

F. No.J-11011/15/2015-IA-II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA Division)

Indira Paryavaran Bhawan
Jor Bagh Road, N Delhi - 3
Dated: 15th February, 2019

To,

M/s Indian Oil Corporation Limited,
Barauni Refinery,
District **Begusarai** (Bihar)

Sub: Expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited at Barauni, District Begusarai (Bihar) - Environmental Clearance - reg.

Ref: Online Proposal No.IA/BR/IND2/28027/2015 dated 2nd February, 2019.

Sir,

This has reference to your online proposal No.IA/BR/IND2/28027/2015 dated 2nd February, 2019 along with the EIA/EMP report containing public hearing proceedings for the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited in a total area of 3592921sqm at Barauni, District Begusarai (Bihar).

3. The details of the existing/proposed products are as under:-

S. No.	Product/By-product	Existing (TMTPA)	Proposed (TMTPA)	Total (TMTPA)
1	LPG	318	169.1	487.1
2	Poly Propylene	0	203	203
3	Naphtha	83.4	35.3	118.7
4	MS (BS-VI)	1351.6	372.4	1724.0
5	Aviation Turbine Fuel	204.0	(-)0.8	203.2
6	Superior Kerosene	370.0	0	370.0
7	HSD (BS-VI)	2787.1	1833.9	4621.0
8	Fuel Oil	46.9	(-) 45.9	1.0
9	Bitumen	74.0	0	74.0
10	Carbon Black Feed Stock	0	0	0
11	Raw Pet Coke (LS)	154.0	(-) 30.0	124.0
12	Raw Pet Coke (HS)	0	184.0	184.0
13	Sulfur	21.7	34.3	56.0
14	Fuel & Loss	591	243.0	834
Total		6000	3000	9000

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4. Details of existing and proposed process units are as under:-

Existing		Proposed		Final	
Process Unit	Capacity (TMTPA)	Process Unit	Capacity (TMTPA)	Process Unit	Capacity (TMTPA)
AVU I	1750				
AVU II	1750				
AVU III	2500				
		New AVU-IV	9000	New AVU-IV	9000
NSU	800			NSU	800
NHDT + CRU	210	NHDT + CRU	300	NHDT + CRU	300
NHT (ISOM)	183			NHT (ISOM)	183
ISOM	126			ISOM	126
RFCCU	1400	RFCC	1700	RFCC	1700
PRIME G+	840			PRIME G+	840
COKER B	500	COKER B	662	COKER B	662
BITUROX	100			BITUROX	100
DHDT	3300			DHDT	3300
COKER A	600			COKER A	600
Existing SRU	2x40 TPD			Existing SRU	2x40 TPD
HGU	54			HGU	54
NHDT + CCRU	375			NHDT + CCRU	375
		New SRU	2x80 TPD	New SRU	2x80 TPD
		New NHT (ISOM)	360	New NHT (ISOM)	360
		New ISOM	304	New ISOM	304
		New DHDT	1200	New DHDT	1200
		New HGU	61	New HGU	61
		New OHCU	1000	New OHCU	1000
		New PRU	562	New PRU	562
		New PP	200	New PP	200
		New LTU	390	New LTU	390
		New NSU	880	New NSU	880
		New ARU	500 MT/hr	New ARU	500 MT/hr
		New SWS	220 MT/hr	New SWS	220 MT/hr
		New FGTU	6178 kg/hr	New FG TU	6178 kg/hr

5. Existing land area is 3592921 sqm and no additional land is required for the proposed expansion. Industry has already developed greenbelt in an area of 26% i.e. 933124 m² out of total area of the project. The estimated project cost is Rs.8287 crores.

6. There are No National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridor etc within 10 km of the project site. Ganga River flows at a distance of 8 km in South.

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7. Total water requirement is 52104 cum/day, of which fresh water requirement of 24000 cum/day will be met from ground water through artesian wells.

Effluent of 28104 cum/day quantity will be treated in the Effluent Treatment Plant followed by Reverse Osmosis. There will be no discharge of treated/untreated waste water from the unit, and thus ensuring Zero Liquid Discharge.

Power requirement after expansion will be 139000 kVA, to be supplied by Bihar State Power transmission Company Limited. Existing unit has one DG set of 625 kVA. No additional DG set will be required.

Existing unit has six boilers of 525 TPH capacity. One more boiler of 150 TPH will be installed to cater to the proposed expansion. Multi cyclone separator/bag filter with adequate stack height will be provided with the proposed boilers to control the particulate emissions within the statutory limit of 115 mg/Nm³.

8. The project/activity is covered under category A of item 4(a) 'Petroleum refining industry', 5(e) 'Petrochemical products and petrochemical based processing', 5(c) 'Petro-chemical complexes' of the schedule to the EIA Notification, 2006 and requires appraisal/approval at central level in the Ministry.

9. The standard ToR for the project was issued by the Ministry on 16th November, 2017, and public hearing was conducted by the State Pollution Control Board on 5th October, 2018.

10. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 3rd meeting held on 11th February, 2019. The project proponent and their accredited consultant M/s Envirotech East Pvt Ltd presented the EIA/EMP report as per the ToR.

11. Based on the proposal submitted by the project proponent and recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to project for **expansion of Barauni Refinery from 6 MMTPA to 9 MMTPA along with polymer units by M/s Indian Oil Corporation Limited** in a total area of 3592921sqm at Barauni, District Begusarai (Bihar), for a period of one year, under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

(a) Third party assessment for the environmental damage, if any, and differential impacts on environmental parameters due to excess crude processing (during the periods 2009-10, 2010-11, 2012-13, 2013-14, 2015-16 & 2016-17) shall be carried out by NEERI or by any other agency of repute, in a fixed time frame and the report shall be submitted to the Ministry.

(b) Necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, shall be obtained from the State Pollution Control Board as required.

(c) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.

(d) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.



- (e) To control source and the fugitive emissions, suitable pollution control devices shall be installed with different stacks to meet the prescribed norms and/or the NAAQS. The gaseous emissions shall be dispersed through stacks of adequate height as per CPCB/SPCB guidelines.
- (f) The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R.186(E) dated 18th March, 2008, as amended from time to time, shall be followed.
- (g) The National Emission Standards for Petrochemical (Basic & Intermediates) issued by the Ministry vide G.S.R.820 (E) dated 9th November, 2012, as amended time to time, shall be followed.
- (h) Total fresh water requirement shall not exceed 24000 cum/day to be met from ground water through artesian wells. Necessary prior permission in this regard shall be obtained from the concerned regulatory authority.
- (i) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (j) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.
- (k) Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.
- (l) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.
- (m) Regular monitoring for Volatile Organic Compounds shall be carried out at vulnerable points.
- (n) Oily sludge shall be collected for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.
- (o) Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of the Ministry. Outcome from the report to be implemented for conservation scheme.
- (p) Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.
- (q) The company shall undertake waste minimization measures as below:-
- (i) Metering and control of quantities of active ingredients to minimize waste.
 - (ii) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - (iii) Use of automated filling to minimize spillage.
 - (iv) Use of Close Feed system into batch reactors.
 - (v) Venting equipment through vapour recovery system.
 - (vi) Use of high pressure hoses for equipment clearing to reduce wastewater generation.



(r) The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.

(s) All the commitments made to the public during public hearing/consultation shall be satisfactorily implemented.

(t) At least 0.25% of the total project cost shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

(u) For the DG sets, emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.

(v) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.

(w) Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.

(x) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

(y) Process safety and risk assessment studies shall be carried out using advanced models, and the mitigating measures shall be undertaken accordingly.

11.1 The grant of Environmental Clearance is further subject to compliance of other generic conditions as under:-

(i) The project authorities must strictly adhere to the stipulations made by the state Pollution Control Board (SPCB), State Government and/ or any other statutory authority.

(ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. 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.

(iii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB), ensuring that at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.

(iv) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No.826(E) dated 16th November, 2009 shall be complied with.




- (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 the Environment (Protection) Act, 1986.
- (vi) The Company shall harvest rainwater from the roof tops of the buildings to recharge ground water, and to utilize the same for different industrial operations within the plant.
- (vii) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis.
- (viii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing shall be implemented.
- (ix) The company shall undertake all measures for improving socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villagers, administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.
- (x) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- (xi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.
- (xii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (xiii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (xiv) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional offices of MoEF&CC by e-mail.
- (xv) 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 SPCB/Committee and may also be seen at Website of the Ministry at <http://moef.nic.in>. This shall 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

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vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional office of the Ministry.


12. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

13. 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 Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991, read with subsequent amendments therein.


15/2/2019
(S. K. Srivastava)
Scientist E

Copy to:-

1. The Additional PCCF (C), Ministry of Environment, Forest and Climate Change, Regional Office, Ranchi Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony, **Ranchi** - 834002 (Jharkhand)
2. The Secretary, Forests & Environment Department, Government of Bihar, 1st Floor, N.H Bhawan, Vishweshwaraiya Complex, Bailey Road, **Patna** -1 (Bihar)
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, **Delhi** - 32
4. The Member Secretary, Bihar State Pollution Control Board, Beltron Bhawan, 2nd Floor, Lal Bahadur Shastri Nagar, **Patna** - 800 023 (Bihar)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, **New Delhi**
6. Guard File/Monitoring File/Record File


15/2/2019
S. K. Srivastava)
Scientist E

F. No. J-11011/15/2015 - IA II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(I.A. Division)

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Dated: 06th March, 2017

To,
The DGM (TS & HSE)
M/s Indian Oil Corporation Ltd.,
Barauni Refinery,
P O Barauni Oil Refinery,
Begusarai - 851114, Bihar

Sub: MS quality up-gradation & HSD quality up-gradation in Baruni Refinery at District - Begusarai, Bihar by M/s IOCL - Environmental Clearance - Reg.

Ref.: Your Online Proposal no. IA/BR/IND2/28027/2015; dated 27th November, 2015.

