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10 WELFARE, OCCUPATIONAL HEALTH AND SAFETY

10.1 GENERAL

10.1.1 Scope

- 1 This Part specifies the Health, Safety and Welfare requirements for construction and its associated practices.
- 2 For voltages and frequencies, regulations and requirements of Kahramaa and relevant authorities should be taken into account.
- 3 Related Sections and Parts are as follows.

This Section

Part 4..... Protection

Part 8..... Building Demolition and Waste Management

Part 9..... Materials

Part 11..... Engineer's Site Facilities

Part 13..... Setting-out of the Works

Section 11 Health and Safety

10.1.2 Responsibility

It is the Contractors responsibility to implement an Occupational Health and Safety Management System meeting as a minimum the requirements of ISO 45001. It shall be the duty of the Contractor to provide the following:

- (a) Safe plant and equipment;
 - (b) Safe means of handling, transporting and storage of articles and substances;
 - (c) Adequate training, instruction, information and supervision;
 - (d) A safe place of work with safe access to and egress from the place of work;
 - (e) A safe and healthy environment; and
 - (f) Adequate welfare facilities.
- 2 It is the Contractor's responsibility to conduct his operations in such a manner as to prevent injury to persons or damage to property. The Contractor shall take precautions for protection against risks and shall inspect Occupational Health and Safety conditions where the Works are being executed.
 - 3 The Contractor shall conform to all Acts, Orders and Regulations made by any official authority with respect to Occupational Health and Safety.
 - 4 The Contractor shall note that Occupational Health and Safety (OHS) shall be treated with high importance at all stages of the Contract. Contractor shall understand that the Contract Price includes the Execution Programme for provision and implementation of an Occupational Health and Safety Policy and Plan to ensure the highest standards are enforced throughout Construction, Pre-commissioning and Commissioning.

- 5 The Contractor's attention is drawn to the requirements of latest revision of:
- (a) Qatar Construction Specification – QCS,
 - (b) Qatar Law No.14 of the Year 2004 – The Labour Law, and the ministerial decisions issued in implementation of the provisions of the Labour Law issued by Law No. 14 of 2004,
 - (c) Minister of Labor and Social Affairs Decision No. (18) for the year 2014 specify the requirements and specifications of adequate housing for workers,
 - (d) All related Ministerial decisions to implement the provisions of the Labour Law promulgated by Law No. 14 of 2004,
 - (e) Qatar Traffic Law No. 19 of the Year 2007,
 - (f) Environmental Protection Law No. 30 of the Year 2002 and Decision No. (4) for the year 2005 by issuing the executive regulations of Environmental Protection Law,
 - (g) Civil Defence Law No. 9 of the Year 2012,
 - (h) CDD (Department of Civil Defence) – Fire Safety Handbook; and
 - (i) Worker Rights Booklet 2009 (National Human Rights Committee).

The Contractor is required to fully comply with the stated requirements relating to Occupational Health and Safety. In the event that legislation is updated the latest version shall be followed.

- 6 The Contractor shall ensure that Contractor Personnel and Subcontractor's employees comply with all requirements of latest revision of QATAR legislation mentioned above (but not limited to). Compliance with the standards shall be considered as a minimum requirement and Contractor shall establish additional arrangements as circumstances may require. Any failure by Contractor to obtain copies of that mentioned laws applicable to the Contract shall in no way relieve the Contractor from any responsibilities or obligation under the Contract.
- 7 The Contractor's Representative shall be responsible for all Welfare, Occupational Health and Safety matters during the performance of the Work up to and including the Completion Date. The Contractor's Representative shall ensure that an effective Occupational Health and Safety management organization is maintained at all times to undertake the duties to comply with this requirement.

10.1.3 Organisation for Occupational Health and Safety

- 1 The Contractor shall submit an Occupational Health and Safety Organisation Plan detailing planning and management considerations for construction at an organisational level for the Engineer's approval within Thirty (30) days of the award of the Contract.
- 2 The Occupational Health and Safety Organisation Plan shall provide the names, qualifications, experience and skills of all the Safety Team and key support staff.
- 3 The Engineer shall review the details of safety staff and interview the proposed individual to assess his/her suitability for the position prior to giving approval for appointment.
- 4 The Contractor shall submit the names of the following to the Engineer for approval: -
- (a) The details of its proposed competent and experienced Occupational Health and Safety Manager. The minimum academic qualification for the proposed Occupational Health and Safety Manager or Safety Engineer are but could be not limited to Bachelor degree

in Engineering / Science or equivalent with certain years experiences (as requested in the contract) in the same field in same position and the ability to communicate with all nationalities, plus Professional OHS Qualification certified from NEBOSH , IOSH (Managing Safely and Working Safely) , OSHA and safety Management Qualification certified in BS OHSAS 18001(ISO45001) as lead auditor, with implementation and continual improvement Relevant Training Attendance. The Contractor is not permitted to execute any form of Work on the Worksite until such time as an approved Occupational Health and Safety Manager has been deployed on a full time basis to the Worksite. The Contractor shall not remove the appointed Occupational Health and Safety Manager without prior approval from the Engineer.

- (b) Deputy Occupational Health and Safety Manager who is capable of performing all of the duties of the Occupational Health and Safety Manager in the event of his absence. The requirements and procedure outlined in Clause (a) above applies equally to the appointment of the Deputy Occupational Health and Safety Manager.
- 5 The Contractor shall appoint Occupational Health and Safety Officers and support staff in sufficient numbers to ensure the effective function of the Occupational Health and Safety discipline within the Contractor's organisation. The minimum education for the Occupational Health and Safety Officer are HND / HNC with 4 years experiences in the same field as Safety officer, certified from NEBOSH, IOSH and OSHA, Professional in control and monitoring the site activity. The Contractor shall appoint and deploy full time on the Worksite one Occupational Health and Safety Officer for each and every 50 persons employed at the Worksite. For a less than 50 persons employed at the Worksite, a minimum of one (1) Safety Officer shall be present on site during all working hours each day throughout the Contract period. This is in addition to the Occupational Health and Safety Manager and his Deputy.
- 6 The Safety Officers shall have no other duties, either on-site or off-site, other than Occupational Health and Safety duties, and shall be exclusive to one site.
- 7 The Contractor shall ensure that each and every Subcontractor employed on the Worksite appoints suitably competent and experienced qualified Occupational Health and Safety staff to ensure the effective function of the Occupational Health and Safety discipline within the Subcontractor's organisation. The requirements and procedure outlined above for contractor Occupational Health and Safety staff to be applies equally to the appointment of the Subcontractor Occupational Health and Safety Staff. The Subcontractor shall appoint and deploy full time on the Worksite one Occupational Health and Safety Officer for each and every 50 persons that they employ at the Worksite. Any Subcontractor that employs more than 100 persons will appoint an Occupational Health and Safety Manager. This is in addition to the Occupation Occupational Health and Safety Officers.

10.1.4 Reporting Accidents/Incidents

- 1 The Contractor shall promptly report to the Engineer any accident whatsoever arising out of, or in connection with, the Works whether on or adjacent to the Site which caused death, personal injury or property damage, giving full details and enclosing statements of witnesses.
- 2 Promptly shall mean immediately by telephone and electronically in all cases within 24 hours.
- 3 The Contractor shall implement arrangements for effectively managing any incident or emergency that may occur as a result of Work and/or on the Worksite.

- 4 The Contractor shall make all necessary arrangements for emergency preparedness including, but not limited to, medical equipment and facilities, trained personnel, communication systems, transportation, search and rescue equipment.
- 5 The Contractor shall produce and submit to the Engineer monthly performance reports and incident reports. Reports shall be in the format approved by the Engineer.
- 6 The Contractor shall refer to, and in particular, QCS (Section 11, Part 1 [1.6] and Part 2) for all incident classifications and definitions.
- 7 Incident Investigation final reports to be submitted for all lost time major / reportable Incidents within 10 days of the incident. All incidents that result in lost time from work, near miss, dangerous occurrence or damage to property (asset) shall be reported. The normal steps to be taken after an incident shall be;
 - (a) Submit incident notifications immediately;
 - (b) Conduct the investigation;
 - (c) Prepare the report with conclusions and recommendations;
 - (d) Prepare appropriate plan of corrective action;
 - (e) Include in monthly Health and Safety statistics report;
 - (f) Submit to Engineer for review and re-submittal if required.

10.1.5 General Sanitation

- 1 The Contractor shall maintain the Site and all working areas in a sanitary condition and in all matters of health and sanitation shall comply with the requirements of the Supreme Council of Health and the Public Works Authority.
- 2 The Contractor is responsible for all measures necessary to prevent the breeding of mosquitoes on the Site for the duration of the Contract.
- 3 The Contractor shall ensure that pests are not permitted to the Site facility by initiating a routine pest control program. Non-toxic pest control methods shall be used.
- 4 The disposal surplus water and the accompanying growth of trees and the proliferation of insects and rodents. Does the site cause an environmentally danger to the surrounding area?
- 5 Disposal of surplus water and the accompanying growth of trees and proliferation of insects and rodents shall be prevented by suitable actions by the Contractor.
- 6 The Contractor shall ensure that stray animals (dogs, cats, etc.) are not allowed to be kept / feed inside the site facilities.

10.1.6 Safety Notice Board

- 1 The Contractor shall set up and maintain (cleaned, clear and legible) throughout the course of the Contract safety notice boards in prominent places on the Site. These notice boards shall be located in positions approved by the Engineer such that they are clearly visible to the Contractor's employees. They shall be fully illustrated and provide details of key safety procedures to be followed.

- 2 The notice boards shall be in Arabic, English and;
 - (a) In all other languages which are the mother tongue of five or more of the Contractor's employees, or
 - (b) The preferred languages (can be understood) by the workers on the Worksite.
- 3 The Contractor's employees shall be made fully aware of the notice boards prior to commencing duties on Site.
- 4 The Contractor shall maintain up to date copies of all industry codes and standards that apply to the Work.

10.1.7 Compensation for Damage

- 1 Claims for compensation arising from damage or injury caused by the Contractor's failure to provide adequate Occupational Health and Safety measures shall be the sole responsibility of the Contractor.
- 2 The Contractor shall notify the Engineer of any claim made against him which is in any way connected to the Contract.
- 3 The Contractor is required to copy to the Engineer any formal Occupational Health and Safety related communication between the Contractor and enforcing authorities or government organizations.

10.1.8 Welfare, Occupational Health and Safety Performance

- 1 The Contractor shall ensure acceptable Welfare, Occupational Health and Safety performance of all Subcontractors, visitors, vendors, public and other parties that may enter the Worksite or the amounts identified in the Bills of Quantities. The performance shall be measured based on the risk profile/KPI of the project and shall focus on leading as well as lagging indicators.
- 2 Should the Contractor not maintain acceptable Welfare, Occupational Health and Safety performance then the Engineer may, in addition to any other amounts withheld under the Contract, withhold up to 10% of the amount of any interim invoice issued by the Contractor. Contractor shall refer QCS section 11 Part 1.1.2.10 Penalties that can be awarded' for further reference.
- 3 The Contractor shall develop and implement programmes, which shall act as incentives for their teams at all levels, to make a positive contribution to good Welfare, health and safety performance.

10.1.9 Occupational Health and Safety Leadership and Accountability

- 1 The Contractor shall be committed to Health and Safety leadership and this is to be achieved through working in partnership with the main project stakeholders including the Engineer and the Client.
- 2 The Contractor shall demonstrate commitment to the safety, health and welfare of all stakeholders and workers on projects and shall demonstrate leadership in achieving the following objectives:
 - (a) A safe, healthy workplace

- (b) An active workforce consultation process.
 - (c) A zero harm culture.
 - (d) A decent, hygienic, and safe accommodation
 - (e) An environment in which the worker can raise a grievance without fear of retaliation.
- 3 The Contractor shall provide opportunities through forums and meetings involving important project stakeholders, including the Client, The Engineer, sub-contractors and other relevant contractors to raise Welfare, health and safety issues, assist in the development of leadership programmes, share good practice and be recognised for good performance.
- 4 The Contractor's senior management shall visibly demonstrate support, commitment, Leadership and Accountability on all Welfare, health and safety issues by the following actions:
- (a) Health and Safety is everyone's responsibility;
 - (b) The Engineer's Zero Harm Initiative;
 - (c) Training employees to work safely;
 - (d) Recognizing and rewarding employees;
 - (e) Identify risks to health and safety and develop mitigation/control plans and communicate these to workers;
 - (f) Reinforce safe work practices;
 - (g) Place health and safety as the first item on the agenda at meetings.
 - (h) Allocate adequate resources for health and safety management and implementation
 - (i) Develop health and safety targets and objectives and measure and review performance;
 - (j) Foster positive health and safety culture and behaviour through their own actions;
 - (k) Treat health and safety as a core value equal in importance with productivity, quality and ethical standards;
 - (l) Participate in health and safety meetings and safety walkabouts;
 - (m) Regularly inquire about Workers' wellbeing during safety walkabouts or activities with the Workers;
 - (n) Develop efficient contingency plans and allocate adequate emergency resources;
 - (o) Provide trained and competent workforce;
 - (p) Promote personal health and well-being; and
 - (q) Seek to exceed current legislation in relation to welfare and Workers' accommodations;
 - (r) Developing a welfare , and health and safety policy communicated to all Workers.

