACIDS/ALKALIS: e.g. Hydrochloric and Sulphuric acids, caustic soda (sodium hydroxide). Corrosive to skin and eyes can "fume" causing respiratory irritation.	Chiefly masonry cleaning.	Use weakest concentrations possible. Skin and eye protection. Good personal hygiene. Respiratory protective equipment with "fuming" acid. Emergency drench facility.

Appendix 3

List of HSE Publications for reference

1. UK Health and Safety Executive Guidance Note: HS/G 38 Lighting at Work.
2. American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Physical Agents (Revised Annually).
3. UK Health and Safety Executive code of Practice: The Control of Legionellosis including Legionnaires' Disease, second edition 1993.
4. UK Health and Safety Executive Guidance Note: EH 59 (January 1992) Crystalline Silica (includes advice on additional reference).
5. UK Health and Safety Executive Guidance Note: EH 16 (1984) ISOCYANATES – toxic hazards and precautions.
6. UK Health and Safety Executive GS46 1989) In-situ timber treatment using timber preservatives: health, safety and environmental precautions.

Issue – 1

Prepared by : HSE Manager Signed : _____

Reviewed by : Regional HSE Manager Signed : _____

Approved by : Project Director Signed : _____

New Issues and Revisions

Issue/Revision	Date	Reason for Change	Signature
_____	_____	First Draft	sd/-

THIS DOCUMENT IS THE PROPERTY OF MAIN CONTRACTOR, AND ITS ISSUE IS CONTROLLED THE INFORMATION CONTAINED HEREIN MAY NOT BE DISCLOSED IN WHOLE OR IN PART, EITHER ORALLY OR IN WRITING, WITHOUT PRIOR CONSENT OF THE COMPANY IN WRITING.

THIS DOCUMENT DOES NOT FORM PART OF ANY CONTRACT AND IS NOT INTENDED TO IMPLY ANY REPRESENTATION OR WARRANTY. THE COMPANY RESERVES THE RIGHT TO AMEND ITS PROCEDURES FROM TIME TO TIME IN ORDER TO COMPLY WITH INDIVIDUAL CONTRACT REQUIREMENTS.

THIS DOCUMENT COMPRISES 10 PAGES PLUS ATTACHMENTS.

CONTENTS

SELECTION	SUBJECT
1	PURPOSE
2	SCOPE
3	STANDARD FORMS
4	SECURITY OFFICER
5	SECURITY GUARDS
6	SITE FENCES
7	GATE PASSES
7.1	Visitors Passes
7.2	Temporary passes
7.3	Permanent Passes
7.4	Vehicle Passes
7.5	Material Passes
8	SITE FENCES
9	SECURITY ON WORK SITE
Storage Area	
Security Patrol	
Vehicle and Traffic Regulations	
Photographs	
10	RECORDS

ATTACHMENTS

1. Visitor Gate Pass Application
2. Temporary (Inducted) Pass Application
3. Permanent Security Pass Application
4. Vehicle Gate Pass Application
5. Material Gate Pass Application
6. Security Incident Report
7. Visitors Lot Sheet

1. PURPOSE

- 1.1. Purpose of this document is to establish the practices to be adopted on the site in respect of safeguarding the site, including personnel and property.

2. SCOPE

- 2.1. The Procedure details the criteria according to which the duties of all concerned parties and/or persons are to be carried out for security services.
- 2.2. The scope is based on having all of the security fencing and temporary gates installed at the site.

3. STANDARD FORMS

- Application Form for Site Visitors Security Pass
- Temporary (Indicated) pass Application Form
- Permanent Security Pass Application Form
- Vehicle Gate Pass Application
- Material Gate Pass Application
- Security Incident Report
- Visitors Log Sheet

4. SECURITY OFFICER

The Security Officer, reporting to the HSE Manager, shall be responsible for implementing the requirements of this procedure, monitoring the day-to-day conditions and aspects of the work site and the activities, so as to achieve and maintain effective security services with respect to the entire work site.

The Security Officer shall:

- Maintain close contact and co-ordinate with every contractor / subcontractor engaged in security services for the portion of the work site and any other place where the subcontractors carry out their works under Main Contractor control.
- Deploy and co-ordinate the security guards to be engaged in the security services on a 24 hour basis, with regard to the entire work site and implement a Daily Activity Log Book.
- Investigate and report on any incidents involving a breach in security, categories as required propose and implement necessary actions to prevent recurrence.
- Establish and maintain a Visitors Log Book. Recording the entry & exit of the site by persons not holding permanent ID cards (Visitors).

5. SECURITY GUARDS

Security Guards shall be nominated and posted by Main Contractor. Contractors on site shall only post security guards / night watchmen with the approval of Main Contractor.

6. SITE FENCES.

Work area perimeters shall be secured by a combination of temporary fencing and access gates, as detailed on the Construction drawing.

7. GATE PASSES.

Personnel shall access the work site through designated access gates manned and controlled by security guards. Access by persons without a proper gate pass shall not be allowed, except for cases of emergency, and with the approval of the Security Officer / HSE Manager.

All personnel requiring access to the work site shall apply, through their employer, to the Main Contractor's HSE Manager for appropriate Visitors/Temporary/Permanent Gate Passes which shall be used to enter the work site.

