

F. No. J-11011/87/2013-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: 13th September, 2017

To

M/s Hindustan Petroleum Corporation Limited
17, Jamshedji Tata Road, PO Box No-11041
Mumbai- 400 020

Sub: Setting up a Grass Root Rajasthan Refinery cum Petrochemical complex Project (RRPC) at Pachpadra Tehsil, District Barmer (Rajasthan) by M/s Hindustan Petroleum Corporation Limited - Environmental Clearance- reg.

Sir,

This has reference to your online proposal no. IA/RJ/IND/24706/2013 dated 8th December, 2014 submitting the EIA/EMP report along with public consultation details on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for Setting up a Grass root Refinery cum Petrochemical Complex of 9 MMTPA at Tehsil Pachpadra, District Barmer (Rajasthan) as a joint venture between Hindustan Petroleum Corporation Ltd (HPCL) and the State Government of Rajasthan.

3. The proposed processing units and their capacities are as under:-

S.No	Process Units	Capacity
1	Crude Distillation Unit (CDU)	9.0 MMTPA
2	Vacuum Distillation Unit (VDU)	4.8 MMTPA
3	Naphtha Hydro treating Unit (NHT)	1.8 MMTPA
4	Isomerisation Unit (ISOM)	0.26 MMTPA
5	Continuous Catalyst Regeneration Reforming Unit (CCR)	0.3 MMTPA
6	Diesel Hydro Treatment Unit (DHDT)	4.1 MMTPA
7	Vacuum Gas Oil (VGO) Hydro-treater Unit	3.5 MMTPA
8	Petro Fluidized Catalytic Cracking Unit (PFCC)	2.9 MMTPA
9	Delayed Coker Unit (DCU)	2.4 MMTPA
10	Dual Feed Cracker Unit (DFCU)	0.82 KTPA
11	Ethylene Recovery Unit	0.077 MMTPA
12	Poly-Ethylene Unit (LLDPE/HDPE Swing)	2 x 0.416 MMTPA

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S.No	Process Units	Capacity
13	Poly Propylene Unit (PPU)	2 x 0.49 MMTPA
14	Butene-1	59 KTPA
15	Benzene Recovery Unit	0.096 MMTPA
16	BTX (Benzene, Toluene and Xylene)	0.55 MMTPA
17	Pyrolysis gasoline HDT	0.55 MMTPA
18	PFCC Gasoline Depentanizer	0.87 MMTPA
19	PFCC Gasoline HDT	0.53 MMTPA
20	Fluid Catalytic Cracking (FCC) C5 Sweetening Unit	0.22 MMTPA
21	SAT. LPG Treating Unit	162 KTPA
22	LPG Depropanizer	162 KTPA
23	FG Treating Unit	1425 TPD
24	Hydrogen Generation Unit (HGU)	37 KTPA
25	Refinery Off-gas PSA	28 KTPA
26	SWS -I (Hydro Processing)	100 m ³ /Hr
27	SWS -II (Non Hydro processing)	250 m ³ /Hr
28	Amine Regeneration Unit (ARU)	3x480 m ³ /Hr
29	Sulphur Recovery Unit (SRU)	2 x 243 TPD

4. The feed and products slates of the project are as under:-

Design Cases/ Unit	1.5 MMTPA Rajasthan Crude + 7.5 MMTPA Arab Mix crude (First 8 years)	9 MMTPA Arab Mix crude (9 th year onwards)
Feed		
Rajasthan Crude (MT/Day)	4504	0
Arab Heavy (MT/Day)	11451	13741
Arab Light (MT/Day)	11069	13283
Natural Gas (MT/Day)	353	578
Products		
Polypropylene (MT/Day)	2935	2942
Butadiene (MT/Day)	668	707
LLDPE/HDPE (MT/Day)	1161/1161	1247/1247
Benzene (MT/Day)	276	288
Toluene (MT/Day)	129	228
91 RON Gasolene, BS-VI (KL/Day)	2678	2412
95 RON Gasolene, BS-VI (KL/Day)	2678	2412
ULS Diesel , BS-VI (KL/Day)	13096	12951
Sulphur (MT/Day)	355	395
Pet Coke (MT/Day)	-	100
Fuels & Losses (MT/Day)	5764	5821

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5. The land required for the project is 4400.40 acres, out of which 1454 acres will be developed as greenbelt area. The estimated project cost is Rs 43129 crores. Total capital cost earmarked towards pollution control measures is Rs 842 crores and the recurring cost (operation and maintenance) will be about Rs 58 crores per annum. Total employment will be for 1000 as direct & for 200 contract persons during operation and maintenance phase.

6. There are no National parks, Wildlife sanctuaries, Biosphere reserves, Tiger/Elephant reserves, Wildlife corridors, Rivers etc. within 10 km distance from the project site.