Sir,

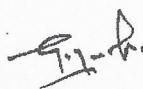
This has reference to your online proposal no. IA/BR/IND2/28027/2015; dated 27th November, 2015 along with project documents including Form I, Terms of References, Pre-feasibility Report, EIA/EMP Report along with Public Hearing Report regarding above mentioned project.

2.0 The Ministry of Environment, Forests and Climate Change has examined the application. It is noted that proposal is for MS quality up-gradation & HSD quality up-gradation at Baruni Refinery in District - Begusarai, Bihar by M/s IOCL. Total plot area is noted to be 887.83 acres, out of which area earmarked for green belt is 148.39 acres. Cost of the project is ₹ 1879 Crore. Refinery is located at a distance of 8 km from the bank of River Ganga. Proposed upgradation unit will be installed in the existing premises.

M/s IOCL Barauni refinery has proposed following projects:

- i) Replacement of reactors & allied modernization jobs of Coker A and Installation of Biturox Unit at IOCL Barauni Refinery
 - (a) Coker A revamp project:
- ii) BS-IV Project: MS Quality Up-gradation & HSD Quality Up-gradation at IOCL Barauni Refinery in line with Auto Fuel policy.

With the above facilities, at current crude processing capacity of 6.3 MMTPA the refinery can produce about 1.3 MMTPA and 3.2 MMTPA of BS-IV MS & HSD respectively along with flexibility to produce 25 % of fuel with Euro V specifications. Comparison of units T'put in BS-IV scenario vis-a-vis current actual operating/design capacity is as follows:



Attribute Unit Capacity (Figures in MMTPA)	Design	BS-III Scenario (Actual 2013-14)	BS-IV Scenario (Post Project)
Crude T'put	6.00	6.47	6.30
High Sulphur Crude %	13-15	8.98	19.70
Coker A : T' put	0.60	0.38	0.26
Coker B : T' put	0.50	0.12	0.00
RFCCU : T' put	1.43	1.69	1.70
Biturox : T' put	0.15	-	0.15
DHDT : T' put	2.20	2.49	3.30
CRU : T' put	0.30	0.36	0.47
NHDT : T' put	0.18	0.25	0.24
ISOM : T' put	0.13	0.23	0.25
Prime G+	0.4 (0.32+0.08)	0.27	0.76
SRU	80 MTPD	28.4 MTPD	59.54 MTPD

iii)

Products	2013-14 (Pre-Scenario)		BS-IV (Post Scenario)	
	MT	%	MT	%
L.P.G.	316882	4.88%	301800	4.79%
S R N	124689	1.92%	92000	1.46%
MS (BS-III)	1190518	18.35%	0	0.00%
MS (BS-IV)	0	0.00%	1302300	20.67%
S K	820005	12.64%	118200	1.87%
H S D (B S - III)	3249279	50.08%	0	0.00%
H S D (BS - IV)	0	0.00%	3501300	55.57%
L S H S / I F O	-116	0.00%	0	0.00%
R P C	124199	1.91%	107300	1.72%
FO	67204	1.04%	114400	1.81%
Bitumen	-1465	-0.02%	149800	2.37%
C B F S	47043	0.73%	33300	0.52%
SULFUR	10253	0.16%	21400	0.34%
Intermediate Stock Difference	-42125	-0.65%	0	0.00%
Fuel & Loss	582170	8.97%	558200	8.88%
Total Output	6488537	100%	6300000	100.00%
	6.48 MMTPA		6.3 MMTPA	

3.0 IOCL Barauni refinery have limit of 1035 kg/hr SO₂ emission as per EC letter dated 18.03.2008 granted by MoEF&CC. Presently Barauni Refinery SO₂ emission is between 690-720 Kg/hr. After installation of proposed project, the overall SO₂ emission of refinery will be 815 Kg/hr. The total fresh water requirement for post BS-IV project will be 538 m³/hr. For achieving ZLD, PP has proposed for implementing RO Plant in Barauni refinery for effluent treatment as tertiary facility whereupon the refinery shall utilize the water as alternative to fresh water intake in DM plant and/or cooling towers. Further, RO reject which will be generated during RO plant operation will be utilized for Coke cutting water & spraying in Coke yard (to be dispensed with the product) as well as make up for eco-pond, horticulture & greenbelt while maintaining TDS within permissible limit. Oily sludge is generated mainly during cleaning of storage tanks and from ETP. It is processed by "Mechanized Skid Process" for recovery of 90-95% oil from oily sludge and generation of minimum quantity of residual oily sludge. Mechanical extraction method uses solvent & steam heating and then oily sludge is processed in a plant equipped with centrifuge in order to recover maximum possible oil and water. The sludge is broken down into water, oil and base sediments.

4.0 Public hearing is exempted under section 7 (ii) of EIA Notification, 2006.

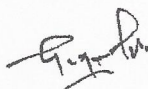
5.0 All the Petroleum Refinery Plants are listed at S.N. 4(a) under Category 'A' and appraised at the Central level.