7.1. Visitors Passes

Visitors to the work site shall not be given access until either Subcontractor's representative has attended the gatehouse. Visitors must sign in the Visitors Log Sheet when issued with visitor's pass, and Security Guards must ensure that they sign-out when surrendering ID Cards to the gatehouse when leaving the work site. The representative shall assume full responsibility for the actions of the visitor whilst on the work site, and must accompany the visitors at all times.

Visitors not directly involved in the Work shall be subject to Main Contractor approval.

Visitors shall not be permitted to bring vehicles on to site. All visitors vehicles shall be parked outside the site.

Visitors passes shall only be valid for a maximum of 72 hours.

7.2. Temporary Passes

Application for the Temporary Gate Pass shall be made by means of the Temporary (Inducted) Application. A Temporary Gate Pass will be issued for a period of 7 days from the date on which the application is received, provided the application meets the requirements and is correct, and complete in every respect.

Temporary Site ID Cards will only be issued on completion of the Main Contractor Induction Course. The Security Officer shall verify that the applicant has successfully completed the induction course by proof of the HSE Manager approved application / induction form, before approving the ID Card.

7.3. Permanent Passes

Permanent ID Cards will be issued within 48 hours of submission of all the necessary paperwork related to UAE Labour Laws, and completion of Main Contractor HSE Induction.

A monthly check shall be implemented on ongoing temporary pass holders to expedite transfer to Permanent Gate Pass.

All personnel shall be required to possess the issued Permanent ID Card at all times on the work site and to make it available for inspection by security personnel whenever required.

The ID Cards shall be coded by colour and number to further differentiate company, contractor and subcontractors on the work site.

Loss or damage to an ID Card shall be reported immediately to the Security Officer and, where applicable, approval for a replacement issued given. A charge of AED 50/ each will be levied for replacement passes.

7.4. Vehicle Passes

In the interests of safety and security, the number of vehicles permitted into the work site shall be minimized. This shall be achieved by the use of permanent vehicle passes which shall be approved by Main Contractor HSE Department only after a full inspection of the vehicle and a valid insurance/ registration certificate produced. The permanent vehicle gate pass sticker must be displayed inside the windscreen at all times.

All subcontractors will be required to submit transport plans which will be reviewed by Main contractor to ensure that the maximum usage is made of vehicles such as busses and mini buses.

Only drivers possessing an appropriate national driving qualification will be allowed to drive/enter site facilities.

7.5. Material Passes

All vehicles leaving the work site with materials and plant of any description shall be required to submit a duly authorized Material Gate Pass to the gate house. The authorized list of Main Contractor Material Gate Pass signatories shall be provided to all concerned parties. The material gate pass shall:

- a) State the date on which the material are to be moved.
- b) State the full description of the material including guaranties.
- c) Be signed by the Contractor/Subcontractor concerned.
- d) Be endorsed by an approved Main Contractor Signatory.

For vehicles brining material/plant on to the worksite, the same Material Gate Pass shall be completed and go through the same procedure prior to being provided to the Gate House prior to the vehicle carrying the material/plant arriving on site.

The gate guards shall check that the quantity and nature of the materials detailed on the material gate pass matches those contained within the vehicle and where any discrepancies are found, the vehicle shall not be allowed to leave/enter the work site.

The gate guards shall check that the quantity and nature of the materials detailed on the material gate pass matches those contained within the vehicle and where any discrepancies are found, the vehicle shall not be allowed to leave/enter the work site.

Material gate passes shall be prepared by the Contractor/ Subcontractor. A copy shall be retained by the Subcontractor and the original shall be submitted to the gate house.

The original of each material gate pass shall be given daily to the Main Contractor Site Security Officer by the Gate House Security Guard.

8. SEARCH BY GATE GUARDS.

All vehicles entering and leaving the work site will be liable to be searched by the Main contractor Gate Guard.

Random searches of personnel shall, as necessary, be carried out by security guards at the gate to ensure that no materials or equipment leave the work site without a duly authorized material pass.

Each Contractor / Subcontractor shall ensure that his personnel understand the requirements for such searches, and shall request each person's assistance in this respect.

However, the statutory rights of all individuals are to be respected and in no way infringed. Accordingly, where any person refuses to submit to a search, his supervisor and the respective Contractor / Subcontractor, if applicable, shall be notified and required to attend the gate, where the person shall again be requested to allow the search.

Where such a request is again denied by the individual, the Main Contractor HSE Manager may notify the local police authorities of the situation, requesting their attendance at the work site and possible further action.

9. SECURITY ON WORK SITE

9.1. Storage Area

Material storage areas shall be properly furnished with appropriate safeguarding facilities including fencing and lighting. The traffic shall be adequately controlled. Personnel not authorized by the company shall not be permitted to enter the storage area.

9.2. Security Patrol

The Security Guards shall patrol the work site.

The timing, frequency and route of patrols shall vary and shall not develop into a regular pattern.

Fence-lines shall be patrolled daily to ensure that they are not breached in any way, but where so, immediate action shall be taken to re-secure.

Planned breaches, if any, in fence-lines, required for construction purposes, shall be manned at all times.