7. The total raw water requirement for the project is 5300 m³/hr for the proposed project and will be met from Indira Gandhi Canal.

Total effluent generation is estimated would be 1650 m³/hr which will be treated through a new ETP plant and the unit will be based on zero liquid discharge system.

Power requirement for the proposed project will be 211 MW and will be met from Refinery Captive Power Plant consisting of 4 GTGs each of 33 MW capacity and 5 STGs each of 26 MW.

The unit will have fuel based two boilers (1 Working +1 Standby) each of 160 TPH and CFBC type two boilers (DCU Coke fired) each of 400 TPH.

8. Total SO₂ emissions from the complex is estimated to be 30 TPD from all process units, CPP block and SRU block. Fuel oil of sulfur content (0.5 wt %) and refinery fuel gas (150 mg/nm³) H₂S shall be used in fired type furnaces. SRU with Tail Gas Treating unit facilities has been considered with 99.9 % sulphur recovery.

9. Ambient air quality monitoring carried out at 11 locations during October to December, 2013 indicates that the modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project are within the National Ambient Air Quality Standards.

10. Approximately 1500 T/year of non-hazardous, non-recyclable solid waste consisting of waste refractory, spent insulation, decoking solid waste from process units, used filter cartridges, spent charcoal, spent clay and sand will be generated. These wastes will be disposed off in secured temporary landfill inside the complex and further disposed of in nearby authorised landfill facility. Some of the spent catalysts will be sent back to the original supplier for reprocessing and the other catalysts will be sent to an authorised secured landfill.

11. All Petroleum Refining Industry Projects are listed at 4(a) of Schedule to the Environmental Impact Assessment (EIA) Notification under category 'A' and are appraised at Central Level by Expert Appraisal Committee (EAC) in the Ministry.

12. The terms of reference (ToR) for the project was granted 27th September, 2013 with public consultation.

13. Public consultation for the proposed project has been conducted by the Rajasthan State Pollution Control Board on 30th May, 2014.



14. The proposal for environmental clearance was placed before the EAC (Industry-2) in its meeting held on 18th February, 2015, 14-16 June, 2017 and 28-29 August, 2017. The project proponent and the accredited consultant M/s Engineers India Limited 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.

15. 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 the project '**Setting up a Grass root Refinery cum Petrochemical Complex**' of 9 MMTPA by M/s **Hindustan Petroleum Corporation Limited at Tehsil Pachpadra, District Barmer (Rajasthan)**, 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. The effluent discharge, if any, shall conform to the standards prescribed under the Environment (Protection) Rules, 1986.
- (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) Environmental Standards for Petroleum Oil Refinery dated 18th March 2008 and Environmental Standards for Petrochemical (Basic and Intermediates) dated on 9th November, 2012, and its amendments from time to time shall be followed.
- (v) To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Multi-cyclone followed by bag filter shall be provided to the DCU coke based CFBC boiler to control particulate emissions within permissible limit. The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.
- (vi) Total water requirement shall not exceed 5300 cum/hr to be met from Indira Gandhi Canal. 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) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

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- (viii) 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.
- (ix) Process organic residue and spent carbon 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.
- (x) 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.
- (xi) 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.
- (xii) 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.
- (xiii) 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. As many as 25000 trees to be planted per year during first five years. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
- (xiv) All the commitment made regarding issues raised during the Public Hearing/ consultation meeting held on 30th May, 2014 shall be satisfactorily implemented.
- (xv) At least 2.5% of the total project cost shall be allocated for Enterprise Social Commitment 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.
- (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, both for emissions and the effluent, shall be installed within the plant site for measurement of discharge and pollutants concentration. Data shall be uploaded on the company's website and provided to the respective ROs of MoEF&CC, CPCB and SPCB.
- (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 bird namely, Demoiselle crane, at the reservoir and green belt areas.
- (xxi) At least 10 natural surface water bodies shall be rejuvenated and developed as complete eco-system with the tree plantation development and growth using satellite imageries.
- (xxii) The international boundary is reportedly at a distance of 100-150 km from the project site. In view of the security apprehensions, necessary permission required, if any, shall be obtained from the Ministry of Defence and/or Ministry of Home Affairs.

15.1. 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 Government, Central Pollution Control Board, State Pollution Control Board 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

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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. 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) 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.

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


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

18. 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.


13/9/2017
(S. K. Srivastava)
Scientist E

Copy to:-

1. The Secretary, Environment Department, Government of Rajasthan
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (CZ), Kendriya Bhawan, 5th Floor, Sector "H", Aliganj, Lucknow- 20
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar (Delhi)-32
4. The Member Secretary, Rajasthan State Pollution Control Board, Rajasthan
5. Guard File/Monitoring File/Website/Record File


13/9/2017
(S. K. Srivastava)
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