10.1.10 Safe-working Arrangements

- 1 The Contractor shall have arrangements to empower their staff to make sensible decisions about their own safety and the safety of others affected by what they do, and not put themselves or others at risk of harm.
- 2 Contractor to have safe-working arrangement that ensures:
- (a) That health and safety concerns can be raised and associated actions taken

- (b) Employees are empowered to stop work immediately where they believe they or others are at risk of harm
 - (c) No disciplinary action is taken against those who use the work safe arrangement to raise a genuine health and safety concern
 - (d) That the process is cascaded to their subcontractors
- 3 All such arrangements shall be briefed to all staff, including any agency or sub contract staff before they start work.
- 4 Where safety concerns are raised or a stop work process has been invoked employers shall document them together with the action taken to resolve them; and shall advise others working on the project were the issue is likely to impact on them or be similar to those faced by other organisation.

10.1.11 Labour Rights, Benefits & Obligations

- 1 The Contractor shall adhere to the Client's worker welfare vision, mission and strategic objectives.
- 2 The Contractor shall develop and implement its own written Worker Welfare Policy, which shall demonstrate the Contractor understands of and commitment to maintaining standards of Worker Welfare that are consistent with, and an integral part of the Contractor's business strategy.
- 3 The Contractor shall not allow or tolerate any forced, compulsory, bonded, or indentured labour, human trafficking practices, or any other violation of human and labour rights.
- 4 The Contractor shall document implementation of Applicable Laws, in particular with respect to the following:
- (a) Recruitment – The Contractor shall maintain an up-to-date list of all agents/agencies used and should provide copies of licences for same to the Engineer. The Contractor shall, through their best endeavours, satisfy themselves, and the Engineer, that recruitment agents/agencies used do not charge recruits any fees as per the Labour Law (Art. 33, Qatar Law no.14 of the year 2004).
 - (b) Contracts – The Contractor shall retain, for inspection by the Engineer, copies of written employment contracts for all employees working on the project. Such employment contracts shall be in accordance with the requirements of the Labour Law and shall be approved by the Ministry of Administrative Development, Labour and Social Affairs. The terms of employments cannot be lower than the terms specified in the offer letter signed prior to their deployment to Qatar.
 - (c) Wages – A Wage Register shall be retained in accordance with the requirements of the Labour Law. The Contractor shall update the Wage Register to ensure that employee wages, including relevant overtime payments and leave entitlements, are paid in a timely fashion and in a manner consistent with the requirements of the Labour Law. These records shall be available for inspection by the Engineer and shall clearly identify overtime payments and rates.

- (d) End of Service Benefits – The Contractor shall retain records to demonstrate that End of Service Benefits have been made, where appropriate, in accordance with Articles 48 and 54 of the Labour Law. The employer shall not withhold or suspend payment of wages (art. 70).
 - (e) Records & Files – These shall be retained in accordance with the Labour Law, and shall be made available to the Engineer for inspection.
 - (f) Work Rules & Disciplinary Rules – These shall be in accordance with the Labour Law, shall be approved by the Ministry of Administrative Development, Labour and Social Affairs (art 46), shall be conspicuously displayed, and shall be provided to the Engineer.
 - (g) Working Hours & Leave - The Contractor shall retain records to demonstrate that all employees' working hours and leave allowances are consistent with the requirements of the Labour Law.
 - (h) Collective Labour Disputes - Any/all collective labour disputes shall be dealt with in accordance with the requirements of the Labour Law. Complete records of all such disputes shall be retained by the Contractor for review by the Engineer. As a minimum, the Contractor shall inform the Engineer immediately, on receipt of complaint/claim from the employees.
 - (i) Subcontracts as such, obligations, relating to Recruitment, Contracts, Wages, Records & Files, Work Rules & Disciplinary Rules, Working Hours & Leave and Collective Labour Disputes shall be passed on to the subcontractor in the event that works are subcontracted by the Contractor. Similarly, subcontractor records shall be made available to the Engineer.
 - (j) Training – Workers shall be paid their regular wage while attending induction or occupational training.
- 5 The Contractor shall provide copies of Contracts, Work Rules, Disciplinary Rules, Pay Slips, etc. to employees in a range of appropriate languages, as widely understood by the workforce.
- 6 The Contractor shall have grievance mechanisms in place and shall ensure that Workers can raise their grievance without fear of retaliation.
- 7 The Contractor shall facilitate contact between project employees and relevant independent bodies such as consulates, NGOs, or other relevant organisations offering social support. A list of such local contacts shall be provided to new employees during their induction process. An up-to-date list of contact details for these organisations shall also be displayed in public areas such as the canteen, recreational areas, etc.

10.1.12 Language barriers and communications issues

- 1 Employers shall ensure that Workers understand the job requirements and contract specifications prior to their deployment to Qatar.
- 2 The Contractors shall ensure that their workforce fully understand site health and safety requirements, including emergency arrangements and site rules in place, including the key risks associated with the activities or task that they may perform. The language needs of personnel shall be addressed during induction and through training. Emphasis should be placed on ensuring proper supervision of all staff, but in particular those who may have difficulties in understanding verbal or written communications and are assigned to high risk activities as defined by the Contractor. Where practicable, signage shall make maximum use of pictograms.

- 3 Those who have responsibility for managing Contractor personnel on construction site shall be able to communicate in both written and oral English to a standard appropriate to the tasks being performed. Note that there may be personnel who are not competent in the English language, and this is permitted provided that the Contractor can demonstrate that:
- (a) Such team members are able to give oral instructions and warnings to others
 - (b) Such team members shall receive the required health and safety training / briefing (including any emergency procedures) before commencing work in a form that they understand
 - (c) Appropriate arrangements are made to ensure that instructions are effectively communicated to and understood by all team members
 - (d) Particular attention has been given to the communication requirements of safety critical workers. ensuring a translator is available who is capable of instructing the non-English speaking personnel in safety and other operational matters, and
 - (e) Maintaining a reasonable ratio of translators to non-English speaking personnel at all times.
- 4 Special provisions for safety critical instructions conveyed by the translator shall be recorded as being received and clearly understood by each non-English speaking person. Such records shall include those for safety induction, emergency procedures, safety method statements and safety awareness talks.

10.1.13 Intervention

- 1 A system of positive intervention shall be used throughout the Project and the Contractor shall adopt the system by authorizing and requiring all Contractor Personnel and Subcontractor employees to intervene in any unsafe act or condition and take immediate corrective action to prevent any incident occurring. This must be communicated at Project induction.
- 2 Work may be monitored by any representative of Client who may intervene in any unsafe act or condition and require the Contractor to take immediate corrective action to prevent any incident occurring.
- 3 The Contractor is required to acknowledge that the system of positive intervention in use on the Project is one that shall enhance the following;
- (a) levels of understanding and awareness of Occupational Health and Safety issues throughout the Project;
 - (b) levels of personal responsibility and accountability for Occupational Health and Safety issues;
 - (c) levels of proactive effort towards Occupational Health and Safety issues;
 - (d) levels of compliance with contractual requirements (where applicable, for instance HSE KPI's) and Project Occupational Health and Safety standards;
 - (e) incident and injury prevention
- 4 The Contractor may be the focus of Occupational Health and Safety audits conducted by any representative of Client. The Contractor is required to cooperate with such audits and to acknowledge all audit findings. The Contractor shall take all corrective and preventive actions that may be required to address any nonconformity identified during such auditing.

- 5 The Contractor may be the focus of Occupational Health and Safety inspections conducted by any representative of Client. The Contractor is required to cooperate with, acknowledge such inspections, and take all corrective and preventive actions that may arise as the result of such inspections.
- 6 The Contractor shall undertake routine Occupational Health and Safety inspections and audits for the on-going Work. Written records of inspections and audits shall be maintained and made available to any representative of Client upon request.
- 7 The Contractor may be issued with stop work instructions from the Engineer for any observed cases of serious or imminent danger associated with the Work. On receipt of a stop work instruction, the Contractor shall refrain from work until remedial action has been taken to alleviate the serious or imminent danger and to prevent it reoccurring.
- 8 The Contractor shall stop work if any unknown or unplanned conditions occur that give rise to serious or imminent danger. In such circumstances, the Contractor shall assess the risks associated with any remedial work required and revise the method statements and job hazard analysis. The revised method statement shall be reviewed and approved by the Contractor's Occupational Health and Safety Manager. The Engineer shall approve revised method statements before recommencing Work.

10.1.14 Points to consider when implementing health and safety system

- 1 The following points can be used to stimulate thoughts and ideas whilst developing health and safety systems.
- 2 If you read them through and think about them carefully, you can adapt many 'pearls of wisdom' to your circumstances.
 - (a) No one is accident-prone, some workers are just poorly trained; or perhaps they are the wrong person doing the wrong thing in the wrong place at the wrong time.
 - (b) No one wants accidents - not clients, not Contractors, and most of all not employees.
 - (c) Safety culture in a company is when people act and behave safely even when no one is looking.
 - (d) Personal protective equipment, however good it is, is no substitute for a proper safe system of work.
 - (e) Hazards and risks! Eliminate the hazard (the thing that can cause harm) and you can forget about the risk (the chance of an accident occurring) forever.
 - (f) Fire destroys property and jobs. Safe systems of work and safe people prevent fires.
 - (g) Compliance with these Regulations gives a minimum standard. Do you personally accept minimum standards?
 - (h) A safety policy cannot stop ill health or accidents, but the people who put the policy into practice certainly can.
 - (i) First aid. If you can check the heart and the breathing, and stop the bleeding, you might save a life. If you cannot, then you will not.
 - (j) In safety, good management is planning meeting opportunity. Missing opportunity when planning is just bad management.

- (k) Compliance with rules does not mean that you are doing everything that is 'reasonably practicable'.
- (l) Compliance with a rule or a regulation is not in itself a risk assessment.
- (m) You cannot insure against having an accident, it is just that the insurance company eventually pays some of the costs.
- (n) Accident statistics only really tell you just how often you got things wrong in the past.
- (o) Good health and safety performance should not be especially praiseworthy - it should be the expected norm.
- (p) A conviction in a Qatar court of law for a welfare, health and safety offence will give you a criminal record.
- (q) The uninsured costs of an accident are always paid for out of profits, or they help towards causing losses.
- (r) Risk assessments. What is the hazard, what is the risk and what is the action?
- (s) Actions speak louder than words. If managers act safely, then the employees will follow the example.
- (t) The three essentials for health and safety are: safe people, safe places, and safe systems of work,
- (u) If you know where you are as regards to welfare, health and safety, then and only then, can you decide where you want to go?
- (v) Every accident is the visible, the very highly visible, face of failure. Safe performance is the visible face of success.
- (w) If an employee said 'would not it be a good idea if we sought further advice' Contractors should say MAYBE rather than NO.
- (x) If there is a system failure, do not just blame the system, do something about it.
- (y) Who? What? Why? Where? In addition, how? Are all very good questions to ask when doing risk assessments.
- (z) "I'm alright. I've never had an accident yet", are very famous last words.
- (aa) There is no such thing as an accident. Someone, somewhere, at some point did something to cause it.
- (bb) Safety has to start at the top; then, and only then, will it cascade down to everyone else.

10.2 PROJECT OCCUPATIONAL HEALTH AND SAFETY PLAN

10.2.1 General

- 1 Each Contractor shall prepare a Contract/Project specific Occupational Health and Safety Plan (the "Safety Plan") and submit this Safety Plan to the Engineer for review and approval within thirty (30) days of the award of the Contract. The Contractor is not permitted to Work on the Worksite until Engineer has approved the Plan. It will be a condition prior to starting the works that the Contractor will have an approved Health and Safety Plan, Traffic Management Plan, and an Emergency Response Plan.

- 2 The Safety Plan shall include the Contractor's proposals for the maintenance of safety on the Site. These proposals shall address the safety measures applicable with respect to all tasks to be undertaken in the construction of the Works.
- 3 The Safety Plan shall include the Contractor's proposals for accident prevention. Accident prevention shall include but not be limited to training, monitoring and review of safety related procedures, enforcement of safety related matters and promoting safety awareness.
- 4 The Safety Plan shall include a safety organisation chart showing the names and responsibility of all safety personnel deployed both on and off the Worksite to maintain acceptable Occupational Health and Safety performance of the Contract and the Work at all times, even outside the normal working hours, in particular night-time and holiday working. (refer to 10.1.3)
- 5 The Contractor is required to work in areas where dangerous concentrations of gases may be present in manholes, trench excavations and the like. It is the Contractor's responsibility to provide all necessary detection equipment and to ensure that, if toxic or explosive gases are found, adequate measures are taken to protect his staff, workers and members of the public.
- 6 The Safety Plan shall be specific to one Contract/Project.
- 7 The Contractor shall regularly review the suitability of the Safety Plan. The Contractor shall undertake a full formal review of the Safety Plan annually on the date of award of the Contract or when necessary but no less than 6 monthly intervals and submit the findings of the review to the Engineer within 14 days of that date along with an amended plan should any amendment be required.
- 8 The Safety Plan shall contain the Contractor's Occupational Health and Safety Policy. (refer to 10.2.2)
- 9 The Plan for construction works shall demonstrate the Contractor's systems for risk management in particular risk assessment and method statement (refer to the Regulatory Document Section 11 Part 1 in particular section 1.1.7: Risk Assessments and Method Statement, and Guidance document Section 11 Part 2 Section 2.4: Guidance on Risk Assessment and Method Statement). The plan shall include a schedule of risk assessments for all work activities in relation to the project. The plan shall include a list or schedule of identified work activities that present significant risk, and for which method statement will be developed before their execution. All Method Statements shall be reviewed by the HSE Team of the Contractor and Engineer to ensure that the MS & RA have identified the detailed program and sequence of execution with the associated risks and appropriate mitigation measures. The risks identified in the MS shall be communicated to the team performing the tasks in a manner that is understood by them.
- 10 The Safety Plan shall include the contract/project risk assessment and detail the arrangements for ensuring that it is updated to reflect any changes throughout the duration of the Work.
- 11 The Safety Plan shall detail the arrangements for undertaking job hazard analysis and ensuring that such analysis is included in each and every method statement.
- 12 The Safety Plan shall detail the management arrangements and standards to be used for each of the following:
 - (a) Scaffolding