6.0 The proposal was considered by the Expert Appraisal Committee (Industry) in its 5th, 12th, 15th and 16th meeting held during 25th -26th February, 2016, 23rd - 24th August, 2016, 10th November, 2016 and 8th - 9th December, 2016 respectively. Project Proponent and the EIA Consultant namely M/s Hubert Enviro Care Systems Pvt. Ltd., have presented EIA/EMP report as per the TOR. EAC has found the EIA/EMP Report and additional information to be satisfactory and in full consonance with the presented TORs. The Committee recommended the proposal for environmental clearance.

7.0 Based on the information submitted by the project proponent, the Ministry of Environment, Forest and Climate Change 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 standards/norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March, 2008.
- ii. Continuous on-line stack monitoring for SO₂, NO_x and CO of all the stacks shall be carried out.
- iii. The process emissions [SO₂, NO_x, HC (Methane & Non-methane)], VOCs and Benzene from various units shall conform to the standards prescribed under the Environment (Protection) Act, 1986. 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 of the pollution control device has been achieved.
- iv. Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for



which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations.

- v. SO₂ emissions after expansion from the plant shall not exceed 815 kg/hr and further efforts shall be made for reduction of SO₂ load through use of low sulphur fuel. Sulphur recovery units shall be installed for control of H₂S emissions. The overall sulphur recovery efficiency of Sulphur recovery unit with tail gas treating shall not be less than 99.9%.
- vi. As proposed, record of sulphur balance shall be maintained at the Refinery as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed (sulphur content in crude oil), sulphur output from Refinery through products, byproduct (elemental sulphur), atmospheric emissions etc.
- vii. Flare gas recovery system shall be installed.
- viii. Ambient air quality monitoring stations, [PM₁₀, PM_{2.5}, SO₂, NO_x, H₂S, mercaptan, non-methane-HC and Benzene] shall be set up in the complex in consultation with State Pollution Control Board, 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.
- ix. The total water requirement from artesian wells after expansion of proposed project shall not exceed 651 m³/hr and prior permission shall be obtained from the competent authority.
- x. As proposed, Industrial effluent generation shall not exceed 497 m³/hr after proposed expansion and treated in the integrated effluent treatment plant. The plant shall be based on Zero Liquid Discharge and as proposed RO to be installed within the plant. Treated effluent shall be recycled/reused within the factory premises. Domestic sewage shall be treated in sewage treatment plant (STP).
- xi. Automatic mechanical Oil catchers/oil traps shall be provided at all possible locations in rain/storm water drainage system inside the factory premises.
- xii. The oily sludge shall be subjected to melting pit for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.
- xiii. At least 2.5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESR) based on Public Hearing issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Ranchi.
- xiv. Green belt should be developed in 33% of the plot area to mitigate the effect of fugitive emission all around the plant in consultation with DFO as per CPCB guidelines. Thick green belt around factory premises should be ensured.

B. GENERAL CONDITIONS:

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

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- ii. No further expansion or modifications in the plant shall 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 shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- iii. The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
- iv. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
- 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 Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- vi. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
- vii. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
- viii. The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.
- ix. The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.
- x. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- xi. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- xii. The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.
- xiii. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- xiv. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.

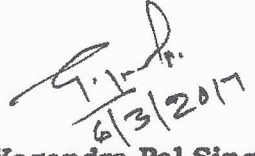


- xv. The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
- xvi. 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 SPCB/Committee and may also be seen at Website of the Ministry at <http://moef.nic.in>. This shall 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 shall be forwarded to the concerned Regional Office of the Ministry.
- xvii. 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.

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

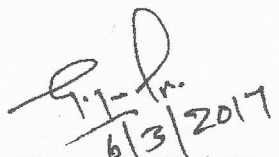
9.0 The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

10.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


6/3/2017
(Yogendra Pal Singh)
Scientist 'D'

Copy to:-

1. The Principal Secretary, Forests & Environment Department, Government of Bihar, 1st Floor, N. H. Bhawan, Vishweshwaraiya Complex, Bailey Road, Patna, Bihar - 800001
2. The Additional Principal Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony, Ranchi - 834002.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Bihar State Pollution Control Board, Beltron Bhawan, 2nd Floor, Lal Bahadur Shastri Nagar, Patna - 800 023, Bihar.
5. Monitoring Cell, Ministry of Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi.
6. Guard File/Monitoring File/Record File.


6/3/2017
(Yogendra Pal Singh)
Scientist 'D'

F. No. J-11011/491/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003
E-mail : plahujarai@yahoo.com
Telefax: 011 – 2436 3973
Dated: March 18, 2008

To,
The General Manager(S & EP)
M/s Indian Oil Corporation Limited
Refineries Division, SCOPE Complex,
Core -2, 7, Institutional Area,
Lodi Road, New Delhi- 110 003

Sub: MS Quality Upgradation, HSD Quality Up-gradation and High Sulphur Crude Maximization Project at Barauni Refinery , District Barauni in Bihar by M/s IOCL- Environmental Clearance reg..

