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CORPORATE STANDARD FOR MANAGING HSE IN CONTRACTS

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1.0 PURPOSE

The purpose of this Standard is to provide and communicate the minimum HSE requirements that contractors, their employees, and sub-contractors are expected to comply with while working for QatarEnergy. This is to ensure workplace safety, protect the health of all personnel that may be affected, and protect the environment and assets.

2.0 SCOPE AND APPLICABILITY

The requirements in this Standard have been compiled to govern the HSE activities of Contractors in all phases of the QatarEnergy contracting process, with particular emphasis on the contract execution phase. They shall apply to all contracts in QatarEnergy. The extent to which they are applicable shall depend on the nature of the work and the HSE risk level present in the contracted work or service.

Compliance with this Standard does not in any way relieve contractors from their responsibility to comply with all other relevant QatarEnergy policies, standards, and procedures, including specific contractual HSE requirements and location-specific requirements. They also shall not be a replacement for the applicable State of Qatar laws and regulations. In the event of any conflict or inconsistency between this Standard and any other legally binding documents pertaining to the same provision, the most stringent requirement shall prevail without additional cost and liabilities to QatarEnergy. Furthermore, where reference has been made in this Standard to another document, the latest approved version of that document shall apply.

3.0 REQUIREMENTS

3.1 GENERAL HSE MANAGEMENT REQUIREMENTS

3.1.1 Contractor's HSE Management System

Every Contractor engaged to work for or provide services for QatarEnergy shall have its own HSE Management System (HSE MS) whose requirements are equivalent to, or exceed, but are compatible with those of QatarEnergy. It is preferable if the Contractor's HSE Management System or parts of it are certified to an internationally recognized Standard. E.g., ISO 14001 and ISO 45001 for Environmental and Occupational Safety & Health standards, respectively.

3.1.2 Low-Risk Contract HSE Management System

Notwithstanding the provisions in section 3.1.1 above, Low-Risk Contractors who may not have a formalized HSE Management System shall still have a basic understanding of managing HSE in their operations and be prepared to provide and demonstrate a simple but effective management system that can identify hazards, apply controls, effectively respond to emergencies, and correctly apply local and state HSE laws and regulations.

3.1.3 Management of Sub-Contractor HSE

Main Contractors shall be responsible and shall be held accountable for the HSE performance of their sub-contractors. They shall submit to the Contract Holder the list of all sub-contractors to be engaged in executing the work or services. They shall ensure that

sub-contractors comply with all QatarEnergy HSE requirements and relevant State Laws and regulations.

3.1.4 Contract HSE Strategy

In selecting the contract strategy, the factors to be considered include:

- availability of suitable existing contracts (e.g., service contract, call-off contract, etc).
- contractor resources and skills interfaces between the companies.
- contractor and subcontractors.

However, in terms of HSE management, the Contract HSE strategy defines how the contractor is held responsible for HSE management during the contract period.

3.1.5 HSE Pre-Qualification

QatarEnergy shall, at its discretion, carry out HSE pre-qualification of potential tenderers to determine, in terms of HSE, their suitability or otherwise to tender for and be awarded a contract. The tenderers shall make available all necessary HSE information requested to aid the pre-qualification.

3.1.6 Requirement For Contract HSE Plans

3.1.6.1 Preliminary Contract HSE Plan

The Contractor shall develop a Preliminary Contract HSE Plan, in line with the QatarEnergy procedure and guidelines, as part of its tender submission to demonstrate that all hazards associated with the work or services have been identified and that adequate control and recovery measures have been determined. The Preliminary Contract HSE Plan shall be submitted along with tender documents. It shall cover the contract phases from mobilization through execution, demobilization, and site restoration, clearly indicating the specific procedures and standards to be followed during each phase of the contract and describing its HSE Management System and how compliance with QatarEnergy's requirements shall be measured and achieved.

3.1.6.2 Contract HSE Plan

If awarded the contract, the Contractor shall, after a complete detailed analysis of all hazards, develop a detailed Contract HSE Plan by updating its Preliminary Contract HSE Plan to identify all HSE-related activities to be performed. The HSE activities shall include, but not be limited to, identifying hazards, assessing associated risks and control measures, HSE competence, training, communication, and pre-mobilization during the contract and post-completion. The plan shall include elements covered in sections 3.1.6 to 3.1.22 below. The Contract Holder and the HSE Adviser shall approve the HSE Plan and ensure its compliance with regulatory requirements, QatarEnergy standards, and procedures.

3.1.7 Hazard Identification, Risk Assessment and Control

All qualitative risk assessments shall comply with the requirements of the Corporate Guideline for Qualitative HSE Risk Assessment Criteria (QatarEnergy HSE Ram), Doc No.: CORP-HSE-GDL-071, and other site-specific QatarEnergy locations' procedures and requirements. The Contractor shall have its procedures and ensure that all HSE hazards and effects relating to the work or services are identified, the risk assessed, and controls and recovery measures put in place based on the latest QatarEnergy Standard for HSE Risk Management, Doc No.: QP-HSE-STD-100. The contractor shall also ensure that the

hazards and risks identified in QatarEnergy department HSE risk registers related to their activities are captured in their risk register.

3.1.8 Appointment of Contractor's Key HSE Personnel

Following the award of a contract, the Contractor shall submit to the QatarEnergy Contract Holder the Curriculum Vitae (CV) of the personnel they want to appoint to manage HSE on the project, such as HSE Officers. QatarEnergy shall review the submitted CVs and interview the HSE Officer(s) to determine their suitability for the intended roles. Selection, replacement, or removal of an HSE officer on a project shall also be subject to QatarEnergy HSE Adviser's approval.

The following shall be applied for the appointment of HSE Officers unless specified otherwise by the tender document:

- The number of HSE Officers appointed shall depend on the risk level, workforce size, and location of the work or services. Every Contractor or sub-contractor who employs more than 20 people to work on a worksite shall appoint an HSE officer/supervisor, who shall spend 80% of his time exclusively on HSE supervision and promoting best HSE practices at the site.
- The main Contractor shall appoint full-time HSE personnel (including HSE Officers). For Low-Risk Contracts, the main Contractor shall appoint a part-time site HSE Officer or supervisor who shall spend a considerable time (at least 20 hours per week) exclusively on HSE supervision at the site.
- Hazardous area: One additional safety officer shall be considered while adding 20 persons to a work site.
- Non-Hazardous area: One additional safety officer shall be considered while adding 30 persons to a work party.

3.1.9 HSE in Kick-Off Meetings

Following the award of the contract, QatarEnergy shall hold a Kick-off meeting with the Contractor and discuss HSE pre-execution audit requirements. The Contractor shall be represented at this meeting by its Senior Management, including at least the Contractor's Project Sponsor, Contractor's Project Manager, Contractor's Site Representative, and Contractor's HSE Manager/ Senior HSE Adviser.

3.1.10 HSE Induction, Training, Awareness, and Competence

3.1.10.1 HSE Induction

The Contractor shall ensure that all its employees, including those of sub-contractors, undergo an HSE induction or orientation before being allowed to work at QatarEnergy locations. The Contractor shall keep records of all employees who have attended an HSE induction session.

3.1.10.2 HSE Training

Given the hazardous nature of working in the oil and gas industry, the Contractor shall, at its own cost, ensure that all employees, including sub-contractors, undergo relevant QatarEnergy-approved HSE training adequate for health, safety, and environmental protection while engaged in works or services for QatarEnergy. For more information on the

required training, refer to CORP-HSE-STD-024 Corporate Standard for Occupational Health, Safety, Environment and Quality Training Management, and OHS-SAF-PRC-206 Procedure for Conducting Safety Training Course for Offshore Personnel and Standard for Emergency Preparedness and Response (QP-BCM-STD-011) and its related procedures and Guidelines.

3.1.10.3 HSE Competence

Contractors shall have an HSE competence development program on an ongoing basis to improve the awareness, skills, and knowledge of HSE of the workforce, particularly in its areas of business.

All Contractor's HSE Advisers/HSE Officers shall undergo an interview and/or successfully pass a competence assessment test administered by QatarEnergy. All Contractor's relevant personnel (HSE Advisers/ HSE officers) shall attend HSE meetings depending on the roles/ duties as per meeting invitations and shall attend relevant QatarEnergy approved HSE courses, such as rigging & slinging, Permit to Work, Hydrogen Sulphide (H_2S), etc. as required. In addition, attainment of at least one of the following qualifications /memberships or approved equivalents for all HSE Advisers:

- National Examination Board in Occupational Safety and Health (NEBOSH) Certificate or Diploma.
- Chartered Member of the Institution of Occupational Safety and Health (CMIOSH).
- Diploma in Occupational Safety and Health Management, or Member of the International Institute of Risk and Safety Management (MIIRSM).
- Registered Safety Professional (RSP).

An HSE Adviser holding higher qualifications not currently recognized by QatarEnergy or with proven extensive experience may be exempted from some of the above requirements at the discretion of QatarEnergy.

3.1.11 Pre-Mobilization HSE Inspections

The Contractor shall make its equipment/plant available to enable concerned QatarEnergy-approved parties to conduct pre-mobilization checks to determine the suitability of the equipment for use in QatarEnergy operations and projects. Only equipment found suitable as per QatarEnergy standards and contractual requirements shall receive a clearance certificate for mobilization and use.

3.1.12 Pre-Execution HSE Audit and Issuance of Work Commencement Certificate

A pre-execution HSE Audit shall be conducted to determine whether the Contractor has met all the pre-execution targets set in the contract HSE specification and used as an indicator to mobilize to the site, following which a Work commencement HSE certificate shall be issued if all the targets have been met. No work shall commence on QatarEnergy locations without an approved HSE work commencement certificate being issued.

3.1.13 HSE Performance Monitoring and Reporting During Contract Execution

a. HSE Performance Reporting shall be in line with the Corporate Procedure for HSE Performance Monitoring and Reporting (No: QP-HSE-PRC-001).

b. During contract execution, the Contractor shall deploy adequate resources, as determined by QatarEnergy, to implement and monitor the approved Contract HSE Plan.
c. The Contractor shall submit their monthly HSE performance reports using a soft Excel copy of Form No. CORP-HSE-STD-080-A and upload it on the Monthly Contractor HSE Performance Submission System (MCHS) (Appendix A).

3.1.14 Incident Reporting and Investigation

The Contractor shall immediately report and investigate all HSE incidents with QatarEnergy, including near-misses, which occur during the contract by following the QatarEnergy Corporate Standard for HSE incident Reporting, Investigation & Learning (QP-HSE-STD-021) and Corporate Procedure for HSE incident Reporting, Investigation & Learning (QP-HSE-PRC-022).

In addition, the Contractor shall notify and invite the concerned QatarEnergy Regional/ Operational HSE Adviser to be present while investigating incidents that occur within the Contractor and sub-contractor's activities while on QatarEnergy premises.

3.1.15 HSE Communication

The Contractor shall ensure effective communication on HSE issues through meetings and displaying HSE information on boards and notices/signs at sites. Everyone shall attend and participate in all relevant HSE meetings unless specifically instructed otherwise. A record of these meetings shall be kept that includes the date, location, names/ signatures of attendees, and topics covered. The following types of HSE meetings shall be held as a minimum:

a. **Periodic HSE Meetings:** Regularly scheduled (minimum monthly) HSE meetings shall be conducted by each Contractor (including sub-contractors) and attended by all relevant personnel. Topics covered shall include corrective actions from audits/ inspections, welfare, learning points from incidents, regulatory issues, HSE training, HSE trends identified, and general HSE issues.
b. **Toolbox talk or Pre-job meeting:** The contractor and its sub-contractors shall hold toolbox talks or pre-job meetings on-site before the start of any work in line with the requirements of QatarEnergy Procedure for Conducting Toolbox Talks (QP-SAF-PRC-011).

3.1.16 HSE Inspections and Audits

a. QatarEnergy shall conduct its own Contractor HSE Audit. The intent and purpose of this audit are to assess the Contractor's level of implementation and compliance with QatarEnergy's HSE requirements across the organization. The audit shall be in line with the Corporate Procedure for Enhancing Contractors HSE Performance (CORP-SAF-PRC-006).
b. The Contractor shall conduct its own HSE inspections and audits to identify deficiencies in its HSE Management System and take corrective action to improve the management of health, safety, environmental issues in the contract and to comply with these regulations.

c. The Contractor shall also subject itself and its sub-contractors to inspections and audits conducted by QatarEnergy personnel and take all necessary steps to implement the resulting recommendations.
d. The Contractor shall allow QatarEnergy representative access at any time to plant, equipment, personnel, and records when requested to conduct formal investigations of compliance with regulations, procedures, and safe work practices.

3.1.17 Emergency Response

The Contractor shall have an emergency response plan, procedure, and arrangements that shall tie in seamlessly with Corporate Standard for Emergency Preparedness and Response (QP-BCM-STD-011) and emergency response procedures for the location where the work or services are being executed. The Contractor shall demonstrate to the Contract Owner their capability to continue delivering their services to QatarEnergy during an incident. It shall ensure that its staff are thoroughly familiar with the use and location of the essential emergency equipment.

The Contractor's representative/HSE officer shall be responsible for coordinating medical emergency response and evacuation at the site on behalf of the Contractor to ensure seamless alignment with local emergency services for onshore activities.

3.1.18 HSE Incentive Schemes

Contractors shall have in place HSE incentive schemes to motivate their staff to be proactive and therefore reward effort. It shall motivate personnel to improve their HSE performance and change those behaviours that detract from good HSE performance.

3.1.19 HSE Performance Reporting at Contract Close-Out

Upon contract completion and site restoration, the Contractor shall submit to QatarEnergy its overall HSE performance report (End of contract HSE performance report) covering the whole contract duration, highlighting successes, incidents, lessons learned, and improvement opportunities.

3.1.20 Compliance with National and International Laws, Regulations, Conventions, and Protocols

The Contractor shall comply with and be held accountable for non-compliance to every relevant HSE-related Qatari law and/or regulation, including any applicable international conventions and protocols duly ratified by the State of Qatar. At their sole cost and expense, contractors shall be responsible for researching, determining, and obtaining any required governmental permits, licenses, bonds, inspections, and notices required by laws and regulations to perform the work.

3.1.21 Consequences Of Non-Compliance

QatarEnergy, at its discretion, shall take all necessary measures in accordance with the rights and remedies available under the contract or at law to ensure compliance with QatarEnergy's HSE requirements.

3.1.22 General Specifications for Contractor's Accommodation and Portacabins

Contractor accommodation shall, for HSE reasons, meet the requirements stated in Appendix B of this document.

3.2 HSE REQUIREMENTS

3.2.1 General Occupational Safety Requirements

Many critical factors that a contractor is expected to face have been identified, along with their minimum requirements. International best practice requirements, such as the International Association of Oil & Gas Producers (IOGP), Health and Safety Executive UK, OSHA, etc., shall be adopted for activities not mentioned in this document.

The Contractor shall be responsible and held accountable for controlling the actions of their employees whilst engaged in QatarEnergy business. Contractor employees shall follow all QatarEnergy HSE policies, standards and procedures, applicable State HSE Laws, and the rules and regulations in this Document while working on the QatarEnergy Contract.

While on QatarEnergy premises, each Contractor employee shall professionally conduct themselves and shall abide by the QatarEnergy Code of Conduct and Core Values.

3.2.2 QatarEnergy Life-Saving Rules

QatarEnergy has implemented a series of mandatory Life-Saving Rules in line with IOGP. The Contractor shall ensure that the Subcontractors are informed and comply with QatarEnergy Life Saving Rules. Anyone shall be authorized to stop work when they perceive an unsafe act and conditions. There shall be no negative consequence to the person who calls for the ‘stop work’.

