

F. No. J-11011/175/2016-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA- II Section)

Indira Paryavaran Bhawan
Jorbagh Road, New Delhi -3

Dated: 28th November, 2017

To

M/s Indian Oil Corporation Limited
Haldia Refinery, **Haldia**
(West Bengal)

Sub: BS-VI Fuel Quality Upgradation Project (Phase-I) at Haldia Refinery, Haldia (West Bengal) by M/s Indian Oil Corporation Limited - Environmental Clearance -reg.

Sir,

This has reference to your online proposal no. IA/WB/IND2/56071/2016 dated 6th September, 2017, submitting the EIA/EMP Report on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance for BS-VI Fuel Quality Upgradation Project (Phase-I) at Haldia Refinery, Haldia (West Bengal) by M/s Indian Oil Corporation Limited.

3. The existing land area is 580 acres. The land within the refinery premises will be used for the project. Industry will develop green belt in 33% area of the project. The estimated project cost is Rs.3200 Crores. The total employment will be about 600-700 people during construction phase and 80 persons during operation.

4. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. Hooghly River is adjacent to the site and Haldi River flowing at a distance of 8 km away from the site in Northern direction.

5. The proposed feed/facility and capacity are:

S.No.	Feed/Product Pattern	Capacity (TMTPA)
1	HS Crude as feed	6400
2	LS Crude as feed	1600
3	Total Crude as feed	8000
4	HS% w/w	80%
5	LPG	357
6	Naphtha	604
7	MS (BS-VI)	574
8	ATF	420

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9	SKO	849
10	HFHSD	72
11	HSD (BS-VI)	3435
12	JBO	24
13	H-70 Gr-II LOBS	24
14	H-150 Gr-II LOBS	42
15	H-500 Gr-II LOBS	106
16	Furnace Oil (380 cSt Bunker grade)	72
17	Bitumen	302
18	Sulphur	50
19	Pet coke	475
20	Sulphuric Acid	232

6. The fresh water requirement will be increased from the present 1270 m³/hr to 1395 m³/hr, which will be supplied by Haldia Development Authority. Necessary permission in this regard has been obtained from the concerned authority.

Total effluent generation will be reduced from 1150 m³/hr to 971.5 m³/hr, whereas the discharge to Hooghly river shall be 240 m³/hr from that of earlier of 262.5 m³/hr.

Additional power requirement of 17.4 MW will be met from local power agency and West Bengal State Power Distribution Corporation limited (WBSPDCL).

Existing unit has two boilers. Air pollution control systems with stack height of 80 m are provided for controlling the emissions (within statutory limit). SO₂ emission load will be increased from the present of 941 kg/hr to 980 kg/hr.

7. Ambient air quality monitoring carried out at 8 locations during November, 2016 - January, 2017. Baseline air quality for PM₁₀ ranges 56-270 ug/m³, SO₂ from 12.8 to 36.2 ug/m³, NO_x from 20.3 to 46.8 ug/m³. With the implementation of the project, incremental values are reported to be 0.746 ug/m³, 4.23 ug/m³ & 1.49 ug/m³ respectively.

8. All Petroleum Refining Industry are listed at S.N.4(a) of the Schedule to the EIA Notification, 2006 under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC) in the Ministry.

9. The terms of reference (ToR) was granted on dated 23rd September, 2016 exempting public consultation/hearing, as per para 7(ii) of EIA Notification, 2006. The ToR was subsequently amended on 12th May, 2017 changing/dropping few facilities.

10. The Ministry had earlier issued EC vide letter dated 4th March, 2016 in favour of M/s IOC Ltd for expansion of Haldia Refinery from 7.5 MTPA to 8 MTPA along with Distillate Yield Improvement Project and installation of Feed Preparation Unit. The monitoring report on compliance status of EC conditions forwarded by the Ministry's Regional Office, Bhubaneswar vide their letter dated 1st May, 2017 is found to be satisfactory.

