
CHAPTER 2

POLICY FRAMEWORK

2.1 INTRODUCTION

In India, Environment Impact Assessment (EIA) was made mandatory for industrial projects having relatively higher pollution potential as per Environmental Impact Assessment notification dated 27.01.1994 (EIA 1994). Ministry of Environment and Forests (MOEF) issued a new EIA notification on 14.09.2006 (EIA 2006) which supersedes EIA 1994 under the purview of Environmental (Protection) Act of 1986 with the following objectives:

- Identify and predict likely impacts based on activities of those components of project which directly interact with the environment.
- Find ways and means to reduce adverse impacts.
- Shape the projects to suit local environment.
- Present the predictions and options to the decision-makers or statutory bodies, such as, State Pollution Control Board, Ministry of Environment & Forests (MoEF), Government of India, Director General of Hydrocarbons (DGH), etc.

2.2 OBJECTIVE OF EIA STUDY

The EIA study is expected to cover at least the following matters:

- Description of the proposed activities including likely waste generation and measures incorporated to meet environmental standards.
- Description of the base environmental and climatic conditions.
- Analysis of land use pattern, water consumption (and water balance), power consumption, etc. along with the social and health impacts.
- An assessment of likely or potential environmental impacts of the proposed activity (like air, water and soil pollution, noise generation) and the alternatives, including the direct or indirect, cumulative, short-term and long-term effects.
- An environmental management plan to mitigate or ameliorate negative effects on environment including post implementation monitoring programme.

The EIA report for all offshore and onshore oil and gas exploration, development and production projects except for exploratory surveys shall be submitted to MoEF for environmental clearance following the procedure prescribed in EIA 2006.

2.3 PROTECTION OF ENVIRONMENT UNDER NELP/NOMINATION

In early 1990s, Government of India (GOI) formulated a New Exploration Licensing Policy (NELP) under Ministry of Petroleum and Natural Gas (MoP&NG) to encourage private sector participation for exploration and production (E&P) of oil and gas both by Indian and foreign E&P operators on

Production Sharing Contract (PSC) basis to meet ever rising demand of petroleum products in India. The PSC is a mutual agreement between GOI and an Operator. Article 14 on **Protection of Environment** is now also applicable to old blocks/areas which were awarded prior to the formulation of NELP for exploration and production of oil and gas and are not under PSC.

As per Article 14 on **Protection of Environment**, the Government and the Contactor (OIL) recognize that the petroleum operations will cause some impact on the environment in the contract or license area. Accordingly in performance of the contract the operator shall conduct its petroleum operations with due regard to concerns with respect to protection of the environment and conservation of natural resources.

Environmental clearance is now necessary from the regulatory authority (MoEF) for exploratory surveys and drilling as well as production to be undertaken by the Operator. Conditions as applicable under such environmental clearance based on the Environmental Impact Assessment reports are required to be followed by the Operator. GOI monitors the implementation of these conditions. Some of the conditions include:

1. No survey or drilling or production activity can be conducted in national parks, sanctuaries, mangroves, wetlands of national importance, biosphere reserves and other biologically sensitive areas.
2. Passage through national parks, sanctuaries, mangroves and wetlands of national importance and biosphere reserves would not be permitted. However, if there is no passage other than through these places to reach a particular point of survey or drilling or production beyond, then the Operator may obtain the permission of the concerned authorities (Chief Wildlife Warden/ Director of the Biosphere Reserve)
3. In case cutting of trees being involved for survey or drilling or production purpose, compensatory afforestation would be done within a time frame.
4. Approval for diversification of forest land involved, if any, would have to be obtained specifically in each case.
5. Advanced techniques, practices and methods are to be used to prevent environmental damage.
6. Measures are to be taken in consultation with the Government to minimize adverse impact on the environment where some adverse impact on the environment is unavoidable.
7. Three EIA studies are to be carried out as under:
 - First EIA study is to be carried out before any field work relating to seismic or other survey;
 - Second EIA study is to be carried out before commencement of exploration drilling operations; and
 - Third EIA study is to be carried out before commencement of production operations.
8. EIA study is also to be carried out whenever further drilling and/or new projects under expansion of production operations are undertaken by the Operator.
9. Contingency plan for oil spills, fires and other emergencies is to be prepared before commencement of drilling and production operations.