9.3. Vehicle and Traffic Regulations

Security Guards shall ensure that vehicle and traffic regulations on the work site are strictly observed and shall assist in the removal of offending drivers from the work site where appropriate.

9.4. Photographs

Photography shall be restricted on site.

No cameras, without a properly authorized permit, shall be allowed on the work site.

10. Records

- Visitor Gate Pass Application
- Temporary (Inducted) Pass Application
- Permanent Security Pass Application
- Vehicle Gate Pass Application
- Material Gate Pass Application
- Security Incident Report
- Visitors Log Sheet

11. Duties of Security Guards

- 11.1. Security Guards shall prevent unauthorized persons entering or leaving the work site and shall detain them for the purpose of identification and promptly report to Security Officer / HSE Manager.
- 11.2. Badges, parcels, baskets, etc., may be the subject to inspection / search by guards when persons enter or leave the site.
- 11.3. Security Guards are empowered to stop and search vehicles entering or leaving the work site.
- 11.4. Security Guards have the right to visit all parts of the work site in the course of their duty, but must obtain permission to enter operationally hazardous or restricted areas.
- 11.5. Security Guards must check that offices equipment, facilities, etc, are in a safe condition.

ATTACHMENT 1

SITE VISITOR GATE PASS APPLICATION

MAIN CONTRACTOR
PROJECT:

APPLICATION FOR SITE VISITORS SECURITY PASS

CONTRACTOR : FROM : TO:
(Max. 72 HRS.)

NAME	ID OR PASSPORT NO.	VISITOR PAS NO.

SPONSOR:

HOST: SIGNATURE:

AUTHORISED SIGNATURE OF CONTRACTOR:

MAKE:

FOR MAIN CONTRACTOR USE ONLY

MAIN CONTRACTOR AUTHORISED SIGNATURE:

NAME:

DATE:

MAIN CONTRASCTOR RESERVES THE RIGHT TO REFUSE ISSUE OF SECURITY SITE PASS TO ANY APPLICANT

ATTACHMENT 2

MAIN CONTRACTOR
PROJECT:

APPLICATION FOR SITE TEMPORARY SECURITY PASS

CONTRACTOR: DATE:

IF SUBCONTRACTOR, STATE NAME OF MAIN CONTRACTOR:

APPLICANT'S NAME:

NATIONALITY:

TRADE DISCIPLINE: DATE OF STARTING WORK:

AUTHORISED SIGNATURE OF CONTRACTOR:

(FOR MAIN CONTRACTOR USE ONLY)

DATE OF INDUCTION:

HSE AUTHORISED SIGNATURE:

NAME:

SECURITY AUTHORISED SIGNATURE:

NAME: DATE:

TEMPORARY SECURITY PASS No.: ISSUE DATE:

EXPRITY DATE:

TA RESERVE THE RIGHT TO REFUSE ISSUE OF SECURITY SITE PASS TO ANY APPLICANT

ATTACHMENT 3

APPLICATION FOR SITE SECURITY PASS

MAIN CONTRACTOR
PROJECT:

CONTRACTOR: DATE:

IF SUBCONTRACTOR, STATE NAME OF MAIN CONTRACTOR:

APPLICANT'S NAME :

NATIONALITY :

SPONSOR:

LABOUR CARD No. : DATE OF STARTING WORK:

TRADE DISCIPLINE :

(FOR MAIN CONTRACTOR USE ONLY)

DATE OF INDUCTION:

MAIN CONTRACTOR HSE AUTHORISED SIGNATURE:

NAME: DATE:

SECURITY AUTHORISED SIGNATURE:

NAME : DATE:

SECURITY PASS No. : ISSUE DATE:

TA RESERVE THE RIGHT TO REFUSE ISSUE OF SECURITY SITE PASS TO ANY APPLICANT

ATTACHMENT 4

VEHICLE GATE PASS APPLICATION

MAIN CONTRACTOR
PROJECT:

APPLICATION FOR SITE VEHICLE PASS

CONTRACTOR :

DATE :

TYPE OF VEHICLE : REGISTRATION:

DRIVER'S LICENCE : EXPIRY DATE :

DETAILS OF INSURANCE:

(COPY OF INSURANCE TO BE ATTACHED)

CONTRACTOR'S AUTHORISED SIGNATURE:

DATE:

VEHICLE ARRIVING ON SITE: TIME:

(FOR MAIN CONTRACTOR USE ONLY)

VEHICLE INSPECTED:

MAIN CONTRACTOR HSE AUTHORISED SIGNATURE:

NAME : SITE

SIGNATURE : CAMP

HSE AUTHORISED SIGNATURE: BOTH

NAME :

DATE :

PASS No. :

ATTACHMENT 5

SITE SECURITY CONTROL PROCEDURES

MAIN CONTRACTOR
PROJECT:

MATERIAL GATE PASS

MATERIAL IN : TIME: DATE:

COMPANY :

MATERIAL OUT : TIME: DATE:

COMPANY :

NAME :

WORK/ID NO. : SIGNATURE: AUTHORISED SIGN:

SR NO	NO. OF ITEMS	DESCRIPTION OF ITEMS	STATUS	
			YES	NO
			RETURNABLE	
			NON RETURNABLE	
			MODIFICATION/REPAIR	
			CONTRACTOR ITEM	
			DOMESTIC WASTE	
			CONSTRUCTION WASTE	
			GAS	
			FUEL	

GUARD SIGNATURE:

DRIVER I/D : TA ID :

GATE LOCATION :

AUTHORISED BY : NAME :

SIGNATURE : TIME :

ATTACHMENT 6

SITE SECURITY CONTROL PROCEDURES

MAIN CONTRACTOR
PROJECT:

SECURITY INCIDENT REPORT

Name: Date:

Contractor:

TA ID No.

