

F. No. J-11011/389/2006- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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Dated November 15, 2007

To
M/s GeoEnpro Petroleum Ltd.
A-121, 12th Floor, Himalaya House
23 K.G. Marg
New Delhi - 110 001

Sub : Exploratory Drilling in Kharsang Oil Field, Kharsang, Changlong, Arunachal Pradesh by M/s GeoEnpro Petroleum Ltd. - Environmental Clearance reg.

Sir,

This has reference to your letter no. GEPL/EC/2007/24 dated 12th October, 2007 on the above mentioned subject.

2. The Ministry of Environment and Forests has examined your application. It is noted that the proposal is for environmental clearance for exploratory drilling of 40 wells for Oil and Gas in the operating Kharsang Oil Field (KOF) in Arunachal Pradesh. The area of the oil field is 10.5 km². It is noted that already 41 wells have been drilled and current production is 210 KLPD of crude oil and with the drilling of 40 new wells, crude oil production is expected to enhance from the present level of 210 KLPD to 900-1000 KLPD. The crude oil produced from the well will be collected in the existing oil collecting station through the pipeline where it will be treated to separate oil, water and gas. The separated gas will be used for captive power and house hold needs. No National Park/Wildlife Sanctuary/Biosphere reserve etc is located within 10km distance of the project area. It is proposed to use water based mud for drilling. The area required for each drilling well is 1.2-1.5 ha. Water requirement of 28 m³/d will be met from the Namphuk river. Power requirement of 3X650KW will be met from the DG set. The drilling will be carried out at a depth of 4000 m. About 96 m³ of drill cuttings and 100m³/d of residual mud will be generated at each well, which will be disposed of in HDPE lined pit constructed at each drilling location. The oily sludge generated from the formation water clarification system will be provided to authorized recyclers. Public hearing of the project was held on 11th July, 2007. Estimated cost of the project is Rs. 750 crores.

3. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification, 2006 subject to strict compliance of the following Specific and General Conditions.

A. SPECIFIC CONDITIONS:

- i. Compensation for the land acquisition to the land oustees and for standing crop shall be paid as per the prevailing rules.
- ii. The company shall comply with the guidelines for disposal of solid waste, drill cutting and drilling fluids for onshore drilling operation notified vide GSR.546(E) dated 30th August, 2005.

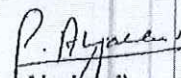
- iii. The surface facilities shall be installed as per applicable codes and standards, international practices and applicable local regulations.
- iv. The top soil removed shall be stacked separately for reuse during restoration process.
- v. Drilling waste water including drill cuttings wash water shall be collected in disposal pit lined with HDPE lining evaporated or treated and shall comply with the notified standards for on-shore disposal. The membership of common TSDF shall be obtained for the disposal of drill cuttings and hazardous waste. Otherwise secured land fill shall be created at the site with the Authorization of the SPCB. The design of the secured shall be approved by the SPCB.
- vi. The recyclable waste (oily sludge) and spent oil shall be disposed to the authorized recyclers.
- vii. Only water based drilling mud shall be used. The drilling mud shall be recycled. In case of use of synthetic oil based mud due to any problem due to geological formation for drilling, low toxicity, Oil Based Mud (OBM) having aromatic content < 1 % shall be used. If it is intended to use such OBM/SBM to mitigate specific hole problem, it should be intimated to Ministry of Environment and Forests/ SPCB.
- viii. Quantities of storage and chemicals and additives required for drilling mud preparation shall be below the specified threshold for specified storage permitted under the MSIHC Rules.
- ix. Pre hire rig inspection, safety meetings, tool box meeting, job safety analysis and audits shall be carried out to identify hidden /potential hazards.
- x. The Company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.
- xi. The Company shall take necessary measures to reduce noise levels at the drill site by providing mitigation measures such as proper acoustic enclosures to the DG set and meet the norms notified by the MoEF. Height of all the stacks/vents shall be provided as per the CPCB guidelines.
- xii. To prevent fire and explosion at Oil and Gas facility, potential ignition sources shall be kept to a minimum and adequate separation distance between potential ignition sources and flammable material should be in place.
- xiii. The company shall develop a contingency plan for H₂S release including all necessary aspects from evacuation to resumption of normal operations. The workers shall be provided with personal H₂S detectors in locations of high risk of exposure along with self containing breathing apparatus.
- xiv. To prevent well blowouts during drilling operations, Blow Out Preventor (BOP) system shall be installed. Blow Out Prevention measures during drilling shall focus on maintaining well bore hydrostatic pressure by proper pre-well planning and drilling fluid logging etc.

- xv. The company shall take measures after completion of drilling process by well plugging and secured enclosures, decommissioning of rig upon abandonment of the well and drilling site shall be restored to near original condition. In the event that no economic quantity of hydrocarbon is found a full abandonment plan shall be implemented for the drilling site in accordance with the applicable Indian Petroleum Regulations.
- xvi. Occupational health surveillance of the workers shall be carried out as per the prevailing Acts and Rules.

B. GENERAL CONDITIONS:


- i. No further expansion or modification in the project shall 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 shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- ii. The emissions of (RSPM, SPM, SO₂, NO_x, HC & VOC) from DG Set and from flare stack shall conform to the standards prescribed by the SPCB. Regular monitoring of Ambient Air for HC and VOC shall be carried out as per CPCB guidelines. Stack height attached to DG sets shall be in-conformance with the environment protection acts and rules.
- iii. The project authorities must strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous chemicals Rules, 1989 as amended subsequently. Prior approvals from Chief Inspectorate of Factories, Chief Controller of Explosives, Fire Safety Inspectorate etc. must be obtained, wherever applicable.
- iv. The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Wastes (Management and Handling) Rules, 1989/ 2003 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.
- v. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).
- vi. A separate Environmental Management Cell equipped with full fledged laboratory facilities must be set up to carry out the environmental management and monitoring functions.
- vii. The project authorities will provide adequate funds both recurring and non-recurring to implement the 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 shall not be diverted for any other purposes.
- viii. The Regional Office of this Ministry at Shilong/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.

- ix. The Project Proponent shall 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 shall be advertised within seven days of the issue of this 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.
- x. The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.
4. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
5. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions.
6. 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 Environment (Protection) Act, 1986, Hazardous Wastes (Management & Handling) Rules, 1989, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


(Dr. P. L. Ahujarai)
Director

Copy to:

- 1.. The Principal Secretary(E&F), Govt. of Arunachal Pradesh ,PCCF Complex, P.O. Itanagar, Arunachal Pradesh 791 111, Arunachal Pradesh.
2. The CCF, Regional office(NE Zone), Ministry of Environment and Forests, Upland road, Laitukkhara, Shillong 793003 Meghalaya.
3. The Chairman, CPCB, Parivesh Bhavan, CBD-cum-Office complex East Arjun Nagar, New Delhi 110032
4. The Chairman, Arunachal Pradesh Pollution Control Board, Itanagar-791 111
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO complex, Lodi Road.
6. Guard file/Monitoring file, Record file.


(Dr. P. L. Ahujarai)
Director