- (b) Suspended Working Platforms
- (c) Fall Prevention and Fall Arrest
- (d) Prevention of Falling Objects
- (e) Excavations
- (f) Electricity
- (g) Structural Steel Erection
- (h) Demolition and Dismantling
- (i) False work and Formwork
- (j) Reinforcement and Concreting
- (k) Cladding and Roof work
- (l) Confined Spaces
- (m) Lifting Appliances and Lifting Gear
- (n) Mobile Plant and Vehicles
- (o) Mobile Elevating Working Platforms
- (p) Construction Lifts
- (q) Machinery and Equipment
- (r) Power Tools
- (s) Hazardous Substances
- (t) Hot Work and Welding
- (u) Fire Prevention and Protection
- (v) Access and Egress
- (w) Housekeeping
- (x) Warning Signs and Barricades
- (y) Material Handling, Transportation and Storage
- (z) Lock Out and Tag Out
- (aa) Temporary Works
- (bb) Temporary Facilities
- (cc) Underground and Overhead Utilities
- (dd) Working Over or Adjacent to Water
- (ee) Working Environment
- (ff) Personal Protective Equipment
- (gg) Site Traffic Control (including setting and taking down of all temporary traffic devices)
- (hh) Working in hot weather

- 13 The Safety Plan shall detail the arrangements that the Contractor shall use to ensure acceptable Occupational Health and Safety performance of all Subcontractors that may enter the Worksite. It shall detail the arrangements for evaluating Subcontractors prior to them being contracted to undertake Work. It shall detail the methods that the Contractor/Subcontractor shall use to monitor their work and the penalties that shall be imposed should acceptable standards not be maintained.
- 14 The Safety Plan shall detail the manner in which the Contractor shall review, approve and incorporate all Subcontractor Occupational Health and Safety plans, risk assessments and method statements and incorporate them into their Occupational Health and Safety management system.
- 15 The Safety Plan shall detail the arrangements that the Contractor shall use to ensure acceptable Occupational Health and Safety performance of all persons on the Worksite. In particular, it shall detail the arrangements for penalties and disciplinary action that shall be taken should Contractor Personnel, Subcontractor employees or any other person on the Worksite not comply with Occupational Health and Safety requirements.
- 16 The Safety Plan shall detail the arrangements that the Contractor shall use to control and ensure acceptable Occupational Health and Safety performance of visitors and delivery personnel that may enter the Worksite.
- 17 The Safety Plan shall detail the Contractor's arrangements for effectively managing any emergency incident that may occur as a result of Work or on the Worksite. The detail shall include the facilities required for emergency preparedness.
- 18 The Safety Plan shall detail the arrangements for notification and investigation of any incident that may occur as a result of Work or on the Worksite.
- 19 The Safety Plan shall detail the arrangements for the Contractor's monthly performance reporting and incident reporting.
- 20 The Contractor shall ensure that their project monthly health and safety statistics report is completed and submitted by the agreed date to the Engineer and Quality & Safety Department. The Engineer will provide the necessary format for this report. The information collected will be submitted to the Engineer and Quality & Safety Department.
- 21 The Safety Plan shall detail the arrangements for assessing the general Health of employees and any job specific Health checks that may be required.
- 22 The Safety Plan shall detail the arrangements for self-inspection and auditing that shall be used to monitor the Work. Such arrangements shall include, but not limited to the below
- (a) Areas /critical safety items to be inspected
 - (b) Frequency of such inspections
 - (c) Person who shall undertake the inspection and the competency requirements
 - (d) Deliverables and reference documents for such inspections and audits.

Records of such self-inspections and audits shall be maintained during the work duration and presented to the Engineer/Engineer Representative for any verification and audits.

- 23 The Safety Plan shall detail the arrangements for tracking and effectively closing any Occupational Health and Safety related nonconformity or deficiency that may be identified as a result of monitoring. Written records of inspection, auditing and tracking shall be maintained and made available to any representative of Client on request.
- 24 The Safety Plan shall detail the arrangements for ensuring that all Contractor Personnel and Subcontractor employees are trained and competent to undertake their work in accordance with the required standards. In particular, the Safety plan shall detail the training and competence requirements for the following employees;
- (a) Supervisors
 - (b) Electricians
 - (c) Mobile plant and vehicle operators and banksmen
 - (d) Crane and lifting appliance operators
 - (e) Lifting supervisors
 - (f) Riggers
 - (g) Excavation Supervisors
 - (h) Machinery operators
 - (i) Scaffolders
 - (j) Scaffolding Supervisors
 - (k) Scaffolding inspectors
 - (l) Confined space workers and attenders
 - (m) Confined space supervisors
 - (n) Confined space Emergency response/Management team
 - (o) Authorised gas testers
- 25 The Safety Plan shall detail the training arrangements specify the type and nature of training to be given including but not limited to induction, pre-work briefings, tool box talks, general awareness training, skills training and formal training conducted by training professionals or agencies. Written records of the attendees, training given and assessment of competency shall be maintained by the Contractor and made available for inspection by any representative of Client upon request.
- 26 The Safety Plan shall detail the Contractor's arrangements for promoting the awareness of Occupational Health and Safety issues through notices, posters, newsletters, booklets, Occupational Health and Safety alerts and any other means. All such information shall be provided in the languages preferred by the training recipients of the training.
- 27 The Safety Plan shall detail the arrangements that the Contractor shall make to reinforce good performance. Such arrangements shall include incentive schemes to reward Contractor Personnel, Subcontractor employees or areas of Work that demonstrate exemplary Occupational Health and Safety performance.

- 28 The Safety Plan shall include details of all meetings that are held to specifically deal with Occupational Health and Safety issues. In particular, the Contractor shall hold a monthly meeting chaired by the Contractor's Representative, which Client shall be invited to attend, with the following items on the agenda;
- (a) Suitability of the Contractor's Occupational Health and Safety organization for the on-going and planned Work;
 - (b) Effectiveness of the Contractor's Occupational Health and Safety management system;
 - (c) Significant areas of planned activity and associated risk;
 - (d) Method statement review and job hazard analysis planning;
 - (e) Tracking and closure of any identified deficiencies or nonconformities;
 - (f) Incident review;
 - (g) Occupational Health and Safety promotion planning;
 - (h) Training needs assessment;
 - (i) Auditing and Self-Inspection planning.
- 29 The Occupational Health and Safety Plan shall describe the Contractor's Safety Management System that will be used throughout and shall conform with all requirements defined within the Contract and related documentation The contents shall include but not be limited to the following:
- (a) Front Cover
 - (b) Table of Contents
 - (c) Project Scope, Requirements and Occupational Health and Safety Objectives
 - (d) Occupational Health and Safety Policy and BS OHSAS 18001 (ISO45001) Certificate (if applicable)
 - (e) Control of Occupational Health and Safety Plan
 - (f) Reference Documentation
 - (g) Safety Organisation and Responsibilities
 - (h) Subcontractor Occupational Health and Safety
 - (i) Risk Assessments and Method Statement
 - (j) Non-conformance, Corrective and Preventative Action
 - (k) Incident Reporting
 - (l) Audits and Self Inspection
 - (m) Training
 - (n) Key Performance Indicators and Continual Improvement
 - (o) Management Review
 - (p) Safety Meetings
 - (q) Monthly Safety Report
 - (r) Appendices

10.2.2 Occupational Health and Safety Policy

- 1 The Contractor shall comply with the Client vision, mission and strategic objectives.
- 2 The Contractor shall develop and implement its own written Occupational Health and Safety Policy which shall be Project specific and demonstrate the Contractor's understanding of and commitment to maintaining standards of Occupational Health and Safety (OHS) that are consistent with and an integral part of the Contractor's business strategy.
- 3 All Contractors on the Project must set objectives and targets that shall be applicable to SMART - Specific, Measurable, Achievable, and Realistic and to a Time scale.

10.2.3 Risk Assessment and Job Hazard Analysis

- 1 Refer to Section 11 Part 1 (Regulatory Document) in particular section 1.1.7 and Section 11 Part 2 (SAMAS) in particular section 2.4

10.2.4 Method Statements

- 1 Refer to Section 11 Part 1 (Regulatory Document) in particular section 1.1.7 and Section 11 Part 2 (SAMAS) in particular section 2.4

10.2.5 Requirement for Health and Safety Training

- 1 The Contractor shall conduct training including contract specific induction, pre-work briefings, tool box talks, general awareness training, skills training and formal training conducted by training professionals or agencies. The contract specific induction will be at least approximately 2 hours' duration, approved by the Engineer and provided for all persons that enter the Worksite. Such induction training will be reviewed, revised and repeated for all persons that enter the Worksite at periods not exceeding 6 months throughout the duration of the Work. All training shall be provided in the languages preferred by the recipients of the training.
- 2 The Contractor is required to provide employees of the Client with Occupational Health and Safety training relating to Work undertaken by the Contractor. Training is an integral part of job performance.
- 3 The Contractor shall provide all Project/Contract Personnel with individually unique Contract specific photo identity cards. Such cards shall be made available to any representative of Client on request. The Contractor shall not permit any Project/Contract Personnel to access the Worksite unless they have been issued with their individually unique photo identity card. Such cards will not be issued prior to the Project/Contract Personnel attending the Contractor's induction training course.
- 4 The Contractor shall appoint a competent supervisor for each and every area of the following Work activities
 - (a) Temporary & permanent electrical installation
 - (b) Crane and lifting appliance operations
 - (c) Scaffolding erection, alteration and dismantling
 - (d) Confined space entry

(e) Excavation

(f) Working at height

All such appointments shall be in writing after confirming the necessary competency requirements. Information about such appointment shall be communicated to the Engineer and updated regularly.

5 The Contractor shall produce a health and Safety Training Matrix based on training needs analysis of all personnel working on the project. The matrix must detail positions against the training courses required from the analysis. All training courses provided to employees shall be free of charge, i.e. the cost will be borne by the Contractor.

6 The training topics will be based on a number of factors, such as but not limited to;

- (a) Trends in monthly statistics;
- (b) Objectives that have been set;
- (c) Recurring issues on site; and
- (d) Accident/incidents on site.

7 Courses designed to meet the needs of specific operatives involved in specialized trades including their roles and responsibilities must be provided through training. The following training could be considering as specialist, but not limited to:

- (a) Safe entry into confined spaces;
- (b) Crane operation;
- (c) Slings/banks men;
- (d) Scaffolding/ false work/temporary works;
- (e) Abrasive wheels;
- (f) Woodworking machinery;
- (g) Excavation support equipment;
- (h) First aid;
- (i) Fire Marshall;
- (j) Accident Investigation;

Note – any external training must be delivered by a competent organisation (i.e. 3rdParty).

8 The Contractor shall provide training and instruction to their employees in relation to the performance of their work. This training shall be provided during working hours and immediately after an employee commences employment. It shall include:

- (a) Occupational hygiene.
- (b) Essential elements of local laws and regulations.
- (c) Policies and procedures concerning aspects of human rights that are relevant to the operations.

9 The Contractor shall actively encourage the following for their workforce:

- (a) Facilitating training opportunities for employees with a view to improving skill levels.
 - (b) Ensuring non-discrimination in hiring and promotion practices.
 - (c) Promoting life-long learning and on-the-job training.
 - (d) All training shall be provided in appropriate languages, based on the demographics of the labour accommodation facility.
- 10 The Contractor shall retain records of all training provided to labour accommodation residents. Such records shall include, as a minimum, the name, age and nationality of those attending the training course/session and the type of training provided. These records shall be available for inspection by the Engineer.
- 11 The Contractors shall conduct **Emergency Drills** to thoroughly test its emergency preparedness and response within 6 months of the date of award of the Contract and thereafter at periods not exceeding 6 months throughout the duration of the Work.
- 12 The Contractor shall hold a Contract **Specific Occupational Health and Safety Meeting** chaired by the Contractor's representative on a monthly basis throughout the duration of the WORK. Additionally, the Contractor shall include Occupational Health and Safety as an item on the agenda for each and every meeting held and ensure that the subject is actively discussed.
- 13 The Contractor may provide contract specific **Safe Practice Booklets** for each and every person employed on the Worksite and provide training on the content of the booklet.

10.2.6 Communications, Consultations and Participation

- 1 The Contractor shall be required to disseminate and transfer information regarding Health and Safety issues. Typical information to be communicated should include but not be limited to; any new policies or procedures and general awareness material.
- 2 The Contractor shall ensure communications arrangements are in place to inform of key health and safety issues. These will include lessons learnt from incidents, sharing of good practice, health and safety campaigns and initiatives. Contractors shall have processes in place to ensure an appropriate cascade to all site personnel.
- 3 The following methods of communication but not limited to shall be observed;
 - (a) **Meetings**; Health and safety meetings shall be conducted on a weekly basis separate from other meeting that have safety on the agenda
 - (b) **Safety Alerts**; Safety alerts shall be produced by the Contractor after a Major Accident/Incident or when appropriate.
 - (c) **Notice Boards**; Information that shall be included as a minimum on an office notice board is any relevant emergency procedures, policy statement, safety alerts or updates, name and contact details of Joint Committee representatives.
 - (d) **Campaigns**; Health and safety campaigns must be initiated by the Contractor to implement throughout the year. At least four campaigns must be run annually on a pro-rata basis. One of the campaigns must detail heat stress before the summer months.
 - (e) **Posters/Signs**; Must be focused on themes relevant to site specific work activities/hazards

- (f) **Safety Awards;** The Contractor shall initiate a scheme whereby he recognises and rewards for positive health and safety related performance by individuals. This shall be on a monthly basis and communicated throughout the project workforce.