It was noticed that Mr. ofhad
violated the following Site Security Rules onathrs.

1.
.....
2.
.....
3.
.....

Security in charge: Date:

MAIN CONTRACTOR HSE Department

Action taken:
.....
.....

Name: Date:

LIFTING & HANDLING OPERATIONS

Issue – 1

Prepared by : HSE Manager Signed : _____

Reviewed by : Regional HSE Manager Signed : _____

Approved by : Project Director Signed : _____

New Issues and Revisions

Issue/Revision	Date	Reason for Change	Signature
_____	_____	First Draft	sd/-

THIS DOCUMENT IS THE PROPERTY OF MAIN CONTRACTOR, AND ITS ISSUE IS CONTROLLED THE INFORMATION CONTAINED HEREIN MAY NOT BE DISCLOSED IN WHOLE OR IN PART, EITHER ORALLY OR IN WRITING, WITHOUT PRIOR CONSENT OF THE COMPANY IN WRITING.

THIS DOCUMENT DOES NOT FORM PART OF ANY CONTRACT AND IS NOT INTENDED TO IMPLY ANY REPRESENTATION OR WARRANTY. THE COMPANY RESERVES THE RIGHT TO AMEND ITS PROCEDURES FROM TIME TO TIME IN ORDER TO COMPLY WITH INDIVIDUAL CONTRACT REQUIREMENTS.

THIS DOCUMENT COMPRISES 10 PAGES PLUS ATTACHMENTS.

LIFTING & HANDLING OPERATIONS

CONTENTS

SELECTION	SUBJECT
1	PURPOSE
2	SCOPE
3	DEFENITION
4	RESPONSIBILITIES
4.1.	Main Contractor Project Director
4.2.	Main Contractor Site Manager
4.3.	Contractor Supervisor
5	PROCEDURE
5.1.	Key Project Documentation
5.2.	Classification of Lifts.
5.3.	Review of Subcontractors Lifting Studies
6	RECORDS
ATTACHMENTS	
1.	LIFTING OPERATIONS CO-ORDINATOR CHECK LIST.

LIFTING & HANDLING OPERATIONS

1. PURPOSE

To define the inter relationships and interfaces between the parties involved, e.g. Company, Contractors and Subcontractors and the deliverables necessary for the achievement of safe, timely and reliable lifting and handling operations.

2. SCOPE

All lifting and handling operations including crane hoisting, heavy transportation, jacking, skidding and hand rigging.

3. DEFINITIONS

Refer to section 20 of Project HSE Management Plan.

4. RESPONSIBILITIES

4.1. Main Contractors Project Director

Responsible for the overall management of the Project construction team in accordance with the approved procedure, to ensure that safe and effective lifting operations are established, documented and executed.

4.2. Main Contractor Site Manager

Shall ensure that Lifting/Transportation engineering is carried out in accordance with Main Contractor project specific procedures.

Review appropriate Risk Analyses of heavy lifts.

4.3. Contractor Rigging Supervisor (Lifting Operations co-ordinator)

Shall ensure that Lifting and Transportation engineering strategies are followed and that site lifting operations are carried out in accordance with project specific procedures. He shall provide specialist input to the lifting and transportation activities.

He shall overview the subcontractor's (if appointed) work in accordance with the contract and all agreed procedures therein, ensure compliance with all laws, statutes and Project requirements relating to the contractor's work and equipment and ensure all required records are kept and reports made.

He shall make use of the lifting operations co-ordinator check list for mobile cranes (Attachment-I).

5. PROCEDURE

5.1. Lifting Study Schedule

To enable all foreseen lifts on Project to be considered, a lifting study schedule shall be distributed and maintained by Main Contractor Site Manager.

Within four week of the first issue by Engineering of the sized requirement list and applicable drawings the Site Manager shall issue for comment the first issue of the lifting study schedule. The schedule shall be revised as soon as possible after review by the concerned.

The lifting study schedule shall indicate the options available, it shall be issued to the Main contractor Project Director, Site Manager, M&E Manager and Main Contractor HSE Manager. It shall be revised and reissued as necessary.