A Consequence Management System used to address Life Saving Rules and other HSE violations shall be submitted as part of the HSE Management System.

- All Life-Saving Rule violations shall be reported.
- A Consequence Management Program shall be in place to enforce compliance with the Life Saving Rules.
- People who violate a Life Saving Rule will be subject to disciplinary action as specified in the Contractor’s Consequence Management Program.
- All potential violations shall be investigated.

3.2.3 Smoking

Every Contractor shall adhere to the requirements of QatarEnergy Smoking Policy and Corporate Standard for Smoking (CORP-SAF-STD-016).

3.2.4 Transport Safety

All Road Transport activities shall comply with the requirements of QatarEnergy Corporate Standard for Road Safety (QP-SAF-STD-032), Safe Escort for Transport of Abnormal Loads (QP-RTS-G-001), and other specific QatarEnergy locations procedures and requirements. Contractors and Sub Contractors shall adhere to the requirements of QatarEnergy Corporate Standard for Road Safety, CORP-SAF-STD-032, for their road transport activities while engaged in QatarEnergy business to ensure that all journeys conducted for and on behalf of QatarEnergy are executed safely.

3.2.4.1 Road Closure Permission and Notification

- Notification shall be given to, and permission obtained from the QatarEnergy Area Manager or his delegate.

- The Contractor shall submit detour schedules and diagrams showing the steps required to maintain the detour during each phase of construction and showing the type, number, and placement of all traffic control equipment.
- The submittal shall include a tentative schedule indicating when specific signs, barricades, and pavement markings will be activated and deactivated.

3.2.4.2 Detour Requirements

All detours shall meet the requirements as per the latest revision of the Work Zone Traffic Management Guide (WZTMG) and other QatarEnergy locations' specific procedures and requirements for a particular project.

3.2.5 Job Hazard Analysis (JHA) and Permit To Work (PTW)

Every Contractor shall adhere to the requirements of QatarEnergy's Corporate Standard for Job Hazard Analysis (JHA) (CORP-OHH-STD-040) and Corporate Standard for Permit To Work (CORP-SAF-STD-012) and other specific QatarEnergy locations procedures and requirements.

The Contractor shall abide by area-specific Permit to Work in all QatarEnergy restricted and unrestricted areas. The Contractor shall ensure that its supervisors and employees are fully conversant with and comply with all the requirements of the Permit to Work system.

The Contractor personnel shall comply with all actions assigned in the PTW and JHA. The Contractor shall inform any change in the condition stipulated in the permit. The Contractor shall attend relevant training when provided by QatarEnergy. The Contractor shall perform no activities without a valid PTW if the activity requires PTW.

3.2.6 Personal Protective Equipment (PPE)

The Contractor shall, at its own expense, supply its personnel assigned to the work site with adequate PPE in line with the Corporate Standard for Personal Protective Equipment (CORP-SAF-STD-036) and Corporate Standard for Hand Protection (CORP-SAF-STD-017). These shall be worn on all relevant occasions as dictated by the hazards of the job at hand and as indicated by notices, instructions, and best practices.

3.2.7 Lifting Equipment

All lifting equipment and all parts and working gear thereof, both fixed and mobile, shall be of good construction, sound material, and free from defects. They shall be maintained and operated to comply with QatarEnergy standards, particularly the QatarEnergy Standard for Lifting Equipment and Operations (QP-PAI-STD-005) and Corporate Procedure for Lifting Equipment and Operations Doc. No. CORP-ENG-PRC-038.

All lifting equipment and personnel involved in lifting operations shall comply with QatarEnergy Standard for Lifting Equipment and Operations (QP-PAI-STD-005).

The Contractor shall maintain Lifting Equipment as per the manufacturer's recommendations. Any defect/ damage on the Lifting Equipment shall be immediately reported to QatarEnergy by the Contractor.

3.2.8 Working At Height

All Working at Height activities shall comply with the requirements of QatarEnergy Corporate Standard for Working at Heights (CORP-SAF-STD-042) and other specific QatarEnergy locations procedures and requirements.

All scaffolds and staging shall comply with recognized standards, including the requirements of the scaffolding procedures of the specific QatarEnergy locations at which the work is to be undertaken. All scaffoldings shall be approved by QatarEnergy before they are used.

After a scaffold has been erected and approved for use, any planned work on the scaffold structure that requires a work permit shall be conducted on a separate work permit. A work permit for dismantling the scaffold shall not be signed off as complete until the scaffold materials have been removed from the site to a dedicated storage area.

3.2.9 Non-Destructive Testing (NDT)

All NDT activities shall comply with the requirements of Corporate Standard for Non-Destructive Testing – Contractors & Personnel Qualification, Evaluation Criteria and Requirements, Doc No.: CORP-QAL-STD-008, and other specific QatarEnergy locations' procedures and requirements.

3.2.10 Gas Hazards

The Contractor shall take all necessary steps to ensure that its employees have been trained, are aware of the risks posed by gases, and are adequately protected from the harmful effects while working on QatarEnergy contracts. All gas cylinder specifications shall comply with the QatarEnergy Corporate Standard for Gas Cylinders, Doc. No.: CORP-SAF-STD-019. Self-Contained Breathing Apparatus (SCBA) shall be available in areas with potential exposure to H_2S gas, and operatives shall be trained on using emergency breathing apparatus (OPITO approved). Portable gas detectors shall be provided for staff and worn when working in hazardous areas.

3.2.11 Liquid Nitrogen

a. Offshore Production Stations

   The requirement for liquid nitrogen on offshore installations shall be fulfilled utilizing standard nitrogen cylinders or pumped on board by the nitrogen ring main.

b. Offshore Drilling Rigs

   The requirement for liquid nitrogen on offshore drilling rigs shall be fulfilled utilizing standard nitrogen cylinders or pumped on board by approved special piping arrangements.

c. Safety precautions regarding liquid nitrogen

   When a nitrogen unit is shut down, all lines shall be vented immediately. The unit shall not be left unattended until all nitrogen pressure gauges indicate zero. Always leave the isolation valve of the pressure regulator (Road Valve) open when unattended, even when empty. Suppliers' representatives shall be on board the vessel at all times while liquid nitrogen is in the container.

3.2.12 Safety of Tools and Equipment

The Contractor shall, at its own expense, provide adequate tools and equipment that are safe enough to use, that are of the approved type, and that are up to the amount that is required for the execution of the contract works or services. The Contractor shall professionally maintain these tools and equipment as dictated by legal requirements and industry standards. Workers shall be trained on the selection of the right tools for each job. Defective/damaged tools shall immediately be removed from service. In addition, the Contractor shall keep up-to-date records of all the said tools and equipment.

3.2.13 Housekeeping

The Contractor shall ensure that the site of the works or services is kept free of surplus, waste, or redundant materials and shall maintain a clean and tidy site throughout the duration of the work. All loose material shall be stored or adequately secured to eliminate dropped object risks. Waste material shall be disposed of following QatarEnergy Standard for Waste Management, Doc. No.: QP-ENV-STD-004.

3.2.14 Guards and Guarding Systems

The Contractor shall be required to keep in place all guarding systems provided by the manufacturer of equipment/ machinery to protect workers from inherent hazards associated with the operation of rotating machinery.

Electrical guarding systems shall be in order and operable. Guarding of stationary and mobile equipment shall be within the limits recommended by the relevant QatarEnergy and international standards and codes. Earthing shall be checked and measured frequently and on a routine basis.

Guardrails/Handrails and/or barricading shall be provided for any walkway or wall opening from which there is a drop of more than four (4) feet and any open-sided working surface from which there is a drop of more than six (6) feet. Walkways with missing, broken, or loose guardrails shall be taken out of service until repaired.

3.2.15 Hand Tools

All Contractors engaged in the use of hand tools shall comply with the requirements of the Corporate Standard for Hand Protection (CORP-SAF-STD-017) and other specific QatarEnergy locations' procedures and requirements.

No hand tool shall be used for any other purpose other than for which it was designed and purchased. All hand tools shall be maintained in good condition and free from damage and Defects. Certified electrical hand tools shall only be used in Hazardous Areas as per zone classification. Routine inspections shall be carried out, and the records shall be maintained.

3.3 RADIOACTIVE MATERIALS

All operations involving radioactive materials shall be carried out in strict compliance with the below State of Qatar radiation protection laws & regulations and the requirements of QatarEnergy:

1. Decree-law No. 31 of 2002 Protection from Radiation law.
2. Supreme Council of Environment and Natural Reserves (SCENR) Chairman Decision No. 4 of 2003 the Executive By-law of the Decree-law No. 31 of 2002 Protection from Radiation law.

3. Minister of Environment Decision No. 45 of 2013, the Management Rules of Natural Radioactive Waste resulting from oil and gas industry in the State of Qatar.
4. SCENR Chairman Decisions 2, 3, and 4 of 2007 concerning radiation protection.
5. Corporate Standard for Radiation Safety, Doc. No.: CORP-SAF-STD-056.
6. Corporate Standard for Managing NORM, Doc. No.: CORP-SAF-STD-002.

3.4 EXCAVATION AND MICRO-TUNNELLING

All excavation and micro-tunnelling on QatarEnergy worksites shall comply with area-specific excavation procedures. In addition, the pipes utilized in micro-tunnelling shall be designed to accommodate the permanent loading of ground, inside and outside liquid pressure, and the installation jacking pressures.

3.5 PROCESS SAFETY

Contractors shall follow best practices and Corporate Standard for Process Safety Management System (QP-SAF-STD-001) and Corporate Guideline for Process Safety Fundamentals (CORP-HSE-GDL-012), inform workers of the hazards likely to be present at a facility and the process safety management measures in place to control them before the commencement of work. The Contractor shall ensure that their employees follow all safety requirements, are trained to perform their jobs safely, and are instructed in the facility's process hazards and emergency response plans. The Contractor shall advise QatarEnergy of any unique hazards resulting from the performance of their work.

3.6 MAJOR ACCIDENT PREVENTION

The Corporate Standard for Major Accident Hazard Management (MAHM), Doc. No.: QP-MAH-STD-001, shall apply to facilities, installations, and projects. All Major Accident Hazard (MAH) risks in the ALARP region of the risk tolerability criteria shall be assessed in compliance with the Corporate Standard for ALARP Demonstration, Doc. No.: QP-MAH-STD-040.

Moreover, in adherence to the Corporate Standard for Management of Change (MOC), Doc. No.: QP-SAF-STD-040, contractors shall, upon their selection and appointment, establish and execute a suitable risk management process. This process aims to ascertain the necessary level of monitoring and assurance essential for preventing major accidents arising from contractor activities. This includes, but is not limited to, the operation, use, monitoring, testing, calibration, and maintenance of processes and equipment.

3.7 MATERIAL HANDLING AND STORAGE

3.7.1 Lifting of Loads by Personnel

The Contractor shall train its personnel on proper lifting techniques and ensure they follow the QatarEnergy Standard for Hand Protection (CORP-SAF-STD-017) and other specific QatarEnergy locations' procedures and requirements.

3.7.2 Material Storage

Storage of material shall comply with the following requirements:

1. Temporary and permanent storage of all materials shall be neat and orderly on the work site.
2. Fire hoses, extinguishers, exits, emergency exits, and aisleways shall always be kept clear, unobstructed access.

3. Storage hazards shall be reduced through the use of bins and racks system. Storage racks shall be secured to the floor and wall, and secured to each other.
4. Damaged racks shall not be used for materials storage.
5. Step ladders and mobile ladders shall be made available to assist and access material on racks at high elevations. Employees shall not be allowed to climb racks.
6. Flammable chemicals must be stored in a well-ventilated room/ area with temperature monitoring, recording, and controlled by assigned trained personnel.
7. The Contractor shall ensure the provision of adequate oil/ chemical spill kits to contain in case of spillage.
8. Adequate oil/chemical spill kits to contain in case of spillage shall be provided.
9. The Contractor shall provide emergency eye wash where chemicals are used and stored.
10. Flammable liquids and highly acidic, alkaline corrosive substances shall not be stored in open containers. The requirements for containers shall be as per the applicable QatarEnergy standards/regulations requirements. Metal containers less than 18.9 litres (5 gallons) in capacity, which have a spring-closing lid and spout cover and are designed to safely relieve internal pressure when subjected to fire exposure, shall be used.
11. Rolling objects on open shelves shall be blocked or wedged. In multiple decking, heavier material shall be stored on the lower levels.
12. Maximum storage capacity of racks as per manufacturer shall be followed. Such capacity shall be marked on the racks.
13. Adequate aisles shall be maintained for unobstructed access and movement of firefighting personnel and equipment. This requirement does not apply to rigs and vessels; however, the Marine Safety/Offshore Safety/Port Safety Department shall review the storage risk assessment. It shall be as per the following requirements:

    - Access aisles of at least 1.2 meters shall be maintained.
    - Within inside liquid storage areas, the main aisles shall be a minimum of 2.4 meters wide.
    - Accessways in outside storage areas shall be a minimum of 3.6 meters wide.

3.7.3 Stacking and Unstacking of Materials

The Contractor shall ensure that all necessary precautions are taken to prevent incidents while stacking and un-stacking of materials.

a. Stacking

   When stacking or planning materials for stacking, the following factors shall be considered:

   - The permissible floor/deck loading and the design load-handling capability of storage racking and binning.
   - The site layout has adequate walkways and aisles.
   - Materials routing in and out.
   - Method of stacking to be used.
   - Available or required materials handling facilities and equipment.
   - Area lighting with avoidance of shadow areas.
   - Pallet design and load-bearing capacity.

- Factors to be used to determine the size of stacks shall include volume, area available, size, bulk, weight, type, rigidity, and fragility of materials to be stacked.
- Loaded pallets shall not normally be stacked more than three high.
- Stability of stacks shall be determined by:
  - A safe ratio of height to base area.
  - Sound interlocking of the materials, either naturally or artificially.
  - How much of the aggregate weight is borne by the components in the lowest tier of the rack.
  - Good placement of every component in a stack, with no overhangs.
- Heavy items of equipment stored in custom-built crates or containers shall not be stacked one on top of the other (only the bases of these containers are designed to bear the load of the contents).
- Stacks shall be positioned at least 0.5m from walls/bulkheads and shall not allow footing for persons to access unguarded machinery.
- While stacking materials, 0.5m - 1.0m clearance shall be maintained under sprinklers. The materials stored shall be kept free and unobstructed from the automatic sprinkler system and electrical panel.
- Racking shall be inspected periodically to determine its condition and confirm its continuing capability to support the loads for which it was constructed.
- Only purpose-built pallets in good condition and without loose or broken boards and blocks shall be used for transporting loads. Damaged pallets shall be taken out of service and returned for repair or disposal.
- Loads shall be secured on pallets with tension strapping, plastic shrink-wrap, cargo netting, or using a pallet box.

b. Unstacking

The majority of incidents involving the collapse of stacked materials occur when a stack is being taken down. During this activity, the following shall apply:

- Only one person shall be responsible for stack reduction.
- If the person in charge had no part in the erection of the stack, he is to familiarize himself before work begins.
- The stack shall be taken down tier by tier without “taking bites” out of it.
- Tubular or other fencing around the stack is to be reduced in height as the stack is reduced.
- The area around the stack shall be kept clear of tripping hazards.

