



9.0 ADMINISTRATIVE ASPECTS

9.1 Operational Philosophy

The activities proposed for the proposed exploratory drilling programme shall be in complete compliance with all applicable Laws, Regulations, Standards and Permits, the Production Sharing Contract (PSC), procedures, specifications, rules, standards and guidelines.

In order to achieve this, the drilling operations will be maintained by technically qualified and experienced people. Detailed procedures and plans will be developed for each activity prior to operations start up. All persons on board for the drilling rig will be experienced crew with valid qualifications.

Besides compliance to regulatory framework, the primary operational objectives are that all operations shall be consistently operated in a manner that causes neither threat nor harm to people or the environment. The methods used to operate and maintain the assets shall not cause damage to either the installed facilities or the local infrastructure, whilst at the same time consistently providing a production availability level that meets the target demand.

Operational requirements are primarily based on global best practice, lessons learned and experiences transferred from ongoing operations and provide the criteria for operation verification in both design and fabrication. Verification of design and fabrication will be a significant feature of the development to ensure operation requirements are appropriately incorporated; these should include but are not limited to:

- Operating HSE performance will be duly considered and consistently incorporated into design;
- Maximum life-of-asset value will be sought through design selections that optimally integrate capital and operating costs; and
- Operations staff will become highly competent and knowledgeable of the design and operations details in advance of start-up, in order to more safely and efficiently support commissioning and better prepare themselves for the initial and longer term operations.

The HSE Management System Process which will be developed for use as part of the implementation of the Operations Philosophy will be followed, together with the commitments.

Continuous Improvement (CI) is a key consideration of the Philosophy and will be achieved by measures that will include bench-marking, use of key performance indicators, the application of structured competency assessment and competency improvement training programs for personnel involved in operations activities, the progressive introduction of Improvement Teams, as well as enhancement of the breadth, level and quality of local support through a Local Content Development Plan.



9.2 Health Safety and Environment

9.2.1 HSE Management System

The Group HSE Management System describes how ONGC manages health, safety, environment, security and corporate social responsibility risks within business activities, in order to meet the commitments in the Group HSE, Security and CSR policies.

The aims and objectives of the Group HSE Management System are to:

- Enable risk identification and management;
- Provide clear definition of roles and responsibilities;
- Stimulate high levels of 'ownership' throughout the organization;
- Promote 'empowerment' and not discourage innovation; and
- Identify mandatory control processes both at Group level and within the operating subsidiaries.

The goal being for ONGC to assure itself and other stakeholders that all operations are reflective of good industry HSE practice and is able to comply with Company Policy and legislation through a process of self regulation and control. The emphasis is placed on an approach which is:

- Objective setting (establishing what to do and then doing it);
- Proactive (taking action before and not after the event); and
- Risk-based (measures taken are necessary and cost effective to reduce risk to acceptable levels, at which the cost of further risk reduction is disproportionate to the benefit gained).

9.2.2 Key Elements of Safety Plan

An area plan will be devised by the HSE team in the region to make the system much more specific and appropriate for the asset and the types of activities being carried out. This will be communicated to all members of staff via training, inductions and regular safety meetings. All visitors to site will be inducted and told what part they play in maintaining safety whilst they are on site.

The following topics are included in the HSE Management System:

- Leadership & Commitment;
- Policy & Strategic Objectives;
- Organisation, Resources and Documentation;
- HSE Risk Management;
- Planning & Procedures;
- Compliance & Regulations;
- Emergency Preparedness;
- Implementation & Monitoring; and
- Auditing & Review.

9.2.3 Emergency Response

Emergency response teams will be made up from operations personnel, who can be called upon 24 hours a day, supported by an Incident Management Centre (IMC) manned by operations senior management field personnel as and when required. There will also be a dedicated fire and emergency team out with the routine operations personnel. The fire and emergency response teams will receive specific training for their roles and will be drilled and exercised on a regular basis, as described in the Site Emergency Response Plan.

9.2.4 Safety Case

The details of how HSE will be managed on site are contained within the stand alone HSE plan that will be developed by the HSE team in conjunction with the operations team management. In summary the following key points are the core of the HSE philosophy.

