

20.1.09
P. K. Jaiswal
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F No. J-11011/904/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

→ ~~GM (P) (PS)~~

Paryavaran Bhawan
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Dated March 17, 2009

To,

M/s Indian Oil corporation Limited
Refineries Division,
Scope Complex, Core-2,
7th Institutional area Lodi Road,
New Delhi 110 003.

Sub: Installation of Delayed Coking Unit (DCU) at Haldia Refinery in Haldia West Bengal
by M/s Indian Oil Corporation Ltd. environmental clearance

Sir,

This has reference to your letter no. EP/ E C-APPL dated 18.12.2008 along with a
copies of EIA/EMP and Risk analysis reports, Final layout plant and project feasibility report
seeking environmental clearance under the EIA Notification, 2006

2. The Ministry of Environment and Forests has examined your application. It is noted
that M/s Indian Oil Corporation Ltd have proposed for installation of delayed coking unit of
1.7 MMTPA capacity along with other facilities at Haldia Refinery premises in an industrial
zone in Haldia, West Bengal. The other units to be installed include: Coker Gas Oil treater
(CGO treater) (1.2 MMTPA), Coker LPG Treating Unit (70 TMTPA), Sulphur Recovery Unit
(SRU) (80TPD), Amine Treating Unit (ATU) (160TPH) and Sour Water Stripper (SWS) (50
TPH). Besides cooling tower (1 x 3000 m³/hr) and instrument air along with air drier (1 x
3600 Nm³/hr) will be installed. The intermediate and finished tanks of 2 x 5000 KL capacity
and RPC Wagon loading facility will be located at offsite. The refinery has been set up in an
area of 600 acres. The total cost of the project will be Rs. 1857.00 crores.

3. At present, Haldia refinery is processing about 72% High Sulphur (HS) crude that is
needed to produce LOBS. The processing of HS crude results in higher black oil generation.
In absence of any processing facility to upgrade black oil, it is converted to low value
products like High Sulphur Furnace Oil (HSFO) and Bitumen, thereby resulting in lower
distillate yield. Besides the above, due to increase in HS crude processing by about 1.0
MMTPA after DCU project, VDU-II capacity will be marginally augmented from 2.4 MMTPA
to 2.6 MMTPA through low cost de-bottlenecking to take care of additional RCO generated
from incremental HS crude. Hydrogen requirement for the project will be met from the new
HGU under OHCU project. Coker Naptha generated from the project will be routed for
value addition to proposed PX project. OSBC facilities would include required tankages,
cooling tower cell, Nitrogen bullet and vapourizer, instrument Air Dryer and Receiver, DM
water/HFW/Raw water pumps with necessary dosing facility and storage, service and
drinking water distribution system, condensate recovery system, fire fighting facilities, new
control room and substation, coke handling and despatch facilities, product blending facility,
warehouse, offsite piping, fuel oil/fuel gas system etc.

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4. The existing water requirement of 1245 m³/hr is met through the Geonkhali water supply system and 16 deep tube wells, located within the refinery premises. The total water requirement for the proposed DCU project will be about 40m³/hr and will be met from the existing sources. The additional effluent generation would be about 28 m³/hr, which will be treated in the ETP and treated effluent will be recycled in cooling tower makeup, fire water makeup and to meet the water requirement in some of the process units. There will be 3 new stacks, attached to the Delayed Coker Unit, new SRU and to CGO Treater. The Major pollutants emitted from various refinery stacks are SO₂, NO_x, CO and HC etc. To keep the emission level within 1475 kg/hr, new SRU with more than 99% would be installed. Additional power requirement will be 15 MW which will be met from existing power supply.

5. The raw oily sludge from tank and ETP will be transferred to the melting pit for heat treatment for oil recovery. The recovered oil will be reprocessed into products. Balance residual sludge after oil recovery will be kept in HDPE lined residual sludge pits for disposal through incineration / bio-remediation inside the refinery premises. Bio sludge after drying will be used as manure. The pet coke generated will be supplied to cement plants or coal based thermal power plants.

6. The petroleum refinery activities are listed at 4(a) under 'A' category in the Schedule of EIA Notification, 2006 and hence appraised at central level. The Expert Appraisal Committee (I) in its 91st meeting held on 9-11th February, 2009 recommended the proposal for environmental clearance. As the unit is located in the industrial estate, the public hearing/consultation of the project is not required as per para 7 (i)-III (b) Stage (3) - public consultation of EIA Notification, 2006.

