Methodology for the Assessment of the Safety Report

The HSE Case demonstrates how a Drilling Contractor's organisation applies a systematic risk management approach to maintain and improve HSE and operational performance. Developing and maintaining an HSE Case provides continuous assurance that existing HSE risks are effectively managed and provides assurance that risks associated with changes to equipment, activities or locations, as well as systemic weaknesses identified by incident analyses and audits will be effectively managed.

These methodology contain several Parts which, when applied in combination, may be used by the Drilling Contractor to develop an effective HSE Case for HSE Management Assurance.

Part 1– HSE Case Introduction
Part 2 – Drilling Contractor's Management System
Part 3 – MODU/Rig Description and Supporting Information
Part 4 – Risk Management
Part 5 – Emergency Response
Part 6 – Performance Monitoring

Part 1 – HSE Case Introduction

An HSE Case has two primary purposes:

1. Demonstrate internal assurance within the Drilling Contractor's organisation that its management system's risk reducing controls related to the Health, Safety and Environment aspects of its operations, meets its senior management's expectations, and
2. where applicable, demonstrate to the Drilling Contractor's external stakeholders that its management system's risk reducing controls meet stakeholder's expectations.

A/A	Description	Yes	Imperfect	No	Comments
1.1 INTRODUCTION					
	In the HSE Case a small introduction should be included describing the content of the HSE Case.				
1.2 EXTERNAL STAKEHOLDERS HSE CASE EXPECTATIONS					
1.2.1	<u>Senior Management Demonstration</u> - A completed HSE Case that provides assurance within the Drilling Contractor's organisation that its management system's risk reducing controls related to the Health, Safety and Environment aspects of its operations, meet its senior management's expectations. - A completed HSE Case that assures external stakeholders that the Drilling Contractor's management system's risk reducing controls meet agreed expectations.				
1.2.2	<u>HSE Case Scope and Arrangements</u> Description of the arrangements for providing assurance and verification that the expectations as outlined above are met.				

1.2.3	<u>Drilling Contractor Overview</u> Brief summary of the Drilling Contractor's organisation including: - name and address of head, regional and or field offices - history and relationships with parent company (if applicable) - scope of operations provided				
1.2.4	<u>HSE Case Responsibilities</u> - Identification of position(s) in the organisation with overall ownership and responsibility for the HSE Case. - Identification of position(s) with responsibility for ensuring that the HSE Case is implemented and complied with. - Identification of position(s) with responsibility for updating and periodically reviewing the HSE Case. - Brief description of these responsibilities. - Positions and experience of individuals who participated in the development of the HSE Case.				
1.2.5	<u>HSE Case Reviews and Updates</u> - Statement of the Drilling Contractor's commitment to review and update the HSE Case. - Description of the criteria which would initiate a review of the HSE Case information. - Description of the arrangements (including responsibilities) for reviewing and updating the HSE Case information.				

1.2.6	<u>Continuous Improvement</u> Statement of the Drilling Contractor's commitment to continuous improvement, by: - Applying and contributing to the identification and development of industry standards and best practices. - Participating in the development of legislation and regulations. - Reviewing and assessing new technology. - Reviewing and assessing the application of new legislations and regulations and implementing necessary changes within their management system.				
1.2.7	<u>Action Plan / Recommendations</u> - Arrangements for the review of recommendations identified during the Risk Assessment process. - Arrangements for follow-up and close-out of agreed corrective actions. - Arrangements for verifying the close-out of all recommendations.				
1.2.8	<u>HSE Case Presentation</u> A very brief description of the structure and content.				
1.2.9	<u>Regulatory Requirements</u> Description of arrangements to establish and maintain compliance with applicable regulatory requirements.				
1.2.10	<u>HSE Management</u> Arrangements for monitoring and confirming that effective HSE management has been implemented and is maintained.				
1.2.11	<u>Environmental Impact and Aspect Assessments</u> - Confirmation that systematic environmental impact and aspect identification and assessment has been carried out. - Confirmation that the associated risks have been reduced to meet legislative/regulatory environmental requirements.				

1.2.12	Justification for Continued Operation - Commitment to operate the rig or MODU in accordance with the arrangements detailed in the HSE Case. - A statement that there is an effective management system in place for systematically managing all HSE hazards (including environmental aspects); - A statement that a rigorous process has been applied to identify potential hazards; - A statement that the risks associated with these hazards (both major and other workplace hazards) have been identified, assessed and are being managed to a tolerable level; - A statement that all the relevant regulatory HSE requirements are being complied with; - A commitment to complete all agreed corrective actions identified in the Risk Assessment (Part 4); - A statement of justification for continued operation that is supported by screening criteria applied in Part 4 and related to relevant regulations, industry norms and good practices; and company objectives. - A statement of the senior management commitment to operate the MODU or rig in accordance with the conclusions from the HSE Case including those represented in the Summary of Operation Boundaries (SOOB).				
1.3 DESIGN AND COMMISSIONING OF NEW FACILITIES					

	- Major hazards (See Part 4) are identified early in the design phase and a strategy is developed for reducing the risks associated with these hazards to a tolerable level. - Other workplace hazards, particularly acute or chronic hazards are addressed to reduce the risks associated with these hazards to a tolerable level. - Applicable regulations, recognized codes, standards and industry practices that will used in the design of the facility are clearly identified. - Specialized studies are undertaken and the results are considered, as necessary. - HSE critical equipment and systems are identified. - A program for training the facility crew Is developed such that the training and competency objectives of the HSE Case will be met when the facility is placed in service. - The HSE Case is available at the time of commissioning.				