5.2. Classification of Lifts

5.2.1. Classification

The Lifting Engineer shall classify lifts using the following points system:

DESCRIPTION	DETAIL	POINTS	CODE
Weight of Lift	For each 5 Tones	1	W
Lifting System	1 Crane	0	X
	2 Cranes (Tandem Lift)	50	
	Use of Masts	50	
	Jacking/Skates	50	
Type of Site	New Site	0	Y
	Existing Site	10	
	Live Plant Nearby (Note 1)	20	
	Poor Ground Conditions	20	
	Lifting Over Live Plant	40	
	Lifting Over Live Product Line	40	
Special Factors	Height of Lift Over 10m	10	Z
	Long reach over 20m	20	
	Module/Skid>20Te	30	
	Dressed Tower Lifts	30	
	Lifting into concrete Structure	10	
	Crane use over 80% of the normal 75% rating chart	20	
Total Points	W + X + Y + Z	-	T

TOTAL POINT (T)	CLASS	REQUIREMENT
0 – 7	4	No Engineering Group Involvement In review of lifting studies.
8 – 59	3	Lifting studies may be reviewed by Engineering Groups
60 – 69	2	Lifting studies reviewed by Engineering Groups. Some Risk Analysis.
100 and over	1	As for Class 2, but full Risk Analysis By approved Design Safety Group for Special Insurance. Possible review by appointed Lifting Consultant.

Lifting Studies for class 1, 2 and 3 shall be reviewed by Company for consent.

5.2.2. Application of Risk Analysis to Class 2 Lifts.

The decision to subject Class 2 lifts to qualitative risk analysis shall be taken by the Project Director, after evaluation of all factors affecting the lift. Such factors may include site conditions (including prevailing weather conditions), concurrent construction operations, lifting method employed and previous experience.

5.3 Review of contractors Lifting Studies.

Responsibilities.

The adequacy and safety of the contractors lifting activities/arrangements are the contractor's responsibility.

Any safety related calculations carried out by construction personnel shall comply at all times with the Main Contractor procedures.

6. RECORDS

Lift Classification Schedule.

Calculations

Evidence of current authorization for all lifts

LIFTING OPERATIONS CO-ORDINATOR
CHECKLIST FOR MOBILE CRANE

SITE _____ DATE _____

APPOINTED CO-ORDINATOR _____

PRE PLANNING (TO BE COMPLETED PRIOR TO ORDERING THE CRANE)

THIS INFORMATION IS TO BE GIVEN TO THE CRANE DRIVER

1 Crane position Plan appendix A completed by _____

2 Maximum load to be lifted Tonne

3 Radius Mtrs

4 Height Mtrs

5 Overhead cables Y/N (if YES contact our H&S advisor)

6 Ground conditions

7 Description of load

Size

Centre of gravity

Shape

Lifting Eyes

Type of Crane agreed and ordered

Date required

This section is to be completed when the crane arrives on site but prior to work starting

Crane Details

Hire Company

Type of Crane

Identification No.

Size of Crane

Four year test checked

Twelve month test checked

Safe Working Load checked

Weekly inspection checked

If the crane is of a capacity other than the one assessed above the lift must be cancelled and re-assessed.

Signed by:

Driver/Slinger/Signaler Details

Driver's Name: _____ CTA Card No: _____

Slinger's Name: _____ CTA Card No: _____

CONTROL OF LIFTINT EQUIPMENT

Issue – 1

Prepared by : HSE Manager Signed : _____

Reviewed by : Regional HSE Manager Signed : _____

Approved by : Project Director Signed : _____

New Issues and Revisions

Issue/Revision	Date	Reason for Change	Signature
_____	_____	First Draft	sd/-

THIS DOCUMENT IS THE PROPERTY OF MAIN CONTRACTOR, AND ITS ISSUE IS CONTROLLED THE INFORMATION CONTAINED HEREIN MAY NOT BE DISCLOSED IN WHOLE OR IN PART, EITHER ORALLY OR IN WRITING, WITHOUT PRIOR CONSENT OF THE COMPANY IN WRITING.

THIS DOCUMENT DOES NOT FORM PART OF ANY CONTRACT AND IS NOT INTENDED TO IMPLY ANY REPRESENTATION OR WARRANTY. THE COMPANY RESERVES THE RIGHT TO AMEND ITS PROCEDURES FROM TIME TO TIME IN ORDER TO COMPLY WITH INDIVIDUAL CONTRACT REQUIREMENTS.

THIS DOCUMENT COMPRISES 10 PAGES PLUS ATTACHMENTS.

CONTROL OF LIFTING EQUIPMENT

CONTENTS

SELECTION	SUBJECT
1	PURPOSE
2	SCOPE
3	DEFENITION
3.1.	Lifting Equipment
3.2.	Competent
4	REFERENCE DOCUMENTS
4.1.	References
4.2.	Standard Forms
5	RESPONSIBILITIES
5.1.	Main Contractor HSE Manager
5.2.	Main Contractor Site Manager
5.3.	Contractors
6	PROCEDURE
6.1.	Lifting Gear
6.2.	Lifting Appliance
6.3.	Operator Competency
6.4.	Rigging & Derigging of Heavy Lift Eqpt.
7	RECORDS

CONTROL OF LIFTING EQUIPMENT

1. PURPOSE

The purpose of this procedure is to control lifting gear and equipment to minimize risks of failure by implementing systems of inspection and preventive maintenance.

2. SCOPE

The procedure shall apply to all lifting equipment (lifting appliance and lifting gear) in use on the Project. The procedure covers all lifting equipment, identification of inspection status and registering, which are employed on the project.

2.1. Inspection

The contractor shall be responsible for the regular inspection and maintenance of all lifting equipment to ensure conformity to the requirements of all standards and codes of the land.