7. Based on the information submitted by the project proponent the Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification, dated 14th September 2006 subject to the compliance of the following Specific and General Conditions:

A. SPECIFIC CONDITIONS:

- i. M/s. IOCL shall comply with new standards/ norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March 2008.
- ii. The process emissions (SO₂, NO_x, HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the West Bengal State Pollution Control Board from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.
- iii. Ambient air quality monitoring stations, [SPM, SO₂, NO_x, H₂S, mercaptan, NMHC and Benzene] shall be set up in the Refinery complex in consultation with SPCB based on occurrence of maximum ground level concentration and down-wind direction of wind. The monitoring network must be decided based on modeling exercise to represent short term GLCs. Continuous on-line stack monitoring equipment shall be installed for measurement of SO₂, NO_x, CO and O₂. Low NO_x burners shall be installed with online analyzers.
- iv. Monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors and reports shall be submitted to the Ministry's regional office at Bhubaneswar. For control of fugitive emission all unsaturated hydrocarbon will be routed to the flare system and the Flare system shall be designed for smoke less burning.

- v. Fugitive emissions in the form of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting H₂S, HC leakage shall also be provided at strategic locations. The company shall use low sulphur fuel to minimize SO₂ emission. Sulphur recovery units shall have efficiency of 99.5 %. Leak Detection and Repair programme shall be implemented to control HC/VOC emissions. Work zone monitoring shall be carried out near the storage tanks besides monitoring of HCs/VOCs in the work zone.
- vi. The new flare area shall have H₂S and HC detectors with fire alarm system at fire station / control room. Flare gas recovery system shall be installed. All new process units shall have knockout drum in every battery area. The safety release system of light hydrocarbons which are open to atmosphere shall be connected to flare system.
- vi. The waste water shall be treated in the waste water treatment plant and the treated effluent shall meet the prescribed standards. Efforts shall be made to recycle the treated effluent to achieve zero discharge.
- vii. The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Wastes (Management, Handling and Trans Boundary Movement) Rules, 1989/ 2003/ 2008 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/ treatment/ storage/ disposal of hazardous wastes.
- viii. The company shall strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP)
- ix. 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.
- x. 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 shall be in place.
- xi. Occupational health surveillance of worker shall be done on a regular basis and records maintained as per the Factory Act.
- xii. Greenbelt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 33% plant area in consultation with DFO as per CPCB guidelines.
- xiii. M/s IOCL shall undertake measures for rain water harvesting to recharge the ground water and minimize fresh water consumption.

B. GENERAL CONDITIONS

- i. The project authorities must strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government and any other statutory body.

- ii. No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case of deviations or alternations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry.
- iii. At no time, the emissions shall go beyond the prescribed standards. In the event of failure of any pollution control system, the respective facilities should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done.
- iv. Waste water shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB.
- v. The overall noise levels in and around the premises shall be limited within the prescribed standards (75 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).
- vi. The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project, if required. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.
- vii. The project authorities will provide adequate funds as non-recurring and recurring expenditure 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 should not be diverted for any other purposes.
- ix. The stipulated conditions will be monitored by the concerned Regional Office of this Ministry/ Central Pollution Control Board/ State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the Website of the Company.
- 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://www.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 concerned Regional office of this Ministry.
- xi. A separate environment management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of a Senior Executive.


- xii 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 start of the project.

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

9 The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner.


10 Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.

11 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, the Public Liability Insurance Act, 1991, Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 1989/2003/2008 and Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 along with their amendments and rules.


(Dr.P.L. Ahujara)
Director

Copy to:

1. The Chairman, Central Pollution Control Board, Parvesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi 110032.
2. The Chairman, West Bengal Pollution Control Board, Parvesh Bhavan, 10A Block-LA Sector-III, Salt Lake, Calcutta- 700091.
3. The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharpur, Bhubaneswar - 751 023.
4. The Secretary, State Department of Environment, Govt. of West Bengal, Kolkata.
5. Director, Monitoring Cell, Ministry of Environment and Forests, Parvasharan Bhavan, CGO Complex, New Delhi.
6. Guard File/Monitoring File/Record File.


(Dr.P.L. Ahujara)
Director