

F. No.J-11011/145/2018-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: 5<sup>th</sup> August, 2019

To,

**M/s Bharat Petroleum Corporation Ltd (BPCL)**  
Village Mahul, Tehsil Kurla,  
**Mumbai Suburban** (Maharashtra)

**Sub: Modernization of Mumbai Refinery By M/s Bharat Petroleum Corporation Ltd at village Mahul, tehsil Kurla, Mumbai Suburban (Maharashtra) - Environmental Clearance - reg.**

Sir,

This has reference to your online proposal No.IA/MH/IND2/96004/2018 dated 26<sup>th</sup> March, 2019, for environmental clearance to the above project.

2. The proposal is for environmental clearance to the project for modernization of Mumbai Refinery by replacing old Catalytic Cracking Unit (CCU) and Fluidized Catalytic Cracking Unit (FCCU) with the new state of the art Petro Resid Fluidized Catalytic Cracking Unit (PRFCC) and associated facilities by M/s Bharat Petroleum Corporation Ltd in the existing refinery complex of total area 454 acres at village Mahul, tehsil Kurla, Mumbai Suburban (Maharashtra).

3. Details of existing and the proposed products are as under:-

S. No.	Product	Exiting (TPD)	Proposed (TPD)
1	Propylene	330	1,350
2	LPG	1,530	1,950
3	Hexane	120	120
4	Toluene	36	36
5	Benzene	144	144
6	Naphtha	1,809	615
7	BS6 MS	7,500	7,800
8	Kerosene	210	210
9	MTO	240	240
10	Jet Fuel	3,000	3,000
11	BS-VI Diesel	19,500	19,800
12	Lobs	900	900
15	Fuel Oil	3,270	1,800
17	Bitumen	1,650	1,650
18	Sulphur	195	270
20	Internal Fuel	1,566	2,115



4. Total area of the refinery complex is 454 acres. The proposed project will be implemented in an area of 6 acres by dismantling old cracking/ distillation units. The estimated project cost is Rs.6,877 crore, and the cost earmarked towards pollution control measures is about Rs.400 crores.

5. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves and Wildlife Corridors etc within 10 km from the project site.

6. No additional raw water is required for the proposed project. Total water requirement for the entire refinery will remain unchanged and within the approved limit of 15950 m<sup>3</sup>/day, which would be met from existing raw water system of Municipal Corporation of Greater Mumbai (MCGM) and treated sewage water from Rashtriya Chemicals and Fertilizer (RCF). Additional wastewater generation estimated at 50 m<sup>3</sup>/hr will be treated in the existing Effluent Treatment Plant, and the treated water will be reused in the Refinery.

Power requirement of 50 MW for the proposed project will be met from the State Grid. Diesel Generator (DG) sets will be used as standby during power failure.

7. The project/activity is covered under category A of item 4 (a) 'Petroleum refining industry' of the Schedule to the Environmental Impact Assessment Notification, 2006 and requires appraisal/approval at Central level in the Ministry.

8. The standard terms of reference (ToR) was granted by the Ministry on 1<sup>st</sup> June, 2018. Public hearing was exempted as per the provision contained in Para 7(ii) of EIA Notification, 2006.

9. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its meeting held on 6-8 May, 2019, wherein the project proponent and their accredited consultant presented the EIA/EMP report. The Committee found the EIA/EMP report complying with the ToR and recommended the project for grant of environmental clearance.

10. Based on the proposal submitted by the project proponent and recommendations of the EAC, Ministry of Environment, Forest and Climate Change hereby accords environmental clearance to the project for **Modernization of Mumbai Refinery by replacing old Catalytic Cracking Unit and Fluidized Catalytic Cracking Unit** with the new state of the art **Petro Resid Fluidized Catalytic Cracking Unit** and associated facilities **by M/s Bharat Petroleum Corporation Ltd** at village Mahul, tehsil Kurla, Mumbai Suburban (Maharashtra), under the provisions of the EIA Notification, 2006, and the amendments therein, subject to compliance of the terms and conditions as under:-

(a) 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.

(b) 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.

(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) The National Emission Standards for Petroleum Oil Refinery issued by the Ministry vide G.S.R. 186(E) dated 18<sup>th</sup> March, 2008 and G.S.R.595(E) dated 21<sup>st</sup> August, 2009 as amended from time to time, shall be followed.
- (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) Existing water requirement is 15950 m<sup>3</sup>/day. No additional raw water shall be required for the proposed modernization project.
- (g) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (h) 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.
- (i) 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.
- (j) 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.
- (k) Regular VOC monitoring to be done at vulnerable points.
- (l) 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.
- (m) Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme.
- (n) Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
- (o) 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.
- (p) 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.



(q) 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.

(r) 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.

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

(t) 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.

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

**10.1** 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. In case of deviations or alterations in the project proposal from those submitted to this Ministry, a fresh reference shall be made 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 stations 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 16<sup>th</sup> 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. 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 to recharge ground water and 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. Training to all employees on handling of chemicals shall be imparted.



(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 Parisad/ 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 31<sup>st</sup> 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.

**11.** 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.




12. 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.

  
5/8/2019  
**(S. K. Srivastava)**  
**Scientist E**

**Copy to: -**

1. The Principal Secretary, Environment Department, Government of Maharashtra, 15<sup>th</sup> Floor, New Administrative Building, Mantralaya, **Mumbai** (Maharashtra) – 32
2. The Additional Principal Chief Conservator of Forests, Regional Office (WCZ), Ministry of Environment, Forest and Climate Change, **Nagpur** (Maharashtra)
3. The Member Secretary, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, **Delhi** - 32
4. The Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 3<sup>rd</sup> & 4<sup>th</sup> floor, Opp. Cine Planet, Sion Circle, **Mumbai** - 22
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, **New Delhi** - 3
6. Guard File/Monitoring File/Record File

  
5/8/2019  
**(S. K. Srivastava)**  
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