11. The proposal for environmental clearance was placed before the EAC (Industry-2) in its meeting held on 12-13 October, 2017. The project proponent and the accredited

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consultant M/s PDIL presented the EIA/EMP report as per the ToR. The committee found the EIA/EMP report satisfactory and in consonance with the ToR, and recommended the proposal for environmental clearance with certain conditions.

12. Based on the information submitted by the project proponent and recommendation of the EAC (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to '**BS-VI Fuel Quality Upgradation Project (Phase-I)**' by M/s Indian Oil Corporation Limited at Haldia Refinery, Haldia (West Bengal), under the provisions of EIA Notification, 2006 and the amendments made therein, subject to the compliance of terms and conditions, as under:-

- (i) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (ii) As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises.
- (iii) Necessary authorization required under the Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016, Solid Waste Management Rules, 2016 shall be obtained and the provisions contained in the Rules shall be strictly adhered to.
- (iv) National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.
- (v) To control source and the fugitive emissions, suitable pollution control devices shall be installed with different stacks (attached to DHDT, HGU-II-Revamp, Prime G-Revamp and Sulphuric Acid Plant) to minimize the incremental concentrations (for PM₁₀ & PM_{2.5}) in order to meet the prescribed norms/NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits. The gaseous emissions shall be dispersed through of adequate height as per CPCB/SPCB guidelines.
- (vi) Total fresh water requirement shall not exceed 1395 cum/hr to be supplied by Haldia Development Authority. Necessary permission in this regard shall be obtained from the concerned regulatory authority. No ground water shall be used without prior permission from the CGWA.
- (vii) Industrial/trade effluent shall be segregated into High COD/TDS and Low COD/TDS effluent streams, if any. High TDS/COD shall be passed through stripper followed by MEE and ATFD (agitated thin film drier). Low TDS effluent stream shall be treated in ETP and then passed through RO system.
- (viii) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (ix) 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.



- (x) 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.
- (xi) 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.
- (xii) Fly ash should be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with the storm water. Direct exposure of workers to fly ash & dust should be avoided.
- (xiii) The company shall undertake waste minimization measures as below:-
 - (a) Metering and control of quantities of active ingredients to minimize waste.
 - (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
 - (c) Use of automated filling to minimize spillage.
 - (d) Use of Close Feed system into batch reactors.
 - (e) Venting equipment through vapour recovery system.
 - (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xiv) The green belt of at least 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.
- (xv) At least 5% of the total project cost shall be allocated for Enterprise Social Commitment. The item-wise details in this regard along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.
- (xvi) 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.
- (xvii) 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.
- (xviii) 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. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.

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- (xix) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- (xx) Wetland habitat shall be provided for migratory birds, at the reservoir and green belt areas.
- (xxi) Natural surface water bodies within 10 km study area shall be rejuvenated and developed as complete eco-system with the tree plantation development and growth using satellite imageries.

12.1. The grant of environmental clearance is subject to compliance of other general conditions, as under:-

- (i) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board, Central Pollution Control Board, State Government and 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) and it shall be ensured that at least one station 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 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, and risk mitigation measures 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. ESC 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) 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, Zilla 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 vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (xvi) 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.

13. The Ministry may revoke or suspend the clearance, at subsequent stages, if implementation of any of the above conditions is not satisfactory.




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

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


28/11/2017
(S. K. Srivastava)
Scientist E

Copy to:-

1. The Secretary, Department of Environment, Government of West Bengal, Poura Bhavan, 4th Floor, FD-415/A, Sector-III, Bidhannagar, Kolkata (West Bengal) - 6
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar (Odisha) - 23
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar, Delhi - 32
4. The Member Secretary, West Bengal Pollution Control Board, Paribesh Bhavan, 10A, Block-L.A., Sector 3, Salt Lake City, Kolkata (West Bengal) - 98
5. Guard File/Monitoring File/Website/Record File


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