10.2.7 Management Review

- 1 The Contractor has to supply evidence that their senior management have carried out a management review, at least annually, of their OHSE systems to ensure continuous improvement.
- 2 The review shall include, but not be limited to, where appropriate, an evaluation of and / or changes to:
 - (a) Health and safety policy;
 - (b) Objectives and targets;
 - (c) Action plans;
 - (d) Follow-up action from previous meetings;
 - (e) Health and safety system suitability;
 - (f) Audit results;
 - (g) Preventive and corrective actions;
 - (h) Regulatory changes;
 - (i) Continual improvement measures;
 - (j) Performance measures;
 - (k) Major procedure and risk review changes; and
 - (l) Health and safety plans.

10.3 EMERGENCY RESPONSE PLAN (ERP)

10.3.1 General

- 1 The Contractor shall prepare an emergency response plans for the project and the following but not limited to shall be addressed;
 - (a) Responsibilities;
 - (b) Risk assessment and hazard identification and controls for potential emergencies;
 - (c) Hazard identifications and controls;
 - (d) Coordination with outside emergency response organizations;
 - (e) Arrival of outside emergency response groups;
 - (f) Emergency response equipment;
 - (g) Emergency drills;
 - (h) Tests of emergency preparedness and response program;
 - (i) Crisis management plan - major events emergency response plan;
 - (j) Evacuation procedure;

- (k) Medical facilities;
 - (l) Site fire prevention and response reporting;
 - (m) Environmental spills and releases;
 - (n) Security including (bomb threat);
 - (o) Malicious threats; and
 - (p) Severe weather conditions.
- 2 It shall be mandatory that all personnel are aware and understand what actions to take and when to take them in the event of an emergency situation. The Contractor shall provide such information, instruction and training as may be required to assist the personnel to respond appropriately, in the event of an emergency.
- 3 The Contractor shall develop ERPs for review by the Engineer in order to verify the suitability and capability of arrangements. The Contractor shall ensure a schedule is produced to conduct drills and exercises on a regular basis at the sites under its control.
- 4 Records of drills and exercises conducted shall to be kept together with details of follow up actions and performance assessments for audit purpose.
- 5 The first emergency drill shall be conducted within first the 30 calendar days following commencement of operations; afterwards emergency drills shall be conducted on a 6 monthly basis as a minimum.
- 6 All ERPs' shall be reviewed and whenever necessary revised and updated every 6 months, periodic auditing must be carried out to ensure compliance.

10.4 EARTHQUAKE EMERGENCY MANAGEMENT PLAN

- 1 Refer to Section 11 Part 2 (SAMAS) in particular section 2.3.17

10.5 SPECIAL SAFETY REQUIREMENTS AND PRECAUTIONS

10.5.1 Permits

- 1 A permit-to-work system (Hot work, Excavation, Scaffolding & Electric work) shall be observed (correctly issued, Signed & Client requirement enforced) when undertaking any work on an existing utility, service, item of equipment or structure.
- 2 A permit-to-enter system shall be observed (correctly issued, Signed & Client requirement enforced) when undertaking any work in a confined space.
- 3 All staff involved in the 'Permit to work' system shall be sufficiently informed, instructed, trained and supervised to minimise the potential human failing during operation of the work permit system.
- 4 Employer shall appoint, in writing, the personnel who shall authorise a 'permit to work' after confirming the necessary competency requirements. Information about such appointment shall be communicated to the Engineer.

10.5.2 Guarantee

- 1 Where the Contract requires work to be carried out within or adjacent to any pipeline or at a sewage treatment plant, the Contractor shall comply with any requirement of the Public Works Authority.

10.5.3 Mechanical Plant, Machinery and Equipment

- 1 Sufficient suitable standby plant shall be immediately available in cases where the safety of the Works or of personnel depends upon mechanical plant.
- 2 Test and thorough examination by a competent person of all equipment that is capable of storing energy, such as air receivers and pressure vessels, is required at periods not exceeding 12 months. Reports of such test and examination will be held on the Worksite and made available to the employer on request.
- 3 The Contractor will make arrangements for all mobile plant and vehicles that enter the Worksite to be checked by 3rd party certification (as client approved 3rd party list) to ensure the following are provided and in good working order:
- (a) Braking systems
 - (b) Steering systems
 - (c) Gauges and warning lights
 - (d) Operating controls
 - (e) Windscreens and wipers
 - (f) Reversing alarms
 - (g) Rear view mirrors
 - (h) Roll over protection devices
 - (i) Wheels, tyres, track
 - (j) Pneumatic and hydraulic hoses
 - (k) Seat belts and anchors
 - (l) Fuel lines and tanks
 - (m) Electrical control systems
 - (n) Suspension and stabilization systems
 - (o) Bodywork, covers and panels
- 4 Mobile plant and vehicles that are defective will be removed from use in work areas and taken to a repair facility on the Worksite or removed from the Worksite.
- 5 Repair work will only be carried out by trained and authorised mobile plant and vehicle repair technicians.
- 6 Whenever maintenance work is ongoing the machinery or equipment will be isolated and de-energized.

- 7 All mobile plant and vehicle operators will hold relevant Qatari driving licenses for the category of plant or vehicle that they operate. In addition, operators of mobile plant will be in possession of a 3rd party training certificate to verify that they have the skills necessary for safe use of the plant.
- 8 Operators will use mobile plant and vehicles only in accordance with their operating manuals.
- 9 The Contractor will conduct a job hazard analysis for each item of machinery and equipment that will be used.
- 10 The following site rules will be observed by all mobile plant and vehicle operators:
 - (a) Mobile plant and delivery vehicles will not be reversed without a banks man in attendance.
 - (b) No passengers will be carried on mobile plant or vehicles other than in seats that are specifically designed for carrying passengers.
- 11 The Contractor shall prevent oil / fuel leak causing environmental pollution.
- 12 The Contractor will eliminate or reduce the associated hazards for construction lift such as, construction lift failure, falling persons and falling objects by meeting or bettering these specifications. And:
 - (a) All construction lifts will have flat base plates without holes or openings, enclosed sides and roof that are designed to prevent from falling objects.
 - (b) All construction lifts will have overload protection devices that prevent movement of the platform if it is overloaded.

10.5.4 Existing Utilities

- 1 Prior to excavating or clearing/breaking the ground in any area, the location of existing utilities shall be confirmed from as-built drawings, contact with utility authorities and trial holes.
- 2 Excavation in the vicinity of any utility shall be carried out to the requirements of the utility owner.
- 3 Protection for utilities is the least effective means of controlling any associated risk. Where Contractors use this method the following will be provided:
 - (a) Marker posts or blocks that clearly indicate the nature, depth and path of all underground utilities.
 - (b) Where traffic routes pass over underground utilities temporary protection will be provided. Warning signs stating the maximum vehicle weight that may safely cross the utility will be positioned on the access route at each side of the utility.
 - (c) Temporary barriers or fences that run parallel to the route of any overhead utilities. Warning signs detailing the nature of any overhead utilities on the barriers or fences.
 - (d) Where traffic routes pass below overhead utilities warning signs stating the maximum vehicle height and height restrictors will be positioned on the access route at each side of the overhead utility.

- 4 Where any construction activity adjacent to a utility is undertaken the minimum clearance distances will be clearly established and communicated to each and every person involved with the construction activity.
- 5 Traffic routes and material stockpile areas will be clearly identified and established prior to excavation work commencing. All excavation areas, traffic routes and stockpile areas are to be surveyed for overhead services. Any services identified are to be removed or clearly marked with height restrictors and warning information.

10.5.5 Excavations

- 1 During the planning stage all materials and equipment required for the safe excavation work must be clearly identified. Such equipment and materials may include the following:
 - (a) Shoring
 - (b) Solid Barriers
 - (c) Vehicle stop blocks
 - (d) Access ladders or scaffolding
 - (e) Ventilation
 - (f) Lighting
 - (g) Signage
 - (h) Pumps
 - (i) Generators
 - (j) Air Monitoring Devices
 - (k) Movement Monitoring Equipment
 - (l) Rescue Equipment
- 2 For all excavation work a competent excavation supervisor will be appointed. The level of training and experience required to determine competence will vary depending on the complexity of the excavation. He will have previous experience of the type of excavation work to be undertaken and formal Occupational Health and Safety training relating to the safety of excavation work.
- 3 Temporary safety barriers should be used to protect workers and the travelling public from excavations that are more than 300mm deep in accordance with the Qatar Work Zone Traffic Management Guide.
- 4 Once the design requirements are known a job hazard analysis of the excavation work will be completed by the excavation supervisor with the assistance of Occupational Health and Safety staff and engineers as required. The Job Hazard Analysis will clearly identify the job specific risks and control measures for the excavation work.
- 5 Prior to commencement of any excavation work all persons involved will be given a pre-work briefing based on the Job Hazard Analysis relating to the risks and required control measures for the excavation work. The appointed excavation supervisor will be responsible for presenting and recording the briefing.

- 6 Prior to commencement of work all materials, plant and equipment will be checked to ensure that they are in good condition. In particular, the condition of all mechanical excavators will be checked to ensure that:
- (a) All windows in the driver's cab are clean, unbroken and unobstructed.
 - (b) Rear view mirrors are securely attached, unbroken and clean.
 - (c) All track plates and connectors are in good condition and secured with proprietary locking pins.
 - (d) All dipper arm joints and attachments are secured with proprietary pins and locking pins.
 - (e) All task and indicator lighting is in working order.
- 7 Trucks will only be operated by persons with valid Qatari driving licenses. Plant such as excavators, loading shovels etc. shall only be operated by trained and competent operators that hold valid 3rd Party certification for the type of plant being operated. This certification is required in addition to Qatari driving license requirements.
- 8 When the reversing of trucks is necessary for the collection or delivery of materials a banks man will be in attendance. All banks men will be provided with high visibility clothing and be trained in the safety aspects of reversing vehicles. Where vehicles are reversing up to an excavation or travelling alongside an excavation vehicle stop blocks or vehicle barriers will be provided to prevent them falling into the excavation.
- 9 Continuous adequate solid barriers will be placed around all excavations over 1.2m deep at a distance at least of 1.2m. Where night time pedestrian or vehicle access is adjacent to excavation then all solid barriers will be fitted with warning lights.
- 10 Pedestrian access to and from all excavations will be by means of ladder or adequately constructed staircases. The possibility of a person falling from any height more than 2m from the access will be prevented. The horizontal distance between access points will not exceed 15m.
- 11 All ladders used on the Project will be manufactured in accordance with an internationally recognised standard. Any ladder that is found to be defective will be removed from use immediately.
- 12 All straight ladders will be positioned at an angle to minimize the risk of slipping or falling backwards. The distance between the base of the vertical plane and the base of the ladder will be 1 unit out for each 4 units in height of the vertical plane.
- 13 Ladders that are used to gain access from one level to another will extend at least 1m above the upper level surface. Where a general access ladder run extends a distance of more than 6m a landing point with a firm level platform and fall prevention measures will be provided at each and every 6m.
- 14 Excavations shall be kept clean and tidy at all times. Accumulated waste and unused materials will be removed from excavations on a daily basis. All excavations will be thoroughly cleaned prior to any backfilling operations commencing.
- 15 To prevent the risk associated with falling objects excavated materials, other materials and equipment shall not be stored at the edge of any excavation. A clear distance of 2m shall be maintained around all excavations.

10.5.6 Warning Signs

- 1 The Contractor shall set up and maintain (cleaned and legible) throughout the course of the Contract enough traffic diversion signs in accordance with the Qatar Work Zone Traffic Management Guide and additional warning signs & guides.
- 2 Additional areas that require warnings signs and barriers are:
 - (a) Excavations over 1.2m deep
 - (b) Any edge, opening or platform from where a person may fall more than 2m
 - (c) Electrical transformers and substations
 - (d) Confined space entry points
 - (e) Areas below and around working at height and heavy lifting operations
 - (f) Areas of open water more than 1m deep
 - (g) Areas where flammable goods are stored
 - (h) Areas where radiation sources are used or stored
 - (i) Areas within Worksites that are classed as non-construction areas
 - (j) Areas within non construction areas where construction activity is on-going
 - (k) Areas below overhead utilities
 - (l) Areas above underground services
 - (m) Areas where test and commissioning activities are on-going
- 3 Warning signs will clearly state the nature of the hazard and instruct people of the correct actions to take. Warning signs will be manufactures in accordance with internationally recognised standards. All signs will be in English, Arabic and the languages preferred (can be understand) by the workers on the Worksite.
- 4 All safety barriers and barricades are to comply with the Qatar Work Zone Traffic Management Guide...

10.5.7 Confined Spaces

- 1 Entry into a confined space will only be permitted where a competent person is appointed to directly supervise the work. The competent person will hold a certificate of training or license that is issued by a 3rd party. The competent person will be appointed in writing by the Contractor and the appointment will be copied to the employer.
- 2 Any person that enters into a confined space will have received formal/ 3rd party training in the safe methods of entry and working in a confined space. Such training will include the arrangements for emergency communication and response. In addition, every person that enters into a confined space will be given a briefing by the appointed competent person relating to the specific hazards of the work and the control measures that have been detailed in the job hazard analysis.
- 3 Any person that acts as an attendant for confined space work will have received formal training in the safe methods of rescue from a confined space and the arrangements for emergency communications with external emergency services.