3.7.4 Flammable Material Handling and Storage

- “No Smoking” signs shall be conspicuously displayed in such areas. Smoking and carrying matches, lighters, and other spark-producing devices shall not be permitted in any area where flammable liquids are stored, handled, or used.
- Flammable liquid containers and storage tanks shall be posted with hazard identification labels according to the NFPA 704 requirements.
- Flammable liquid containers installed for filling shall be electrically grounded and bonded to prevent static electricity from causing a spark. The bond or ground or

both shall be physically applied and shall be assured by the nature of the installation.

- During flammable liquid filling operations, a wire bond shall be provided between the storage container and the container being filled. The bonding wire shall be grounded.
- Electrical grounding and bonding systems shall be included in preventive maintenance schedules to ensure the systems are checked on a regular frequency for electrical continuity. In addition, the exposed, visible portions of grounding and bounding systems shall be visually inspected by the contractor before each liquid transfer. Ground wires shall be uninsulated for ease of inspection for mechanical damage.
- Above-ground storage tanks that are not inherently grounded (e.g., tanks on concrete or non-conductive supports) shall be provided with a grounding system.
- When flammable liquids are transferred from one container to another, a means of bonding the two containers shall be provided before starting the transfer.
- Flammable liquid transfer utilizing air pressure acting directly on the liquid shall be prohibited.
- Flammable liquid tank trucks and road tank cars shall be electrically bonded and grounded to the loading rack.
- The Contractor shall not enter pits, tanks, tank openings, low places, or confined spaces (where flammable vapors could be present and/or could collect as a result of the movement of heavier-than-air flammable vapors) until the required authorized gas testing has been conducted and a confined space entry permit issued.
- Tools, lighting, and electrical equipment in areas where Flammable liquid is present shall meet the hazardous area classification requirements.
- Flammable liquid container storage shall not limit the use of aisles, corridors, exits, stairways, or areas normally used for the safe egress of people. Flammable liquids shall not be stored in exit enclosures (e.g., stairwells).
- Flammable liquids shall not be stored in open containers. In addition, containers shall not be stored close to heated pipes or other heat sources or exposed to sun rays unless specifically designed/approved for outside storage. The Contractor shall get approval from QatarEnergy.
- Covers for dip tanks containing flammable liquids shall be hinged and gravity closing or slide on tracks and be held open by a fusible link or other heat-actuated devices.
- Gasoline and carbon tetrachloride shall not be used for cleaning purposes. Only liquids approved for open atmosphere cleaning of equipment shall be permitted.
- Before a vehicle's gasoline tank is filled, the engine shall be shut down. All refuelling shall be conducted in designated areas outside of buildings.
- An appropriate work permit shall be obtained before initiating cutting, welding, or other hot work in areas where flammable liquids are present.
- When flammable liquid storage cabinets are located indoors, vent openings shall be sealed with properly fitted bungs. When the cabinets are vented, they shall be vented to the outside. Portable fire extinguishers and firefighting facilities are to be provided on the worksite.

- Special drainage, impounding areas, and/or diking shall be provided to contain any discharge from aboveground storage tanks as per NFPA 30. Drainage systems shall be designed and operated to prevent discharge to public waterways, public sewers, or adjoining property.
- Spill/leak and emergency response procedures shall be developed for operations involving flammable liquids.
- All contractors who use, handle, store, and/or are otherwise exposed to flammable liquids shall receive hazardous chemical handling training, including general and chemical-specific information.
- Required PPE (including but not limited to respiratory protection and chemical-resistant gloves and clothing) shall be provided and kept readily available by the Contractor.
- Routine preventive maintenance schedule activity shall include checks of the structural integrity of flammable liquid storage cabinets, the electrical continuity of grounding, and the adequacy of ventilation systems.
- Storage shall follow the conditions mentioned in the Safety Data Sheet (SDS).

3.7.5 Gas Cylinder Handling

Cylinders shall not be dropped from a height. A proper carriage, or platform and not a sling, shall be used for moving cylinders, whether empty or full.

All gas cylinder handling, storage, and related activities shall comply with the requirements of Corporate Standard for Gas Cylinders (CORP-SAF-STD-019) and other specific QatarEnergy locations' procedures and requirements.

3.8 CONFINED SPACE ENTRY

All Confined Space activities shall comply with the requirements of Corporate Standard for Worksite Safety (CORP-SAF-STD-004) and other specific QatarEnergy locations procedures and requirements.

3.9 MARINE SAFETY AND DIVING

3.9.1 HSE Requirements (Marine)

The Marine and Offshore HSE Departments shall inspect all vessel(s) to ensure compliance with QatarEnergy requirements before entering into any agreement with the vessel owner or charterer and before mobilisation of the marine vessel to the field. The following are the general specification requirements of all marine vessels:

1. All marine vessels operating and intending to work for QatarEnergy shall be approved and accepted by the Offshore HSE/Ports Department before executing the scope of work.
2. All marine vessels shall ensure compliance with international, national, and QatarEnergy’s rules, regulations, standards, legislation, conventions, codes, and procedures in line with the specific vessel contract requirements for safely operating in offshore fields.
3. All marine vessels shall be equipped with fire and gas detection and alarm systems that are inspected, tested, calibrated, and certified (fire system - annually by 3rd party or as

per the class and International Convention Safety of Lives At Sea (SOLAS) regulations, and H_2S gas detection system bi-annually by 3rd party).

4. All marine vessels shall have a ship sanitation certificate and pest control certificate before arrival in Qatari waters and shall be renewed every six (6) months or as per the contract requirements.
5. All marine companies shall have International Safety Management (ISM), International Ship and Port Facility Security (ISPS), and Integrated Health, Safety, Environment, and Quality Management System certified (ISM, ISPS, ISO 9001, 14001 and 45001) as a minimum to match or exceed QatarEnergy's HSEQ Management System.
6. International Maritime Organisation (IMO) approved safety signs, directions, and posters shall be available on all marine vessels.
7. Dangerous goods shall be identified, labelled, and secured in the space or on deck as per International Maritime Dangerous Goods (IMDG) code and class requirements for carriage, transportation, and certifications.
8. All vessels shall comply with all International Convention for the Prevention of Pollution from Ships (MARPOL), national laws and QatarEnergy's environmental protection and pollution prevention requirements, vessel contract, classification society, international, regional, and all related local Qatari laws and/or regulations related to the prevention of pollution from ships.
9. QatarEnergy's mandatory HSE training for all personnel onboard shall be current. All officers shall hold a valid certificate as per the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) and QatarEnergy contract requirements.
10. All outdoor electrical equipment shall be IP-rated to protect against ingress of liquid & ATEX Certified to suit Hazardous Area Zone Classification.
11. All marine vessels shall have a rescue zone properly marked and provided with scramble nets or Jacob's ladder on the port and starboard sides as applicable to the size of the vessels and contractual requirements.
12. All marine vessels shall have a Public Address System, Cargo Ship Safety Radio Certificate, and emergency communication equipment that are operational and regularly tested.
13. All measuring and protection devices, equipment, and apparatus shall be regularly tested, calibrated, and certified.
14. All marine vessels shall comply with QatarEnergy HSE and contract requirements concerning Emergency Escape Breathing Apparatus (EEBA - 15 mins.). Specific vessels, as per the contract requirement, are to be equipped with a breathing air cascade system that shall at least provide sixty (60) minutes of breathing air to all People on Board (POB). Adequate numbers of positive pressure, full facemask type, emergency escape breathing apparatus at least 125% of the maximum POB, and Self-Contained Breathing Apparatus (SCBA) for 30/45 mins at least four (4) sets other than in the fireman outfit.

3.9.1.1 Contractor's Personnel Working at Offshore Locations

1. All Contractor personnel travelling to work or visiting offshore shall undergo training as per CORP-HSE-STD-024 Corporate Standard for Occupational Health, Safety, Environment, and Quality Training Management. They shall have a valid H_2S/BA

Certificate and Tropical Basic Offshore Safety Induction Emergency Training (T-BOSIET).

2. The Contractor shall provide relief and cover (field break) for contractor personnel so that the duration of their continuous stay does not exceed 90 calendar days at Halul or 60 calendar days on a production station. It is understood, however, that contractor personnel, after the elapse of a minimum of seven days of mandatory rest onshore, may resume work on any offshore locations.
3. The Contractor shall keep a record of all its personnel at offshore locations to show that they are demobilized from the site and provided adequate rest days before re-mobilization to any offshore locations based on the contract terms and conditions.

3.9.1.2 Certification Requirement

All marine vessels shall comply with QatarEnergy HSE and contract requirements about specific certification for marine vessel operations but not limited to the list below:

- Country of Flag registry.
- Class Certificate and latest Hull Survey Report from Classification Society.
- Cargo Ship Equipment Certificate or Safety Attestation from Classification Society.
- Cargo Ship Radio Telephone Certificate.
- Safe Manning Certificate.
- Valid certificates of life rafts and hydrostatic releases.
- Breathing equipment and oxygen resuscitators annual inspection certificates.
- Annual inspection certificates of fixed and portable fire fighting equipment.
- International Oil Pollution Prevention Certificate.
- Oil Record Book under MARPOL 73/78 Annex-1 Regulation 20.
- Valid OVID inspection.
- ISM Safety Management Certificate.

3.9.1.3 Equipment On Board Vessels

In addition to requirements contained elsewhere in the Contract Agreement:

- Navigational Charts and Nautical publications on board shall be the complete set covering the entire working area, consisting of the latest edition of British Admiralty with all relevant corrections made.
- Ample cargo handling and securing equipment shall be on board to ensure that any cargo carried is securely fastened for sea passage.
- All ship equipment required for the contract or intended for the vessel's safety shall be regularly serviced by a competent person and remain fully operational.

3.9.1.4 Additional Safety and Environmental Standards

- Watertight closings, doors, and vents shall be maintained in good working order and operate freely. Watertight doors shall always be closed during sea passages.
- Vessels shall only discharge bilges through an oil/water separator and shall retain any separated oil on board for controlled disposal.

- Vessels carrying liquid nitrogen and other hazardous cargo shall comply with the appropriate QatarEnergy-issued procedures for transportation and handling.
- Sewage shall not be discharged into the sea from vessels permanently manned by ten or more persons unless:
  - it has been comminuted and disinfected using a system approved by the appropriate authority and discharged at more than four nautical miles from the nearest land.
  - it is discharged at more than twelve nautical miles from the nearest land or
  - It has passed through a treatment plant approved by the competent authority; and in any case, the discharge does not produce visible floating solids or discolouration of the surrounding water.

3.9.2 Diving Safety

- All diving vessels and diving operations conducted by or for QatarEnergy shall comply with QatarEnergy Standard for Diving Operations (ORP-MAR-STD-001), United Kingdom Health and Safety Executive (HSE UK) diving regulations and International Marine Contractors Association (IMCA) International Code of Practices for Offshore Diving.
- All personnel involved in diving operations shall be competent with proper training and certifications as per IMCAC003, D014, Diving at Work Regulations 1997, accepted and approved by QatarEnergy Offshore/ Port Departments.

3.9.2.1 Emergency Procedures for Diving Incidents

- The diving Contractor’s emergency procedures shall lay out the actions required of each diving team member in the event of a foreseeable emergency occurring during operations.
- Each dive team shall have two (2) HSE recognized Diving Medical Technicians as a minimum who shall be fully competent to render general and hyperbaric first aid and shall have adequate supplies of in-date medicines for first aid, including the required chamber kits (both internal and external) as required by HSE Regulations and Diving Medical Advisory Committee (DMAC) notices.
- The Contractor shall arrange, at its own expense, hyperbaric medical backup cover with an HSE-approved hyperbaric doctor. The Contractor shall show written agreement for such services with the doctor or medical center and shall always confirm the availability of 24-hour coverage. This information, in conjunction with local contacts and telephone numbers, shall form part of the Contractor's emergency procedures and shall be posted in a prominent position at all dive sites.

3.9.2.2 Standing Instructions

- All diving operations conducted by or for QatarEnergy shall comply with QatarEnergy Standard for Diving Operations (DOC. No. ORP-MAR-STD-001), United Kingdom Health and Safety Executive (HSE UK) diving regulations and International Marine Contractors Association (IMCA) International Code of Practices for Offshore Diving.
- No diving shall take place in a QatarEnergy area without a valid PTW.

- All overhead work in the vicinity of the diving operations shall stop, except when the QatarEnergy-Plant Supervisor and Diving Supervisor have ascertained that the overhead will not cause a danger to the diving operation.

3.10 ELECTRICAL SAFETY

Contractors shall carry out all work in QatarEnergy relating to electricity in a safe manner following the relevant QatarEnergy procedures and international Standards according to the scope of work**.** The electrical equipment shall comply with the Standard for the Mobilization and Use of Construction Equipment in live QatarEnergy Assets (VP-CON-STD-084).

3.10.1 Personal Electrical Apparatus

- Personal electrical devices shall not be brought into a hazardous area unless they have been specifically certified by a recognized certifying authority as suitable for use in the relevant zone(s). They shall not be:

  a) susceptible to mechanical damage,
  b) vulnerable to the effects of weather, natural hazards, temperature, or pressure,
  c) sensitive to wet, dirty, dusty, or corrosive conditions, or
  d) reactive to any flammable or explosive substance, including dust, vapour, or gas.

- All cables and connections shall also comply with the requirements for the zone(s) of use. Only batteries complying with the test certificate shall be used.
- Equipment marking shall be required to identify the type of protection, the explosion risk for which the apparatus is suitable, and the certifying authority.
- Certification documents and equipment marking shall be checked and approved by the concerned HSE Department.
- Production and gas processing and treatment plants, drilling rigs, oil/gas wells, hydrocarbon storage terminals, loading berths, etc., are examples of hazardous areas.
- Hand torches, handheld radios, mobile telephones, pagers (or bleeps), cameras, calculators, computers, hearing aids, etc. are examples of personal electrical apparatus.
- In certain circumstances, QatarEnergy Management may approve the use of specific items of apparatus after considering the Safety/Fire Department's advice; quartz wristwatches may fall into this category.
- Personal electrical apparatus shall not be used in a hazardous area unless a gas-free certificate (Hot work permit) has been issued for the period of use.

3.11 HOT WORK

Any work activities that create or introduce naked flame, spark, heating, or sources of ignition, such as but not limited to electric arc welding, oxygen-acetylene cutting, grinding, electric induction pre-heating, handling of explosives, spray/jet painting, and heat treatment shall be considered as hot works. All Hot Work activities shall comply with the requirements of the Procedure for the Control of Hot Work (IS-PRC-HSE-046) and other specific QatarEnergy locations procedures and requirements.

Contractors who carry out hot work activities shall have a Method Statement, JHA, and secure a valid QatarEnergy Hot Work Permit.

All precautionary measures stated in the Hot Work procedures, Method Statement, JHA, and PTW system of QatarEnergy shall be complied with before the commencement of the hot work activity.

3.11.1 Pressurised Habitat

Pressurized habitat shall be considered the preferred option for all hot work naked flame activity, especially in Zone 0 or 1.

The pressurized habitat shall be constructed from a suitable material (such as flame-retardant silicone-coated fibreglass plastic tested by following the requirements of ANSI FM 4950-2007 Clause 5). A certified scaffold structure shall be used to provide the habitat framework.

The habitat workspace shall be sufficiently sized to accommodate at least two persons comfortably. The habitat shall also be large enough to accommodate any tools and equipment necessary for the work at hand. The interior shall be lined with fire blankets to reduce the likelihood of sparks or other incandescent material contacting the outer covering.

The habitat shall be constructed to maintain an internal overpressure of 25-50 Pascal for a prolonged period. The exit shall be clearly marked, both inside and out.