Part 2 – Drilling Contractor's Management System

Drilling Contractor's Management System describes the Drilling Contractor's management system and presents HSE management objectives that must be met to demonstrate assurance that HSE risks are reduced to a tolerable level.

A/A	Description	Yes	Imperfect	No	Comments
2.1 POLICIES AND OBJECTIVES					
2.1.1	Policies HSE policy(s) clearly state the company's expectations				
2.1.2	Objectives Information on how HSE management objectives are established and updated				
2.2 ORANISATION, RESPONSIBILITIES AND RESOURCES					
2.2.1 Organisation					
2.2.1.1	Organisation Organisation charts showing the management and support team structure to enable compliance with the policy(s) and achievement to the HSE management objectives. Details of HSE management responsibilities assigned to organisational positions.				
2.2.1.2	Document Management Description of the document management system. Method for ensuring that all personnel are informed about procedures applicable to their assignment.				
2.2.1.3	Workforce Participation Programmes that recognize and encourage the contribution of the workforce in HSE management activities.				

2.2.1.4	MODU or Rig Organisation An organisation chart showing the Offshore Installation Manager (OIM) and his management/ supervisory team. Roles and responsibilities for the members of the management/ supervisory team.				
2.2.2 Responsibilities					
2.2.2.1	Senior Management Responsibilities A summary of senior management's responsibilities in HSE management activities.				
2.2.2.2	Line Management Responsibilities Details of line management's HSE responsibilities and authorities.				
2.2.2.3	Individual Responsibility and Authority Arrangements for ensuring HSE responsibilities and authorities are established for employees, contractors and the 3rd parties at the drilling contractor's locations and MODUs/rigs.				
2.2.2.4	Regulatory Requirements Arrangements and responsibilities for identifying and advising on relevant regulatory requirements.				
2.2.3 Resources					
2.2.3.1	HSE Resources The arrangements and responsibilities for providing adequate resources for HSE management activities.				
2.2.3.2	HSE Committee Representation Establishment of HSE Committee. Selection of HSE Representatives. Responsibilities and training for HSE Representatives. Frequency of HSE Committee Meetings and arrangements for taking minutes and tracking action items for follow up and close out.				

2.2.3.3	Support Description of the support organisation and the arrangements to provide the necessary resources to meet the HSE management objectives.				
2.2.3.4	Clients Arrangements for identifying and agreeing on HSE interfaces with the client.				
2.2.3.5	Client's Third Parties Arrangements for identifying and agreeing on HSE interfaces with the client third parties.				
2.2.3.6	Catering and Accommodation Arrangements for: a) ensuring accommodation and rest facilities are maintained to appropriate standards, b) ensuring high standards of hygiene for storage, handling and preparation of food and drink, and c) disposal of food waste and other accommodation waste.				
2.2.3.7	Medical Support Details of the medical support arrangements. Protocols for all reasonable medical conditions affecting male and female employees (including pregnancy).				
2.2.3.8	Selection of Contractors Establishment of a contractor selection process that gives consideration to the capability of the contractor to manage HSE critical/hazardous activity responsibilities.				
2.2.4 Competence					
2.2.4.1	Selection of Drilling Contractor's Personnel Details of positions that have HSE critical activity or hazardous activity or environmental oversight responsibilities.				

2.2.4.2	Selection of Contractor Personnel Statement about the selection process applied for the selection of contractor staff assigned to positions with HSE critical/hazardous activity responsibilities.				
2.2.4.3	Competence Assessment and Records Description of the competence assessment arrangements. Description of the performance appraisal system. Reference to the list documenting all identified HSE critical/hazardous activities, the individuals who are assigned responsibilities for each HSE critical/ hazardous activity, the required competence criteria, and verification that this competence has been attained and is current.				
2.2.4.4	Training Details of the training program are available. Arrangements for ensuring that relevant HSE training is provided and recorded.				
2.2.4.5	Induction Programme Details of the induction programme for all new employees and transferees.				
2.3 STANDARDS AND PROCEDURES					
2.3.1	Planning and Risk Management Arrangements to ensure task plans with risk assessments are developed for all work activities.				
2.3.2	Management of Change Description of the change management procedures, assuring that such procedures address, as appropriate.				
2.3.3	Emergency Response Arrangements for developing and maintaining the emergency procedures. Arrangements for ensuring the competence of personnel with emergency response responsibilities.				

2.3.4	Permit to Work System A summary of the PTW arrangements for employees, clients, and third-parties. Criteria determining when a PTW is required. Details of the PTW training provided.				
2.3.5	Safe Working Practices Procedures and instructions for general safety systems and safe working practices.				
2.3.6	Environmental Management Environmental policies, objectives and targets are clearly defined either as part of the organisation's integrated HSE policies and objective statements, or as separate documents. HSE management processes and documentation take account of the environment.				
2.3.6.1	Environmental Protection Drilling Contractor's environmental protection policies and objectives. Environmental protection plan.				
2.3.6.2	Management of Waste Drilling Contractor's waste management policies and objectives. Waste management plan.				
2.3.7	Occupational Health Drilling Contractor's occupational health policies and objectives. Arrangements for maintaining and applying Material Safety Data Sheets (MSDS). Occupational health controls in the workplace				
2.3.8	HSE Procedures Arrangements for developing, maintaining, implementing and reviewing written HSE procedures.				
2.3.9	HSE Communication Description of the HSE meeting structure and arrangements with defined responsibilities.				