- 4 The contractor will only permit trained workers, under the direct supervision of an authorised competent person, with confined space attendants present, to enter a confined space.
- 5 Internal combustion engines will not be taken into a confined space or operated in a position where their exhaust gasses may be drawn into the confined space.
- 6 Persons entering into a confined space will wear a full body rescue harness that is attached to a rescue line anchored outside the confined space
- 7 The contractor will implement a safe working procedure for confined space entry that includes the following:
 - (a) Preparation of a confined space entry permit
 - (b) Provision of all equipment necessary for entering into and working in the confined space including access, lighting, mechanical ventilation, gas detectors, communication, personal protective equipment and emergency rescue equipment. All such equipment will be manufactured in accordance with internationally recognised standards
 - (c) Provision of warning signs and barriers around the confined space entry point
 - (d) Setting up emergency communication and rescue equipment
 - (e) Issue of a permit to enter the confined space
 - (f) Checking of the atmosphere inside the confined space and installation of ventilation equipment
 - (g) Installation of lighting
 - (h) Entry into and work in the confined space.
 - (i) Monitoring of conditions in the confined space.
 - (j) Continuous checking and recording of all persons entering into and exiting from the confined space by the confined space attendant
 - (k) Completion of work and removal of all equipment from the confined space
 - (l) Accounting for all persons and equipment that entered the confined space
 - (m) Securing the entry point to the confined space
 - (n) Closing the confined space entry permit

10.5.8 Lifting Operation

- 1 The Contractor will appoint a competent lifting operations supervisor for the Worksite. The lifting operation supervisor will ensure that the requirements of this specification are met at all times.
- 2 Rigging of loads and signalling of cranes will be undertaken only by trained (as client approved 3rd party list) and competent persons. All riggers will be required to wear a blue construction safety helmet and a red high visibility vest for the purpose of easy identification on the Worksite.
- 3 Cranes will only be operated by trained and competent operators who are in possession of an operator's license issued by the government authorities and a competency certificate issued by a 3rd party training agency approved by Client (as client approved 3rd party list). In addition, appropriate Qatari driving licenses are required for all mobile equipment's.

- 4 A thorough examination of each lifting appliance will be made by a 3rd party inspector (as client approved 3rd party list) at periods not exceeding 12 months and after substantial re-erection, alteration or repair. Load capacity to be displayed.
- 5 All lifting appliances on the Worksite will have a copy of the manufacturers operating manual and load rating charts available for use and kept with the operator cabinet or machine.
- 6 Before a mobile crane is positioned for a lift, attention will be paid to the condition of the ground upon which the crane will stand, as this will be subjected to high point-loadings from outriggers or tyres. Dependent upon the nature of the ground and/or the size of the crane to be used, a special hard standing may have to be prepared.
- 7 The maximum safe working **wind speeds** for all construction activity and in particular lifting operations and Working at height activity is **25 Knots**. The construction will monitor the weather conditions and suspend work when wind speeds in excess of the maximum safe working speeds are anticipated.
- 8 Outriggers will be properly set and locked if a locking device is provided. When controlled remotely from the cab, the operator will make a physical check to ensure that each pad has an adequate bearing before a load is lifted. Sound timber packing or metal plates will be used under each outrigger pad to distribute the load. It is essential that outriggers are supported at the jacking points and not under the outrigger beams. the lifting location shall be barriered off.
- 9 A method statement and job hazard analysis will be provided to the Engineer for all structural steel erection activity. No structural steelwork erection will commence prior to approval of the method statement and job hazard analysis by the Engineer. All structural steel erectors will be fully conversant with the construction method, sequence and hazard control measures prior to any work activity commencing.

10.5.9 Lifting Gear

- 1 Lifting gear means any chain sling, rope sling, or similar gear, and any ring, link, hook, plate clamp, shackle, swivel or eye bolt, used on the Worksite.
- 2 All lifting gear will be subjected to a thorough examination by a competent person from 3rd party (as client approved 3rd party list) at intervals not exceeding 6 months. Identity number and SWL to be check.
- 3 A wire rope used in raising, lowering or suspension of a load, will not be used if it is kinked, significantly rusted, the core is visible or the rope has visible broken wires, exceeding 5% of the total or in any length equal to 10 times the diameter of the rope.
- 4 Riggers will check the condition of lifting gear prior to each and every lift.
- 5 Any lifting gear that is found to be defective will be removed from service and sprayed with red paint to indicate that it is not to be used. All defective equipment will be removed from the Worksite.
- 6 A system will be established on the Worksite for storage of all lifting equipment not regularly in use. Such equipment will not be left in the work areas.

10.5.10 Scaffolding

- 1 For all scaffolding construction activity and dismantling activity a competent scaffolding supervisor will be appointed. The level of training and experience required to determine competence will vary depending on the complexity of the scaffolding structure to be erected or dismantling. Industry standards and codes detail competency requirements.
- 2 All employees involved in scaffolding construction activities and dismantling activity will be trained (as client approved 3rd party list) in the safe methods of working and in particular the manner in which fall prevention or arrest is to be achieved. Contractors will maintain detailed information of the training provided and the methods that they have used for assessment of competency and suitability for all employees undertaking scaffolding construction activities.
- 3 All scaffolding erection areas and dismantling areas will be provided with barriers and warning signs to exclude all personnel that are not specifically involved with the scaffolding construction and dismantling activity. Where such areas are adjacent to roadways barriers with a capability to prevent vehicles entering the area will be erected or dismantling. Where such areas are adjacent to members of the public or 3rd parties then screening and falling object protection will be provided. The appointed scaffolding supervisor is to be made responsible for ensuring that exclusion zones are in place and maintained at all times whilst scaffolding construction and dismantling activity is on-going.
- 4 All materials being used for scaffolding construction will be checked prior to them being used to ensure they are in good condition. Any materials found to be defective will be clearly marked as defective and discarded or removed from the construction area to ensure that they are not used.
- 5 Scaffolding that has been constructed in accordance with the design will be inspected for use by displaying scaffold inspection green tag at all access points of the scaffolding detailing the following information:
 - (a) the unique identification and location of the scaffolding inspected
 - (b) the name of the person making the inspection
 - (c) the date that the inspection was completed
 - (d) the intended use and capacity of the scaffolding
 - (e) the required re-inspection frequency for the scaffolding
- 6 The person making the scaffold inspection will maintain written details of the inspection that they have conducted to enable them to verify their scaff tag system.
- 7 All scaffolding that does not display green scaff tag for use will be fitted with red scaff tag states that the scaffolding is not fit for use and the access points will be removed or made unusable.
- 8 Users of scaffolding will at all times conduct their work in a manner that eliminates the possibility of falling objects.
- 9 Users of scaffolding are to be prohibited from altering or dismantling any part of scaffolding.
- 10 Users of scaffolding are required to maintain unobstructed access and egress at all times. All debris and materials no longer required will be removed from scaffolding on a daily basis. All materials and equipment used on scaffolding will be stored in a manner that does not obstruct the free movement of the people using the scaffolding.

- 11 The frequency of re-inspection of scaffolding – every 7(seven) days – will be displayed on the green scaff tag. Users of scaffolding are required to check that the period of re-inspection has not been exceeded before using the scaffolding. In any case where the re-inspection date has been exceeded the user will request the appointed scaffolding supervisor to make the re-inspection and to re-sign the green scaff tag for use. The user will not access the scaffolding until such time as the re-inspection has been made.
- 12 Before any dismantling activity is undertaken on scaffolding it will be removed from use. All green scaff tag will be removed and replaced with red scaff tag which is not fit for use and all scaffolding access points will be removed or made unusable.

10.5.11 Hot work and Welding

- 1 The contractor will use electric welding equipment in accordance with the following requirements only:
- (a) Welding cables and equipment will be properly maintained and inspected before use. Defective equipment will be removed from use and arrangement for repair will be made.
 - (b) Electric welding cables are to be kept as short as possible and routed away from pedestrian walkway areas.
 - (c) Electric welding operations will only be undertaken with earth return electrodes connected to the work piece.
 - (d) All connections between welding equipment and welding cables will be securely bolted.
 - (e) Pipelines containing flammable liquids or gases, or electrical cables will not be used as a ground.
 - (f) When electrode holders are to be left unattended, the electrodes will be removed and the holder placed where it is protected from unintentional contact.
 - (g) A fire resistant container will be provided for spent electrode stubs.
 - (h) Welding machines will be turned off when being moved or when the equipment is not in use.
- 2 Tanks, vessels and drums that have contained flammable or toxic liquids will be filled with water or thoroughly cleaned before hot work or welding is undertaken on them.
- 3 Where coatings are present on materials to be heated the coating will be removed to prevent the coating being heated.
- 4 Suitable portable fire extinguishing equipment will be located within 6 meters of any hot work location.

10.5.12 Compressed Gas Cylinders

- 1 The Contractor will use compressed fuel gasses in accordance with the following requirements only;
- (a) Cylinders will not be transported with regulators, gauges and hoses attached.
 - (b) Cylinders will be transported in an upright position and will not be hauled in equipment beds or truck beds on their side.

- (c) Cylinders lifted from one elevation to another will be lifted only in racks or containers designed for that purpose. Cylinders will not be hoisted by the valve cap or by means of magnets or slings.
- (d) Cylinders will not be used as, or placed where they may become part of, an electrical circuit.
- (e) Cylinders will be protected from extreme heat and from being struck by moving equipment and falling objects.
- (f) Cylinders will not be taken into a confined space.
- (g) Cylinders will not be used as rollers; will be transport on appropriate trolley.
- (h) Damaged or defective cylinders will not be used or be permitted to remain on the Worksite.
- (i) Type of gas clearly marked on cylinders and segregation of incompatible gases is required.
- (j) Oxygen cylinders will be kept free of oil and grease.
- (k) Cylinders will be secured in place during use and storage. Securing shall be around the body of the cylinder, securing around the cylinder neck or cap will be prohibited.
- (l) Cylinder valves will be closed at all times when cylinders are not in use.
- (m) A key wrench is required to be in place on the valve of acetylene cylinders at all times during use.
- (n) Fuel gas and oxygen hoses will be of different colours and will not be interchanged.
- (o) All hose, valve and regulator assemblies will incorporate a flashback arrestor.
- (p) Hoses are to be kept as short as possible and routed away from walkway areas.
- (q) Under no circumstances are damaged hoses or torches to be used.
- (r) Torches will be ignited by friction lighters or other approved devices only.
- (s) Fuel gases will only be used for the purposes of cutting or heating. They will never be used for pressure testing or ventilation.

10.5.13 Working at Height

- 1 Contractors are required to eliminate the risk of persons falling from height by providing suitable and sufficient collective fall prevention measures or arrest for every person on the Worksite that is exposed to a risk of falling a distance of 2m or more. Where such measures are not practicable, the Contractors are required to conduct risk assessment and identify and implement fall prevention /protection measures.
- 2 Supervisors of persons using fall arrest systems will be trained in the correct installation, use and maintenance of fall arrest systems. All persons required to use fall arrest systems will receive formal training in safe working at height prior to using such systems. All training will be provided by a 3rd party.
- 3 The use of safety belts as part of a fall arrest system is prohibited.

- 4 Safe access to the point at which a person will attach themselves to a fall arrest system will be provided. In cases where a person using a safety harness has to detach the lanyard from the anchor point and reattach it to a different anchor point, whilst being in a position where the risk of falling exists, double lanyards will be used with one of the lanyards remaining attached to the anchor point at all times.
- 5 Where any form of fall arrest system is used the contractor will put in place arrangements to rescue any person that is caught by the fall arrest system. The rescue system and equipment will be capable of rescuing any person that may be unconscious whilst suspended and or suffering from suspension trauma. The system will be capable of rescuing the suspended person within 3 minutes of the fall being arrested.
- 6 All edges of working platforms and work areas that objects may fall from will be provided with securely fixed continuous toe boards that are at least 200mm high.
- 7 All holes and openings in floor areas will be fitted with temporary covers to prevent objects falling to lower levels of the structure.
- 8 Where work is on-going on the exterior faces of structures the working platforms that are used to gain access will be fitted with lightweight mesh or netting to prevent objects falling from them.
- 9 Materials and equipment will not be stored or located within 2m of edges of working areas or platforms.
- 10 All materials and waste that may be blown by the wind from raised structures will be secured and stored in a manner that prevents them from being blown from the structure.
- 11 Where designated pedestrian walkways, entrances or exits are located beneath edges or openings where work is on-going steel framed and sheeted canopies will be erected to protect pedestrians from falling objects.
- 12 The contractor will produce a method statement and job hazard analysis for all roof and canopy work activity. For work on new structures safety information will be obtained from the designers and incorporated into the method statement and job hazard analysis. For work on existing structures where design information is not available then a survey of the existing structure will be made to identify hazards such as:
 - (a) Fragile coverings
 - (b) Holes and openings
 - (c) Exposed edges
 - (d) Lack of safe access
 - (e) Damage or disrepair of the existing structure
 - (f) Adjacent structures, facilities or services
- 13 A method statement and job hazard analysis will be provided to the Engineer for all roof and canopy work activity. No work will commence prior to approval of the method statement and job hazard analysis by the Engineer. All roof and canopy installation workers will be fully conversant with the construction method, sequence and hazard control measures prior to any work activity commencing.

