

No.11-32/2005-IA-III
Government of India
Ministry of Environment & Forests
(IA-III Division)

Paryavaran Bhavan,
CGO Complex, Lodi Road,
New Delhi-110003.

Dated the 4th August, 2005

Sub: Coastal Regulation Zone recommendation for oil and gas development in the transition zone of CB/OS-2 Block Gulf of Khambhat by M/s Cairn Energy India Private Limited - Environmental Clearance regarding.

Reference is invited from Forests and Environment Department, Government of Gujarat vide their letters No.ENV-10-2004-85-P, dated 23.2.2005 regarding the subject mentioned above. No Objection Certificate from Gujarat Pollution Control Board vide letter No.PC/NOC/SRT-1392/1414/16263, dated 3.6.2004 for the project has also been obtained.

The project involves drilling of 20 production wells and 5 injection wells in 7 identified clusters which have been selected based on their hydrocarbon potential. The project area situated along the eastern shore line of the Gulf of Khambhat and about 25 km south west of Surat, spreads to an extent of 650 sq km bounded by coast line with several creeks and the estuary of Tapi river on the eastern side and Arabian Sea (Gulf of Khambhat) on the west, between latitude 21°05'00"N to 21°15'00"N and longitude 72°37'19"71"E to 72°40'27'25"E. A maximum of 2 to 6 wells will be drilled in each cluster of 500 m radius. Development of oil and gas processing facilities in a phased manner viz. in Phase-I, 4000 BoPD oil and 30 MMSFD gas and in phase-II, 8000 BoPD oil and 75 MMSFD gas alongwith setting up of two gas gathering stations (GGS), one in north (near cluster no.3) and another in south (near cluster no.7) of Suvali terminal during phase-I and oil development followed by new oil processing facilities at existing Suvali terminal in Phase-II. The entire gas will be processed and compressed at existing Suvali terminal. During phase-II an additional gas processing and compression stream of 75 MMSFD would be established.

Laying of 4 pipeline (main pipeline of 10" diameter and spur lines of 6" diameter) upto 35 km length for transportation of oil, gas and water from the well head to GGS and existing onshore terminal at Suvali.

The Ministry of Environment & Forests hereby accords environmental clearance under Coastal Regulation Zone Notification, 1991 subject to strict compliance of the following conditions:-

A. SPECIFIC CONDITIONS:

- (i) All the conditions stipulated by the Forests and Environment Department, Government of Gujarat vide their letters No. ENV-10-2004-85-P, dated 23.2.2005 should be strictly implemented.

- (ii) All the conditions stipulated by the Gujarat Pollution Control Board vide their letter No. PC/NOC/SRT-1392/1414/16263, dated 3.6.2004 should be strictly implemented.
- (iii) Extensive mangroves development should be taken up in identified area with Forest Department.
- (iv) Necessary arrangements should be made to provide the drinking water to the local public since the area has water scarcity problem.
- (v) No chemicals or products should be stored within the Coastal Regulation Zone area other than those permissible under the Coastal Regulation Zone Notification, 1991.
- (vi) No effluent discharge/waste disposal should be done in the CRZ area.
- (vii) The Schedule for commencement of the drilling operation should be intimated at least one month in advance to the Wildlife Warden/Member Secretary, Gujarat Coastal Zone Management Authority and the Coast Guards having jurisdiction over the nearest coastal area so as to enable them to monitor its impact, if any, on the wild life and the coastal waters/coastal zone.
- (viii) Approval from DG Shipping under the Merchant Shipping Act prior to commencement of the drilling operations should be obtained.
- (ix) Use of diesel base mud is prohibited. Only water based drilling fluids / mud should be used for the drilling operation. As reflected in the EMP the drilling fluid should be recycled to a maximum extent. There should be no discharge of drilling fluid / mud / cuttings into sea. The unusable drilling fluid and entire drill cuttings should be disposed off onshore in a well designed pit lined with impervious liner. The disposal pit should be provided with leakage collection system. Design details of the waste disposal pit, capping of disposal pit should be approved by the Gujarat Pollution Control Board. The waste pit after it is filled up should be covered with impervious liner over which, a thick layer of native soil with proper slope should be provided.
- (x) The chemical additives used for preparation of drilling fluid (DF) should have low toxicity i.e., 96 hr LC50 > 30,000 mg/l as per mysid toxicity test conducted on locally available sensitive sea species. The chemicals used (mainly organic constituent) should be bio-degradable.
- (xi) Barite used in preparation of DF should not contain Hg > 1mg/ kg and Cd > 3mg/ kg.
- (xii) Drilling waste water including drill cuttings wash water should be collected in the disposed pit, evaporated and treated and should comply with notified standards for on-shore disposal.
- (xiii) The company should get analysed the drill cuttings generated from each well from any recognized laboratory for its characteristics and results should be submitted to Ministry of Environment & Forests/CPCB/Gujarat Pollution Control Board periodically.