The Safety Report will be a document prepared by ONGC Ltd. and will provide information that will demonstrate that all measures necessary for the prevention and mitigation of major accidents have been taken.

The Safety Report will include:

- A policy on how to prevent and mitigate major accidents;
- A management system for implementing that policy;
- An effective method for identifying any major accidents that may occur;
- Measures (such as safe plant and safe operating procedures) to prevent and mitigate major accidents;
- Information on the safety precautions built into the plant and equipment when it was designed and constructed;
- Details of measures (such as fire-fighting, relief systems and filters) to limit the consequences of any major accident that might occur; and
- Information about the emergency plan for the site, which can also be used by the local authority in drawing up an off-site emergency plan.

Hazard management will identify hazard and consequences, assess and optimize risks and provide tools for managing each risk. There will be hazard reviews including Hazard and Environmental Identification ("HAZID" and "ENVID"), Project Safety Reviews (PSR's), Hazard and Operability ("HAZOP"), PHSER (Project Health Safety Environmental Review) and other project safety and environmental processes during the project stages.

All personnel working at sites will be expected to fully conform at all times to the appropriate ONGC requirements for PPE (Personal Protective Equipment) for the area in which they work

Safety rules will be developed and adhered to by all employees and contractors whilst involved in ONGC Ltd. activities. Key areas such as Permit to Work (PTW), energy isolation and hazard identification / risk assessment shall be fundamental to the development of these rules. These rules shall also be in compliance with relevant laws, company policy and established international practices.

9.2.5 Health

Systems, equipment and layout should be designed to ergonomic principles to help facilitate both operation and maintenance of the equipment. Health and Safety of all personnel will be a consideration in design to ensure that the risks to those personnel are minimised. This should include a human factor study of the design which will address issues such as exposure to noise, heat, cold, stress, lighting, control room design, control desk VDU layout, field accommodation and recreation facilities, transportation etc.

A pre-mobilisation, company approved minimum level of medical fitness including all applicable regional vaccinations will be required for all persons working at the drilling well site. This will apply to all company and contract employees and will continue throughout the life of the project and into the operations phase.

An approved exposure monitoring and health surveillance programme will be in place throughout the project phases.

9.2.6 Environment

The exploratory drilling operations will be strictly avoided in sensitive ecological locations within the block area. The EIA will provide guidance on what particular areas should be monitored; these will typically include flaring, chemical consumption, emissions to air, liquid discharges and waste disposal. Waste management will be designed into the facilities to allow and encourage safe and efficient waste reduction, recycling, segregation and disposal. The drilling operation will be designed to first minimise waste and then effectively deal with that waste which is generated. The detailed design needs to ensure waste disposal is consistent with local and or statutory regulations and requirements. Any implications on wildlife need to be understood and any impacts avoided or minimised.

9.3 **Environmental Organisation and Personnel**

To facilitate the implementation of the Environmental Management systems, one of the most important aspects related to are, the organization and personnel.

ONGC is committed to extend the EMS to its proposed facilities in Kolasib town, Kolasib District, Mizoram. All individual departments will be accountable for the environment in and around them and individual departments take prompt action in dealing with environmental issues.