3. DEFINITIONS

3.1. Lifting Equipment.

Lifting equipment comprises lifting appliances and lifting gear. They are defined as follows:

3.1.1. Lifting Appliances.

Any mechanical device capable of raising or lowering a load eg: Cranes, Forklift trucks, Lifts, Suspended Cradles, Powered Hoists, Manual Hoists, Lever Hoists, Rope Hoists, Beam Trolleys, Beam Clamps, Sheave Blocks, Winches, Runway Beams.

3.1.2. Lifting Gear

Any device whatsoever which is used or designed to be used directly or indirectly to connect a load to a lifting appliance (see above) and which does not form part of the load, eg Wiring Rope Slings, Chain Slings, Manmade Fibre Slings, Hooks and Fittings, Swivels, Shackles, Eyebolts, Rigging Screws, Wedge Sockets, Plate Clamps.

3.2. Competent

Trained, experienced and above to perform the allocated task to the required standards in accordance with all applicable procedures, standards and legislation, without direct supervision.

A competent person should have the maturity to seek such specialist advice and assistance as may be required to enable him to make necessary judgments and be a sound judge of the extent which he can accept the supporting options of other specialists. He must be able to certify with confidence whether the lifting equipment is free from latent defect and suitable in every way for the duty for which it is required. It is the view that competency can be a corporate responsibility.

4. REFERENCE DOCUMENTS

4.1. Please refer Main Contractor safety instruction : Lifting equipment and accessories and Main Contractor HSE Manual.

4.2. Standard Forms

Main Contractor Lifting Gear Register (see attachment No. 1)

5. RESPONSIBILITIES

5.1. Main Contractor HSE Manager

Shall ensure that all lifting equipment provided and used on site by the contractors are tested, inspected and certified in accordance with the recognized standards.

5.2. Site Manager

Shall ensure that all lifting equipment provided and used on site by the contractors are tested, inspected and certified in accordance with the last six months as witnessed by the current colour code of Main Contractor and is suitable and sufficient for the task in hand.

5.3. Contractors

Shall ensure that all lifting equipment brought to site is tested inspected, certified and maintained in a safe condition.

Shall provide the names and details of training and experience of competent Heavy Lift Supervisors and Lifting Equipment Inspectors, wherever necessary.

6. PROCEDURE

6.1. Lifting Gear

All lifting gears brought onto the project shall be clearly identified by means of number and safe working load. Any lifting gear that is not produced by a recognized and competent manufacturer and lifting gear fabricated from rebar is not permitted.

If spreader beams or lift beams do not have certification or are of special fabrication then calculations shall be submitted for Main Contractor review, prior to the receipt of the required certification.

Contractor shall inspect all lifting gear prior to its arrival at the work site, and thereafter on a six monthly basis. It shall be colour coded. The coding will be set by Main Contractor and shall be changed on a six monthly basis, in order to identify whether the item in question has been checked during the last six months.

The contractor shall maintain all records and inventories to ensure a system of controlling and monitoring the condition of all lifting gear, utilizing the Lifting Gear Register (Attachment 1).

6.2. Lifting Appliance.

6.2.1. Certification

All lifting appliance brought onto the project shall be accompanied by valid third party certification as to testing and inspection. Such certification shall have been issued within the last 12 months in case of lifting appliances and 6 months in case of gears and in addition, shall fulfill all relevant legislative requirements.

6.2.2. Initial Testing.

Prior to entry on to the work site, all lifting appliance shall be inspected as to integrity and condition. Notwithstanding, the contractor shall be fully responsible for the safety of all such equipment and shall, where necessary, implement additional systems of control of those identified in this Project procedure. Records shall be maintained of all inspections and tests.

Upon arrival at the work site all cranes are required to undertake an equipment inspection by Main Contractor HSE and can be fitted with all necessary items, these requirements shall include but not be limited to:

- Test records for load radius indicator and automatic safe load indicator.
- Examination results after substantial alternations/repair, if any.
- 4 year test thorough inspection and certificate.
- Mandatory inspection certificate of all lifting gears associated with the crane.
- Checks on lights and warning devices, tyre conditions exhaust, etc.
- Crane driver certificate.
- Condition of Fly Jib, if any.
- Proper spooling on drum – all system.
- Proper counter weights.
- Condition of Boom sections i.e. bent lacing/cords.
- Proper revving – all system.
- Load blocks – headache ball – hook with latches.
- Condition of hydraulic rams (telescopic booms).
- Outrigger beams – rams – floats – mats – pins – locks.
- Boom hoist wire rope – sheaves – brakes – clutch.

In addition to the above all cranes shall be fitted with:

- A load radius indicator.
- An automatic safe load indicator.
- Crane hooks with a safety catch to prevent displacement of the sling or load from hook.
- A load radius table to be available in the crane cab of every variable radius crane.
- Operations manual.
- Fire extinguisher in cab.
- All controls identified – (levers marked-up).
- Warning horn & reverse alarm.
- Proof of load test.
- Anti-two-block devices (operational).
- Boom angle indicator.
- Load indicator.
- Overload alarm.