The habitat shall be illuminated by sufficient lighting suitable for the zone in which the habitat is constructed.

3.12 OFFICE SAFETY

Contractors shall be responsible for providing safe and conducive office work environment for their staff. New contractor employees, transferees, and sub-contractors shall receive HSE induction training as soon as practicable after arrival on-site, at the latest during the first week.

3.12.1 Ergonomics

a. All ergonomics activities shall comply with the requirements of Corporate Standard for Ergonomics and Human Factors (CORP-OHH-STD-004) and other specific QatarEnergy locations' procedures and requirements.

b. The Contractor shall comply with Display Screen Equipment 1992 (DSE) and shall provide relevant information regarding the following ergonomic factors concerning the project (these shall be reflected in the HRA):

- DSE and use of Computer Systems: The Contractor shall provide information regarding the safe use of DSE and computer systems.
- Manual Handling: Contractors shall comply with Manual Handling Operations Regulations 1992.
- Ventilation and Indoor Air Quality: Where any Contractor's scope of work or service relates to indoor facilities such as offices, rooms, workshops, provision of worker's camps, etc., the Contractor shall conduct Indoor Air Quality assessments and provide adequate ventilation.

The Contractor shall ensure that all Mechanical, Heating, Ventilation, and Air-Conditioning (HVAC) are regularly checked, kept clean, and well maintained to prevent the growth of micro-organisms and to maintain acceptable in-door thermal conditions.

3.13 VISITORS SAFETY

All visitors shall comply with the site HSE specific requirements. All visitors shall wear PPE that complies with the site rules and be identified and accompanied by a Contractor representative throughout the visit.

When visitors arrive at the site, the Contractor Site Supervisor/Contractor HSE representative shall conduct a site-specific safety briefing. The briefing includes key information about the site-specific hazards and risks. The Contractor shall inform the visitors what to do if there is any emergency, restricted worksite areas, site-specific PPE, and site-specific safety rules.

The contractor shall maintain the site logbook for the visitor, which includes the areas visitors shall visit, names of the visitors, and accompanied Contractor representative and visitors IN/OUT timings to the worksite.

3.14 ABRASIVE BLASTING AND PAINTING

Before abrasive blasting and painting operations, there shall be an approved risk assessment conducted by the team, approved PTW, with JHA, method statement, safety datasheet, and valid certifications of the equipment and training certifications of the personnel. All abrasive blasting and painting activities shall comply with the requirements of Procedure for Abrasive Blasting on Live Equipment (OMM-HSE-PRC-502), Procedure for Abrasive Blasting on Live Pipelines (OMM-HSE-PRC-503, OMD-QAL-PRC-021) and Corporate Standard for Worksite Safety (QP-SAF-STD-004) and other specific QatarEnergy locations procedures and requirements.

3.15 LONE WORKING

The Contractor shall take all reasonable steps to prevent the practice of lone working by assigning duty to workers in groups of at least two persons to enable each one to look out for the other (buddy system). Where lone working becomes necessary and unavoidable, the Contractor shall conduct a risk assessment for the activity/ situation and implement measures to reduce the risk to the lone worker.

The Contractor shall not allow its workers to drive alone into the desert. Self-help kits, including communication devices, shall be made available to work teams crossing the desert to enable them to rescue themselves from situations such as vehicles being stuck in the sand.

3.16 LEGAL, REGULATORY AND PERFORMANCE REQUIREMENTS

All Contractors shall follow the Qatar Labour Law No. 14 of 2004 and its executive decisions where applicable, which is a reference for health standards applicable in operations as well as the requirements for workers' healthcare coverage and disability compensation for hazardous work and other applicable legal and regulatory requirements.

3.17 HAZARDOUS CHEMICALS

- The Contractor shall comply with the Control of Substance Hazardous to Health Regulations 2002 and the State of Qatar's applicable legislation.
- The Contractor shall ensure that the current SDS for each hazardous chemical or a copy thereof is kept in a safe but accessible place on-site and carried along during transportation of the substance.
- The Contractor shall ensure that exposure to any hazardous chemicals does not exceed the Occupational Exposure Limit specified by the American Conference of Governmental Industrial Hygienists (ACGIH) for the chemical. The determination of exposure should be considered with a respirator worn at the assigned protection factor or without any respiratory protection worn.
- All potentially exposed employees shall be scheduled for a monitoring program and health surveillance program.
- The Contractor shall ensure that monitoring of the exposure of employees is repeated at acceptable intervals as determined by QatarEnergy occupational health & hygiene standards.
- Any local exhaust ventilation equipment installed (used to remove air contaminants at a local source) shall be designed, constructed, and tested according to QatarEnergy project specifications by a QatarEnergy approved qualified engineer. Records for the maintenance, inspection, and testing shall be produced for inspection when required by the site QatarEnergy industrial hygienist.
- The Contractor shall ensure any packaging or container of hazardous chemicals is strong and labelled, and the label is not removed, defaced, modified, or altered. The labels shall be as per UN Hazards Class Numbers with diamond symbols or equivalent international Standards.
- On-site, the Contractors shall ensure that warning signs, required PPE, current SDS, and other relevant information are posted at prominent places to warn persons entering the area of the hazard. Warning signs shall be written in English and Arabic, at least.
- The Contractor shall ensure that any person who carries out any work in connection with the hazardous chemicals has access to the SDS with the necessary information, has been given training/instruction on the use of the chemical, and gets appropriate supervision.

3.18 HEALTH AND HYGIENE REQUIREMENTS

3.18.1 Health Risk Assessments (HRA)

The Contractor shall be required to provide details of known or potential health impacts that his activities could have on existing operations and health beyond the project site. Depending on the length and scope of the project, an HRA shall be conducted in line with the Corporate Standard for Health Risk Assessment (CORP-OHH-STD-041). Each Contractor shall develop an “action plan” following the HRA to ensure implementation of corrective actions.

It is mandatory that in any Contract, the health and industrial hygiene requirements are fulfilled by both Contractors (and their sub-contractors) and Contract Holders in both on-shore and off-shore operations. Contractors shall ensure that they provide information on

any occupational health hazards that may be introduced into QatarEnergy's work environment during work.

3.18.2 Heat Stress Requirements

Every Contractor shall adhere to the purpose, scope, and applicability of QatarEnergy Standard for Managing Heat Stress QP-OHH-STD-012 and other specific QatarEnergy locations procedures and requirements.

3.18.3 Healthcare Provision

Contractors have a duty of care towards their entire workforce. It is the responsibility of each Contractor to arrange healthcare provision before commissioning of any project.

The following are basic requirements for all Contractor companies for healthcare and insurance coverage:

a. Medical Care Provision
The Contractor shall provide QatarEnergy with evidence of health coverage for its personnel (especially employees who shall spend more than 30 days with the Contractor during the performance of the Contract). In Industrial Cities, all contractors shall have the SLA with QatarEnergy Healthcare Department for Primary health care services for their workers.

b. Licensing Of Medical Aid Center
If the Contractor opts for “self-provision” of healthcare service, the Contractor shall have the facility pre-audited and licensed by the State of Qatar Ministry of Public Health (MoPH).

c. Complementary Insurance for Hazardous Work
The Contractor shall prove that it has established Complementary Insurance for Hazardous Work for all its field workers. This may include companies not considered in the list of high-risk activities.

d. Life Insurance
QatarEnergy shall require the Contractor to produce evidence of life insurance coverage before starting field operations.

e. Appointment of Healthcare Providers
Each Contractor shall appoint a competent health advisor to handle all healthcare needs of the Contractor's personnel where applicable or have SLA for OH services with QatarEnergy Healthcare Department.

The competency of the Health Advisor shall depend on the level of healthcare provision and medical cover set up by the Contractor (either a nurse-led Medical Aid Center or a full Primary Health Care clinic).

Health Advisor shall demonstrate competence in the following areas:

- Be able to facilitate and develop Contract Health Risk Assessment (HRA)
- Ability to communicate effectively in written and spoken English.
- Knowledge of health requirements, rules and regulations, and ability to monitor compliance.

- Be fully conversant with techniques used in the management of health hazards and advise on suitable measures that shall be used for preventing and ultimately recovering from risk situations.
- Ability to conduct and report occupational health audits.
- Ability to conduct incident investigations and identify underlying causes.
- Be fully conversant with QatarEnergy Contractor HSE Management documents and emergency Procedures.

Licensing of all health personnel is done by the Ministry of Public Health (MOPH). The Contractor shall ensure that the MOPH Licensing Procedure is followed within three months of employing the health personnel.

If a Contractor has set up his “own” medical center, the center shall comply with the minimum requirements set out by QatarEnergy and the MOPH.

Refer to MOPH for all the details on setting up, managing, and licensing a Medical Aid Center in QatarEnergy locations.

3.18.4 Welfare Amenities and Other Hygiene/ Public Health Requirements

It is the primary responsibility of each Contractor to ensure that general public health in the Contractor’s camps, accommodation, and workplace is catered for. The Contractor shall ensure that medical facilities and/or agreements with local providers suitable for immediate response to reasonably foreseeable incidents are in place. If the contractors are living in QatarEnergy camps/villages inside Industrial Cities (IC), Industrial Cities shall be responsible for the hygiene requirements of the camps. For medical and emergency services, they shall have either an agreement with QatarEnergy Medical or with external providers. The Contractors shall resolve welfare issues such as accommodation, hygiene, recreation, etc., raised by their employees or QatarEnergy as soon as practicable. An action plan in this regard shall be prepared and submitted to QatarEnergy for review and approval.

3.18.5 Fitness-To-Work Examinations

All Contractors engaged in QatarEnergy business shall comply with the requirements of Corporate Standard for Fitness to Work, Doc. No.: CORP-OHH-STD-011, and other specific QatarEnergy locations’ procedures and requirements. Copies of fitness certificates shall be kept in each Contract worker’s file for reference in incident investigations and audits.

The Contractor shall maintain copies of fitness-to-work certificates to enable the health advisor to schedule fitness assessments periodically as per requirement/risk assessment.

3.18.6 Preventive Measures and Vaccinations

All preventive measures shall be part of the work conditions offered by the employer and shall be available for all its workers. It is, therefore, the responsibility of every Contractor to ensure access to, and provision of all vaccinations recommended within the State of Qatar. E.g., Covid 19, Bird-flu, etc.

- Every Contractor shall make its provision for pandemic preparedness. Keep up to date with any biological hazards that might impact the contractor’s workforce, be familiar with the local response plans, and devise your “own response” to ensure disease containment and prevention spread.

- Contractors shall engage in “Business Continuity Planning”, specifically addressing the challenges of pandemic-like situations. This planning shall prioritize health-related events, such as a disease pandemic, that could potentially disrupt individuals, processes, and consequently, the entire business.
- QatarEnergy may, at its discretion, engage and involve Contractors and service providers in major preparedness drills, communication, and training. The Contractor shall be responsible for participating in the planned events, as required.
- QatarEnergy shall periodically review Contractors’ business continuity plans.

3.19 WORKPLACE AND ENVIRONMENT INCIDENTS REPORTING

In accordance with Labour Law No. 14 of 2004 as well as QP-HSE-STD-021 QatarEnergy Standard for HSE Incident Reporting Investigation Learning, each Contractor shall be required to report and keep records of all work incidents, accidents, and the diagnosis of occupational illness.

In case of all environmental incidents, the contractor shall immediately notify QatarEnergy Emergency Communication Center (ECC) by dialling #135 with minimum basic details. Incidents within QatarEnergy Operational Areas (Halul, rigs/platforms shall be reported to the Contract Holder or QatarEnergy Operations Supervisor, who in turn shall report to ECC or Alpha Seven Sierra (A7S) as applicable.

Oil Spills shall be reported in line with the Procedure for HSE Incident Reporting Investigation and Learning (QP-HSE-PRC-022). If an environmental incident, other than exceedance to State or QatarEnergy regulations, has caused environmental impact or harm to human health or the environment, then the incident notification and reporting shall be followed with a detailed investigation and a written report submitted to QatarEnergy immediately on completion of an investigation.

3.19.1 Reporting and Record-Keeping System

3.19.1.1 Medical Records

The Contractor with an independent Medical Aid Center (with no dependence on QatarEnergy medical facilities) shall be required to keep clinical records as stipulated in the license issued by the National Health Authority.

A Contractor with a Service Level Agreement for healthcare provision with QatarEnergy Health Centers shall ensure that full details of their Contract’s workers are provided to QatarEnergy administration for the efficient administration of medical records.

Each patient record shall reflect the following:

- Patient’s full details.
- Contractor's name.
- Contractor's Health Advisor details.
- Medical Insurance or Contractor Account.

3.19.1.2 Injury On Duty Records

Copies of all Injuries On Duty (IOD) shall be kept and updated accordingly. All investigation records shall be made available for periodic audits by QatarEnergy.

3.19.1.3 Non-Accidental Deaths

Contractors shall be expected to initiate, participate, and/or contribute to any investigation in the event of death within the worker's camps.

3.19.1.4 Alcohol, Drugs and Controlled Substances

The Contractor and all its personnel shall comply with all the State of Qatar laws relating to alcohol, drugs, and controlled substances.

QatarEnergy allows alcohol testing in incident investigations. However, alcohol testing is not permitted on a routine/random basis.

3.20 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall conform to all the environmental regulations in the State of Qatar. The principal laws governing environmental protection in the State of Qatar are:

- Qatar Environmental Protection Law issued by Decree-law No. 30 of 2002 charges MoECC with overseeing and enforcing environmental protection.
- Executive Order (By-Law) for the Environmental Protection Law and its Annexes, issued by SCENR Chairman decision No. 4 of 2005 (MoECC, 2005).

The Contractor shall comply with QatarEnergy's Environmental Management System, including the permits, licenses, Construction Environmental Management Plan (CEMP), Operation Environmental Management Plan (OEMP), and other environmental deliverables, where relevant. The Contractor's HSE Plan shall address environmental aspects and impacts identified by QatarEnergy, as well as those identified by the Contractor for the work to be completed, including mobilization and demobilization.

The Contractor shall review and comply with all applicable environmental permits and conditions, laws, regulations, and QatarEnergy requirements before the start and during work.

The Contractor shall participate in and comply with all applicable project-specific environmental training before commencing work.

3.20.1 Air Quality

All contractors shall comply with the stipulated requirements of the Qatar Ministry of Environment and Climate Change (MoECC) outlined below:

Compliance Criteria Key – MoECC Standards

- 99.7% of all daily measurements were taken in one calendar year.
- Arithmetic mean of all daily measurements taken in one calendar year.
- 99.7 % of all hourly measurements are taken during any 30 days.
- 99.7% of all days containing 1-hour measurements at or below the Standard during one calendar year.
- 99.98% of all hourly measurements were taken during one calendar year.
- 99.8 % of all 8-hour measurements were taken during one calendar year.
- Maximum arithmetic mean averaged over a calendar quarter.