2.3.10	HSE Alerts and Bulletins Arrangements for issuing and responding to HSE alerts and bulletins.				
2.3.11	MODU/Rig Security Drilling Contractor's security policies and objectives.				
2.3.12	Drilling and Well Control Operations Information on the competency or training requirements for members of drill crew.				
2.3.12.1	Simultaneous and Combined Operations Internal arrangements for creating, agreeing and implementing HSE Management interfaces. Description of arrangements for carrying out reviews and revisions of the Drilling Contractor's Hazard Register from previous structured hazard identification, assessment and control activities to address new planned simultaneous or combined operations.				
2.3.13	Marine Operations and Site Assessment Arrangements for acceptance of client provided site specific information and for performing location specific assessments. Information on the competency requirements for members of marine crews and on the marine procedures.				
2.3.13.1	Adverse Weather The adverse weather policy.				
2.3.13.2	Support Vessels Arrangements for coordinating support vessels activities.				
2.3.14	Engineering Management Description of the engineering project management process, including details of hazard and aspect identification, risk and environmental impact assessment requirements.				

2.3.15	Lifting Operations and Material Handling Summary of how mechanical lifting operations are managed. Details of responsibilities and authorities for manual handling and lifting operations.				
2.3.16	Logistics Management				
2.3.16.1	Personnel Tracking Description of the administrative arrangements for maintaining personnel movements and Persons on Board (POB) data.				
2.3.16.2	Helicopter Operations Information on the helideck operation arrangements and limits.				
2.3.17	Hazardous and Radioactive Substances Arrangements for storing, handling and using chemicals and other hazardous substances (including radioactive materials).				
2.3.18	Procurement Management Arrangements for selection and monitoring of vendor performance. Arrangements for reporting design or manufacturing defects to vendors				
2.3.19	Maintenance Management Description of the maintenance management system. Arrangements for identifying the HSE critical systems and determining their performance standards. Arrangements for implementing Management of change procedures when HSE critical equipment/systems do not meet performance standards.				

2.3.20	Contractor Management Arrangements for ensuring HSE Management interfaces between the Drilling Contractor and their contractors are identified and agreed upon. Arrangements for monitoring and auditing contractor HSE performance.				
2.4 PERFORMANCE MONITORING					
2.4.1	Periodic Monitoring Information on line manager's and supervisor's responsibilities for continuous monitoring of compliance with HSE procedures and standards. Details of the arrangements for discussing and reviewing HSE performance at the different levels within the organisation from both a technical and human performance perspective.				
2.4.2	Incident Reporting and Analysis A summary of the incident reporting and investigation arrangements. Details of the potential incident criteria that is used.				
2.4.3	Behavior-based Observation Systems Details of the behaviour based observation process. Training and instruction given to employees and contractors on its application. Details of the arrangements for processing and reviewing issues identified through the process.				
2.4.4	Environmental Monitoring and Measurement Details of the arrangements for monitoring discharges and emissions which have the potential to cause adverse environmental impacts.				

2.4.5	<u>Audit and Audit Compliance</u> Details of the audit programme, including criteria for selection and training of audit team members, details of the arrangements for planning, execution and reporting of HSE audits and details of the arrangements for tracking actions arising from audits, record retention.				
2.4.6	<u>Verification of HSE Critical Activities/Tasks and Equipment/Systems</u> List of the HSE critical tasks, activities, equipment, and systems. Details of the arrangements for internal and external verification of the effectiveness of HSE critical activities/tasks and equipment/systems.				
2.4.7	<u>Certification</u> Details on current status of MODU/rig and equipment certification.				
2.5 MANAGEMENT REVIEW AND IMPROVEMENT					
	Details of the arrangements for carrying out the management review of the HSE Management objectives. Arrangements for reporting the review findings, and incorporating the findings into the HSE management objectives.				

Part 3 – MODU/Rig Description and Supporting Information

MODU/Rig Description and Supporting Information describes the equipment and systems necessary to meet the HSE management objectives described in Part 2 and to fulfill the requirements of the Drilling Contractor's Scope of Operations.

A/A	Description	Yes	Imperfect	No	Comments
3.1 GENERAL INFORMATION					
3.1.1	MODU or Rig Details – MODU or Rig type. – Where and when built. – Description of the activities normally performed on or from the MODU or Rig (Drilling Contractor's Scope of Operations). – Safe manning levels for marine operations.				
3.1.2	Certification, Classification and Registration – Details of the extent to which the MODU/rig and its equipment/systems are subject to certification or examination by a classification society. – Nation of registration (if under registry). – Details of the extent to which the MODU/rig and its equipment/systems are subject to Flag State certification, including, where appropriate, ISM Code and/or ISPS Code compliance. – Deviations from design specification and / or formal exemptions given from the relevant flag state authority, including any operational limitations imposed.				
3.1.3	MODU or Rig Layout – Description of the MODU or Rig layout with specific reference to features that may affect its HSE Management. – Layout drawings showing relative positions of the primary equipment and HSE equipment/systems.				

3.1.4	Modifications and Upgrades Description of any modifications or major upgrades that may have affected the MODU's/Rig's HSE Management.				
3.1.5	Selection of HSE Critical Equipment/Systems – Summary of how HSE critical equipment/systems have been identified. – Descriptions of arrangements for ensuring HSE critical equipment/systems comply with: Flag or Coastal State requirements, relevant codes and standards e.g. API, ISO, NACE, ASME, etc.				
3.2 PRIMARY STRUCTURE					
3.2.1	Operating Limits/Design Criteria – Information on the national regulations and International Codes and Standards used to assess the design and construction of the MODU/Rig. – Limiting environmental operating criteria, i.e., wind, temperature, sea states and water depths.				
3.2.2	Structural Integrity Description and, where appropriate, fire ratings of the main structural components. Details of: - MODU's or Rig's design life expectancy. - Primary dimensions and construction materials. - Integrity analyses including, where appropriate, fatigue studies. - Corrosion monitoring and protection systems. - Leak detection systems. - Inspection/NDT and survey programs.				
3.2.3 Marine Integrity - Self Elevating Units (Jack-Ups)					