Sir,
This has reference to your letter no. EP/EC-APPL dated 8.12.2006 along with application in Form – 1, draft TOR and pre-feasibility report and subsequent correspondence vide letter no. EP/EC-APPPL dated 5.12.2007 seeking environmental clearance under the EIA Notification, 2006

2. The Ministry of Environment and Forests has examined your application. It is noted that the proposal is for MS and HSD Quality Improvement project to meet Euro-III equivalent quality norms and High Sulphur Crude Maximization Project. It is noted that the project will be implemented within Baruni Refinery complex in district Baruni in Bihar. No additional land is required. For MS quality upgradation project the facility proposed include Naphtha Splitter unit (NSU), Catalytic Reformer Unit (CRU), Refomate Splitter unit , Naphtha Hydro Treating Unit (NHDT) Splitter, Fluidized catalytic Cracking Unit (FCC BLOCK (Prime G+), Isomerisation unit , Selective Hydro-treating Unit (SHU)+ Splitter unit, Diesel Hydro-treating Unit (DHDT) and Naphtha Splitter unit. One additional reactor in DHD unit will be installed for HSD quality upgradation quality unit. It is also noted that for HS crude maximization unit , the unit proposed are bitumen blowing unit, ATF treating unit, sulphur recovery unit, revamp of delayed coker unit and residue fluidized catalytic cracking unit. The above facilities will be within the existing refinery premises. No additional land is required.

3. Water requirement of 242 m³/hr will be met from the ground water source and power requirement of 10.5 MW will be met from the Captive Power Plant (CPP). About 70 m³/hr of additional effluent will be generated and treated in the existing ETP. The effluent after treatment and conforming to the MINAS will be discharged into river Ganga. Total SO₂ emission inclusive of existing (800kg/hr) and additional (235kg/hr) from the stacks will be 1035 kg/hr. solid waste will be generated in the form of oily sludge would be subjected to melting pit treatment for recovery of oil and the residual oily sludge will be bio-remediated. Public hearing of the project was held on 25.09.2007. Cost of the project is reported to be Rs. 676.84 crores for MS Quality upgradation, 83.4 crores for HSD Q upgradation and 790 crores for HS Crude maximization.

4. 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:

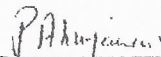
- i. The company shall comply with new standards/norms that are being proposed by the CPCB for petrochemical plants and refineries.
- ii. The process emissions (SO₂, NO_x, HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Bihar State Pollution Control Board from 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 and NMHC, 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 should be installed for measurement of SO₂ and NO_x.
- iv. Quarterly 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 hydro carbon will be routed to the flare system and the flare system shall be designed for smoke less burning.
- v. Fugitive emissions of HC from product storage tank yards etc must be regularly monitored. Sensors for detecting HC leakage shall also be provided at strategic locations. The company shall use low sulphur fuel to minimize SO₂ emission.
- vi. The effluent after treatment and conforming to the MINAS standards shall be discharged into the river Ganga. The company shall undertake measures for water conservation and treated effluent to the extent possible shall be used for fire water make up , coke cutting water , make up water for eco pond and irrigation of eco park etc.
- vii. M/s IOCL shall investigate cause of odour problem in one of the wells as reported during the public hearing meeting held on 25.9.2007 and report submitted to the Ministry's Regional office at Bhubaneswar.
- viii. The oily sludge shall be subjected to melting pit for oil recovery and the residues shall be bio-remediated. The sludge shall be stored in the HDPE lined pit along with proper leachate collection system.
- ix. The company shall strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP).
- 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. To prevent fire and explosion at Oil and Gas facility, potential ignition sources should be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.

- xii. Occupational health surveillance of worker shall be done on a regular basis and records maintained as per the Factory Act.
- xiii. Greenbelt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 30% plant area in consultation with DFO as per CPCB guidelines.
- xiv. Environment protection measures suggested in the EIA/EMP /risk assessment report and during the public hearing meeting shall be implemented.

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 should go beyond the prescribed standards. In the event of failure of any pollution control system, the respective well site 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. Wastewater 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. Disposal of hazardous wastes shall be as per the Hazardous Wastes (Management and Handling) Rules, 2003. Authorization from the State Pollution Control Board must be obtained for collections/treatment/storage/disposal of hazardous wastes.

- viii. 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 company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water.
 - x. 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.
 - 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 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.
 - xii. 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.
 - xiii. 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
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 will implement these conditions in a time bound manner.
 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, the Public Liability Insurance Act, 1991, Hazardous Waste (Management & Handling) Rules, 1989 and Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 along with their amendments and rules.


(Dr.P.L. Ahujarai)
Director

No. J-11011/23/98-IA.II(I)
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS

PARYAVARAN BHAVAN,
CGO COMPLEX, LODHI ROAD,
NEW DELHI - 110 003.

Dated 8th March, 1999.

To,
The Chairman & Managing Director,
M/s Indian Oil Corporation Ltd.,
Scope Complex, Core-2,
Lodi Road,
New Delhi - 110 003.