3.20.1.1 Minimum Mitigating Measures (Air Emissions)

To minimize emissions to the atmosphere, the contractors shall comply with the following:

- All construction vehicles and machinery shall have up-to-date inspection certificates to demonstrate that they are in good working condition before they are used on-site. All maintenance records shall be kept in line with the manufacturers' requirements.
- Non-road mobile machinery (NRMM) shall use Ultra-Low Sulphur diesel (ULSD) or gas and be fitted with appropriate exhaust after-treatment. All fuels used on-site shall be, under any circumstances, compatible with this specification, especially regarding low Sulphur content.
- All construction vehicles and machinery shall be fitted with exhaust systems and emission control devices (e.g., a catalytic converter) which are maintained and in good working order.
- All activities related to engine idling (trucks, vehicles, machinery) shall be limited as much as practical (e.g., no longer than five minutes)
- All equipment shall be turned off when not in use.
- Whenever excessive smoke is identified from any construction vehicle or machinery, it shall be serviced as soon as possible and taken out of use until the maintenance has been satisfactorily completed.
- Refrigerant gas with zero/medium Ozone Depletion Potential (ODP) and low/medium Global Warming potential (GWP), such as R407C, R404A, R134a, R22, etc., shall be used for HVAC equipment.
- Refrigerant gas with very high Ozone Depletion Potential (ODP) and very high Global Warming Potential (GWP) such as R11 shall not be used.

3.20.1.2 Minimum Mitigating Measures (Dust Emissions)

Where activities are expected to impact the dust levels on-site, the contractor shall develop and implement a dust control plan that shall contain but not be limited to the following:

- All-access roads to the site shall be watered regularly to minimize dust generation. Where Treated Sewage Effluent (TSE) Water shall be used in dust suppression, it shall be compliant with relevant regulations.
- The surrounding roads and sidewalks are to be kept free from construction debris and cleaned regularly.
- Materials management areas are to be maintained to constrain dust pollution, e.g., locating storage areas away from sensitive receptors, erecting screens to function as windbreaks, and limiting height and side slopes of stored material. Watering facilities shall be used to reduce dust escaping from the site boundaries.
- The footprint of disturbance from construction operations at the project is to be kept to a minimum, and movement of vehicles, mobile equipment, and machinery is to be restricted within the work areas.
- Uncovered stockpiles and areas other than haul roads, if they are a source of dust, are to be watered. Non-potable water sources to be used as an alternative to potable water use.
- Enclosed chutes and covered skips shall be used to minimize dust generation.
- On windy days, activities causing excessive dust shall be suspended.

- Any soil arising during the bulk excavations shall be reused as much as possible for backfilling, and surplus material shall be removed and stored at suitable locations for future use.
- Weather forecasts are to be followed to know the days of high wind speed in advance.

3.20.2 Noise

The Contractor shall comply with the Executive Order (By-Law) for the Environmental Protection Law and its Annexes (MoECC, 2005), which provides maximum allowable ambient noise limits in the State of Qatar and Corporate Standard for Environmental Noise (CORP-ENV-STD-007).

3.20.3 Soil and Groundwater

The following are the soil and groundwater standards used to assess soil and groundwater contamination. In the absence of any relevant soil and groundwater standard for the State of Qatar, Dutch Standard 2013 shall be followed. The contractor shall comply with the requirements of Corporate Standard for Environmental Requirements in Site Preparation of New Projects and Abandonment & Restoration of Facilities (QP-ENV-STD-040).

3.20.3.1 Dewatering

Prior approval of QatarEnergy shall be obtained for groundwater discharge anywhere done; by any means, the discharge shall be monitored as per permit requirements. The Contractor shall ensure that the groundwater to be dewatered shall not be contaminated with any hydrocarbon/chemical due to any previous leak incidents.

3.20.3.2 Wastewater

All generated wastewater effluents shall comply with executive by-laws of the Environment Protection law.

During the pre-mobilization stage, the Contractor is expected to provide a list of all wastewater types arising from the project activities, provide estimated volumes, and explain the method for treatment or disposal. The proposed treatment and disposal methods of anticipated wastewater shall be reviewed and approved by QatarEnergy Subject Matter Expert (SME) before the commencement of the contractor's work.

3.20.4 Waste Management

The Corporate Standard for Waste Management (QP-ENV-STD-004), Procedure for Waste Management (QP-ENV-PRC-005), and Guideline for Waste Management (QP-ENV-GDL-006) apply to all projects within QatarEnergy. All waste or suspected waste shall be classified as non-hazardous or hazardous for it to be stored, handled, and treated in line with the regulatory requirements.

3.20.5 Biodiversity

The contractor shall comply with the environmental permit requirements provided by the authority. The contractor shall also ensure that the following be implemented on-site/project area:

- There shall be no harming of animals on-site. Where an animal is harmed, this shall be considered an environmental incident and shall be reported.

- The Contractor shall be responsible for protecting the aquatic fauna and flora during the execution of activities. For example, for offshore projects, the marine mammals and coral reefs that existed and were identified during the offshore campaign.
- There shall be no removal of trees on-site without prior approval from the relevant authorities. Where practicable, avoidance shall be the primary consideration in the mitigating measures that shall be developed.
- Before excavation/backfilling, the on-site Environmental Officer shall ensure that no burrowing animals are present in the area.
- All waste areas shall be protected to prevent animals from feeding from the waste storage areas.
- Activities with excessive noise levels shall be limited to daytime work only (where practicable).
- Lighting shall be limited to the immediate work areas (where practicable).
- The contractor shall make use of existing access roads. Where there are no access roads available, the contractor shall develop its access roads provided that,
    - This shall be the nearest point to their project site.
    - There shall not be any removal of significant floral communities.

Where applicable, a Biodiversity Action Plan (BAP) shall be developed, submitted for approval to relevant authorities, and specific mitigation measures implemented for the project.

3.20.6 Site Preparation, Abandonment, Demolition, Demobilization, and Restoration of Projects (Onshore and Offshore)

The contractor shall comply with the QatarEnergy Standard for Environmental Requirements in Site preparation of Projects and Abandonment & Restoration of Facilities (Doc No. QP–ENV–STD–040), Environmental Assessment and Authorisation for Capital Projects (Doc No. IP-ENV-001), Guideline for Environmental Assessment in Projects (Doc No. QP-GDL-V-003) for the implementation of the project. This is to ensure that all environmental study requirements are compiled at every stage of the project.

For demolition works, the Contractor shall submit a method statement and HSE Plan for QatarEnergy review and approval before demolition activities commence.

The Contractor shall ensure that the site is maintained in a tidy manner and free from debris. Periodically throughout the performance of the work, upon completion of the work, or when otherwise directed by QatarEnergy, the Contractor shall promptly be liable and accept the cost for the removal of any debris, equipment, facilities, and personnel in addition to the associated cost for the Pre and post Seabed Survey by an approved third party. Should the Contractor fail to leave or prove the site in a clean condition, QatarEnergy may deduct the costs associated with cleaning the site from the Contractor’s invoices. The Contractor shall obtain approval from the QatarEnergy Site Representative before using any of QatarEnergy’s pollution control or waste disposal facilities for the disposal of any wastes or debris originating from the work or any members of the Contractor. The hazards associated with demobilization shall be reassessed, any new hazards identified, and controls implemented to minimize the risks. The HSE plan shall be modified accordingly.

QatarEnergy shall also comply with the following regulations in the abandonment of offshore facilities:

1. ROPME protocols, including the “Guidelines to the Protocol Concerning Marine Pollution Resulting from Exploration and Exploitation of the Continental Shelf”.
2. International Marine Organization requirements for Abandonment of Offshore facilities
3. Industry Best practices in Abandoning offshore structures (International Organization of Oil and Gas Producers (IOGP) (Particularly IOGP Report No. 10.12/232)
4. Corporate Standard for Abandonment of Fixed Offshore Installations (Topsides and Jackets) (CORP-ENV-STD-034)
5. Subsea Pipelines In-Situ Abandonment Guideline – Acceptance Criteria (VS-PLC-GDL-004).

3.21 HSE IN DRILLING AND WELL SERVICING OPERATIONS

3.21.1 General Requirements

The Contractor shall comply with the requirements of the QatarEnergy Drilling and Completions Department’s Drilling Reference Manual (DRM), as well as those specified in the contract agreement.

A. Emergency Power

All rigs shall have an independent generator with sufficient capacity to provide all emergencies and essential services in the event of loss of the main generator.

The emergency generator shall be capable of supplying power for up to eighteen hours for emergency lighting, communication equipment, fire/gas alarms and detection equipment, and running one fire pump. Automatic start shall be fitted, taking no more than forty-five (45) seconds to come online.

Emergency power shall be connected to all embarkation station lights on deck and overside, “T” cardboards, gangway, fire and gas detection systems, and all spaces, alarms, escape routes, fire pump, and equipment as required by MODU CODE.

The muster stations shall have means of two-way communications with the control room and “T” card system or equivalent method to facilitate counting of POB.

B. Gas Detection Systems

All onshore and offshore rigs and marine locations shall have H_2S and Lower Explosive Limit (LEL) gas detection fixed monitoring with audible and visual alarm systems connected to emergency power. Head sensors shall cover the drill floor, bell nipple, wellhead area, mud pits (offshore), shale shaker areas, and A/C air intake (offshore).

The following portable gas detectors shall be provided:

- Two multi-gas detectors (H_2S, LEL, and O_2)
- Two tripod-type area gas monitors with alarms (H_2S & LEL)
- Adequate number of Personal H_2S gas detectors

All fixed and portable detectors shall be certified and calibrated by a qualified third party every six months.

C. Permit-To-Work System

Drilling Contractors shall implement their own PTW system and JHA as applicable within the rig site, while QatarEnergy PTW system and JHA Standard shall be implemented during rigless operations and simultaneous operations (SIMOPS) at Wellhead jacket (offshore) or well site (rigless onshore), as applicable.

D. Well Control and Blowout Prevention

Tool Pusher (Rig Manager), Driller, and Assistant Driller shall possess a valid certificate in well control issued by IWCF (International Well Control Forum). The Contractor shall fully comply with the QatarEnergy drilling blow-out contingency plans for offshore and onshore.

E. Emergency Response

Rig emergency plans/procedures shall be available, regularly reviewed, updated, and approved by QatarEnergy.

- Fire and rescue teams shall receive advanced firefighting training.
- First Aid Boxes shall be distributed around the Rig in a ratio of one for every ten (10) persons on board.

F. Hammer Unions

The following shall be ensured:

- Hammer unions shall be clearly marked for their type to ensure the makeup is compatible and shall not be used for makeup if not marked.
- “Roughneck Saver” (go/no-go gauge) shall be used to determine the hammer union type if in doubt.

G. Fire Pumps

Fire pumps shall be capable of delivering 100% of capacity to any one fire area. 100% redundancy of fire pumps shall be available. The Contractor shall comply with Corporate Philosophy for Fire and Safety (QP-PHL-S-001).

H. Rig Floor Tools for Running Tubulars

The following shall apply to tools such as slips and tongs, which are used for running tubulars on the rig floor:

Slips:

- Shall be handled by a minimum of two people to lift.
- Shall never be kicked into place.
- Broken or worn slips shall be replaced.
- Dies shall be checked regularly, kept clean/sharp, and replaced, as necessary. Broken dies shall be replaced, and correct keepers used.
- Original equipment replacement handles shall be used.

Tongs:

- Tong counterbalance weights shall be properly maintained (weight balance and well lubricated) for vertical movement of the tongs.
- The tongs shall be snubbed /secured to an anchor post.
- Safety switches shall be installed on power tongs to ensure they are not operated unless the tong doors are closed. In addition, the doors that close the front of the tongs shall have a positive latching mechanism to keep the door shut.
- The Arc path of the tongs shall be kept clear of personnel while making up or breaking out tubulars. When not in use, tongs shall be secured safely.
- Latches shall always be clean and lubricated.
- A piece of chain or other material shall never be used to make the tongs “bite”. Always use proper size jaws for the pipe being used.
- Tongs shall be hung in the mast so that they swing away from the drill pipe when unlatched. Tongs safe handles/pinch points shall be marked accordingly.

I. Coiled Tubing

Any operations with coiled tubing in a potentially live well shall be treated in the same way as any conventional well control requirement and associated Blowout Preventor (BOP) equipment. Any coiled tubing operation with other proximate wells producing shall be treated as a concurrent operation and subject to concurrent operations restraints and safety precautions.

Every coiled tubing unit shall maintain a full 'Reel Utilization Data Sheet' which includes the following historical data:

- Type of work done, and depths run.
- No. of cycles (tubing passed through gooseneck), and Welds.
- All welding carried out on coiled tubing shall be fully documented, giving details of subsequent X-ray results and Rockwell hardness tests.

J. Acidizing

During the use of acids for stimulating production from a well, the safety precautions detailed below shall be observed:

- All chemicals shall be transported, stored, and used in line with applicable QatarEnergy procedures. The SDS of the chemicals shall be made readily available on-site for the handlers.
- Piping from the pumping unit to the wellhead shall be fitted with a non-return valve as near as possible to the wellhead.
- Upon completion of acidizing operations, all equipment shall be thoroughly washed inside and outside with fresh water.

K. Perforating and Other Wireline Operations Involving Explosives

- Signs shall be posted at the location entrance notifying that explosives are in use.
- As per industry best practice, night-time perforating operations shall not be performed due to lighting constraints unless approved by the management/ Drilling Supervisor.

- Explosives shall be handled only by qualified personnel designated by the Contractor operating. All non-essential personnel not handling the explosives shall remain outside the rig floor.
- Radio Silence shall be applied to avoid any potential accidental activation/firing of the perforation tool due to Radio Frequency (RF) signal interference. However, if the Perforation tool is safely designed to avoid any such RF signal interference, then Radio Silence is not required.
- Onshore, the Wireline truck shall be grounded to the wellhead before operations begin.
- The perforation tool shall be isolated from the firing panel until the explosives reach a minimum depth of 200 feet. The explosives shall be locked out and shorted out above 200 feet when removing “live” explosives from the wellbore.

L. Storage of Explosives

Explosives and detonators shall be stored in separate containers and stored in a building located at a safe distance from stores containing flammable materials. Non-explosive materials shall not be stored in the same building. Access to the explosive store shall be controlled, and records of outgoing and incoming stocks shall be kept.

3.21.2 Safety and Fire Equipment for Offshore Drilling Unit

The safety and fire equipment and systems shall comply with:

- International Maritime Organization (IMO).
- Mobile Offshore Drilling Units (MODU) Code.
- SOLAS Code.
- American Bureau of Shipping (ABS) requirements (Rules for building and classing of Mobile Offshore Drilling Units).
- QatarEnergy requirements in the relevant contract agreement.

3.21.2.1 Equipment Specifications

a. Equipment to be used in zones known or suspected of producing H_2S shall conform to National Association of Corrosion Engineers NACE Standard MR-01-75 'Material requirement for Sulphide stress cracking resistant metallic material'.
b. Electrical equipment installed in hazardous areas shall be certified as per hazardous area classification.
c. The Contractor shall confirm that all electrical fixtures/equipment installed at the drill floor and the whole derrick shall be certified explosion-proof type in addition to all other classified hazardous zones as per IEC and API standards.
d. All outdoor electric fixtures, switches, sockets, and plugs in non-hazardous areas shall be weatherproof.

The drilling unit shall be equipped with the following systems/ equipment:

A. Safety Equipment Plan Drawing

Safety equipment plan drawings shall exist for each level of the drilling installation, including offices and accommodation, showing the location of fixed and portable safety equipment. On onshore rigs, the plan shall be approved by a qualified third party. On

offshore rigs, the plan shall be approved by the classification society. The Plan shall be regularly updated to reflect any modification, addition, or replacement of fire, safety, and survival equipment and as per class requirements.

B. Emergency Diagram

Emergency diagrams shall exist for each drilling installation, including offices and accommodations showing emergency facilities. A composite diagram showing all areas of the installation shall also be displayed at one or more central points.

C. Safe Signs

Safety sign text shall be in both Arabic and English.