3.2.3.1	<u>Stability (Jack-Ups)</u> - Details of standards and criteria used in determining the intact and damage stability characteristics. - Reference to the Marine Operations Manual for details of inclining tests and/or deadweight surveys and demonstration of compliance with stability criteria during normal operating conditions, and the lightship data alterations log. - Damage stability limits and conditions. - Information on weather-tight and watertight closures, with details of the open/close status monitoring.				
3.2.3.2	<u>Ballast and Bilge Systems (Jack-Ups)</u> - Description, with line drawings, of normal and emergency ballast and bilge arrangements. - Arrangements for keeping bilges clean and free of materials.				
3.2.3.3	<u>Foundation Stability (Jack-Ups)</u> Arrangements for: - Obtaining and analyzing geotechnical data and information from seabed surveys. - Calculating leg bending moments, penetration, pre-loading etc. - Pre-loading when on location (both open location and alongside existing structure). - Assessing unexpected conditions that may arise. - Monitoring conditions (leg loads, scouring, etc.) while on location.				

3.2.3.4	<u>Towing (Jack-Ups)</u> - Details of pre-move procedures including removing/ securing of deck cargo and preventing water ingress. - Description of MODU towing arrangements (including arrangements for personnel with specific tasks and responsibilities {e.g. person in charge). - A description of the pre-movement process for developing contingency planning arrangements and criteria, including command structure. - Details of the arrangements for selecting assisting vessels and equipment.				
3.2.4 Marine Integrity – Floating Units (Semi-Submersibles and Drillships)					
3.2.4.1	<u>Stability (Semi-Submersibles and Drillships)</u> - Details of standards and criteria used in determining the intact and damaged stability characteristics. - Details of inclining tests and/or deadweight surveys and demonstration of compliance with stability criteria during normal operating conditions, and the lightship data alterations log, i.e., as in the Marine Operations Manual - Details of the damaged stability limits and conditions. - Information on weather-tight and watertight closures, with details of the open/close status monitoring.				
3.2.4.2	<u>Ballast and Bilge Systems (Semi-Submersibles and Drillships)</u> Description, with piping and instrumentation diagrams (P&ID's), including piping arrangement drawings, of the main and emergency ballast and bilge system				

3.2.4.3	<u>Mooring and Station Keeping (Semi-Submersibles and Drillships)</u> - For the mooring system: i) arrangements for carrying out seabed surveys and mooring assessments, ii) description of the components that may be utilized, and iii) arrangements for monitoring mooring line tensions. - Arrangements for monitoring riser angles. - Details of any emergency mooring release systems. - Where thrusters can be used to assist with station keeping, a description of the arrangements and capabilities. - For dynamic positioning, description of the system arrangements highlighting the main safety features, operational procedures, operating guidelines, power management, and equipment limitations. - Description of the process for developing environmental operating criteria (e.g., riser angle, watch circle, riser tension, heave, etc.)				
3.2.4.4	<u>Propulsion Systems (Semi-Submersibles and Drillships)</u> - Details of the MODU propulsion or propulsion-assist system. - Where the MODU is capable of independent relocation, or in assisting in its movement, information on how and when the propulsion systems will be used.				
3.2.4.5	<u>Towing (Non-Self-Propelled Semi-Submersibles)</u> - Details of pre-move procedures including securing of deck cargo and watertight closures. - Description of the MODU towing/transit arrangements (including arrangements for person in charge). - Description of the pre-movement process for developing contingency planning arrangements and criteria, including command structure.				
3.3 DRILLING, COMPLETION AND WELL CONTROL					

3.3.1	<u>Hoisting and Tubular Handling</u> - General description, with details of ratings/capability and relevant standards of the: i) derrick structure, ii) hoisting system, iii) compensators, iv) top drive and rotary systems, v) tubular handling systems and vi) mechanised operations. - Details of the equipment/systems which may affect the MODU's/Rig's HSE Management.				
3.3.2	<u>Mud and Cement System</u> - Description, with details of ratings/capacities and relevant standards (API or ISO) of the: i) mud pits, ii) mud pumps, iii) mud lines (including choke and kill manifold), iv) mud treatment system (shale shakers, mud cleaners, degassers, etc.), v) trip tanks, vi) mud/gas separators and vii) cement unit interfaces. - Line drawings of the mud and cement system. - Description of mud/well monitoring systems. - Details of any mud treatment equipment/systems that discharge to the environment. - Details of any dust and chemical extraction systems to separate personnel from the mud mixing materials. - Identification of additional components preventing loss of containment / spillage (valve lockout / tagout, bunding, blanks, etc).				

3.3.3	<u>BOP Systems</u> - Description, with details of ratings of the BOP and BOP control systems. - Statement that the BOP and its control system were designed to API Standard 6A and16D or equivalent. - Confirmation that BOP system is maintained in accordance with API RP 53 or equivalent. - Details of diverter systems and statement that it was designed to API Standard 16D or equivalent. - Details of any control systems that vent control fluid to the marine environment. - Details of arrangements for Managed Pressure Drilling Systems. - Details of arrangements for High Pressure High Temperature (HPHT) Systems. - Details of arrangements for Deepwater Wells. - Details of arrangements for surface BOP.				
3.3.4	<u>Subsea Completion Tree and Handling Systems</u> - Description, with details of ratings and limitations of the Subsea completion tree and control system (used in the HSE Case) and the Tree handling systems. - Arrangements for requesting statement from the client that the subsea completion tree and its control system were designed to specified requirements. - Detailed description of subsea completion tree handling system.				
3.4 PLANT AND UTILITIES					