All out riggers shall be marked to show full extension, or should have automatic locks. Cranes shall not be fitted with obstructions to driver view, e.g. Sun shades.

Note: The contractor shall ensure that crane load tables (legible) and maintenance logs shall always be available in the cab of the crane.

Only when the Main Contractor HSE is satisfied that all the above requirements are met in full, the crane be issued with:

- The completed crane entry pass.
- The completed crane inspection form.

6.2.3. Routine Testing.

Regular checks shall be carried out on a six monthly basis and also where an item of lifting equipment leaves the Project, and thereafter returns to continue work.

Contractors shall be responsible for scheduling inspections to be carried out. Main Contractor shall not be liable for any downtime due to stopping of work either for the testing or inspection.

All lifting equipment utilised on the work site shall be required to produce evidence of such inspection. All such equipment shall also be given an individual number by the contractor, for ease of identification.

All testing / inspection shall take place outside the work site perimeter fencing. The six monthly (but not pre-mobilisation) testing / inspection can take place on site. This shall only be carried out with permission from the Main Contractor Site Manager.

6.2.4 Rejection of Lifting Equipment.

Contractors will be notified of any rejected item of equipment that fails to meet internationally recognized standards of maintenance and integrity, or processing any defect or damage that may impact upon

its safe operation. All rejected equipment shall be removed from site immediately and not permitted to return unless adequately repaired and re-tested.

A crane inspection checklist is available to contractors (See Attachment 2).

The contractor shall arrange testing / inspection so as to minimize impact upon construction schedules.

6.3. Operators Competency.

All operators, employed on the project shall be competent to operate the item(s) of equipment for which they have been engaged.

All such operators, in addition to possessing a relevant national drivers/operators licence, shall be assessed prior to engagement on the project. They shall be assessed in relation to every item of equipment which they are negated to operate. This assessment shall comprise a verbal test and also a practical demonstration of competence in relation to controls, and in the case of craneage, the rigging and derigging of the fly jib and their ability to control and support a team as required.

If successful, the operator shall be awarded a work site licence, which shall clearly identify the category of equipment for which the operator is authorized. This licence shall be carried by the operator at all times on the work site, and shall be subject to inspection by Main Contractor.

Failure to carry the licence may result in the operator being instructed to stop work until records of the operator's competence have been established.

The licence shall also be subject to endorsement in the event of a breach of safety rules, regulations or recognized good practice. Such endorsements shall be clearly entered onto the licence. On receipt of three such endorsements, the operator shall be suspended or expelled from the project.

Notwithstanding any of the above, the contractor shall be fully responsible for ensuring that all operators are competent to carry out all designated tasks.

6.4. Rigging and Derigging of Heavy Lift Equipment.

This shall only be carried out under the full-time supervision of a competent person.

7.0. RECORDS

The contractor shall maintain detailed records in relation to all lifting equipment.

CONTROL OF LIFTING EQUIPMENT

ATTACHMENT 2 CRANE SAFETY CHECKLIST

1. Valid Test Certificate

2. Check crane's structural integrity : (for cracked, distortion, dents, corrosion, straightness).
 - Boom
 - Flyjib (stowed correctly)
 - Carrier
 - Swing compartment turnable hook roller assy.
 - Outriggers
 - Tyers / Tracks
 - Loose Lifting Tackle
 - Hook Block and Safety Clip

3. Check functionality / availability of following
 - Telescopic Limit Device
 - Overwind and Inwind Cut-out / Alarm
 - Load Indicators
 - Boom Length Indicators
 - Boom Angle Indicators
 - Load / Radius Chart
 - Engine Trouble Warning
 - Spirit Level
 - Fire Extinguisher
 - Guards Around Rotating Part
 - Crane's Warning Horn
 - Spark Arrestor
 - Engine Emergency Stop
 - Engine Lube Oil/Water/Fuel Leakage

4. Check Break System
 - Swing
 - Winch
 - Vehicle

5. Check condition of :
 - Sheave, Wire Rope/Cable Keeper/Retaining Bolts/Drums
 - Wire Rope (ensure wire rope diameter tally with which sheave groove and wire rope lay)
 - Greased Ropes
 - Hydraulic/Pneumatic Hoses = damaged or leaking
 - Engine = High Noise
 - Extension of black smoke
 - Check Electrical / Instrument System
 - Head Lam
 - Stop Lights

- Brake Light
- Signal Light
- Hor
- Reverse Alarms
- Windscreen Wiper, glass for cracks, missing
- Cable / Wire Insulation
- Cabin Seats

6. Check adequacy of the units stability / all functions under rated load

- Put load at over rear / over side
- Ensure no oil leakage at all outriggers
- Ensure no brake slippage
- Check hydraulic boom for sway and droop
- Check safety devices for functioning and accuracy
- Check swing mechanism/brake 9ensure no brake slippage)
- Check load/boom hoisting & lowering mechanism

7. Test crane at:

- Maximum working angle with max. load (refer to chart for spec.)
- Minimum working angle with min. load (refer to chart for spec.)