Signs giving information required during an emergency, e.g., exits, escape capsule stations, lifesaving appliances in the accommodation and engine room, etc., shall be visible at night (marked with photoluminescent tapes) and during the loss of normal power. This means lighting connected to the emergency power supply through fire-resistant cabling or self-powered intrinsically safe signs.

D. Survival Craft (Offshore)

Approved Totally Enclosed Motor-Propelled Survival Craft (TEMPSC) with a total capacity of accommodating 200% of the total number of persons on board the drilling unit. Craft with a capacity to evacuate 100% of persons on board (POB) shall be on each side of the unit. The survival crafts shall be fitted with breathing air cascade systems and fire protection.

E. Inflatable Life Rafts (Offshore)

Certified and approved inflatable life rafts, with a total capacity of accommodating 100% of the total number of persons on board the drilling unit, shall be available.

F. Fast Rescue Craft (Offshore)

Certified and approved fast rescue man-overboard craft (diesel engine driven) placed under an approved launching arrangement.

G. Escape Ladders/Scrambling Nets

Escape ladders/ scrambling nets shall be provided. Rope ladders and scramble nets shall be fitted to life rafts and lifeboat stations.

H. Fire Pumps

Two fire pumps, each capable of providing 100% of the fire water requirement, shall be provided. At least one of the fire pumps shall be diesel-driven (independently from the rig main power system). An emergency fire pump shall be provided in a separate space from the main fire pump. The Fire pumps shall be connected to independent tanks.

I. Fire Hydrants and Fire Hoses

Fire hydrants and fire hoses shall be provided.

J. Sprinkler Systems

(i) Drill floor

A fixed spray system water deluge capable of covering the below drill floor area with a water density of 12.2 litres per minute per square meter shall be provided.

(ii) Accommodation

Accommodation shall be fitted with:

- Fire barriers and smoke detector
- Automatic water sprinkler system and alarm system
- Escape routes and emergency lighting
- Manual call-out points

(iii) Water Cooling System During Flaring

An adequate water-cooling system shall be installed to protect the rig sides, lifeboats, helideck, and jacking system from heat radiation during well testing and flaring, and two water monitors at the rear end to protect the wellhead platform. Independent pump(s) other than the fire pump(s) shall feed this system.

K. Fixed Fire Extinguishing System

Mud pit rooms and paint stores shall be protected with an adequate fixed fire extinguishing system. The galley range hood shall be protected with a CO_2 system.

L. Portable Fire Extinguishers

Dry powder portable extinguishers are required for general risk. Portable CO_2 or other environment-friendly agent extinguishers are required for the kitchen, office/ accommodation, and electrical areas.

M. Gas Detection Systems

(i) Fixed Gas Detectors:

Flammable hydrocarbon and H_2S detection systems shall be provided. The following work areas shall have a matrix of combustible gas and H_2S detectors installed.

- Drill floor and Bell Nipple.
- Mud pit area and shale shaker area.
- Above or around flow lines and A/C air intake.
- One mobile head sensor for each gas type with visual and audible alarms connected to the gas detection monitoring system shall be ready to be placed at the wellhead area where the Rig will be in service.

The flammable gas and H_2S detectors shall be placed on a center line spacing not exceeding 3.65 meters (12 ft). The flammable gas detectors shall be connected to an audio/visual alarm system with indicators on the drill floor and other normally manned areas. The alarm system shall indicate the location of the gas hazard.

(ii) Portable Gas Detectors:

- All crew onboard and visitors shall be provided with personal H_2S detection monitors.
- Two portable multi-gas detectors (H_2S, Flammable & O_2) with sampling hose and rigid sampling tube (1-3 ft).
- One H_2S and LEL gas sampling pump plus diffusion tubes for concentrations.

- Two area gas monitors (tripod type, solar or battery type) for H_2S and Flammable (LEL) gas with audible and visual alarms.

* All portable gas detectors shall be calibrated every six months and annually certified by a third party.

N. Fire Detection System

An automatic fire detection system shall be connected to an audible/ visual alarm system for all rig areas with potential fire occurrences. A manual call point system covering all areas of the drilling unit is required.

O. Fireman's Outfit

The minimum requirement for Firemen outfit suits shall be eight.

P. Helideck

The helideck structure, along with its safety and fire equipment, shall be in line with ICAO (International Civil Aviation Organization) Annex 14 and CAP 437 (Civil Aviation Publications). Approval and inspection of the helideck shall be conducted by the helicopter company contracted by QatarEnergy. The Contractor shall furnish the necessary evidence of approval to QatarEnergy for verification.

Q. Air Breathing System

- A cascade system shall be provided on offshore drilling rigs (and, if required, in onshore rigs) to provide breathing air for 100% of POB breathing at the same time and for a minimum of one hour. With manifolds and connections to the cascade system in the following areas as required: Muster areas, lifeboats, Mud pit area, shale shaker area, rig floor, monkey board, mud mixing area, wellhead platform, cement unit, at each crane and engine room.
- Cascade system cylinders shall be hydro-tested and certified by the manufacturer's approved third party.
- Minimum of 18 x 45-minute Breathing Apparatus (BA) sets. Positive pressure full face mask, composite lightweight air cylinder, with provision to connect to breathing air cascade system.
- Rescue team leaders' Breathing Apparatus sets shall be provided with built-in communication devices.
- Air cylinders quick fill arrangement shall be available. A cascade system low-pressure alarm shall be available.
- Breathing air quality testing shall be regularly conducted.
- 15-minute escape breathing sets (Full face mask with positive pressure type) composite lightweight air cylinder type for 150% of the total number of persons on board the drilling unit with provision to connect to breathing air cascade system
- All BA sets shall be regularly inspected and maintained. Cylinders shall be hydrotested as per the manufacturer's requirement.

R. Air Compressor for Breathing Air

Two breathing air compressors (one electrical, one diesel) are required for charging the cascade system and Breathing Apparatus (BA) cylinders. The air compressors shall be equipped with filters and dryers.

S. Emergency Shutdown System

An emergency shutdown system shall be available at two separate remote locations (outside machinery spaces and control room).

T. Waste Management

All waste management and disposal practices shall align with QatarEnergy Waste Management Procedures. A sewage treatment unit shall be on board to ensure all sewage effluent is treated in line with local regulatory requirements as well as meets MARPOL and ROPME requirements before it is discharged into the environment.

U. Oil And Water Separator Unit

The rig unit shall have a closed drain system and an oil water separator with an automatic shutdown/alarm facility to ensure separation of oil from water to below 15 ppm before discharge as per SOLAS requirements.

V. Additional Safety Equipment Requirement

Emergency power shall be connected to all embarkation station lights on the deck and overside, “T” cardboards, gangway, fire and gas detection systems, and all spaces, alarms, escape routes, fire pumps, and equipment.

The Rig shall be equipped with two approved and certified personnel transfer baskets for use with the cranes.

One Emergency Position Indicating Radio Beacon (EPIRB) shall be provided to comply with the Global Maritime Distress and Safety System (GMDSS) and fitted with hydrostatic release.

One portable radar transponder (SART) shall be fitted in each lifeboat, and two (2) shall be available on the bridge, stowed in a way to be taken rapidly to life rafts.

W. PPE Requirements

Life jackets/work vests - SOLAS or USCG approved life jackets for the total number of persons on the drilling unit shall be available. In addition, life jackets for at least 100% of the total number of persons on the drilling unit are placed at the emergency stations.

Therefore, the total number of life jackets required = 2 x 100% of the total number of persons.

Life jacket-donning instructions shall be posted in accommodation and muster stations.

Moreover, eight life buoys (life rings) shall be located at strategic points around the drilling unit. Each lifebuoy shall be attached to a self-igniting buoyant light. It shall be capable of being lit by an electrical battery that operates in contact with seawater and is inextinguishable in water. Two shall be equipped with self-activating smoke signals, and two shall be provided with a buoyant lifeline of adequate length.

An appropriate number of working life jackets (work vests) shall be required for any over-water work. Adequate life jackets shall be provided with emergency lights.

3.21.3 Onshore Drilling Units

In addition to the general requirements, the following requirements shall also apply:

1. Sources Of Ignition

   Naked lights, unprotected electrical equipment, smoking, and all other ignition sources are strictly prohibited on all drilling/well sites except within clearly marked designated areas. Non-intrinsically safe cell phones are also prohibited.

2. Flare and Flare Pits

   Flare and Flare Pits shall be located at a safe distance from the well, gas/oil separator, site drainage, or other possible sources of ignitable vapours.

3. Noxious Gases

   Means shall be provided to ensure that noxious gases are safely vented or routed to flare.

4. Access Control

   Access control shall be at the entrance to ensure that unauthorized personnel are not allowed into the rig boundary and that records are maintained on the number of persons within the rig boundary at a time.

3.21.4 Additional Requirements for Drilling Rigs

1. All diesel-operated engines shall be fitted with spark arresters at the exhaust. If operated in specified hazardous zones, they shall be certified to operate as per the classified zone (spark arresters to be fitted on engine exhaust and flammable gas automatic shut-off valve at air intake or similar system).
2. The rig shall have a designated air-conditioned hospital/sick room equipped with a treatment table (accessible from both sides), suitable lighting powered by mains and emergency sources, a medical cabinet (locked) for medicines and equipment (as per QatarEnergy inventory list), This room shall be connected to rig internal telephone system and easily identified on the telephone list.
3. Certified non-conducting rubber matting shall be placed around electric switchboards.
4. Air receivers shall be marked with Safe Working Pressure and have valid hydro test certificates. Their safety relief valves shall be calibrated and certified annually.

3.22 ROLES AND RESPONSIBILITIES

The roles and responsibilities of QatarEnergy and Contractors regarding HSE Management of Contracts are mentioned in the Guidelines for Managing HSE in Contracts (QP-REG-S-001) document.

4.0 VALIDITY PLAN

This Standard becomes effective immediately upon publication, as indicated by the document's ‘effective date’ stamped on the cover page. For grace or transition period, please approach QatarEnergy Corporate HSE&Q Department.

5.0 REFERENCES TO OTHER DOCUMENTS

TABLE 1: REFERENCES TO OTHER DOCUMENTS

Document Title	Doc Number	Internal/ External	Document Referencing
IOGP: HSE Management – Guidelines for working together in a Contract Environment	IOGP Report 423	External	N/A
Corporate Standard for Personal Protective Equipment	CORP-SAF-STD-036	Internal	Sideways
Procedure for Managing HSE in Contracts	HSEPR-QP-11	Internal	Sideways
Guidelines for Managing HSE in Contracts	HSEGL-QP-11-01	Internal	Sideways
Corporate Standard for Lifting Equipment and Operations	QP-PAI-STD-005	Internal	Sideways
Manual Handling Operation Regulations, UK 2002	-	External	N/A
Control of Substance Hazardous to Health Regulation	COSHH Regulations 2002	External	N/A
Standard for the Mobilization and Use of Construction Equipment in Live QatarEnergy Assets	VP-CON-STD-084	Internal	Sideways
Corporate Procedure for Management System Audit	QP-IMS-PRC-003	Internal	Sideways
Standard for Diving Operations	ORP-MAR-STD-001	Internal	Sideways
Procedure For Excavation at Halul Terminal	OM(O)-SAF-PRC-091	Internal	Sideways
Standard for Ergonomics and Human Factor	CORP-OHH-STD-004	Internal	Sideways
Safe Handling of Chemicals	IP-SF-008	Internal	Sideways
Workplace (Health, Safety and Welfare) Regulations, UK, 1992	-	External	N/A

Document Title	Doc Number	Internal/ External	Document Referencing
American Society of Heating, Refrigeration, and Air Conditioning Engineers	Standard 55 – 1992 to 2000	External	N/A
Industrial Ventilation Manual, ACGIH	ACGIH, 2004	External	N/A
Control of Substances Hazardous to Health Regulations(amended), UK, 2004	-	External	N/A
US Federal Food, Drug, and Cosmetic Act (amended), 2004	-	External	N/A
Corporate Philosophy for Fire and Safety	QP-PHL-S-001	Internal	Sideways
Qatar Environment Protection Law	Decree-law No. 30 of 2002	External	N/A
Standard for Environmental Requirements in Site Preparation of New Projects and Abandonment & Restoration of Facilities	QP-ENV-STD-040	Internal	Sideways
QatarEnergy Standard for Diving Operations	ORP-MAR-STD-001	Internal	Sideways
Corporate Standard for Emergency Preparedness and Response	QP-BCM-STD-011	Internal	Sideways
Procedure for Response to Infectious Disease Suspected/ Confirmed Cases (Covid 19)	OM(O)-OHH-PRC-089	Internal	Sideways
Corporate Standard for Hand Protection	CORP-SAF-STD-017	Internal	Sideways
Corporate Procedure for HSE Incident Reporting Investigation and Learning	QP-HSE-PRC-022	Internal	Sideways
Corporate Standard for Environmental Noise	CORP-ENV-STD-007	Internal	Sideways
OSHA Standard 29	29 CFR 1019.134	External	Sideways

Document Title	Doc Number	Internal/ External	Document Referencing
Corporate Standard for Health Risk Assessment	CORP-OHH-STD-041	Internal	Sideways
Corporate Standard for Food Safety	CORP-OHH-STD-021	Internal	Sideways
Corporate Standard for Smoking	CORP-SAF-STD-016	Internal	Sideways
Corporate Standard for Noise Hearing Conservation Program	CORP-OHH-STD-079	Internal	Sideways
Corporate Standard for Basic Life Support and First Aid Requirements	QP-OHH-STD-016	Internal	Sideways
Corporate Standard for Working at Heights	CORP-SAF-STD-042	Internal	Sideways
Excavation Procedures Operations - Dukhan Fields	IP-OPS-032	Internal	Sideways
Corporate Standard for Worksite Safety	QP-SAF-STD-004	Internal	Sideways
QatarEnergy Corporate Standard for Gas Cylinders	CORP-SAF-STD-019	Internal	Sideways
Corporate Standard for Radiation Safety	CORP-SAF-STD-056	Internal	Sideways
Corporate Standard for Managing NORM	CORP-SAF-STD-002	Internal	Sideways
Corporate Standard for HSE Incident Reporting Investigation Learning	QP-HSE-STD-021	Internal	Sideways
Corporate Standard for Waste Management	QP-ENV-STD-004	Internal	Sideways
Guideline for Waste Management	QP-ENV-GDL-006	Internal	Sideways
Procedure for Waste Management	QP-ENV-PRC-005	Internal	Sideways
Environmental Assessment and Authorisation for Capital Projects	IP-ENV-001	Internal	Sideways

Document Title	Doc Number	Internal/ External	Document Referencing
Guideline for Environmental Assessment in Projects	QP-GDL-V-003	Internal	Sideways
Corporate Procedure for Lifting Equipment and Operations	CORP-ENG-PRC-038	Internal	Sideways
Corporate Guideline for Process Safety Fundamentals	CORP-HSE-GDL-012	Internal	Sideways
Corporate Standard for Job Hazard Analysis (JHA)	CORP-OHH-STD-040	Internal	Sideways
Corporate Procedure for Enhancing Contractor HSE Performance	CORP-SAF-PRC-006	Internal	Sideways
Corporate Procedure for HSE Performance Monitoring and Reporting	QP-HSE-PRC-001	Internal	Sideways
Corporate Guideline for Qualitative HSE Risk Assessment Criteria	CORP-HSE-GDL-071	Internal	Sideways
Corporate Standard for Abandonment of Fixed Offshore Installations (Topsides and Jackets)	CORP-ENV-STD-034	Internal	Sideways
Corporate Standard for Road Safety	QP-SAF-STD-032	Internal	Sideways
Code of Practice for Life-Saving Rules	QP-SAF-COP-021	Internal	Sideways
Safe Escort for Transport of Abnormal Loads	QP-RTS-G-001	Internal	Sideways
Corporate Standard for HSE Risk Management	QP-HSE-STD-100	Internal	Sideways
Procedure for the Control of Hot Work	IS-PRC-HSE-046	Internal	Sideways
Procedure for Abrasive Blasting on Live Equipment	OMM-HSE-PRC-502	Internal	Sideways
Procedure for Abrasive Blasting on Live Pipelines	OMM-HSE-PRC-503	Internal	Sideways