3.4.1	<u>Power Generation and Distribution</u> - Description and ratings of the main power generation arrangements (including power plant reliability information) and power assignment arrangements (e.g., thrusters, drawworks, mud pumps, etc.). - Details of the main power distribution protective systems - Details of the emergency generator(s), including: i) rating and endurance at rated and anticipated emergency load, ii) start up arrangements, iii) equipment powered from the emergency system and iv) load shedding arrangements. - Single line diagrams of the main and emergency power arrangements. - Information on Uninterruptible Powered Systems (UPS). - Arrangements for recovering from “dead ship” conditions. - Information on estimating atmospheric emissions.				
3.4.2	<u>Fuel/Lube Oil System</u> - Description of the fuel/lube oil storage tanks and transfer arrangements. - Description of arrangements for fuel sampling and retention (including sulphur percentage if applicable). - Description of arrangements for bunkering, including use of delivery notes. - Details of safety, alarm and shut-off devices fitted to the system. - Identification of components preventing loss of containment/spillage (valve lockout/tagout, bunded hose storage areas, hose inspection, metering, etc.).				

3.4.3	Rig Air System - Description of the rig air compressors (primary and emergency), storage and distribution systems and related safety devices. - Details of the HSE critical equipment/systems fed from the rig air system.				
3.4.4	Heating Ventilation and Air Conditioning (HVAC) Systems Description of the HVAC system which includes details of the: - ventilation of enclosed workplaces, including local extraction of fumes, dust, etc., - location of smoke and gas detection systems on air intakes, with particular reference, - to the Temporary Refuge (TR) and other normally manned work areas, - automatic and manual shutdown arrangements, - arrangements for filtering to ensure air quality, and - arrangements for cleaning and disinfection of air ducts.				
3.4.5	Drain, Effluent and Waste Systems - Description of the drainage system(s). - Arrangements for handling or discharge of cuttings. - Arrangements for separation of hazardous/non-hazardous drains. - Arrangements for handling, segregation and storage of other waste (including hazardous waste). - Description of black and grey water sewage treatment and overboard monitoring facilities.				

3.4.6	<u>Communications</u>
	- Details of both the main and back-up systems for communication:
	  - within the MODU or Rig, e.g., alarms, signals, public address, telephones, radios, drill crew communication systems.
	  - between the MODU/rig and other installations, supporting aircraft and vessels.
	  - between the MODU/rig and remote support locations.
	- A description of the arrangements for verifying communication with other installations.
	- Supporting aircraft and vessels, remote support locations, and emergency services.				

3.4.7	<u>Emergency Lighting</u> Description of the emergency lighting systems, including how they are powered, their area of coverage and duration.				
3.4.8	<u>Helideck Facilities</u> - Description of helideck facility. - Details of lighting and markings. - Confirmation that the helideck has been assessed to international regulatory standards and relevant regulatory standards for the regions of operation, including a list of the models of helicopter which may be authorized to utilize the helideck. - Details of the emergency equipment provided to mitigate and recover from helicopter incidents. - Details of operational conditions that limit the use of the helideck, including structural loading limits.				

3.4.9	Lifting Equipment and Material Handling - Details, with ratings of the: i) main deck cranes, ii) tubular handling equipment, iii) BOP crane, iv) utility and man-rider winches and v) other material handling equipment. - Details of related safety and ergonomic devices. - Confirmation that the material handling equipment is subject to regular inspection and testing.				
3.4.10	Storing and Handling of Explosives/Flammables and Other Hazardous Substances - Description and location of the explosive storage facility. - Description and location of radioactive material storage facility (including security arrangements). - Details of facilities provided for storing flammables and other hazardous substances. - Details of the fire detection and protection in these areas. - Details of equipment and materials provided for containing accidental spills and releases.				
3.5 FIRE AND EXPLOTION PROTECTION					
3.5.1	Hazardous Area Classifications - Details of the standards used to identify hazardous areas. - Rating of the hazardous areas in relation to use of Explosion Proof and intrinsically safe equipment - Procedures for assessing the suitability and use of temporary (third party) equipment. - Drawing(s) of the designated hazardous areas. - Demonstration that hazardous area arrangements have been approved by classification society and/or regulators.				

3.5.2	<u>Detection Systems</u> - Description of the fire detection systems, including details of: i) detection thresholds, ii) sensors types and locations, iii) indicator panel locations, iv) actions automatically initiated on detection (as applicable), v) frangible head sprinkler systems, vi) maintenance, testing and calibration. - Description of the fixed and portable Oxygen (O2), Hydrocarbon (HC) and Hydrogen Sulphide (H2S) detection systems/instruments including details of: i) locations of gas detection heads, ii) detection thresholds, iii) indicator panels locations, iv) actions initiated automatically on detection of HC and/or H2S (as applicable) and v) maintenance, testing and calibration.				
3.5.3	<u>Emergency Shut Down Systems</u> - Description of the ESD philosophy. - Details of the automatic and manually activated shut down arrangements (including locations). - The shutdown hierarchy arrangements and definitions of the different levels of shutdown and the equipment effected at each level, including Cause and Effect Diagrams.				
3.5.4	<u>Active Fire Protection</u> Description and drawings, of the active fire fighting systems including: i) fire pump capacities and locations, ii) fire main isolation arrangements, iii) hydrant and monitor locations, iv) deluge systems, v) helideck foam systems, vi) other fixed systems e.g., CO2. (engine room, emergency generator spaces, paint locker, etc.)				