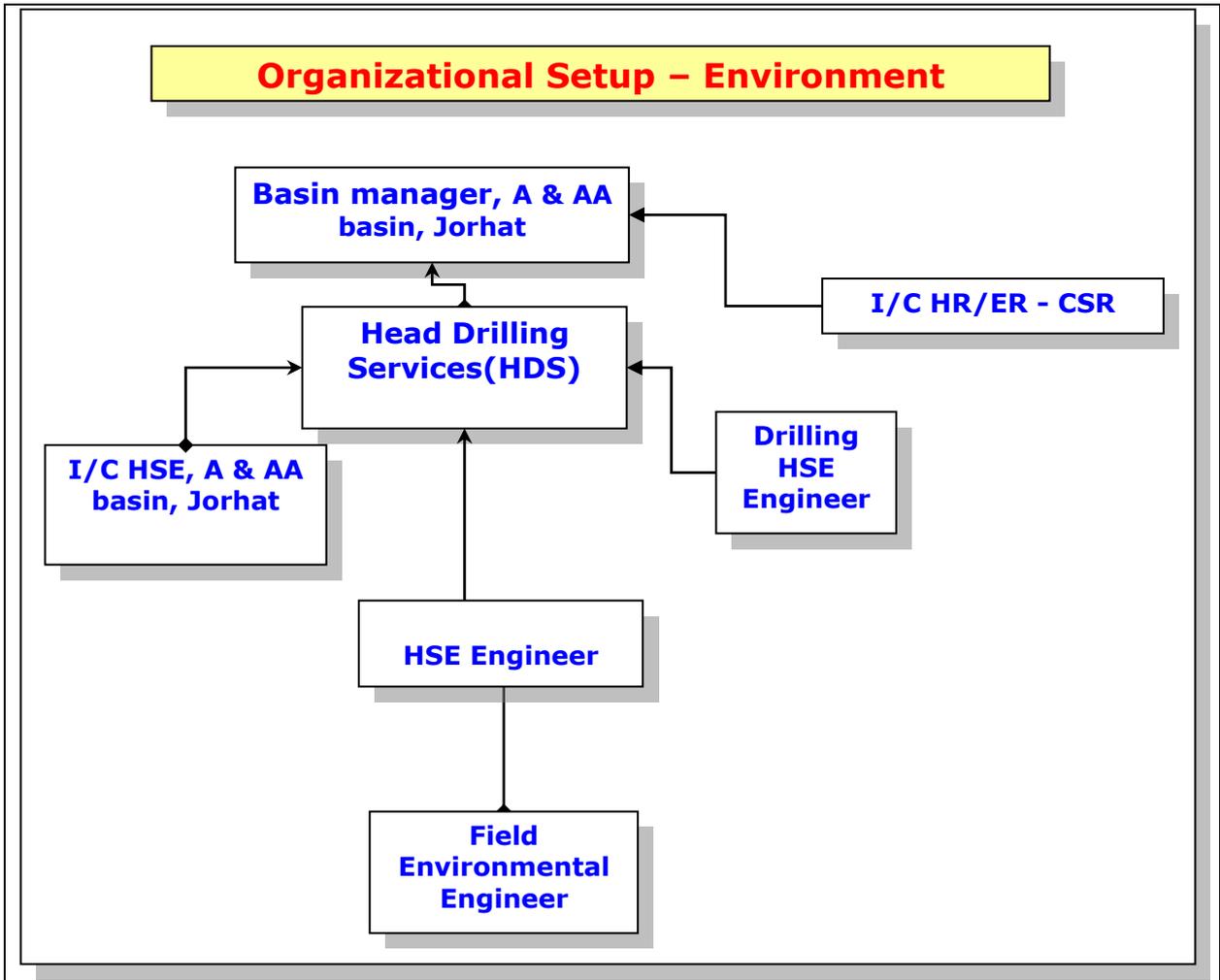
The HSE dept is the nodal agency to coordinate and provide necessary services on environmental issues during construction and operation of the exploratory drilling project. The department consists of officers from various disciplines to co-ordinate the activities concerned with the management and implementation of the environmental control measures.

Basically, this department will supervise the monitoring of environmental pollution levels viz. ambient air quality, water and effluent quality, noise level either departmentally or by appointing external agencies wherever necessary.

In case the monitored results of environmental pollution found to exceed the allowable limits, the Environmental Management Cell will suggest remedial action and get these suggestions implemented through the concerned authorities.

The Environmental Management Cell will also co-ordinate all the related activities such as collection of statistics of health of workers and population of the region, afforestation and green belt development.

A dedicated HSE set-up in the corporate level will oversee the environmental management and pollution control aspects and headed by Director (Business Services) and constituted by Deputy General Manager (Environment and CSR), Environmental Manager, Environmental Engineers and Social Scientists. The Organizational Structure of Environmental Management is presented in **Figure-9.1**. This environmental group is responsible for implementation of environmental management plan at asset level, interaction with the environmental regulatory agencies, reviewing draft policy and planning, etc. This department interacts with MoEF&CC, Central Pollution Control Board (CPCB) and other environment regulatory agencies. The department shall also interact with operational and local people to understand their problems and to formulate appropriate plans.



**FIGURE-9.1
ORGANIZATIONAL STRUCTURE FOR ENVIRONMENTAL MANAGEMENT**