8. Validity of Crane operator's licence.

CONTROL OF LIFTINT EQUIPMENT

Issue – 1

Prepared by : HSE Manager Signed : _____

Reviewed by : Regional HSE Manager Signed : _____

Approved by : Project Director Signed : _____

New Issues and Revisions

Issue/Revision	Date	Reason for Change	Signature
_____	_____	First Draft	sd/-

THIS DOCUMENT IS THE PROPERTY OF MAIN CONTRACTOR, AND ITS ISSUE IS CONTROLLED THE INFORMATION CONTAINED HEREIN MAY NOT BE DISCLOSED IN WHOLE OR IN PART, EITHER ORALLY OR IN WRITING, WITHOUT PRIOR CONSENT OF THE COMPANY IN WRITING.

THIS DOCUMENT DOES NOT FORM PART OF ANY CONTRACT AND IS NOT INTENDED TO IMPLY ANY REPRESENTATION OR WARRANTY. THE COMPANY RESERVES THE RIGHT TO AMEND ITS PROCEDURES FROM TIME TO TIME IN ORDER TO COMPLY WITH INDIVIDUAL CONTRACT REQUIREMENTS.

THIS DOCUMENT COMPRISES 10 PAGES PLUS ATTACHMENTS.

CONTROL OF LIFTING EQUIPMENT

CONTENTS

SELECTION	SUBJECT
1	PURPOSE
2	SCOPE
3	REFERENCE DOCUMENTS
4	DEFENITIONS
4.1.	Scaffolding
4.2.	Glossary of Terms Used in Scaffolding
5	MATERIALS
5.1.	Tubes
5.2.	Scaffolding Boards
5.3.	Couplers
5.4.	Storage of Materials
6	GENERAL RULES FOR SCAFFOLDING
6.1.	Foundations
6.2.	Standards (Tube and Coupler Scaffolds)
6.3.	Ledgers (Tube and Coupler Scaffolds)
6.4.	Transoms
6.5.	Ties
6.6.	Braces
6.7.	Working Platform
6.8.	Ladder Access Platforms
6.9.	Ladders
6.10.	Protective Fans
6.11.	Traffic and Personnel Movements

7	SCAFFOLD TYPES
7.1.	System Scaffold
7.2.	Independent Tied Scaffolds
7.3.	Birdcage Scaffold
7.4.	Scaffold Classifications
8	ERECTION OF SCAFFOLDING
9	INSPECTION AND RECORDS
10	SCAFFOLD USERS

SCAFFOLDING PROCEDURE

1. PURPOSE

To set standards to which scaffolds will be erected using sound materials and to set further standards for their safe use and inspection at specific periods.

2. SCOPE

Scaffolding shall be supplied and installed, amended or dismantled by any contractor on the worksite directly or a sub contractor employed by them in accordance with this procedure, BS 5973 & UAE Legislation. If any incompatibility exists between the requirement of this procedure and the above, the higher standard shall be followed.

3. REFERENCE DOCUMENTS

Project HSE Management Plan
HSE Instruction for Contractors
Safety Permit to Work
Code of Practice for Access and Working Scaffold
Occupational Health and Industrial Safety Precautions – UAE

4. DEFINITIONS

4.1. Scaffolding

Scaffolding is defined as a temporary structure which provides access, or from which persons work, or which is used to support materials, plant or equipment. It can be divided into two types:

- a) Unit formwork, kwickstage, All Round or other types of purpose made frames or units.
- b) Tube & Fittings : Individual tubes, of varying length, held together by individual couplers.

4.2. Glossary of Terms Used in Scaffolding

Terms used to describe scaffolding components in this procedure are :

Base Plate :

A metal base (with a central spigot) for distributing the load from a standard, raker or load bearing tube.

Bay Length

The distance between two adjacent standards along the face of a scaffold.

Board Bearer (intermediate Transom) :

A tube spanning across ledgers at mid span, to support a working platform.

Brace :

A tube incorporated diagonally across two or more members in a scaffold and secured to them in order to ensure stability.

Buttress :

A well braced tubular structure erected against existing scaffolding for the purpose of strengthening it.

Castor :

A swiveling wheel with a lock device secured to the base of a standard for the purpose of making a scaffold mobile.

Toeboard Clip :

Used to fix a toeboard to a scaffold tube.

Coupler :

A fitting used to fix scaffold tubes together. Couplers are divided into load bearing or non-load bearing.

Guard-rail :

A tube secured onto the scaffold to prevent the fall of a person.

Hoop Iron :

Metal band fitted to the ends of a board to prevent splitting.

Ledger :

A horizontal tube secured to the standards, with load bearing fittings. It prevents standards from bowing and acts as a support for transoms, board bearers and ledger to ledger diagonal bracing.

Access Platform:

A fully boarded out bay which provides step off points for ladder access.

Lift:

The assembly of ledgers, transoms and board bearers forming each horizontal level of a scaffold.

Needle Transom:

A transom extended from a scaffold.

Node Point :

Common point where ledgers, standards and transoms are fixed.

Puncheon:

A vertical tube secured at its lower end, with a load bearing coupler, to a horizontal tube. The load is not transmitted directly into the ground or into a base plate.

Raker:

An inclined load bearing tube.

Scaffolding Tag:

A white plastic holder, marked in red, with the international prohibitive sign and the words "Scaffolding tag, Do not use Scaffold", with an insert card, green on one side and yellow on the other.