Sub: *Expansion of Barauni Refinery to 6.0-MMTPA with Matching Secondary
Processing Facilities of M/s IOC - Environment Clearance regarding.*

Sir,

This has reference to IOC letter No. EP/EC dated August 7, 1998 along with EIA/EMP, risk analysis and other related project documents seeking environmental clearance for the proposed Expansion of Barauni Refinery upto 6.0 MMTPA Crude Processing capacity. The proposal involves revamping of the main distillation unit and setting up secondary processing units. The secondary processing facilities proposed include Fluidized Catalytic Cracking Unit (FCCU), Diesel Hydrotreating Unit (DHTU), Hydrogen Unit, LPG Treating Unit and Gasoline Treating Unit. It is noted that NOC from the Bihar State Pollution Control Board has been obtained and Public Hearing of the project has been held as required under the provisions of EIA Notification, 1994 as amended on 10th April, 1997. Supplementary clarifications have been submitted by IOC vide its letter dated 17th November, 1998, 17th December, 1998 and 4th January, 1999.

The above proposal has been examined taking into consideration the above submitted project documents and the Ministry hereby grants environmental clearance to the project subject to terms and conditions mentioned below:-

(A) Specific Conditions.

- i. The gaseous emissions from the process stacks must conform to the standards prescribed under the EPA rules and/or State Pollution Control Board. At no time, the emission level should go beyond the prescribed standards. Specifically, the total SO₂ emissions must not go beyond 1080 kg/hr as confirmed by the Company. In the event of failure of any pollution control system adopted by the

units, the respective unit must be put out of operation immediately and should not be restarted until control measures are rectified to achieve desired efficiency.

- ii. In consultation with SPCB, the project authority must set up sufficient number of air quality monitoring stations to monitor SPM, SO₂, NO_x, CO & NH₃. Stack emissions should be monitored regularly. Data on stack emission and ambient air quality including work zone should be submitted to the Ministry (Regional Office, Bhubaneswar) once in six-months and SPCB once in three-months along with statistical analysis.
- iii. Adequate effluent treatment facilities (primary, secondary & tertiary) should be provided so that liquid effluents conform to the standards prescribed under EPA rules/SPCB before discharging into river Ganga. The outfall point in the river must be approved by Bihar Pollution Control Board.
- iv. Adequate number of effluent quality monitoring stations must be set up in consultation with SPCB to monitor the water quality parameters as per EPA/SPCB regulations. Monitored data along with analysis should be submitted to this Ministry (Regional Office, Bhubaneswar) once in six months and SPCB once in three months.
- v. The Company must identify and implement water conservation and treated effluent recycling/reusing schemes to minimize the raw water consumption and to achieve zero - pollutant discharge to the river Ganga.
- vi. The hazardous solid wastes like spent catalysts must be disposed off in a secured landfill with facility for leachate collection and treating in the ETP.
- vii. The proposed storage for LPG shall be of mounded type in order to reduce the risk level. The OISD Guidelines must be strictly followed.
- viii. In addition to the above stipulations, the Company must undertake additional afforestation and eco-development work in the area. In this regard, the Company must augment its tree plantation activities by 25 thousand trees in a phased manner. Further, the Company has around 120 acres of borrow-pit area in and adjoining to the plant premises. The Company must give an action plan to ecologically develop this area within 3-months.

(B) General Conditions.

- i. The project authority must adhere to the stipulations made by Bihar Pollution Control Board and State Government.
- ii. No expansion or modification of the plant should be carried out without prior approval of this Ministry.

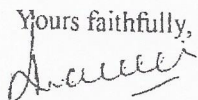
- iii. A green belt of adequate width and density should be provided all around the plant in consultation with the State Forest Department. A norm of 2500 plants/ha. may be followed and minimum of 25% area must be covered by green belt.
- iv. Handling, manufacturing, storage and transportation of hazardous chemicals should be carried out in accordance with the Manufacture, Storage & Import of Hazardous chemicals Rules, 1989, as amended in 1991. On-site and off-site emergency preparedness plans shall be prepared adequately and permissions from State and Central nodal agencies in this regard must be obtained.
- v. Hazardous wastes, if any, must be handled and disposed as per Hazardous waste (Management and Handling) Rules, 1989. Authorization from State Pollution Control Board in this regard must be obtained.
- vi. Proper housekeeping and adequate occupational health programmes must be taken up.
- vii. Adequate provisions for infrastructure facilities such as water supply, fuel, sanitation etc. should be ensured for construction workers during the construction phase so as to avoid felling of trees and pollution of water and the surroundings.
- viii. Occupational Health Surveillance of the workers should be done on a regular basis and records maintained.
- ix. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA and risk analysis report.
- x. The project proponent should have a scheme for social upliftment in the surrounding villages with reference to contribution in road construction, education of Children, festivals, health centres, sanitation facilities, drinking water supply, community awareness and employment to local people whenever and wherever possible both for technical and non-technical jobs.
- xi. A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions should be set up under the control of Senior Executive.
- xii. The funds earmarked for the environmental protection measures should not be directed for any other purpose and year-wise expenditure should be reported to this Ministry and SPCB.
- xiii. Six monthly status report on the project vis-à-vis implementation of environmental measures should be submitted to this Ministry (Regional Office, Bhubaneswar)/CPCB/SPCB.

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 Bhubaneswar.