- 14 The contractor will meet the following roof and canopy work specific Occupational Health and Safety requirements:
- (a) The storage of materials on roof surfaces will be minimized at all times
 - (b) Storage of materials on roof surfaces is not permitted within 2m of any edge or eave
 - (c) All openings and non-walkable areas will be protected by barriers and signage to prevent pedestrian access
 - (d) All waste will be removed from the work areas on a daily basis and prior to any areas being left unattended
 - (e) All areas of roof or canopy covering will be fully fixed at the time of positioning. The practice of laying large areas of unfixed coverings is prohibited
- 15 The structure that the suspended working platform is attached to or mounted on will be surveyed and assessed to ensure that it is capable of supporting the loads that the equipment will impose on it.
- 16 The installation, maintenance, use and dismantling of suspended working platforms will be under the control of a competent person that is appointed by the Contractor. The competent person will be fully familiar with each and every type of suspended working platform in use on the Worksite. Persons who work from suspended working platforms will have received formal training to ensure the safety of themselves and of other persons that may be affected by the operation with particular emphasis on the correct use of the equipment, working at height and falling object prevention.
- 17 The following requirements will be met for all use of suspended working platforms;
- (a) Users will not alter or interfere with any part of the suspended working platform, control or safety devices.
 - (b) The work area below the suspended working platform will be clearly marked a pedestrian exclusion zone will be created.
 - (c) The user will check all controls and safety devices on a daily basis to ensure that they are functioning correctly.
 - (d) Use will cease whenever wind speed in excess of the maximum permissible is anticipated.
 - (e) The suspended working platform will be maintained in a horizontal position whilst it is in use.
 - (f) The practice of transferring people or materials from the suspended working platform is prohibited other than at the designated access points.
 - (g) Every person working from a suspended working platform shall wear a full body safety harness that is attached to an independent lifeline.
 - (h) The platform will be kept free of loose materials or articles liable to endanger or interfere with the worker's hand hold or foot hold
 - (i) The power supply will be disabled whenever the suspended working platform is left unattended.

10.5.14 Electrical

- 1 This specification applies to all temporary electrical systems on the Worksite and all electrical equipment used for construction, commissioning and testing purposes. The requirements given are minimum requirements and Contractors are required to equal or better them.
- 2 A competent electrician or electrical engineer will be appointed or employed on every contract. The competency requirements will be determined by the nature of the temporary electrical system that will be installed on the Worksite
- 3 The Contractor will reduce risk by using cordless tools or electrical equipment that is operated at reduced voltages. Only intrinsically safe electrical equipment will be permitted for use at any location where flammable atmospheres may exist or confined space.
- 4 All electrical equipment used on the Worksite will be manufactured in accordance with an internationally recognised standard.
- 5 Portable Power Tools will be of a double insulated type.
- 6 Jointing of all electrical cables and wires shall be by means of proprietary terminations or connectors. The practice of twisting, splicing and taping electrical components together to create a connection is prohibited.
- 7 Temporary power supplies for the Worksite may be provided from generators or via a Worksite specific transformer connected to the national power network. All generators and transformers on the Worksite shall be located in areas that are fenced and secured to prevent any unauthorized entry. Each such location will be provided with portable fire extinguishers. All electrical systems shall be bonded to the earth.
- 8 All electrical circuits that are created will be protected by earth leakage circuit breakers (ELCB). All metal components of an electrical system shall be earthed. Distribution of electrical power shall be provided through distribution panels and switches that are enclosed or housed in securely closed and locked boxes or cabinets.
- 9 Warning signs that clearly indicate electrical hazards shall be fixed to all electrical switch boxes and distribution panels. Similar signs shall be displayed at all transformers, generators and overhead power line locations.
- 10 All signs and notices shall be in English and Arabic and the language preferred (can be understand) by the workers employed on the Worksite.

All electricity supply cables shall be buried or properly supported and protected and shall be armoured. Flexible cable shall only be allowed for hand lamps and hand held tools and shall not exceed 6 metres in length. Industrial type plugs and sockets shall be used. All electrical installations shall be in charge of a competent person who shall accept full responsibility for its use and any alterations or additions thereto. The name, designation and telephone number of such person shall be prominently displayed close to the main switch or circuit breaker of the installation, and also in the Contractor's site office.

10.5.15 Compressed Air

- 1 This section provides for the safe use of compressed air by giving advice to designers, manufacturers, installers, users and others concerned with or responsible for health and safety at work (Note: Section 9, Part 14 of the QCS covers air blowers and compression equipment). There are many ways in which compressed air can be dangerous, for example:
 - (a) it can enter body orifices such as the mouth, ears and anus, causing severe and often fatal injuries;
 - (b) at high pressure it can penetrate the skin;
 - (c) particles or oil carried in an air jet can damage the eyes;
 - (d) oil-coke deposits in a system can spontaneously ignite and cause an explosion;
 - (e) vessels containing compressed air, even at comparatively low pressure, can explode violently once their integrity is lost; and
 - (f) dirty or 'wet' air can lead to corrosion and blocked valves which may make the system unsafe.
- 2 This section explains how to minimise the likelihood of such problems, but it does not give specific advice on air separation plant, the pneumatic transportation of materials through pipelines or the supply of respirable air. Reference in this section to a particular standard does not preclude using an equally effective alternative standard.

10.5.16 Hazards

- 1 The major hazard associated with compressors is over-pressurisation, which may arise from:
 - (a) a blocked outlet or some other restriction to flow;
 - (b) failure of automatic controls combined with low air consumption;
 - (c) compressor malfunction, e.g. over speeding;
 - (d) an external fire near the pressure system; and
 - (e) overheating and the build-up of carbonaceous deposits, both of which can lead to fires or explosions. Although they are rare, fires and explosions can also occur as a result of oil or oil vapour being ignited in the pressure system.
- 2 To mitigate the risks of the hazards listed above occurring, a structured and audited equipment maintenance plan must be implemented (see standards such as HSG 139). Furthermore in the use of compressed air for activities other than for respiratory purposes, the user must make every effort to avoid the risk of harm to themselves or their colleagues. To this end, compressed air nozzles must be directed away the users and care must be taken to ensure that they are not directed towards other individuals.

10.6 FIRST AID

10.6.1 First Aid and Clinic

- 1 The Contractor shall provide and maintain first aid Boxes / Clinic (according to number of workers as per Qatar Law No.14 of the Year 2004 – The Labour Law and The Ministerial Decision (No.16) 2005 on the regulation of the medical care for workers in establishments) complete with all first aid kits and equipment necessary for the initial care of any of the Contractor's or Engineer's personnel who may be injured.
- 2 The box shall be kept in a conspicuous place in the establishment and shall be available to the workers.
- 3 The use of the box shall be entrusted to a worker trained in providing first-aid medical services.
- 4 As a minimum, there should be a first aid box with Medical record book in all areas where work is in progress.
- 5 The Contractor shall ensure that the first aid Kits and equipment at each first aid box / clinic is complete and within expiration date in all respects at all times.
- 6 At each first aid box / clinic the names and contact Telephone numbers of the Contractor's staff who are trained to render first aid shall be displayed.
- 7 The Contractor shall provide and maintain Periodic medical examinations for workers and follow up (maximum every year from employment date).
- 8 First aid Stations/ site clinic established shall be in accordance with the Ministry of Public Health (MPH) requirements and all necessary approvals shall obtained from the MPH as required.

10.7 FIRE PRECAUTION AND PREVENTION

10.7.1 General

- 1 The Contractor shall take all necessary precautions against fire as required by the insurance company insuring the Works, the Department of Civil Defence and the Engineer.
- 2 Quantities of flammable materials on site shall be kept to an absolute minimum and shall be properly handled and stored. Any handling and storage recommendations made by Material Safety Data Sheet (MSDS) and the manufacturers of flammable materials shall be strictly adhered to.
- 3 All flammable materials storage areas will be located at least 20m away from other structures, areas where combustible materials are stored and areas where sources of ignition are found. Storage areas will be freely ventilated to eliminate any possible build-up of flammable vapour or gas. Flammable material storage facilities will not be constructed of combustible materials.
- 4 Except as otherwise provided herein, the Contractor shall not permit fires to be built or open type heating devices to be used in any part of the Site.

- 5 The Contractor shall provide, regularly checked and maintain approved by Department of Civil Defence firefighting equipment in the site offices, the stores and about the Works where applicable. The type, amount and location of firefighting equipment shall be to the requirements of the Department of Civil Defence. The Contractor shall confirm to the Engineer in writing that the requirements of the Department of Civil Defence have been met.
- 6 The Contractor shall make arrangements with the Department of Civil Defence to inspect the Works and promptly carry out their recommendations at his own expense if requested to do so by the Engineer.
- 7 Combustible fuel oils shall be stored in designated storage areas. Fuel oil shall only be contained in tanks or containers that are in good condition. Tanks and containers will be located in bounded areas capable of containing any spillage or leak. Bounded areas will be kept free of water and debris. All pump equipment and fuel oil lines or hoses will be maintained regularly to ensure that there no leaking parts. Fuel oil lines and hoses will be terminated with filler nozzles or valves that stop the flow of fuel oil when the device is not held. Any electrical equipment such as lighting and pumps that is located in fuel oil storage areas shall have an operating voltage of 110V or less.
- 8 Hot work and welding operations at height require particular controls to prevent people or materials below being exposed to the risks of the work activity, the following controls will be put in place;
 - (a) All work activity will be coordinated with other activities in areas below
 - (b) Areas below will be cleared of all combustible and flammable materials.
 - (c) Fire blanket / Fire retardant material will be used to cover any combustible materials that cannot be cleared.
 - (d) Fire blanket / Fire retardant material must be removed after hot work and welding activities are completed.
 - (e) A fire watchman will remain at the site of hot work activity for 30 minutes after work is finished.
- 9 The Contractor will provide training in the correct selection and use of portable fire extinguishers for every person employed at the Worksite.
- 10 Portable fire extinguishers will be provided at the following locations:
 - (a) Every electrical generator, transformer and main distribution panel
 - (b) Every piece of mobile plant and equipment
 - (c) Every area of flammable materials storage and use
 - (d) Every area of hot work activity
 - (e) Every temporary structure
 - (f) Every work area where combustible materials are present.
- 11 Smoking will be prohibited in any areas where flammable or combustible materials are stored. It will also be prohibited in any temporary structure other than in clearly designated and defined smoking areas. Smoking areas will be cleaned on a daily basis, a means of extinguishing cigarettes will be provided.

- 12 Fire escape routes, exits and assembly areas will be provided for all enclosed temporary structures and permanent structures under construction. All such areas will be kept free from obstructions at all times. Wherever possible in permanent structures under construction the fire escape routes, exits and assembly areas used will be those designed for use in the occupied structure.
- 13 Information and warning signs will be provided at the following locations or areas:
- (a) Flammable materials stores
 - (b) Combustible materials stores
 - (c) Temporary fire systems
 - (d) Portable fire extinguishers
 - (e) Fire escape routes, exits and assembly areas.
- 14 The Contractor shall make all arrangements to keep access for Fire Brigade cleared and Emergency Alarms audible in all areas.

10.7.2 Emergency Equipment

- 1 Temporary fire protection equipment for the Worksite will be provided by the Contractor for the duration of the contract. Such equipment may include but is not be limited to:
- (a) Portable fire extinguishers
 - (b) Fire sand buckets
 - (c) Fire water storage and distribution systems
 - (d) Fire suppression systems
 - (e) Fire / Smoke / Gas detection systems
 - (f) Fire warning / Alarm / Emergency Evacuation systems
 - (g) Procedures
 - (h) Emergency contact telephone numbers / Communications
 - (i) Breathing apparatus and / or respirators (if applicable)
 - (j) Torches
 - (k) Loud Hailer
 - (l) Emergency lighting
 - (m) Adequate and safe Emergency Exit / Doors are provided
 - (n) Assembly / Muster point
- 2 Escape routes, access ways to alarm points, extinguishers, hydrants and other firefighting equipment and first aid kits kept clear of obstruction at all times
- 3 All structures that are normally occupied by five to twenty-five people will be provided with the following:
- (a) Portable fire extinguisher equipment.
 - (b) First aid kit.

- (c) Trained first aider.
 - (d) Emergency contact information notices.
 - (e) Telephone or radio communication equipment.
- 4 All temporary facility structures that are normally occupied by twenty-five to one hundred people will be provided with the above plus the following:
- (a) Smoke detectors
 - (b) One first aid kit for each 25 people.
 - (c) Designated emergency evacuation routes.
 - (d) An emergency preparedness and evacuation plan.
 - (e) An emergency alarm system.
 - (f) An emergency evacuation drill at periods not exceeding 6 months.
 - (g) An area set aside for the heating and consumption of food.
- 5 All temporary facilities structures that are normally occupied by more than 100 people will be provided with the above plus the following:
- (a) A fire water system
 - (b) An appointed nurse
 - (c) Emergency lighting system
- 6 All temporary fire protection equipment will be manufactured, inspected, tested and maintained in accordance with the Department of Civil Defence or internationally recognised standards.

