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No.J-11011/109/2005-I.A.II (I)  
**Government of India**  
**Ministry of Environment & Forests**  
**(I.A. Division)**

**Paryavaran Bhawan**  
**CGO Complex, Lodi Road**  
**New Delhi-110003.**  
Phone : 011-24364594

Dated January 25, 2005

To, ✓  
The Chairman & Managing Director  
M/s Cairn Energy India Pvt. Ltd.  
Wellington Plaza, 2<sup>nd</sup> Floor  
90, Anna Salai  
Chennai - 600 002  
Tamil Nadu

**Subject : Development for oil production in CB-OS/2 Block off shore area in Gulf of Khambhat, Gujarat by M/s Cairn Energy India Pvt. Ltd.- Environmental clearance reg.**

Sir,

This has reference to your letter No. HSE06/HPBL/44 dated 15<sup>th</sup> June, 2004 on the above mentioned subject along with project documents including EIA/EMP report "NOC" from Gujarat Pollution Control Board and subsequent communications date 9<sup>th</sup> July, 2004 and 23<sup>rd</sup> August, 2004 on the above mentioned subject.

2.0 The Ministry of Environment & Forests has examined your application. It is noted that the project is envisaged to carry out oil development in CB-OS/2 block in the off shore area of Gulf of Khambhat in phased manner in five stages. The area of the block is 2,642 km<sup>2</sup> which about 650 km<sup>2</sup> from the on-shore area. Distance of block from the coast is about 15-25 km. The project will start with minimum facilities during phase-I at a crude production capacity of 5,500 Barrels Oil Per Day (BOPD) in the existing Suvali terminal and to a peak level of 55,000 BOPD depending on the oil field success. It is proposed to develop a maximum no. of additional 26 production wells, 15 platforms and in-filled pipeline of approximately 185 km<sup>2</sup> interconnecting the wellhead platforms and production facilities at Suvali. All the wells planned and the facilities under proposed project will be located in the off shore block and not within the CRZ area. The wells are located at a varying distance of 15-32 km<sup>2</sup> from the coast line. However, the pipelines from the platforms to the onshore terminals and the stabilized crude transport lines will travels through the CRZ area. Public hearing of the project was held on 5<sup>th</sup> December, 2004. The Gujarat Pollution Control Board has granted "NOC" on 19.02.2004. Total cost of the project is Rs. 2,921.00 Crores.

3.0 The Ministry of Environment and Forests hereby accords environmental clearance under EIA Notification dated 27<sup>th</sup> January, 1994 subject to strict compliance of the following conditions :-

**A. SPECIFIC CONDITIONS**

- (i) The international 'Good Practices' adopted by the petroleum industry, viz. International Norms to safeguard marine biodiversity would be implemented by M/s. CEIPL and monitored by the Indian Coast Guard to safeguard the marine biodiversity as per the decision conveyed by the Ministry of Environment & Forests vide its D.O. letter No.J-11011/90/2002-IA.II (I) dated 30<sup>th</sup> September, 2005 to the Ministry of Petroleum and Natural Gas. The expenditure towards monitoring by Indian Coast Guard shall be borne by M/s CEIPL.
- (ii) M/s CEIPL shall get the monitoring done regarding the impact of developmental activities on the marine environment through National Institute of Oceanography or National Institute of Ocean Technology or any other reputed organization and submit periodical reports to the Ministry, and Chief Wild life Warden and GSPCB.
- (iii) The schedule for commencement for the drilling operation shall be intimated at least one month in advance to the Wildlife Warden having jurisdiction over the nearest coastal area so as to enable him to monitor its impact, if any, on the wildlife.
- (iv) Approval from DG Shipping / Ministry of Defence under the Merchant Shipping Act prior to commencement of the drilling operations shall be obtained. At least, 30 days prior to the commencement of drilling, the exact location should be intimated to the Director General of Shipping, Mumbai and the company should abide by any direction he may issue regarding ensuring the safety of navigation in the area.
- (v) M/s CEIPL shall ensure that the oil spill contingency plan is in place and no oil spill take place during mobilization, drilling and operations and there shall not be any damage to mangrove/coastal ecosystem.
- (vi) The schedule for commencement of the drilling operation shall be intimated at least one month in advance to the Wildlife Warden having jurisdiction over the nearest coastal area so as to enable him to monitor its impact, if any, on the wild life.
- (vii) Disposal of Drill Cuttings (DC) and Drilling Fluids (DF) for off shore installations
  - (a) Use of diesel base mud is prohibited. Only Water Base Mud (WBM) is permitted for off shore drilling. If the operator intend to use low toxicity Oil Based Mud (OBM) or synthetic base mud (SBM) to mitigate specific whole problems in the formation, it should be intimated to the Ministry and Gujarat

State Pollution Control Board. The low toxicity OBM should have aromatic content < 1%.