3.5.5	<u>Passive Fire Protection</u> Description of passive fire protection systems including: - drawing showing location and rating of fire resistant bulkheads, decks, and deckheads, - details of any structural fire protection for load bearing structures, - details of unprotected non-loading bearing structures and decks which have a role in controlling fires, - details of any HSE critical equipment/systems that has passive fire protection, and - the use of non-flammable materials in accommodation and other occupied areas.				
3.5.6	<u>Temporary Refuge (TR)</u> - Description of the TR integrity requirements. - Drawing showing the lay out and physical boundaries of the TR.				
3.6 EVACUTION AND ESCAPE SYSTEMS					
	- Identification of the design basis and standards applicable to the evacuation and escape equipment, e.g., the version of the IMO MODU Code and LSA Code, or other equivalent and applicable standards. - A description of the main and emergency lighting servicing the TR and associated evacuation and escape routes. - Description of the TEMPSC (Totally Enclosed Motor Powered Survival Craft)/Lifeboat arrangements (as applicable). - Description of life raft arrangements and other alternative escape routes to the sea. - A description of how stand-by vessels and logistical support vessels' are committed to support evacuation. - Drawing(s) showing the main routes of access/egress between the TR and designated evacuation and escape points.				

3.7 ACCOMODATION					
	- Details of number of bed spaces available, including number of beds per cabin and number of personnel assigned to each cabin. - Description of accommodation facilities. - Description of safety equipment in accommodation facilities (e.g., immersion suits, life jackets, smoke hoods, fire extinguishers, etc.) - Descriptions of the arrangements made to preserve the health of the personnel within the accommodations. - Details of the potable water system and arrangements, including methods used to ensure quality of potable water. - The installation rating for maximum number of persons (in compliance with Flag and Coastal State requirements).				
3.8 WELL TESTING					
	- Description of arrangements for assessing equipment, systems, and layout for well tests and extended well tests. - Description of well testing set up and lay outs that have been assessed for the HSE case. - Details of the typical interfaces between the 3rd party well testing equipment and the MODU or Rig detection and protection systems.				
3.9 DIVING SUPPORT					

	- Descriptions of arrangements for interfacing with diving support vessels. - Description of a typical diving spread set up which may have been assessed in the HSE Case (if applicable). - Details of the interfaces between the 3rd party diving spread and the MODU detection and protection systems, DP systems, etc. - Emergency arrangements				
3.10 OTHER TRIRD PARTY EQUIPMENT					

	- Arrangements for:
	  - Reviewing/approving the status/condition of 3rd party equipment that may affect HSE management, prior to installation.
	  - Checking interfaces between the 3rd party equipment and existing MODU/rig systems.
	- Description of equipment that have been included in the risk assessment.
	- Details of the interfaces between the typical 3rd party equipment and the MODU or Rig.				

Part 4 – Risk Management

Risk Management describes the Risk Management Process for assuring that the risks associated with a Drilling Contractor's Scope of Operations are reduced to a level that is tolerable to the Drilling Contractor and other stakeholders. The Risk Management Process must consider the HSE management objectives described in Part 1 and the systems and equipment described in Part 3. Any gaps related to the HSE Management Objectives in Parts 2 and 3 that are identified in Part 3 must be addressed in the Drilling Contractor's management system.

A/A	Description	Yes	Imperfect	No	Comments
4.1 INTRODUCTION					
4.1.1	Integrating HSE Management into Operations - Description of the HSE management system. - HSE management system complies with requirements of international code of practice?				
4.1.2	Inter-relation of Hazards and Operations Identifying hazards and critical activities/tasks.				
4.2 RISK MANAGEMENT PROCESS OVERVIEW					
4.2.1	Relationship of Risk Management Terms Description of key risk management concepts in different terms.				
4.2.2	Risk Management Process Description of Risk Management process				
4.3 STRUCTURED HAZARD IDENTIFICATION AND CONTROL PROCESS STEPS					
	The three key risk management steps included (Identification of hazards, evaluation of risk and identification of risk reduction measures)?				
4.4 IDENTIFICATION OF HAZARDS AND SOURCES OF HAZARDS					
4.4.1	Acute and Chronic Hazards Criteria must feature in the determination process.				

4.4.1	<u>Environmental Aspects and Health Hazards</u> - The identification method used to make the inventory of Hazards. - Listings of hazards, equipment, areas, chemicals and substances, responsibilities, tasks and measures of control to limit the exposure from such hazards. - Through a baseline survey exposure levels, as appropriate should be assessed against a relevant standard to determine if they are tolerable and safe. - Identification of Company exposure level standards. - How and at what exposure level, actions are taken, where improvement is necessary.				
4.4.2	<u>Hazard and Source Identification Techniques</u> - A description of the hazard identification process that has been applied. - A list of the team members involved in the process with descriptions of their knowledge, competence, and understanding of the Drilling Contractor's management system. - The Drilling Contractor's Hazard Register showing that all relevant hazards have been addressed.				
4.5 RISK ESTIMATION					
	Drilling Contractor's Hazard Register that includes: - An estimate of a realistic potential consequence severity and its probability of occurrence for each hazard as it could affect People, Assets, Environment, and Reputation. - One overall risk rating assigned to each hazard.				
4.6 RISK EVALUATION					

	- A description of the Screening Criteria used to evaluate the risks associated with each of the identified hazards and their sources; - The revised Drilling Contractor's Hazard Register including the HSE risk ranking for each identified hazard and source; - Details of how the inter-relation of major hazards and sources has been considered including a drawing or description of how the relevant hazards and sources are inter-related; - The major and other workplace hazards should be clearly identified in the Drilling Contractor's Hazard Register to facilitate more rigorous analysis for risk treatment in the subsequent steps of this process.				
4.7 RISK TREATMENT					