10.7.3 Hazardous Substances

- 1 The Contractor will control the use, handling, transportation and storage of hazardous substances to reduce the associated health risks. These requirements below are the minimum that the Contractor will meet to comply with their contractual Occupational Health and Safety obligations.
- 2 Radioactive materials are hazardous substances and any use of such materials on Site will require a method statement and job hazard analysis to be submitted to the Engineer for approval prior to any radioactive material being delivered to the Worksite.
- 3 Where any spillage of liquid occurs the contractor will take action to immediately clean the spillage and remove any contaminated materials from the Worksite.
- 4 To effectively control the hazards associated with the use, storage, handling and transportation of hazardous substances the Contractor will:
- (a) Maintain a register of all hazardous substances on the Worksite
 - (b) Obtain Material Safety Data Sheets for all hazardous substances
 - (c) Make an assessment of the health risks associated with the intended use of each hazardous substance
 - (d) Provide the control measures required to reduce the risks identified to acceptable levels. Acceptability will be based on internationally recognised best practices and standards

- (e) Train people that use, handle or transport hazardous substances in the associated risks and control measures
- (f) Provide routine health checks for employees that are exposed to hazardous substances
- (g) Provide appropriate spill containment and disposal Spill kit
- (h) Toxic/ hazardous substance correctly tagged/ labelled/ signage and secured
- (i) Adequate storage provided and Class B fire extinguisher near by

10.8 SAFETY OF THE PUBLIC

10.8.1 Working in Public Areas

- 1 The Contractor must ensure that control measures are in place to protect the public, workforce and assets by providing appropriate lighting, fencing, barricades, and lockable units. Adequate levels of security including the use of trained security guards will be required. The Contractor must also ensure appropriate warning signage is displayed and where appropriate safe pedestrian walkways are identified and maintained.
- 2 Safety and security procedures shall be implemented in accordance with the Qatar Work Zone Traffic Management Guide and as required by the Department of Civil Defence and the police. These shall be included, as a minimum, warning signs and lights, adequate barricades, railings, road hump for reduced & control speed and other safeguards as required by the nature and location of the work being undertaken.
- 3 Access to all properties shall be maintained by adequately sign posted diversions, temporary bridges or other facilities.
- 4 A night watchman shall be assigned to ensure that all barricades, lights and other protective apparatus are maintained during the hours of darkness.
- 5 Designated pedestrian routes will be clearly signed and with firm even surfaces that are free from distractions. Where such routes traverse level changes they will be slopped at gradients not exceeding 10% or cut with steps of even height and a tread width of at least 400mm. Slopes and steps will have anti-slip surfaces. Where the edges of pedestrian routes are raised more than 1.2m above the surrounding level solid barriers will be provided at each raised edge to prevent people from falling.
- 6 All such equipment shall be routed away from pedestrian access areas. Where such equipment crosses pedestrian areas it will be located under the pedestrian area or over it at a height of at least 2.5m above the surface. Where such equipment is routed over a pedestrian area it will be clearly marked with warning signs.
- 7 No electrical cables, hoses or pipes shall be routed along any staircase, ladder access or across any doorway. This applies to both temporary and permanent works.
- 8 Contractor shall provide Client with photocopies of passports, police clearances and any similar personal security documentation necessary to obtain Client temporary identification cards and passes for Contractor Personnel to enter Client STP / PTP / premises. Contractor shall ensure that Contractor Personnel display such identification at all times when they are on Client STP / PTP / premises.

- 9 The Contractor will provide a method statement and job hazard analysis for all demolition and dismantling activities. Everyone involved in the work needs to know what measures are to be taken to control the risks and a pre work briefing based on the method statement and job hazard analysis will be given and recorded by the supervisor. Workers will be closely supervised to ensure that the control measures required are put into practice. An exclusion zone will be created around the demolition or dismantling area to prevent persons not directly involved with the work activity around the work area gaining access. The Contractor will not allow materials to fall into any area where people are working or passing through. Protection screens, fences or canopies may be needed to control falling objects.

10.9 WELFARE, SAFETY AND PROTECTION OF WORKMEN

10.9.1 General

- 1 The Contractor must make arrangements for suitable welfare facilities to be present from the start of the work. There are specific requirements for provision of welfare facilities in the (Section 11, Part 1 Regulatory Document, 1.1.8, Appendix 1)

10.9.2 Personal Protective Equipment (PPE) / Attire

- 1 All the Contractor's personnel shall be provided with safety helmets, eye protection and foot protection. Safety helmets, eye protection and foot protection shall be worn at all times by all Contractor's personnel on the Site except.
- 2 All the Contractor's personnel shall be provided with gloves, hearing protection, safety reflecting vests, dust mask and other protective clothing suitable for the nature of work they are performing and their working environment (Shorts and sleeveless shirts are prohibited).
- 3 All the Contractor's personnel shall wear high visibility clothing as the outer layer of clothing at all times when working on a road or within a road works zone in accordance with the Qatar Work Zone Traffic Management Guide.
- 4 The need for other types of PPE will be identified by the contractor as part of their job hazard analysis or risk assessment process.
- 5 The Contractor will display signage detailing the requirements for mandatory PPE throughout to Worksite. Signage shall be in a format that is easily recognisable to all persons on site regardless of their preferred language.

10.9.3 Safety Equipment

- 1 Construction equipment must only be used in the manner and within the limitations for which it is designed. It shall be inspected regularly with colour code sticker and Qatar license for driver / operators must be available.
- 2 Adequate hard barricading, temporary bridges, temporary footpaths, lighting, warning tape and sign posting shall be provided at all excavations.
- 3 Adequate bracing and shoring shall be provided at all excavations. 2m spoils clearance from the excavated pit and sloping shall be maintained (if applicable).
- 4 Correctly made ladders must be provided for access into excavations and onto scaffolding and buildings. Contractor's self-made ladders shall not be used.

- 5 Scaffolding shall be erected in accordance with the international recognize standard, best practises and manufacturer's recommendations and shall be fitted with toe boards, guardrails (top & mid rail), proper access, fully boarded platforms, tagging system and hand railing (refer to 10.3.10).
- 6 The following basic safety equipment is required for any works in confined spaces and shall be supplied by the Contractor:
 - (a) gas detectors/monitors complete with carrying case, rechargeable batteries and battery charger, calibration kit, all to the approval of the Engineer; consumable items and sensors to be replaced in accordance with the manufacturer's recommendations during the course of the Contract (2 No.)
 - (b) full body rescue safety harness with lifelines and shackles (6 No.)
 - (c) lifting frame complete with fall arrest device (1 No.)
 - (d) constant flow escape breathing apparatus complete with storage cases (2 No.)
 - (e) automatic positive pressure self-contained breathing apparatus complete with storage case (1 No.)
- 7 The Contractor shall maintain all safety equipment in good working order with up to date calibration and test certificates where appropriate.
- 8 The Contractor shall ensure that any personnel working above 2 m using fall protection devices with valid 3rd party certificate and to provide them proper training in the selection and use of fall protection devices.
- 9 The Contractor shall provide and maintain in good working order one compressed air escape respirator set in the Contractor's site office.
- 10 One oxygen resuscitation unit shall be provided in the Contractor's site office.
- 11 Truck or Trailer Mounted Attenuators (TMAs), or lorry mounted crash cushions must be used in accordance with the Qatar Work Zone Traffic Management Guide.

10.9.4 Welfare Facilities for Contractor's Staff and Workers

- 1 The Contractor shall provide, regularly clean and maintain for the duration of the Contract potable water, washing facilities and sufficient Toilets (with steel exhaust fan) & sanitary facilities for use by workmen in accommodation areas, at messing facilities and in areas where work is in progress.
- 2 The Contractor must provide a sufficient number of sanitary and washing facilities for all Workers, including the sub-contractors', respecting the following table:

Number of Employees	Number of Toilets, Washbasin
25 OR Less	1 toilet seat and 1 washbasin
25 OR More	1 toilet seat, 1 urinal and 1 washbasin per 25 workers

- 3 Where the Contractor employs females, sanitary facilities must include one separate WC and washbasin facilities for every 10 females.
- 4 shall provide and maintain for the duration of the Contract messing facilities and a separate clean and designated area for the consumption of food for his staff and labourers, which shall be maintained hygienically at all times. Such mess areas may not be used as rest facilities.
- 5 Cooking and dining facilities that are provided will be operated and maintained in a clean and hygienic condition. Food preparation and storage areas will be separated from eating areas.
- 6 No person with any communicable disease will be permitted to work in any kitchen or dining room
- 7 Kitchen workers who have cuts or skin conditions on their hands will not be permitted to work in any kitchen or dining area
- 8 Kitchen workers that handle or serve food will wear latex gloves, hairnets and clean clothing.
- 9 When allowed for in the Project Documentation, the Contractor may provide accommodation facilities for his staff and workers at the Site. Such facilities shall be maintained in a proper manner and to the satisfaction of the appropriate government departments and the Engineer.
- 10 The Contractor shall provide at his own cost transportation between staff accommodation and areas of work for his staff and labourers. Vehicles used for transportation shall be appropriate based on ambient temperature conditions. for e.g. during hot conditions (ideally between the months of April to October) buses shall be air-conditioned, with all safety equipment's including working seat belts.
- 11 The Contractor shall provide sufficient bins for waste and scrap regularly collected, segregated and removed from site.
- 12 Arrangements for the temporary storage of waste on site shall be made in clearly designated and defined areas that have fences and signs to clearly indicate the nature of the waste where combustible wastes are stored portable fire extinguishers will be provided.
- 13 Waste collection points will be provided throughout the work areas and will be clearly marked with signage to indicate the nature of the waste that is to be collected. Waste will be separated and collected in the following categories:
 - (a) Metals
 - (b) Oils
 - (c) Concrete & Stone
 - (d) Tyre & rubber
 - (e) Glass
 - (f) General
 - (g) Food
 - (h) Sewage
 - (i) Chemical
 - (j) Biomedical and bio hazardous

- 14 Where temporary facilities are created for the storage of materials and equipment such areas shall be clearly defined and fenced. Notices will be displayed to indicate the nature of the storage area.
- (a) Any hazardous substances that are stored shall only be kept in accordance with the supplier's recommendations and the requirements of the Hazardous Substances Specifications.
 - (b) Flammable materials and fuel oil storage areas must be separated from other temporary structures or works under construction by a distance of 30m.
 - (c) Where materials are stored in stacks they will not be stacked to a height of more than 1.5 m where the materials are to be manually handled. Materials for mechanical handling that are on pallets or contained in bins will not be stacked more than 3 units high with the base bin or pallet being on firm level ground.
 - (d) Circular materials such as pipes and tubes will be stored in a manner that prevents item from rolling. They will be placed in a container or frame, or have timber wedges of an adequate size inserted between the materials and the ground to prevent rolling.
- 15 The Contractors will make arrangements to maintain an adequate working environment and take into account the requirements of this specification to fulfil their contractual obligations relating to Occupational Health and Safety. Adequate arrangements will be based on internationally recognised standards.
- (a) Ergonomics and proper layout of work area.
 - (b) Darkness or poor visibility increases the risk of persons on the Worksite slipping, tripping or falling. It also increased the risk of operator error for plant, vehicle, machinery and equipment operations. To reduce such risks, the Contractor will provide the following:
 - (i) Temporary lighting for all Worksite access areas and roads that will be used during the hours of darkness.
 - (ii) Task lighting for all work activity at night or in areas with poor visibility.
 - (iii) Emergency lighting for pedestrian access routes in areas of poor visibility and those used during night time working.
 - (iv) Ensure the absence of glare.
 - (v) Proper lighting in corridors.

10.9.5 Summer Working Conditions and fatigue

- 1 During the period from June 15th until August 31st, work under direct sun rays is prohibited from 11:30 am to 3:00 pm unless special arrangement is taken by the Contractor to control and ease effect of the direct sun on the workers. This arrangement should be approved by the Engineer's Representative and should be agreed upon before implementation.
- 2 The high outdoor temperatures expose persons on the Worksite to the risk of dehydration. The Contractor will develop a heat stress prevention plan and provide air-conditioned mess areas in close proximity to the work area, shaded rest areas, rest periods and drinking water supplies for all persons on the Worksite at maximum 3 minute-walk distance.

- 3 Sunlight exposes persons on the Worksite to the risk of skin disorders. Employers will provide work wear that covers the skin for employees working in direct sunlight. Sunlight may also cause glare for operators of mobile plant, vehicles, machinery and equipment which increases the risk of operator errors. The Contractor will provide eye protection and shaded operating positions to reduce such risks.
- 4 Contractor shall develop suitable management arrangements to control working hours and/ or shift patterns in order to address and manage the risk of fatigue.
- 5 Contractor shall ensure that even when working indoors, heat index is monitored and actions are taken to avoid exposures to high heat indices.

10.9.6 Additional Environmental Protection and Pollution Control

- 1 The Contractor shall comply with all conditions of Environmental Clearance issued for the Contract by the Ministry of Environment (MoE), and also where relevant, the predecessor to the MoE, the Supreme Council for the Environment and Natural Reserves.
- 2 The Contractor shall comply with all rules and regulations regarding environmental protection and pollution control issued by the MoE, and also where relevant, the predecessor to the MoE, the Supreme Council for the Environment and Natural Reserves.
- 3 Pest control measures shall be implemented in all site offices, mess areas, washing and sanitary facilities.

10.9.7 Plant and Equipment Test Certificates

- 1 Cranes, whether used to construct the Works or provided as part of the permanent Works, must have a current test certificate.
- 2 Each sling, shackle or other item of loose lifting tackle, whether used to construct the Works or provided as part of the permanent Works, must have a current test certificate.
- 3 Test certificates must be issued by a competent testing authority approved by the Engineer.
- 4 The Contractor must have a copy of each test certificate on site available for inspection by the Engineer.
- 5 The following British Standards and Code of Practice shall be complied with:
 - (a) Mobile and Tower Cranes: BS 1757, BS 2799 and CP 3010
 - (b) Overhead Cranes: BS 466 and BS 5744
 - (c) Slings: BS 1290
 - (d) Chain Blocks: BS 3243
 - (e) Shackles: Alloy: BS 3551, High Tensile Steel : BS 3032

10.10 WORKERS' ACCOMMODATION

10.10.1 General

- 1 These specifications for workers' accommodation shall be interpreted in the workers' interest provided they do not contradict the workers' accommodation requirements of the decision of the Minister of Labour and Social Affairs decision No. (18) for the year 2014 specifying the requirements and specifications of adequate housing for workers or any other related or updated ministerial decisions.
- 2 All accommodations shall obtain a Municipality certificate and an up to date Civil Defence Certificate.