- (b) The toxicity of chemical additives used in the DF (WBM or OBM or SBM) should be biodegradable (mainly organic constituents) and should have toxicity of 96 hr LC 50 value >30,000 mg/l as per mysid toxicity or toxicity test conducted on locally available sensitive sea species.
- (c) Hexavalent Chromium compound shall not be used in DF. Alternate chemical in place of chrome lignosulfonate should be used in DF. In case, chrome compound is used, the DF/DC should not be disposed offshore.
- (d) Bulk discharge of DF in offshore is prohibited except in emergency situations.
- (e) BM/OBM should be recycled to a maximum extent. Unusable portion of OBM should not be discharged into sea and shall be brought to on-shore for treatment and disposal in an impervious waste disposal pit.
- (f) Thoroughly washed DC separated from WBM/SBM and unusable portion of WBM/SBM having toxicity of 96 hr LC 50 >30,000 mg/l shall be discharged off-shore into sea intermittently, at an average rate of 50 bbl/hr/well from a platform so as to have proper dilution and dispersion without any adverse impact on marine environment. WBM/SBM should be recycled to the maximum extent.
- (g) Drill cuttings of any composition should not be discharged in sensitive areas notified by Ministry of Environment and Forests.
- (h) In case of specific hole problem, use of OBM will be restricted with zero discharge of DC. Zero discharge would include re-injection of the DC into a suitable formation or to bring to shore for proper disposal. In such a case, use of OBM for re-injection should be recorded and made available to the Ministry and Gujarat State Pollution Control Board. Such low toxic OBM having aromatic content less than 1% should be made available at the installation.
- (i) In case, DC is associated with high oil content from hydrocarbon bearing formation, then disposal of DC should not have oil content >10 gm/kg.
- (j) The DC wash water should be treated to confirm limits notified under the Environment (Protection) Act, 1986 before disposal into sea. The treated effluent should be monitored regularly.
- (k) Discharge of DC from the installation located within 5 km. away from shore should ensure that there is no adverse impact on marine eco-system and on the shore. If, adverse impact is observed, then the company have to bring the DC on-shore for disposal in an impervious waste disposal pit.

- (l) The Company should get analyzed the drill cuttings generated from each well from any recognized laboratory for its characteristics and results be submitted to MoEF/CPCB/SPCB periodically.
- (m) M/s CEIPL are required to record daily discharge of DC and DF to off-shore and also to monitor daily the effluent quality, and submit the compliance report once in every six months to MoEF.
- (n) Company should monitor the sea surface water quality in terms of oil content around the well and submit reports to the Ministry on a monthly basis during the period of drilling operations.
- (o) The DC wash water should be treated to conform to limits notified under the Environment (Protection) Act, 1986, before disposal into sea. The treated effluent should be monitored regularly.
- (p) Barite used in preparation of DF shall not contain Hg > 1 mg/kg & Cd > 3 mg/kg.
- (q) If any, environmental friendly technology emerges for substitution of DF and disposal technology, it may be brought to the notice of MoEF and regulatory agencies. If the operator desires to adopt such environment friendly technology prior approval from MoEF shall be taken.
- (r) The Company shall monitor the petroleum hydrocarbons and heavy metals concentration in the marine fish species regularly and submit report to the Ministry.
- (viii) Treated waste water (produced water or formation water or sanitary sewage) should comply with the marine disposal standards (for Oil & Gas at <40 mg/l) notified under the Environment (Protection) Act, 1986.
- (ix) Requisite infrastructure facilities should be provided near the off shore installations so that booms and skimmers/chemical dispersants could be deployed immediately in case of oil leakage from the installations. 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.
- (x) The project proponent shall also comply with the environmental protection measures and safeguards recommended in the EIA/EMP/risk analysis report as well as the recommendations of the public hearing panel.
- (xi) The used oil generated from drill site shall be collected and sold to the registered reprocessors having environmentally sound facility.
- (xii) M/s CEIPL shall facilitate to set up a monitoring unit at the headquarters of State Wildlife Organization. The user agency shall also provide adequate

infrastructure facilities to the visiting scientists and monitoring agency near their onshore/off shore installations off and along the Gujarat coast.

- (xiii) M/s CEIPL shall comply with the specific and general conditions stipulated by the Ministry's environmental clearance letter under Coastal Regulation Zone (CRZ) Notification dated 4<sup>th</sup> August, 2005.
- (xiv) M/s CEIPL shall strictly comply with all the recommendations of the Chief Wildlife Warden, Gujarat regarding impact of the project on marine environment communicated vide their letter no. WLP/12/32/A/1618/20/2005-06 dated 26.09.2005.

## **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 authority must strictly adhere to the stipulations made by the Gujarat State Pollution Control Board and the State Govt.
- iii. No further expansion should be carried out without prior approval of the Ministry of Environment and 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 authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on 3<sup>rd</sup> October, 1994 and 6<sup>th</sup> January, 2000. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained wherever applicable.
- v. 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 as amended in 2003, wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/treatment/ storage/disposal of hazardous wastes.
- vi. The overall noise levels 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).


- vii. A separate environmental management cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- viii. The project authorities shall earmark an amount of Rs. 3.50 Crores during phase-I and Rs. 20.00 Crores during Phase- II, III, IV and V as mentioned in Question No. XIX of the Questionnaire towards implementation of specific conditions stipulated by the Ministry of Environment and 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.
- ix. 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.
- x. 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 of Environment and Forests at <http://envfor.nic.in>. This should be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.

4.0 The Ministry or any competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions will be monitored by the Regional Office of this Ministry located at Bhopal.

5.0. The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.

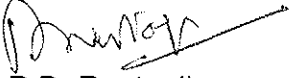
6.0 Any other conditions or alteration in the above conditions will have to be implemented by the project authorities in a time bound manner.

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

  
(Dr. P.B. Rastogi)  
Additional Director

Copy to :-

1. The Secretary, Department of Ministry of Environment and Forests, Govt. of Gujarat, Block No.14, 8<sup>th</sup> Floor, Sachivalaya, Gandhi Nagar - 382 010, Gujarat.
2. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, E-3/240 Area Colony, Bhopal, M.P.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar New Delhi – 110 032.
4. The Chairman, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhi Nagar - 382 043, Gujarat.
5. Joint Secretary (CCI-I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File.
8. Monitoring File.
9. Record File.

  
(Dr. P.B. Rastogi)  
Additional Director