Document Title	Doc Number	Internal/ External	Document Referencing
Procedure for Abrasive Blasting on Live Pipelines	OMD-QAL-PRC-021	Internal	Sideways
Corporate Standard for Major Accident Hazard Management	QP-MAH-STD-001	Internal	Sideways
Corporate Standard for ALARP Demonstration	QP-MAH-STD-040	Internal	Sideways

6.0 DEFINITIONS

TABLE 2: KEY TERMS DEFINED

Term	Definition
Accident	An accident is any unplanned event or chain of events that has resulted in actual injury, illness, damage, or loss. All accidents are therefore incidents, but not all incidents are accidents.
ALARP	It refers to the reduction of risk to a level where the cost of further risk reduction is grossly disproportionate when compared to the actual risk reduction that would be achieved.
Assigned Protection Factor	The minimum level of respiratory protection that a respirator can be expected to provide, assuming it is properly fitted, worn, and functioning.
Contract	A written and legally binding agreement between the Corporation and another party which details the terms and conditions under which such party performs works and/or supplies products or services in return for payment
Low-Risk Contracts	Contractors that are engaged in work or services involving low HSE risk in non-hazardous areas where the likelihood of incidents with high severity is low
Contract Holder	A person appointed in writing within the Sponsor department who is responsible for making and managing all aspects of the Contract. They are sometimes called a Job Officer.
Contract HSE Assessment	A detailed determination of the HSE issues associated with the Contract and the arrangements that would be used to address the issues. Apart from risk assessment, it also involves the identification of applicable legislation, the definition of

Term	Definition
	organizational interfaces, roles, and responsibilities, and the determination of training and competency requirements. In other words, it is an assessment of how the elements of the HSE Management System apply to the Contract and usually forms the basis for the HSE specification of the contract.
Contract HSE Plan	The HSE Plan of the contractor states how the HSE risks in the performance of the Contract shall be managed to meet QatarEnergy's HSE requirements for protecting people, assets, and the environment. It should cover the contract phases from pre-mobilization through contract execution to demobilization. It demonstrates the contractor's understanding of the requirements stated in the Contract HSE specification and should state the HSE Policy, Procedures, and Standards to be adopted in carrying out the Contract.
Contract HSE Specification	This refers to the HSE requirements defined for a particular Contract to eliminate or minimize the risk. It is usually based on the result of the HSE assessment for the Contract and forms the framework within which the contractor makes the contract HSE plan on which he is monitored.
Contractor	A party engaged by QatarEnergy to perform Works or Services under an Agreement.
Sub Contractor	A party engaged by the Contractor to perform part of the work or services of an existing contract entered between the Contractor and QatarEnergy.
Contractor Manager	The person named in the Contract to represent the Contractor in respect of the Contract and to be responsible for the management of the Contract. (In some cases, they are the Contractor's Project Manager)
Contractor Site Representative	The person appointed in writing by the Contractor Manager to assist the Contractor Manager in supervising the execution of the Contract activities on a given site. (In some cases, this is the Contractor's Site Engineer.)
Effect	An effect is either the consequence of not managing a hazard (e.g., loss of control) or the consequence of an intended release. An effect usually impacts negatively on the health and safety of people.
Electrical Equipment	Any producer, carrier, or consumer of electrical energy

Term	Definition
Fatality	An accident that results in the loss of life, or an injury that culminates in the death of the injured, regardless of the time intervening between injury and death.
Flammable Atmosphere	An atmosphere containing a quantity of flammable gas or vapour in a concentration capable of being ignited
First Aid Case	Any one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, etc., which do not ordinarily require medical care by a physician. Such treatment and observation are considered First Aid even if provided by a physician or registered professional personnel.
Hazard	Article, substance, or situation that has the potential to cause harm or damage. Hazards are further classified into physical hazards and hazardous atmospheres. Examples include Working at Heights, noise, electricity, machinery, chemicals, lifting and hoisting, etc.
Hazardous Area	An area in which there exists or may exist a flammable atmosphere. They are classified according to the IP Model Code of Safe Practice into Zone 0, Zone 1, and Zone 2.
Hazards & Effects Management Process (HEMP)	A systematic and structured method that ensures that all hazards are identified and assessed to determine the possible consequences of hazard release or exposure. It also goes further to put in place essential controls to eliminate or mitigate the release of hazards and to recover from a failure of such controls. It, therefore, helps reduce HSE risk to a level of ALARP.
HSE Pre-qualification	A procedure for analysing the HSE capabilities confirming the suitability of companies for inclusion on a list of Tenderers to be invited to submit Tenders for the performance of work or services of a high or medium-risk nature.
Incident	A general term for any unplanned event or chain of events which has, or could have caused, injury, illness, or damage to the environment or property.
Kick-off Meeting	A meeting conducted after the award of a Contract between the Contractor and QatarEnergy personnel to discuss the arrangements as well as requirements that shall be met and the issues that must be addressed both before the work or services in the contract would start and during the actual execution of the work or services.

Term	Definition
Lower Explosive Limit	The minimum concentration of flammable gas or vapour that will propagate flame when exposed to a source of ignition.
Lifting Equipment (LE)	A generic term used to cover lifting appliances, lifting gear, and Fall Protection Equipment (FPE). LE shall mean any equipment for lifting or lowering loads and includes its attachments used for anchoring, fixing, or supporting it. It includes any lifting accessories that attach the load to the lifting machine in addition to the equipment that carries out the actual lifting function.
Lost Time Injury (LTI)	A work-related injury renders the injured person unable to perform his regular job or Restricted Work on any day after the day on which the accident occurred. Note: if, in a single incident, 20 people receive lost time injuries, then it is accounted as 20 LTIs (not 1 LTI). Lost Time Injuries are the sum of Fatalities (FAT), Permanent Total Disabilities (PTD), Permanent Partial Disabilities (PPD), and Lost Workday Cases (LWC). LTI = (FAT+PTD+PPD+LWC)
Lost Workday Case (LWC):	Any work-related injury or illness, other than a fatal injury, which results in a person being unfit for work on any day after the day of occurrence of the occupational injury/illness. “Any day” includes rest days, weekend days, leave days, public holidays, or days after ceasing employment.
Medical Treatment Case (MTC)	A work-related injury/illness that requires treatment/care as a patient by or under the supervision of, or from the specific order of a physician, licensed healthcare professional, or hospital, but does not result in either a Fatality, Lost Workday Case, or Restricted Work case.
Method Statement	A work method statement is a document that details the way a work task or process is to be carried out. It gives a step-by-step guide on how to do the job safely, outlines the hazards involved, and the control measures that have to be introduced to ensure the safety of anyone or anything that will be affected by the task or process.
Mode 1	The Contractor provides people, processes, and tools for the execution of the contract under QatarEnergy’s supervision, instructions, and QatarEnergy’s HSE Management System. The Contractor has a management system to assure that the personnel for whom it is responsible are qualified and fit for the

Term	Definition
	work and that the processes, tools, materials, and equipment they provide are properly maintained and suitable.
Mode 2	The Contractor executes all aspects of the contract under its own HSE Management System, providing the necessary instructions and supervision and verifying the proper functioning of its HSE Management System. QatarEnergy is responsible for verifying the overall effectiveness of the HSE management controls put in place by the contractor, including its interface with subcontractors, and assuring that both QatarEnergy's and the contractor's HSE Management Systems are compatible.
Mode 3	The Contractor operates within its own HSE Management System that has no interfaces with QatarEnergy's HSE Management System. The Contractor is not required to report HSE performance data, including incidents, to QatarEnergy. However, this does not exclude the possibility that QatarEnergy may wish to guide and influence HSE performance under this type of contract.
Motor Vehicle Crash (MVC)	A work-related motor vehicle damage or personal injury due to a vehicle-related event or rollover. A motor vehicle is any mechanically or electrically powered device (excluding one moved by human power) upon which or by which any person or property may be transported upon a land roadway.
Near Miss	An incident that could have, but did not result in injury, illness, damage, product loss, environmental impact, or harm to the company's reputation.
Non-Accidental Death	Any case of death of a person either: - where there is no identifiable incident or trauma involved, or - that is the result of an apparent suicide.
Non-Hazardous Areas	An area not classified as zone 0, 1, or 2.
Naturally Occurring Radioactive Material	Naturally Occurring Radioactive Materials are present at varying concentrations in the Earth's crust. NORM also can be the waste product of oil and gas production and processing facilities.
Occupational Illness	Any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. Occupational illness may be caused by inhalation, absorption, ingestion, direct contact

Term	Definition
	with the hazard, and exposure to physical and psychological hazards. It will generally result from prolonged or repeated exposure.
Occupational Injury	Any injury such as a cut, fracture, sprain, amputation, etc., or any fatality that results from a work-related activity or exposure involving a single incident in the work environment, such as deafness from an explosion, one-time chemical exposure, back disorder from a slip/trip, insect, or snake bite.
Offshore Restricted Area	An area bounded by an imaginary circle, having a radius of 1 mile from an offshore installation such as SBMS, Wellhead Jackets, Production Stations, and Jack-up units.
Onshore Restricted Area	An area bounded by a fence that is not offshore.
Permanent Partial Disability (PPD)	Work injury that results in permanent loss of a body part (e.g., severed finger) or loss of use of a part of the body to perform work.
Permanent Total Disability (PTD)	Work injury that results in the complete inability of the injured person to perform any form of work permanently.
Process	Any activity involving a highly hazardous chemical, including any use, storage, manufacturing, handling, or the on-site movement of such chemicals, or a combination of these activities. For purposes of this definition, any group of vessels that are interconnected and separate vessels that are located such that a highly hazardous chemical could be involved in a potential release shall be considered a single process.
QatarEnergy Site HSE Representative	The person appointed in writing to assist the Contract Holder with site HSE supervision during contract execution activities on a given site or sites. This person should be either a Regional /Operational HSE, Responsible Management Representative (RMR), or from the Sponsor Department's HSE unit.
Radioactive Substances	A substance designated in national law or by a regulatory body as being subject to regulatory control because of its radioactivity.
Recordable Cases	These are incidents that form part and parcel of our regular safety statistics needed for HSE performance monitoring and review. They are Fatalities (FAT), Permanent Total Disabilities (PTD), Permanent Partial Disabilities (PPD), Lost Workday

Term	Definition
	Cases (LWC), Restricted Work Cases (RWC), and Medical Treatment Cases (MTC). Incidents outside the cases mentioned above are regarded as reportable but not recordable.
Regional/Operational HSE Adviser	A nominated person who is responsible for providing HSE-related advice to the line management with advice on HSE and management system issues in line with the QatarEnergy HSE General Mandate. In most cases, this person will be an HSE specialist. Accountability for HSE performance, however, does not lie with the HSE Adviser but with the concerned Line Management.
Restricted Area	A Restricted Area is defined as that area over which QatarEnergy exercises control of all movements and operations and where entry is granted only to those persons in possession of an official pass issued by the Corporation's Security Section, and/or an Authorized Police Pass. It includes offshore, onshore, and shore-connected jetty-restricted areas.
Restricted Work Case (RWC)	A work-related injury renders the injured person unable to perform his regular duties but results in a Restricted Work assignment on any day after the day on which the accident occurred. The Restricted Work assignment must be meaningful and pre-established or a substantial part of a regular job.
Risk	Risk is the combination of the likelihood (or probability) of an event occurring and the severity of the outcome. Risk = likelihood of an event X severity of outcome.
Risk Assessment	A risk assessment can be interpreted as a structured examination of work activity to identify what could potentially cause harm to the personnel, property, and environment, and how appropriate control measures should be put in place to eliminate or control identified risks.
Risk Assessment Matrix	A tool for determining risk. It consists of a two-dimensional matrix in which the horizontal axis represents the historical probability or likelihood of release of a hazard (harmful event) occurring while the vertical axis represents the severity of the consequences of release of the hazard.
Radiation Protection Officer (RPO)	An individual technically competent in radiation protection matters relevant to a given type of practice who is designated by

Term	Definition
	the registrant or licensee to oversee the application of the requirements of the standards.
Road Traffic Accident (RTA)	An Incident that has involved a vehicle, and which has resulted in actual Injury and/or damage (loss) of assets, the environment, or QatarEnergy's reputation. For Incident Reporting procedures, windscreen damage caused by thrown-up road debris, e.g., stone chips, shall not be statistically reportable unless more serious damage or personal injuries occur as a result.
Safety Critical Equipment	Any component, equipment, and/or system used to either prevent and/or reduce the consequence of a major accident or whose failure could result in, allow, or contribute to a major accident.
Scope of Work	The description, in established parameters, of the work required to achieve the objectives of a project or activity.
Shall	Throughout this document, "shall" means that an activity or requirement is mandatory.
Short-Term Exposure Limit	The concentration to which it is believed that workers can be exposed continuously for a short period (15 minutes) without suffering irritation, chronic or irreversible tissue damage, and narcosis, and it should also not occur more than 4 times a day with at least 1 hour between each excursion.
Sponsoring Department	A QatarEnergy directorate or department with the relevant competencies to carry out or supervise the complete delivery of works and/or Services according to its mandate. In the case of Procurement of Goods, the Supply Chain Department shall be the Sponsoring Department.
Tenderer or Bidder	Any natural or juristic person who submits a Tender to QatarEnergy in response to an Invitation to tender for a Contract
Third-Party	An individual group or person who has no direct or business relationship with QatarEnergy
Toxic Atmosphere	An atmosphere containing material that may cause injury or death to personnel exposed to it without adequate protection.
Unrestricted area	An unrestricted area is defined as the QatarEnergy area adjacent to a restricted area.

Term	Definition
Vibration	Typically, an oscillatory motion of a mechanical system or body. The magnitude of the vibration can be described by the displacement (mm) of this motion above some reference point or by the rate of change of this displacement [i.e., velocity (m/s) or acceleration (m/s^2)] regarding time.
Service Level Agreement (SLA)	A contract between a service provider and its customers that documents what services the provider will furnish and defines the service standards the provider is obligated to meet.
Working at Height	Working in any place, including a place at or below ground level, along with access and egress (except by a staircase in a permanent workplace) where, if the measures required by this Standard were not taken, a person could fall a distance liable to cause personal injury.
Zone 0	A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour, or mist is present continuously or present for long periods or frequently.
Zone 1	A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour, or mist is likely to occur in normal operation occasionally.
Zone 2	A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour, or mist is not likely to occur in normal operation but, if it does occur, persists for a short period only.

APPENDIX

APPENDIX A – CONTRACTOR'S MONTHLY HSE PERFORMANCE REPORT FORM (CORP-HSE-STD-080-A)

MCHS DATA SUBMISSION TEMPLATE: CONTRACTOR's MONTHLY HSE PERFORMANCE REPORT FORM

Only the MS Excel version of this form shall be used to obtain from Contractors the data for easy upload to the Monthly Contractor HSE Performance Submission System (MCHS database). The contractor's performance on the other Safety KPIs, such as LTIF, TRIR, RTAF, TROIF, etc., will be calculated automatically by the Monthly Contractor HSE Performance Submission System (MCHS) when the data below is uploaded into the system.
All monthly returns submitted on a form should be for the previous calendar month only (i.e., the month that just ended).