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

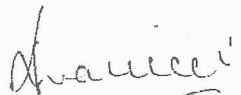
Any other conditions or alternation in the above conditions will have to be implemented by the project authorities in a time bound manner.

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 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

Yours faithfully,

(DR. R. WARRIER)
JOINT DIRECTOR

Copy to :-

1. Secretary, Ministry of Petroleum and Natural Gas, New Delhi.
2. Secretary, Department of Environment, Government of Bihar.
3. Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. Chairman, Bihar State Pollution Control Board, Beltron Bhavan, 2nd Floor, Jawaharlal Nehru Marg, Shastri Marg, Patna-800 023.
5. Chief Conservator of Forests, (Central), Regional Office (EZ), 194, Kharvela Nagar, Bhubaneswar-751 001.
6. Senior Adviser (EI), Min. of Env. & Forests, New Delhi.
7. Guard file.
8. Monitoring file.
9. Record file.


(DR. R. WARRIER)
JOINT DIRECTOR

J-11011/48/95-IA-II

नार :

Telegram : PARYAVARAN,
NEW DELHI

दूरभाषण :

Telephone :

द्विभाषीय (टिक्काभाषीय) :

Telex : (bi-lingual) : W-66185 DOE IN

FAX : 4360678

भारत सरकार

पर्यावरण एवं वन मंत्रालय

GOVERNMENT OF INDIA

MINISTRY OF ENVIRONMENT & FORESTS

पर्यावरण भवन सी. जी. ओ. कॉम्प्लेक्स

PARYAVARAN BHAVAN, C.G.O. COMPLEX

लोदी रोड, नई दिल्ली-110003

LODHI ROAD, NEW DELHI-110003

Dated 17.5.96

OFFICE MEMORANDUM

Sub: Augmentation of Crude Processing Capacity of Barauni Refinery from 3.3 to 4.2 MMTPA of IOC— environmental clearance reg.

This has reference to M/s Indian Oil Corporation Ltd, letter No. EP/B/01 dated Aug., 21, 1995 regarding the proposal for increasing the throughput capacity of Barauni Refinery from 3.3 to 4.2 MMTPA.

2. The environmental aspects of the project have been examined by this Ministry and environmental clearance is accorded subject to compliance of conditions stipulated in the clearance order dated 25th July, 1989 and 2nd Dec. 1994.

3. In addition, the following conditions should also be complied with:-

1. Action Plan for effective disposal of oily sludge should be submitted within a period of 3 months. In case of inability to utilise the sludge due to any reason, there will be provision for immediate proper disposal of the sludge by the project authorities in accordance with Hazardous Wastes (Management & Handling) Rules, 1989. A compliance report should be submitted quarterly.

ii. The project proponent should not increase the through-put capacity of Barauni Refinery beyond 4.2 MMTPA without prior approval from this Ministry.

iii. There will be no change in the fuel used without permission from this Ministry.

iv. On-site and off-site Emergency Preparedness Plans should be prepared and approved by this Ministry.

obtained.

v. Rules for storage, handling and import of hazardous substance should be strictly adhered to.

4. The Ministry reserves the right to alter the conditions or withdraw clearance as and when necessary in the interest of environmental protection.

5. The above conditions will be endorsed inter alia under the Water (Prevention and Control) Act, 1974; the Air (Prevention and Control of Pollution) Act, 1981; and the Environmental (Protection) Act, 1986; and the Public Liability Insurance Act, 1991 with their amendments and rules.

(K.K. JAIN)
Joint Director.

The Secretary,
Ministry of Petroleum,
Shastri Bhawan,
New Delhi.

Copy to:

1. ✓ The Chairman, Indian Oil Corporation Ltd., (Refineries and Pipeline Division) Scope Complex, Core 2/7, Institutional Area, Lodhi Road, New Delhi-3. A set of documents including EIA, etc. must be sent Regional Office, Bhubneshwar (Address no.4)
2. Chairman Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, New Delhi.
3. The Chairman, Bihar State Pollution Control Board, BELTRON Bhawan 2nd Floor, Jawaharlal Nehru Marg, Shastri Nagar, Patna-800023.
4. ✓ Chief Conservator of Forest (Central) Regional Office, (CZ) 194, Karvela Nagar, Bhubneshwar-751001.
5. Addl Director (Monitoring Cell)
6. Guard File.
7. Monitoring File
8. Record File.


K.K. JAIN
Joint Director

पर्यावरण भवन, सी. जी. भो. कॉम्प्लेक्स
PARYAVARAN BHAVAN, C.G.O. COMPLEX
हिंदी रोड, नई दिल्ली-110003
LODI ROAD, NEW DELHI-110003

No. J-11011/10/89-IA

Dated: 25th July, 1989.

OFFICE MEMORANDUM

Subject:- Catalytic Reformer at Barauni Refinery of Indian Oil Corporation
Environmental clearance.