	- A description of the process used to systematically identify, evaluate and select the barriers that will be applied to reduce the risk for each identified hazard and source. - The completed Drilling Contractor's Hazard Register listing all the hazards and sources, the estimates of the associated risks, the significance of these and references to the barriers selected to reduce the associated risks to a tolerable level. - For the barriers addressing the major hazards and significant risks, also describe the Critical Activities, Defeating Factors, Defeating Factor Barriers and resources, competencies, etc. needed to ensure these are all established and maintained. A Summary of Operation Boundaries (SOOB) should be provided in the HSE Case. - References to the decisions made by the review team to document their justifications for rejected potential barriers or deferring the decision to a later date. - Details of where relevant good practice and judgment based on sound engineering and ergonomic principles have been taken into account in determining what risks are tolerable. - A list of all the barriers that have been selected to reduce risks, highlighting those that are already established and those that are not yet fully established. - A prioritized remedial action plan to fully establish the remaining selected barriers, including action parties and proposed timescales for their implementation.				
4.8 RISK ACCEPTANCE					

	- A statement by the Drilling Contractor senior management accepting the risk management process applied by the HSE Case development team.
	- Action plan for follow-up and close-out of recommendations to address gaps in HSE performance that may prevent risks from being deemed tolerable.
	- A statement by the Drilling Contractor senior management:
	  - endorsing the risk assessments and risk treatments,
	  - accepting the residual risks,
	  - accepting the boundaries described in the SOOB,
	  - concluding that the risks levels are tolerable (qualified if necessary to acknowledge the items in the remedial action plan), and
	  - committing to implement the remedial action plan (if necessary).				

4.9 RISK COMMUNICATION					
	- A description of how the HSE Case will be communicated to the workforce. - A description of how any training requirements for individuals assigned to critical activities will be identified, delivered and verified. - A description of how the HSE Case is intended to be used by the workforce. - A description of how relevant information from internal and external audits, and other sources, will be collected and considered in relation to revision of the HSE Case, operating procedures, etc.				

Part 5 – Emergency Response

Emergency Response describes the HSE management objectives for emergency response of incidents - to mitigate the consequences (severity) identified in Part 4 and the measures to recover.

The table below describes what in the management system demonstrates assurance to internal and external stakeholders that the objective can be achieved.

A/A	Description	Yes	Imperfect	No	Comments
5.1 EMERGENCY RESPONSE MANAGEMENT					
5.1.1	Emergency Response Philosophy - Details of emergency response policy. - HSE Management objectives that reflect the Drilling Contractor's emergency response philosophy.				
5.1.2	Emergency Response Analysis - Summary of the analyses that have been carried out with conclusions, including the preferred hierarchy of emergency response.				

5.1.3	<u>Emergency Response Plan</u>
	- Confirmation that the Emergency Response Plan contains relevant information from the Emergency Response analysis.
	- Description of the process for revising and updating the emergency response plan.
	- Details of the involvement of MODU/Rig personnel in the development and updating of the emergency response plan.
	- Details or reference to emergency procedures, including but not limited to the following:
	  - Shallow Gas Blowout
	  - Well Control
	  - Fire and Explosion
	  - Man Overboard
	  - Mooring Failure
	  - Loss of Stability or Structural Failure
	  - Extreme Weather
	  - Loss of Control in Transit
	  - Collision with Another Vessel
	  - Foundation Failure
	  - Helicopter Crash into the Sea or onto the MODU/Rig
	  - Evacuation and Abandonment of MODU/Rig
	  - Rescue from Confined Space
	  - Emergency Notification
	  - Rescue from Heights
	  - Medical Emergency Response, including preventive pandemic precautions
	  - Search and Rescue for a Missing Person Onboard
	  - Total Power Failure
	  - Hydrogen Sulphide (H2S)
	  - Spill Response
	  - Health Incident (e.g., outbreak)
	  - Any Other Site-Specific, Area or Location Emergency				

5.2 COMMAND AND COMMUNICATION					
5.2.1	<u>Command During Emergencies</u> - A display of the command and control hierarchy in an emergency situation as it will be reflected on the muster list and station bill. - Details of roles and responsibilities of key individuals including Drilling Contractor, Client and other Third Party personnel as appropriate in MODU/rig specific Emergency - Response Plans. - Details of the key competence requirements for personnel with emergency command responsibilities and the method used to verify that these individuals maintain this competency. - Details of the emergency control room facilities, equipment and documentation.				
5.2.2	<u>External Emergency Response Support</u> - Description of the Drilling Contractor's external emergency response support arrangements. - Details of arrangements for consultation and cooperation with other parties who have been identified as external emergency response support, e.g., national coastguards, local (municipal) and regional authorities. - Details of the arrangements for establishing and approving emergency response arrangements with clients. - Arrangements for external emergency response support included in Emergency Response Plan. - Details of arrangements for Drill and Exercises including external emergency response support.				