HSE STATISTICS FOR THE MONTH OF:		**Reporting Period Ends:** (Last day of the Month, Date Format =DD/MM/YYYY)		**RISK Level:** (Low/medium/High)	
CONTRACT NUMBER:		**CONTRACT TITLE:**			
SPONSOR DEPARTMENT:		**CONTRACTOR:**			
AREA: (Mandatory)		**LOCATION:** (Mandatory)		**SITE:** (Optional, please specify)	
CONTRACT START DATE (DD/MM/YYYY)**:**			**CONTRACT END DATE** (DD/MM/YYYY)**:**		

S/N	HSE PERFORMANCE INDICATOR / PARAMETER	Number/ Value for this month*	Remarks	S/N	HSE PERFORMANCE INDICATOR / PARAMETER	Number/ Value for this month*	Remarks
1	EMPLOYEES THAT WORKED UNDER THIS CONTRACT**			19	NON-ACCIDENTAL DEATHS REPORTED (NAD)		
2	MAN-HOURS WORKED (INCLUDING ANY OVERTIME, EXCLUDING ABSENCES SUCH AS LEAVE SICK-OFF, ETC.)			20	MOTOR VEHICLE CRASHES / ROAD TRAFFIC ACCIDENTS (MVC/RTA)		
3	FATALITIES (FAT)			21	FIRE INCIDENTS		
4	PERMANENT PARTIAL DISABILITIES (PPD)			22	ASSET DAMAGE ACCIDENTS		
5	PERMANENT TOTAL DISABILITIES (PTD)			23	QUANTITY OF HAZARDOUS WASTE GENERATED (Kg)		
6	LOST WORKDAY CASES (LWC)			24	QUANTITY OF NON-HAZARDOUS WASTE GENERATED (Kg)		
7	LOST WORKDAY CASE DAYS			25	NUMBER OF SPILL / LEAK INCIDENTS		
8	RESTRICTED WORK CASES (RWC)			26	NUMBER OF PERSONNEL THAT WENT THROUGH HSE INDUCTION		
9	RESTRICTED WORK CASE DAYS			27	NUMBER OF PERSONNEL HSE TRAINED		
10	MEDICAL TREATMENT CASES (MTC)			28	NUMBER OF TOOLBOX TALKS HELD		
11	FIRST AID CASES (FAC)			29	HSE MEETINGS HELD		
12	NEAR MISSES (NMs)			30	NUMBER OF HSE INSPECTIONS HELD		
13	UNSAFE ACTS / AT-RISK BEHAVIOUR OBSERVATIONS / "STOP CARD UNSAFE" REPORTED			31	NUMBER OF HSE AUDITS HELD		
14	UNSAFE CONDITIONS REPORTED			32	RECOMMENDATIONS FROM HSE AUDITS / INSPECTIONS CONDUCTED		
15	SAFE BEHAVIOUR OBSERVATIONS / "STOP CARD SAFE" REPORTED			33	RECOMMENDATIONS FROM HSE AUDITS / INSPECTIONS CLOSED OUT		
16	HEAT STRESS INCIDENTS REPORTED			34	EMERGENCY DRILLS PLANNED		
17	RECORDABLE OCCUPATIONAL ILLNESSES REPORTED			35	EMERGENCY DRILLS HELD		
18	CALENDAR MAN-DAYS LOST DUE TO SICKNESS ABSENCE						

** Please enter only numbers in the "Value" column (not text). Otherwise, the MCHS system will not accept the data.*
***The average number of employees should be used if they fluctuate from day to day during the month.*

S/N	MONTHLY LOGISTICS STATISTICS	NO. OF VEHICLES/CRAFTS	KILOMETRES DRIVEN / FLIGHT HOURS (for Aircraft)
36	HEAVY VEHICLES (>3500 KG)		
37	LIGHT VEHICLES (CARS, ETC)		
38	MARINE VESSELS (MV'S)		
39	AIRCRAFT (HELICOPTERS)		

Report Compiled and submitted by:	**Data uploaded by:**	**Reviewed and approved by:**	**Reviewed and endorsed by:**
Name of CONTRACTOR personnel submitting the report:	**SPONSOR DEPT. FOCAL POINT (Name):**	**CONTRACT HOLDER (Name):**	**QatarEnergy LINE HSE ADVISER (Name):**
Position in Company:	**Ref. Ind:** **Sign:**	**Ref. Ind:** **Sign:**	**Ref. Ind:** **Sign:**
I certify that all the data submitted is validated and accurate. **Sign:** **Date:**	**Date:**	**Date:**	**Date:**

APPENDIX B - GENERAL SPECIFICATION FOR CONTRACTOR COMPOUND AND ACCOMMODATION (CORP-HSE-STD-080-B)

The Contractor shall construct and maintain a temporary compound and accommodation for site staff, complete with electricity, messing, potable water storage and distribution, diesel fuel storage, and sewage/effluent water disposal facility if applicable.

The Contractor shall prepare and submit a detailed design and specification of the accommodation for the approval of QatarEnergy before construction, if applicable.

The Contractor will be allocated an area by QatarEnergy to erect his camp as deemed fit. At the end of the Contract, the Contractor has to demobilize his camp. However, the Contractor must first ascertain that such accommodation requirement is unavailable in existing QatarEnergy approved Worker' Accommodation Facilities operated by Third Party(s).

Below are the general requirements for contractor compound and accommodation.

1. Specifications And Conditions

a. The Fire Rated Porta Cabins shall be installed on a location as allocated by QatarEnergy.
b. Any further additions to the Contractor campsite, if already existing, require the specific and separate approval of QatarEnergy.
c. Site preparation, as well as the provision of all connections to the Fire Rated Porta Cabins (e.g., water, power, and sewerage), is the responsibility of the Contractor. The above shall be in line with the established QatarEnergy Standards and are subject to final approval by QatarEnergy's Representative.
d. The campsite should be equipped with a water header tank and water meter to measure bulk consumption.
e. Temporary accommodation and ancillary facilities should comply with specific minimum standards of construction and hygiene, as follows:

- Overcrowding shall not be allowed; a minimum of 6 square meters per person should be allowed for a maximum of 4 persons per room.
- Additionally, a minimum of one toilet per 6 persons, one wash basin, and one shower per 6 persons shall be provided.
- Kitchen facilities and/or food preparation shall not be allowed in the sleeping accommodation.
- All food shall be stored, cooked, and consumed in designated areas (canteen).
- Where "Porta Cabin" type accommodation is used, these shall be constructed following the general specifications for Fire Rated Porta Cabins (see below) as a minimum requirement.
- Waste material shall be separated into combustible and non-combustible wastes. The Contractor shall supply and use their own disposable plastic garbage bags and deliver all combustible wastes to a designated burning facility using their own means. Non-combustibles shall be placed in plastic bags into dedicated skips/containers for transportation to a dedicated area.
- All kitchen equipment, including electrical appliances, utensils, crockery,cutlery, etc., should be of a Standard acceptable to QatarEnergy.

- "As built" diagrams and drawings are to be supplied to QatarEnergy's representative on completion of the installation.

f. Maintenance of the accommodation and associated facilities supplied/ erected by the contractor is the contractor's responsibility and should be in line with QatarEnergy Standards. Defects are to be rectified, and the installation shall be safeguarded against fire, safety, and hygiene hazards.
g. QatarEnergy reserves the right of access to, and inspection of, the facilities at any time. Wherea satisfactory Standard of maintenance and hygiene is not maintained, QatarEnergy reserves the right to ban further occupation until the required works have been completed.
h. Upon completion of the Contract, the Contractor shall dismantle the campsite area.
i. The Contractor shall provide his own SEPTIC TANK and shall make his arrangements for sewage and effluent water disposal subject to the approval of QatarEnergy's Health & Hygiene Officer.

2. Cleanliness, Public Health, And Sewage

The Contractor shall take great care and all reasonable precautions to ensure that roads and thoroughfares used by him either for the construction of the works or for thetransport of plant, labour, and materials are not made dirty as a result of such construction or transport. If they become dirty, the Contractor shall immediately take all necessary steps to clean them.

The Contractor shall always keep his camp and worksite clean to the satisfaction of the QatarEnergy Representative.

In all public health matters, QatarEnergy's policies shall apply, and the decisions of QatarEnergy's Public Health Officer shall be mandatory.

3. Protection Of Roads and Reinstatement

The Contractor shall use all reasonable means to prevent the roads communicating with the site from being subjected to excessive weights or extraordinary traffic by any of the Contractor's vehicles or subcontractors. On completion of the Contract, the Contractor shall reinstate all disturbed land surfaces, whether within or out of the site's boundaries, at his own expense and to the satisfaction of QatarEnergy's Representative.

4. Construction Plant, Tools, Equipment, Power, etc.

The Contractor shall provide all construction plant, tools, and equipment, including lubricants, and all storage facilities necessary to enable him to carry out the work at his own cost in line with contract requirements. The Contractor shall arrange to import any soil, stones, sand, and aggregate required for construction works and backfill.

The Contractor shall ensure that all diesel-operated engines are fitted with manufacturer-approved or 3rd party inspected spark arrestors at the exhaust and overspeed shutdown valve in the engine's air intake system.

Before being used on the QatarEnergy premises, all electrical equipment shall be approved in writing by the QatarEnergy representative. Electrical equipment includes mains-powered equipment, lamps, portable tools, flexible cables, switchgear, motors,

battery-powered equipment, electrical equipment powered by diesel-driven engines, etc. QatarEnergy may provide power generation; however, if the Contractor is to provide its power generation, installations and pre-start-up shall be subject to QatarEnergy's approval.

The Contractor shall be responsible to install, use, and maintain all portable electrical equipment in their possession in a safe and good condition.

5. Supply Of Diesel Fuel on Halul Island

The diesel fuel may be provided by QatarEnergy at a nominal charge (to be advised by the concerned QatarEnergy department) every month against a consumption program tobe submitted by the Contractor to QatarEnergy monthly in advance.

If QatarEnergy agrees to provide diesel fuel, the Contractor shall provide a bowser of not more than 10 bbl. (15,900 litres) capacity for transporting diesel fuel to their storage tank. QatarEnergy reserves the right to inspect the equipment provided for this purpose at any time.

The Contractor, at his own expense, shall provide a diesel storage tank for his power generator and vehicles. The tank shall be segregated from hot areas such as generators, cutting or welding, etc., by a firewall and be surrounded by a bund wall tocontain the contents of the fuel dump + 50%.

6. Supply Of Potable and Industrial Sweet Water on Halul Island

QatarEnergy may supply potable and industrial sweet water in controlled quantities for reasonable use.

The Contractor, at his own expense, shall erect an overhead water tank(s) complete with plumping and water connections. QatarEnergy reserves the right to inspect the facility at any time.

7. Medical Facilities

QatarEnergy operates clinics in operational areas where first-aid treatment for minor injuries can be obtained. In the event of a serious injury, QatarEnergy shall offer the Contractor assistance in treating and evacuating the victim by appropriate means; any such evacuation shall be at the Contractor's expense.

However, regardless of any medical assistance that QatarEnergy may offer, QatarEnergy accepts no liability as a consequence of its provision, and the Contractor shall remain wholly responsible for the wellbeing of his personnel and for all cost/claims and other charges which may arise in connection with or in consequence of injury to his personnel.

8. Fire Extinguishers

Fire extinguishers shall be provided for all accommodation units, including the kitchen, mess room, recreation rooms, clinic, and radio (if applicable). Further firefighting facilities shall be provided for magazines, fuel tanks, vehicle parking areas, power generator rooms, and workshops.

9. Fire Detectors, Manual Call Points, and Notification Appliances

Fire detectors, manual call points, and audible and visible notification appliances connected to a local fire alarm system shall be provided for all camp units, including accommodation, kitchen, mess room, recreation rooms, clinic, radio room (if applicable), paints store, explosive store, and workshops.

10. Firewater Storage Tank

In areas without fire hydrants, at least 5,000 gallons of firewater storage tank fitted with 5'' STORZ coupling shall be provided at a strategic location. However, in certain cases and/or large Temporary Site Facilities (TSF) areas, a firewater network along with hydrants connected to fire pumps might be required upon a decision by QatarEnergy.

11. Exits, Emergency Lights, and Muster Points

Continuous illuminating exit signs and emergency lights shall be provided for temporary buildings where required by NFPA 101. Adequate numbers of muster points with signage shall be provided at strategic and safe locations.

12. Illumination

The camp roads shall be provided with a lighting system so that the camp facilities and roads and external areas around camp facilities can be seen clearly at all times during the hours of darkness. Similarly, emergency response equipment shall be kept in well-illuminated positions. Muster areas shall be indicated and illuminated.

13. Contractor Camp Layout

The camp is often sited in areas within the QatarEnergy sphere of responsibilities. The camp represents the primary life support system for Contractor personnel living in it. Due consideration must be given to the segregation of hazardous materials and equipment, such as explosives, detonators, fuel, paint, etc., from personnel accommodation and related facilities.

In considering the layout, four factors shall be borne in mind:

- Prevailing wind

  The prevailing wind will influence the spreading of fire.

- The slope of the ground

  The slope of the ground will influence the drainage. Therefore, the slope of the ground should be such that the drainage should be naturally away from the camp; that is to say, the camp should be on higher ground.

- Power generator noise

  The power generator should be on the lee side of the camp, situated well away from the accommodation.

- Fire & emergency apparatus access roads

  The distance between the magazines and accommodation depends on the quantity of hazardous materials stored. If the distances in the following section are impractical,

shorter distances should be considered, provided that the risk is evaluated and reduced by other means.

14. Recommended Distance for Camp Facilities

a. Explosive magazine - 100 meters from the fuel tank, paint store or accommodation
b. Main fuel tank - 100 meters from accommodation or explosive magazine
c. Power generator - 30-50 meters from the accommodation.
d. Waste disposal pits - 30 meters from the accommodation area.
e. Septic tank - 30 meters away from any water supply and 30-40 meters away from the camp accommodation.
f. Dedicated food and water storage should be set up separately from the fuel storage area.
g. Volatile materials such as petrol or kerosene - 30 meters from other magazines and accommodations.
h. Roads inside the camp shall be 6 meters wide for the main roads and 4 meterswide for secondary roads.
i. A spacing of 2-3 meters between individual portacabin blocks shall be maintained.

15. Camp Site Preparation

Location: The QatarEnergy Area Operations Manager shall allocate a suitable area for the Contractor's camp.

Size: The size shall be sufficient to contain accommodation, magazines, workshops, etc. using recommended distances.

Site: The site and an area of 30 meters around the site shall be cleared of all rubbish and dry grass.

Fencing: Local conditions may make it necessary to control the admittance of persons by fencing the whole or part of the site. However, a minimum of two openings (gates) shall be provided; the width and height of the gates shall be sufficient for the fire truck to access the site.

APPENDIX C - REVISION HISTORY LOG

TABLE 3: REVISION HISTORY LOG

Revision Number: 4 **Date: 01/02/2024**

Item Revised	Revision Description	Page No.
All	The document has been updated in line with QMR requirements. The document is condensed for easy navigation by removing obsolete and irrelevant information. References updated.	All
Remarks: This document replaces QP-REG-S-001 Rev 03 - QP HSE Regulations for Contractors.		