This has reference to your letter No. PJ/CAT/R/2, dated 20th April 1989 in regard to the above subject. The environmental aspect of the project has been examined by the Ministry and clearance is accorded from environmental angle subject to following conditions :-

- (i) The project authority must strictly adhere to stipulations made by the State Government and the State Pollution Control Board.
- (ii) The project authority will not increase the throughput capacity of the refinery from the existing level.
- (iii) The project authority must submit a rapid EIA report within 6 months and comprehensive EIA report within 18 months to this Ministry for review.
- (iv) Gaseous emissions of sulphur dioxides, hydrocarbons and oxides of nitrogen should not exceed the standard prescribed by the Central/State Pollution Control Board. At no time the emission level should be beyond the stipulated standard. In the event of failure of any pollution control system adopted by the unit, the respective unit should be put out of operation immediately and should not be restarted until the control systems are repaired to achieve the desired efficiency.
- (v) The project authority will recycle the effluent to the maximum extent possible either as a process water or for afforestation.
- (vi) The entire quantity of liquid effluent coming out of the complex should conform to MHLAS both in terms of quantity and quality before discharge into the drainage system. The process plant effluent should be discharged through pipeline/closed channel.

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(vii) The project authority must set up minimum of four air quality monitoring stations at different locations of the plant and in the nearby areas. The air quality will be monitored as per standard procedure. The monitoring of gaseous emissions should also include oxides of nitrogen and hydrocarbons. All the stacks of the plant must be provided with continuous automatic stack monitoring equipment and stacks emission levels must be recorded and furnished to the State Pollution Control Board once in three months and to this Ministry once in six months.

(viii) The liquid effluent quality must be measured on daily basis. At least five water quality monitoring stations must be set up in consultation with the State Pollution Control Board. This should include the monitoring of oil content in the river. If the effluent quality exceeds the standard prescribed at any time, the corresponding units of the plant which are contributing to the excessive pollutant loads shall be immediately stopped and operation must not be restarted till the quality of effluent discharged from the units are brought down to the required levels.

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Consent

(ix) The project authority will ensure that the effluent treatment plant will be commissioned and operational within the next three months.

(x) The project authority must submit a disaster management plan duly approved by the nodal agency of the State within a period of three months. Disaster management plan should include the worst accident scenario and its probable consequences.

(xi) The project authority will start construction only after the approval of Chief Controller of Explosive and a copy of consent letter should be made available to this Ministry.

(xii) No change in design of stacks should be made without the prior approval of the State Pollution Control Board. Alternate pollution control system and/or proper design (steam injection system) of the stacks should be made to minimize hydrocarbon emission due to failure in the flare system in the plant.

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(xiii) The project authority must provide necessary infrastructural facilities to the construction worker during construction.

(xiv) The project authority must take adequate measure to bring down the noise level. The protective measures taken by the project authority should be made available to this Ministry.

(xv) The project authority will assess the impact on ground water contamination by the leachates and the remedial measures taken by the project authority should be submitted to this Ministry for review. The project authority will also monitor the quality of ground water in the nearby areas and report should be submitted to the State Pollution Control Board once in every three months and to this Ministry once in six months.

(xvi) The project authority must set up laboratory facilities in the existing premises for testing and analysing gaseous emissions and water quality.

(xvii) The project authority must submit a revised green belt design for the plant and township to this Ministry within three months for approval. The green belt should be with a minimum tree density of 1000 trees per acre.

(xviii) Additional area under the control of the project which is not being used for the plant utilities should be afforested and funds for this purpose should be suitably provided.

(xix) A separate environmental management cell with suitably qualified people to carry out various functions related to environmental management should be set up under the control of a senior technical person who will directly report to the head of the organisation.

(xx) The fund provision (capital and recurring expenditure) for the environmental control measure should not be diverted for any other purpose. The implementation schedule for environmental control measure should be strictly followed.

Thoughtful

44 (2)

2. The Ministry of Environment and Forest or any other competent authority may stipulate any further conditions after reviewing the impact assessment report or any other report prepared by the project authority.

3. The above conditions will be enforced, inter-alia, under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981 and the Environment (Protection) Act, 1986.

4. The Ministry reserves the right to withdraw the clearance as and when necessary in the interest of environmental protection.

M. Parabrahmam
(M. PARABRAHMAM)
DIRECTOR (IA-II)

✓ Secretary,
Ministry of Petroleum & Natural Gas,
Shastry Bhawan,
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Copy to:-

- ✓ 1- Chairman, Indian Oil Corporation Limited, Scope Complex, Core-2, 7, Institutional Area, Lodi Road, New Delhi-110002.
- 2- Secretary, Department of Environment, Government of Bihar, Third Secretariat Building, Patna.
- ✓ 3- Chairman, Central Pollution Control Board, 60- Skylark, Nehru Place, New Delhi-110019.
- ✓ 4- Chairman, Bihar State Pollution Control Board, Boring, Patna.
- ✓ 5- Director, Regional Office Cell, Ministry of Environment & Forests, New Delhi.
- ✓ 6- Chief Conservator of Forests, Regional Office, I.C.F., Shubanspur.
- 7- Guard file.

M. Parabrahmam
(M. PARABRAHMAM) 26/7/81
DIRECTOR (IA-II)