10. Installation is to be removed and site is to be restored after the expiry of contract.
11. The Government may revoke clearance if implementation of the above conditions is not satisfactory.
12. The above conditions will be enforced inter alia under the provisions of the Water (Prevention and Control of Pollution) Act 1974, Air (Prevention and Control of pollution) Act 1981 and the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

2.4 ENVIRONMENTAL CLEARANCE PROCEDURE UNDER EIA 2006

EIA 2006 categorizes all oil and gas exploration (except exploratory survey), development and production projects except exploratory surveys under category A and require project proponents to apply on prescribed Form 1 for prior environmental clearance (EC) to MoEF before commencing any construction activity or preparation of land at the site. EC process will involve three stages, namely, Scoping, Public Consultation and Appraisal. Scoping involves finalization of comprehensive terms of reference (ToR) for the preparation of draft EIA report by the Expert Appraisal Committee (EAC) of MoEF. Public Consultation will be carried out by the State Pollution Control Board to ascertain the concerns of local affected persons and others who have plausible stake in the environmental impact of the project by making available the Summary of EIA Report and holding a Public Hearing as per the prescribed procedure. EAC will then carry out the appraisal of the application including final EIA report and outcome of public consultation including public hearing proceedings for grant of EC. Environment Impact Assessment Authority (EIAA), that is, MoEF will then consider the recommendation of EAC for the grant of EC. Prescribed time frame for various stages for EC are: 60 days by EAC for finalization of TOR after submission of application on Form 1, 45 days for public consultation after receiving request for the same from project proponent along with EIA report and summary of the EIA report, 60 days by EAC for appraisal after receipt of final EIA report and proceeding of public hearing, and 45 days by MoEF for considering the recommendation of EAC for the grant of EC. It is presumed that the baseline data collection will generally start after finalization of ToR and time required for the same and for the preparation of draft EIA report as well as that required for preparation of final EIA report after considering material environmental concerns expressed during public consultation will be in addition to the prescribed time frame specified above.

2.5 STANDARDS FOR EMISSIONS AND DISCHARGE OF ENVIRONMENTAL POLLUTANTS

For the purposes of protecting and improving the quality of the environment and preventing and abating environmental pollution, the standards for emissions and discharge of environmental pollutants from Oil Drilling and Gas Extraction Industry situated on land and away from saline water sink specified by MoEF are as follows:

2.5.1 Liquid Effluents

Industry may opt either for disposal of treated water by on-shore disposal or by re-injection in abandoned well, which is allowed only below a depth of 1000 metres from the ground level. In case of re-injection in abandoned well the effluent have to comply only with respect to suspended solids and oil and grease at 100 mg/l and 10 mg/l, respectively. For on-shore disposal, the permissible limits are given below:

Sl. No.	Parameter	On-shore discharge standards (Not to Exceed)
1.	pH	5.5 - 9.0
2.	Temperature	40 ⁰ C
3.	Suspended Solids	100 mg/l
4.	Zinc	2 mg /l
5.	BOD	30 mg/l
6.	COD	100 mg/l
7.	Chlorides	600 mg/l
8.	Sulphates	1000 mg/l
9.	TDS	2100 mg/l
10.	% Sodium	60 mg/l
11.	Oil and Grease	10 mg/l
12.	Phenolics	1.2 mg/l
13.	Cyanides	0.2 mg/l
14.	Fluorides	1.5 mg/l
15.	Sulphides	2.0 mg/l
16.	Chromium (Cr ⁺⁶)	0.1 mg/l
17.	Chromium (Total)	1.0 mg/l
18.	Copper	0.2 mg/l
19.	Lead	0.1 mg/l
20.	Mercury	0.01 mg/l
21.	Nickel	3.0 mg/l

2.5.2 Gaseous Emissions

2.5.2.1 DG Sets

DG sets at drill site as well as production station shall conform with the norm notified under the Environment (Protection) Act, 1986.

2.5.2.2 Elevated/Ground Flares

- A. Cold Venting of gases shall never be resorted to and all the gaseous emissions are to be flared.
- B. All flaring shall be done by elevated flares except where there is any effect on crop production in adjoining areas due to the flaring. In such cases, one may adopt ground flaring.
- C. In case of ground flare, to minimize the effects of flaring, the flare pit at Group Gathering Station (GGS), Oil Collecting Station (OCS) and Group

Collection Station (GCS) shall be made of RCC surrounded by a permanent wall (made of refractory brick) of minimum 5 m height to reduce the radiation and glaring effects in the adjoining areas.

- D. A green belt of 100 m width may be developed around the flare after the refractory wall in case of ground flaring.
- E. If the ground flaring with provision of green belt is not feasible, enclosed ground flare system shall be adopted, and be designed with proper enclosure height, to meet the ground level concentration (GLC) requirement.
- F. In case of elevated flaring, the minimum stack height shall be 30 m. Height of the stack shall be such that the maximum GLC never exceeds the prescribed ambient air quality limit.
- G. Burning of effluent in the pits shall not be carried out at any stage.