5.2.3	Communications - Summary of the communication systems, including back-ups, on the rig. - Description of the external emergency control centre(s) for MODU's.				
5.3 TRAINING AND EMERGENCIES					
5.3.1	Emergency Response Training - Details of the Major Emergency Management training and refresher training requirements for the person in charge and his alternate(s). - Details of the emergency response training and refresher training requirements for key personnel (including personnel with fire fighting, pollution response, or medical treatment roles).				
5.3.2	Drills and Exercises - Details of the emergency response drills and exercises programme. - Details of the arrangements for monitoring and reviewing the effectiveness of the drills and exercises in establishing and maintaining the readiness of emergency response capabilities.				
5.3.3	HSE Inductions Reference to HSE Induction in Part 1.2.4.5				
5.4 TEMPORARY REFUGE ASSESSMENT					

5.4.1	<u>Temporary Refuge (TR) Concept and Description</u> Description of TR and associated evacuation and escape route locations and arrangements, including: - Fire and explosion protection (internal and external). - HVAC system, smoke and gas detection and shutdown arrangements. - Emergency lighting. - Facilities within the TR e.g. control rooms, muster areas, first aid etc. - Control and communication systems which are accessible from within the TR e.g. - BOP control panel, ballast control, etc. - Personal protective equipment stored in TR. - Access and egress routes to evacuation points.				
5.4.2	Loss of the Temporary Refuge (TR) Integrity				
5.4.2.1	<u>Major Incidents with the Potential for Immediate Impairment of the TR</u> - A list of incidents with potential to defeat the integrity of the TR. - Alternate actions and mustering areas, should the integrity of the TR or associated evacuation and escape route be lost or should the TR be inaccessible for some personnel.				
5.4.2.2	<u>Temporary Refuge Integrity Requirements</u> A requirement of how long the integrity of the TR and associated evacuation and escape routes must be maintained.				
5.5 DETAILS OF EVACUATION AND ESCAPE EQUIPMENT					

5.5.1	<u>Evacuation and Escape Systems</u> - Description of the evacuation and escape arrangements with reference to life saving equipment plans. - Statement of compliance with regulatory requirements. - Summary of evacuation and escape assessment including mustering and evacuation times. - Reference to Part 4.3.2 – Drills and Exercises, regarding the arrangements for verifying the mustering and evacuation times used in the assessments.				
5.5.2	<u>Means of Recovery to a Place of Safety</u> - Statement of preferred means of evacuation. - Description of the arrangements for rescuing personnel evacuating from the MODU or Rig. - Description of the arrangements for rescuing personnel escaping in life rafts or from the water. - Arrangements for developing and assessing client and location specific rescue arrangements. - Arrangements for obtaining support from both the private and public sector. - Estimated survival times in the sea and estimated recovery times from the sea for each reasonably foreseeable event likely to lead to the need for recovery or rescue from the sea. The margin between survival time and rescue time should be sufficient to clearly demonstrate there is a good prospect of recovery, taking into account the effects of uncertainty.				

Part 6 – Performance Monitoring

Performance Monitoring describes arrangements for monitoring to ensure that the risk management measures identified in Part 4 are implemented, maintained and effective at the workplace. Regular monitoring at the workplace is also a risk reducing measure considered in Part 4.

The table below describes what in the management system demonstrates assurance to internal and external stakeholders that the objective can be achieved.

A/A	Description	Yes	Imperfect	No	Comments
6.1 PERIODIC MONITORING					
	- Information on line manager's and supervisor's responsibilities for continual monitoring of compliance with HSE procedures and standards. - Details of workplace inspection schemes. - Details of the proactive (leading) HSE performance indicators. - Details of arrangements for recording and analyzing HSE performance. - Details of the arrangements for discussing and reviewing HSE performance at the different levels within the organization from both a technical and human performance perspective.				
6.1.1	<u>Incident Reporting and Analysis</u> - A summary of the incident reporting and investigation arrangements. - Details of the potential incident criteria that is used. - Information on the training provided for incident investigation team members. - Information on the methodology adopted to identify incident causes. - Description of the arrangements for tracking action items arising from investigations to completion.				

6.1.2	<u>Behaviour-Based Observation Systems</u> - Details of the behaviour based observation process including occupational health aspects. - Training and instruction given to employees and contractors on its application. - Details of the arrangements for processing and reviewing issues identified through the process.				
6.1.3	<u>Health/Environmental Monitoring and Measurement</u> - Details of the arrangements for monitoring Occupational Health exposures. - Details of the arrangements for monitoring discharges and emissions which have the potential to cause adverse environmental impacts.				
6.2 AUDIT AND AUDIT COMPLIANCE					

	- Details of the audit scope including:
	  - HSE barriers identified in Part 3 – Risk Management
	  - Drilling Contractor's requirements
	  - Flag State Requirements
	  - Coastal State Requirements
	  - Classification Society Requirements
	  - Client Requirements
	  - Any other applicable requirements
	- Details of the audit process including:
	  - Audit Team Selection, Roles and Responsibilities
	  - Identification of applicable regulatory requirements
	  - Audit Data Collection – Document Record Examination
	  - Observation of Work Activities (People and Equipment)
	  - Record of Testing, Sampling and Observations
	  - Audit Analysis – Trends, etc.
	  - Reporting of Audit Findings
	  - Corrective Action Follow-up and Closeout
	  - Management Review of Findings
	  - Audit Record Retention
	- Details of the arrangements for training audit team personnel.
	- Details of the arrangements for tracking actions arising from audits to completion.				

6.3 VERIFICATION OF HSE CRITICAL ACTIVITIES/TASKS AND EQUIPMENT/SYSTEM					

	- List of the HSE critical activities/tasks and equipment/systems. - Details of the arrangements for verification of the effectiveness of all HSE critical activities/tasks and equipment/systems, against the established Performance Standards, by Drilling Contractor personnel not directly responsible for the MODU's/Rig's operations. - Details of the arrangements for verification of the effectiveness of all HSE critical activities/tasks and equipment/systems, against the established Performance Standards, by personnel from a different organization (if applicable). - Details of the arrangements for tracking actions arising from verification to completion.				
6.4 CERTIFICATION					
	- List of HSE critical activities/tasks and equipment/systems in the management system are related to Regulatory, Flag State and Classification Society Requirements. - Details on current status of MODU/Rig certification.				