10.10.2 General Infrastructure and Design Requirements

- 1 The Contractor shall configure buildings/units in such a way as to create a sense of community.
- 2 All communal areas shall be maintained in a hygienic condition. A dedicated cleaning team shall implement a cleaning/deep cleaning program.
- 3 There shall be no gaps on the walls allowing the entrance of dust.
- 4 The Contractor shall provide room space per person that meets or exceeds what is required by Qatar legislation.
- 5 The Contractor shall provide appropriate personal storage space for residents' belongings including secure storage for valuables and personal documents.
- 6 The Contractor shall provide allowances for open spaces and pedestrian movement (e.g. hard surface walkways with minimum 0.75 m width) and shaded communal areas.
- 7 Where permissible under local planning guidelines, the Contractor shall provide air conditioned communal areas such as television/games rooms.
- 8 The Contractor shall configure buildings/units in such a way as to create a sense of place and community.
- 9 The Contractor shall provide tea and coffee making facilities in kitchen and mess areas.
- 10 The Contractor shall provide physical barriers (e.g. fencing or landscaping) to visually screen the camp from adjacent worksites, etc.
- 11 The Contractor shall provide written evidence that all local planning guidelines have been adhered to when designing large scale, project related, labour accommodation facilities. Local planning guidelines indicate the numbers and type of community facilities which should be provided for a given population. Consideration shall be given at planning stage to the availability and capacity of communal facilities and spaces in the surrounding area. Where such facilities are not readily accessible, provision of public transport to access such facilities shall be considered.
- 12 The Contractor shall be aware of any changes in law relating to the provision of temporary labour accommodation.

10.10.3 Provision for Fire Safety

- 1 The Contractor shall provide for adequate fire-fighting equipment in the workers' accommodation as per Civil Defence requirements (not withstanding other local laws and regulations requiring it). The Contractor shall further ensure that personnel are trained to use the fire-fighting equipment provided.
- 2 All relevant signage, notices, documentation and training relating to fire safety at workers' accommodation shall be provided in appropriate languages, based on the demographics of the facility.
- 3 An appropriate number of fire wardens shall be trained.
- 4 The Contractor shall provide a telephone, available at all times, for calling emergency services. This facility shall be centrally located, conspicuous and all residents shall be aware of this facility.

10.10.4 Provision for Health Care

- 1 The Contractor shall provide annual medical check-ups to all labours, accordance with the measures to be specified by the competent authorities specifying the types of such check-ups. The contractor shall keep the results of these check-ups in the files concerning the labours.
- 2 The Contractor shall retain detailed records of all medical treatment carried out on-site. Records shall be retained for all instances of residents being transported for off-site medical attention. Such records shall include, as a minimum, the name, age and nationality of the treated party, and the nature of the complaint. These records shall be used by a nominated licenced medical practitioner to identify medical trends and implement proactive treatment to reduce absenteeism. The names of the affected individuals shall be kept confidential unless requested by official channel.
- 3 The Contractor shall provide all workers' accommodation residents with access to first aid kits and a clinic as per the Ministerial Decision (No.16) 2005 on the regulation of the medical care for workers in establishments. Such facilities shall be readily accessible to residents, staffed by professional, accredited medical staff and have appropriate provisions and equipment.
- 4 First aiders spread across the accommodation shall be trained and their names and contact details shall be displayed in appropriate places.
- 5 The Contractor shall provide a facility to transportation to those requiring medical attention from the accommodation to and from appropriate off-site medical facilities, free-of-charge and in a timely manner.
- 6 The Contractor shall provide medical insurance at his own cost for all workers in accordance with Qatar Labour Law.
- 7 The Contractor shall include a Public Health Training module as part of induction training for all new worker accommodation residents. As a minimum, this shall address:
 - (a) Personal hygiene and the appropriate use of the sanitary facilities provided (flush toilets, showers, hand washing, waste disposal facilities etc.).
 - (b) Awareness of communicable diseases (including Sexually Transmitted Diseases), their transmission and prevention.

- (c) Practical information regarding residents' rights and means of access to on-site and off-site medical facilities.
 - (d) Food safety.
 - (e) Littering, safe disposal of waste and related community hygiene standards.
- 8 The Contractor shall promote public health awareness throughout all facets of the accommodation. This shall include:
- (a) Signage in kitchens, bathrooms etc. promoting hygienic practices.
 - (b) Educational videos and presentations.

10.10.5 Transportation

- 1 The Contractor shall ensure easy access, free-of-charge to/from:
- (a) Worksites, including backup services from worksite to workers' accommodation for those who failed to access scheduled services.
 - (b) Community facilities such as shops and recreation areas during leisure time.
 - (c) Retail outlets such as mobile phone credit and postal services.
 - (d) Banking/money transfer services, including transportation to banking/money transfer facilities.
 - (e) Religious facilities at suitable times.
 - (f) Off-site medical facilities, including emergency access at all times.
- 2 If these services/locations are not within walking distance from the accommodation site, the contractor shall provide transportation, free of charge. Transport services shall be scheduled in such a way as to minimise waiting times and maximise accessibility.
- 3 The Contractor shall use safe modes of transport only. The practice of transporting workers in open-back trucks is forbidden. A/C in all buses is mandatory, as per the traffic department's requirements.
- 4 The Contractor shall designate pick up and drop off points (for buses) in such a way as to minimize walking distances for residents and to minimize noise and air quality impacts on residential buildings.

10.10.6 Access to Religious, Social and Domestic Facilities

- 1 The size and number of religious, social and domestic facilities shall be relative to and appropriate to the population of the labour accommodation.
- 2 The Contractor shall facilitate access to religious facilities for those required to work on Fridays.
- 3 The Contractor shall provide an on-site hall to facilitate religious practices. Alternatively, transport may be provided to facilitate off-site worship.

- 4 The Contractor shall provide adequate shaded areas to facilitate social interaction. Similarly, an appropriately sized, air-conditioned communal area(s) shall be provided (e.g. television and games room). The size and number of these facilities shall be relative to and appropriate to the population of the labour accommodation.
- 5 The Contractor shall provide preferably on-site, open spaces (for sports and recreation). Where space constraints are such that this is impossible, readily accessible off-site spaces shall be provided.
- 6 The Contractor shall provide access nearby to basic domestic amenities. These shall include, as a minimum:
- (a) Access to banking/money transfer services, including transportation to banking/money transfer facilities.
 - (b) Laundry facilities.
 - (c) Retail outlet(s) selling, as a minimum, essential items (e.g. food items, clothing, toiletries, phone cards, stamps etc.).
 - (d) Communications.
- These services shall preferably be available on or within walking distance of the labour accommodation.

10.10.7 Access to Communications

- 1 The Contractor shall provide a telephone, available at all times, for calling the emergency services. This facility shall be centrally located, conspicuous and all residents shall be aware of this facility.
- 2 The Contractor shall provide access nearby to the following:
- (a) Retail outlet selling mobile phone credit.
 - (b) Postal service, both inward and outbound.
 - (c) Facility for residents to receive emergency messages (e.g. in case of family emergency abroad).

10.10.8 Number, Quality and Location of Sanitation Facilities

- 1 The Contractor shall adhere to an appropriate standard for the provision of toilets and showers etc. These facilities shall be maintained in good working order and shall be cleaned regularly.
- 2 The Contractor shall develop and implement a Waste Management Plan for the labour accommodation. This plan shall address the collection, segregation, storage, transport (off-site) and disposal (recycling) of wastes.
- 3 The Contractor shall provide adequate sanitary means for the disposal of waste water (including sewerage) from labour accommodation. The Contractor shall provide adequate management of surface water runoff to prevent the accumulation of standing/stagnant water (and the associated health risks).

- 4 The Contractor shall provide laundry areas, separate from washrooms and food preparation areas. Such laundry areas shall be adequately drained. As an alternative the Contractor could enter into a Contract with a Laundry service provider and ensure that all residents of the accommodation are able to avail of this facility at no extra cost.

10.10.9 Food Preparation Areas

- 1 The Contractor shall adhere to relevant local regulations relating to food preparation facilities. In the absence of such local regulations, an appropriate regional standard shall be applied. The Contractor shall provide adequate food preparation facilities to allow cultural sensitivities to be respected such as separate preparation areas for meat and vegetables, and appropriate labelling and handling of food products.
- 2 Where meals are provided to residents, the food offered shall be culturally appropriate based on the demographics of residents. Food preparation and serving shall be through organizations that has ISO 22000 Food Safety Management System certification or HACCP Management System certification.

10.10.10 Pest and Vermin Control

- 1 The Contractor shall engage a pest control company to service the labour accommodation site.
- 2 Self-closing doors fitted with fine mesh shall be installed at the entrances to food premises, washrooms, living areas and any other enclosed spaces.

10.10.11 Security at Labour Accommodation

- 1 The Contractor shall provide adequate security personnel, based on the size, layout and population of workers' accommodation.
- 2 The Contractor shall provide Protocols (Codes of Conduct) for the security personnel operating at labour accommodation. These Protocols shall clearly define the nature and permitted magnitude of response to security incidents. They shall also set out the circumstances under which security incidents should be handed over to Police control. Protocols will be developed in consultation with the Engineer.
- 3 The Contractor shall provide adequate security personnel who are trained in Security Principles and are aware of threats and vulnerability of the accommodations and sites, based on the size, layout and population of labour accommodation.
- 4 The Contractor shall retain records of all security incidents arising at the workers accommodation. Such records shall include, as a minimum, the name, age and nationality of all those involved (including security personnel), and the nature of the incident. These records shall be made available to the Engineer.
- 5 The Contractor shall provide labour accommodation residents with secure facilities for the storage of personal items and valuables.
- 6 The Contractor shall manage the movement of goods and personnel onto the accommodation facility.

7 The Contractor shall maintain adequate lighting on and around the labour accommodation at all times, therefore making it safer for residents to move around at all times.

8 Security shall ensure freedom of movement in and out of accommodation.

10.10.12 Social Issues

1 Any social issues shall be addressed at regular project Quality, Health, Safety and Environment (QHSE) meetings.

2 The Contractor shall include an Intercultural Understanding module as part of induction training for all new labour accommodation residents. This shall include:

- (a) Basic introduction to cultural norms and practices of other accommodation residents.
- (b) An explanation of native or local customs, festivals or religious rites.
- (c) Workers' human and labour rights.
- (d) Name and contact details of fire wardens, first aiders, joint committee representatives.

3 Induction training shall be given in the language that the Workers understand.

4 The Contractor shall enforce a ban on the sale, possession and consumption of solvents, alcohol and inhalants, for the purposes of intoxication, on accommodation sites. The Contractor shall use its best endeavours to prevent these substances from entering labour accommodation facilities.

5 The Contractor shall provide residents with contact details for relevant bodies such as consulates, the National Human Rights Committee, the Ministry of Administrative Development, Labour and Social Affairs or other relevant organisations offering social support. A list of such local contacts shall be provided to new employees during their induction process. An up-to-date list of contact details for these organisations shall also be displayed in public areas such as the mess, recreational areas, etc.

6 Any incidents of suicide or attempted suicide shall be investigated as a social issue to try and determine the root causes with a view of reducing the likelihood of a recurrence. This may require hiring the services of a qualified medical personnel to assist in this process (such as psychiatrists or psychologists).

10.10.13 Competence of Workers' Accommodation Managers

1 The Contractor shall provide Protocols (Codes of Conduct) for the accommodation managers. These Protocols shall clearly define the nature of issues and incidents which are considered within their duties. They shall also include guidelines outlining appropriate parties to whom incidents should be referred to and at what stage. Protocols will be developed in consultation with the Engineer.

2 The Contractor shall retain records of all issues and incidents within the accommodation, which are reported to or dealt with by the workers' accommodation management. Such records shall include, as a minimum, the name, age and nationality of all those involved (including members of the accommodation management team), and the nature of the issue or incident. These records shall be made available for inspection.

- 3 The Contractor shall ensure that no member of accommodation management accepts any form of payment by way of bribery or extortion or for any reason. Similarly, the Contractor shall commit to permanently removing any member of accommodation management, from the accommodation, if they are found to have accepted or demanded such payments. In this event, the Contractor shall report any such offences to the appropriate local authorities to determine if a criminal offence has been committed.
- 4 The Contractor shall maintain accommodation facilities to a high standard and not allow them to fall into disrepair.

10.10.14 Environmental Precautions

- 1 The Contractor shall provide the Engineer with copies of the relevant environmental permits relating to the construction and operations of their workers' accommodation facilities. The nature of the permitting requirements will be dependent on the jurisdiction of the facility.
- 2 Where the accommodation is to be sited on or close to work sites/industrial sites, the accommodation facilities shall be located up-wind (based on prevailing wind) of the site and the distance between the camp and air discharge points around the site shall be maximised. Noise levels shall not exceed the requirements for night time hours – residential areas, as outlined in local laws and regulations.
- 3 The accommodation area shall be separate from the work site and shall not be used for any operation activities (e.g. storage, workshops, etc.).
- 4 Where on site facilities such as a Sewage Treatment Plant (STP) are located on or close to the accommodation, planning requirements in relation to buffer zones, etc. shall be respected and integrated into site layout. Similarly, adequate buffer zones shall be included to ensure that sleeping accommodation is not immediately adjacent to main roads.
- 5 Appropriate waste management, storage and disposal facilities shall be provided on site. There shall be no burning of wastes on site. Similarly, there shall be no fires onsite.
- 6 Use of workers' accommodation facilities shall be restricted to those normally resident in the accommodation. Where necessary, separate facilities, e.g. toilets, etc., shall be provided for adjacent work sites, etc.
- 7 Roads and parking areas shall be paved, or where this is impractical, dust suppression techniques shall be used to keep dust levels down within labour accommodation.
- 8 The Contractor shall appoint/engage a team of personnel dedicated to cleaning communal areas around the camp on a regular (daily) basis.

10.10.15 Health and Safety for Labour Accommodation Residents

- 1 The Contractor shall extend Workmen's Compensation and Employer's Liability Insurance to cover their staff while resident in a workers' accommodation.
- 2 The Contractor shall extend the accident reporting requirements, to include accidents occurring at off-site labour accommodation directly associated with the Project.

END OF PART