- (xiv) The used oil generated from drill site should be collected and sold to registered recyclers having environmentally sound management facility.
- (xv) In case, environmentally acceptable methods for disposal of drill waste such as (a) injection to a formation through casing annulus, if conditions allow (b) land farming at suitable location (c) bio-remediation (d) incinerator or (e) solidification should be considered, in that case company should submit proposal to Gujarat Pollution Control Board/Ministry of Environment & Forests for approval.
- (xvi) In case the commercial viability of the project is established, the company will prepare a detailed plan for development of oil and gas fields in CB-OS/2 in the Gulf of Khambhat and obtain fresh clearance from the Ministry.
- (xvii) Adequate infrastructure facilities should be provided near the off-shore installations so that booms, skimmers, chemical dispersants could be deployed immediately in case of oil leakage from the installation. Appropriate Oil Spill Management Plan should be drawn and efforts should be made to curtail the oil slick within 500 meters of the installation and accordingly, action plan and facilities to check the oil slick beyond 500 meters should be provided.
- (xviii) No drilling well should be located in mangrove area.
- (xix) It shall be ensured that during movement of man and material no destruction of mangroves is carried out.
- (xx) No groundwater should be tapped for the project.
- (xxi) The solid waste generated during the drilling process and from the equipment should be disposed of safely in consultation with Gujarat State Pollution Control Board.
- (xxii) No landfill site should be located in Coastal Regulation Zone area. The solid waste generated from the drill cutting, solar evaporated drilling mud sediments should be disposed off in Gujarat Enviro Protection and Infrastructure Limited (GEPIL) hazardous waste facility located at Gabheri Taluk Choryasi, Surat.
- (xxiii) No camp sites for labours should be set up in Coastal Regulation Zone area. The toilets to be constructed in Coastal Regulation Zone areas should have septic tank and soak pit.
- (xxiv) The waste water generated from the project shall be treated and disposed of as per the norms laid down by Gujarat State Pollution Control Board.
- (xxv) Oil blow out preventing device to be provided against the hazard of oil blow out.
- (xxvi) Hydrocarbon leak due to loss of containment to be checked and prevented.
- (xxvii) The project proponent shall also comply with the environmental protection measures and safeguards recommended in the EIA/EMP/DMP report.
- (xxviii) No activities should be carried out in the forest area without obtaining forest clearance from the Forest Department.

B. GENERAL CONDITIONS:

- (i) The Project authority must strictly adhere to the stipulations made by the Central Government as part of any International Convention (s) or Merchant Shipping Act.
- (ii) The project authorities must strictly adhere to the stipulations made by the Gujarat State Pollution Control Board and the State Government.
- (iii) No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- (iv) The project must strictly adhere to the regulations made by MARPOL convention 1973/1978 for setting limits, for discharges from offshore oil/gas exploration and production activities.
- (v) The project authorities must strictly comply with the rules and regulations under:- Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on 3rd October 1994. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained wherever applicable.
- (vi) The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Wastes (Management & Handling) Rules, 1989/2003 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.
- (vii) The overall noise level in and around the rig area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (viii) A separate environmental management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- (ix) The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment & Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purpose.
- (x) The implementation of the project vis-à-vis environmental action plans will be monitored by Ministry's Regional Office at Bhopal/State Pollution Control Board/Central Pollution Control Board. A six monthly compliance status report should be submitted to the monitoring agencies.

- (xi) The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry and Forests at <http://www.envfor.nic.in>. This should be advertised within seven days from the date of issue of the clearance letter in at least two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned.
- (xii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiii) The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner.

The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environmental (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


(A. Senthil Vel)
Additional Director

To

The Chairman & Managing Director,
Cairn Energy India Pvt. Ltd.,
Wellington Plaza, 2nd Floor,
90 Anna Salai, Chennai-600002.

Copy to:-

- (i) Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (ii) The Chairman, Gujarat State Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar – 382010.
- (iii) The Secretary, Forests and Environment Department, Block No.14, 8th Floor, Sachivalaya, Gandhinagar-382010.
- (iv) The Chief Conservator of Forests (Central), Regional Office (WZ), E-3/240, Arera Colony, Bhopal-462016.
- (v) Director (EI), Ministry of Environment & Forests, Paryavaran Bhavan, CGO Complex, Lodi Road, New Delhi.
- (vi) Additional Director (Monitoring Cell), Ministry of Environment & Forests, Paryavaran Bhavan, CGO Complex, Lodi Road, New Delhi.
- (vii) Guard File
- (viii) Monitoring File
- (ix) Record File


(A. Senthil Vel)
Additional Director