

F. No. J-11011/8/2009- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

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Dated: December 23, 2009

To,

The Group General Manager
M/s Mangalore Refinery and Petrochemical Limited
LGF, Mercantile House, 15 K.G. Marg,
New Delhi

Sub: Diesel Quality Improvement Project and expansion of the refinery to 13.6 MMTPA at Kuthethoor via Katipalla, Mangalore in Karnataka by M/s Mangalore Refinery and Petrochemical Limited Reg Environmental clearance

Sir,

This has reference to your letter no. nil dated 10th September, 2009 along with EIA/EMP report seeking environmental clearance under the EIA Notification, 2006

2. The Ministry of Environment and Forests has examined your application. It is noted that M/s Mangalore Refinery and Petrochemical Limited have proposed for refinery crude oil processing capacity enhancement from 12.5 MMTPA to 13.6 MMTPA through a new pre-fractionator unit at the upstream of CDU-I, revamp of existing Gas Oil Hydro-desulfurization system (GOHDS) to produce Euro-IV quality HSD and the unit capacity enhancement from 1.35 MMTPA to 1.74 MMTPA and additional storage to handle the enhanced throughput of the refinery. No eco-sensitive areas are located within 10 km radius of the plant. The capacity enhancement project basically envisages revamp of existing CDU-I to enhance its capacity from 3.69 MMTPA to 4.8 MMTPA. To handle enhanced petroleum products of different quality, there will be 7 new storage tanks. Proposed expansion will be within the existing refinery having land area of 1425 acres. The total cost of the expansion project will be Rs. 250.00 Crores.

3. The current development proposed at existing refinery, to produce diesel complying the Euro-III & Euro-IV specifications (cleaner fuel) through revamp of existing Gas Oil Hydro-Desulphurization (GOHDS) with changed catalyst and also the enhancement of refinery capacity from 12.5 to 13.6 MMTP. There are no new stacks envisaged. There will be increase in fuel consumption in utility boilers / CPP to meet the increased steam requirement. Accordingly the increase in SO₂ and NO_x emissions through CPP-1 stack is estimated as SO₂: 50kg/hr (1.2TPD) and NO_x: 18 kg /hr (0.43TPD). The total SO₂ and NO_x emission will remain within the existing limit of 30 -40 TPD for SO₂ and 15.79 TPD for NO_x.

4. The total water consumption for proposed expansion project is 60 m³/hr, which will be sourced from the Nethravati River. The major part of additional water drawl, i.e. 35 m³/hr, out of 60 m³/hr, will be utilized for additional steam generation. The wastewater generation from proposed project is estimated as 50m³/hr (1,200m³/day), which will be treated at existing WWTPs and mostly will be recycled/reused within complex and rest will be discharged into sea through submarine outfall. There will not be increase in the sewage generation due to this project.

5. The only hazardous waste generation source is spent catalyst from GOHDS unit. The net increase in the spent catalyst generation is 117 T once in 5 years. The biological and oily sludge (395 MTPA) would be stored in the impervious lined sludge pit within MRPL premises. For bioremediation of oily sludge, TERI technology is being applied. Rapid risk assessment study has been carried, to identify the hazardous maximum credible Accident Analysis; consequence analysis of worst case scenarios with respect to heat radiations at various wind velocities and atmospheric stability classes. Damage distance due to catastrophic rupture of Diesel storage tank are confined within the plant boundary.

6. The project related to Petroleum refining industry is listed in para 4(a) of schedule of EIA Notification, 2006 covered under category "A" and appraised at centre level. Public hearing was exempted as per para 7(ii) of EIA Notification, 2006.

7. The proposal was considered by the Expert Appraisal Committee-2 (Industry) in its 5th meeting held during 12-13th November, 2009 (p.51-52/c). The EAC (I) recommended the project for environmental clearance

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

A. SPECIFIC CONDITIONS:

- i. M/s Mangalore Refinery and Petrochemical Limited shall comply with new standards/ norms for Oil Refinery Industry notified under the Environment (Protection) Rules, 1986 vide G.S.R. 186(E) dated 18th March 2008.
- ii. The project authorities make efforts to further reduce the SO₂ emission less than the prescribed limits of 37.74 TPD for the existing capacity.
- iii. Supply of products from refinery shall not result in additional load due to tankers movements. Measures shall be taken to prevent the traffic congestion. Further, the truck owners for naphtha truck loading shall be informed to provide the truck with bottom loading capacity and for VOC recovery system.
- iv. The process emissions (SO₂, NO_x, HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the AP State Pollution Control Board from time to time. At no time, the emission levels should go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved.
- v. Ambient air quality monitoring stations, [PM₁₀ /PM_{2.5}, SO₂, NO_x, H₂S, Mercaptan, NMHC, Ozone, Nickel and Benzene] should 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, NO_x, CO and CO₂. Low NO_x burners should be installed with online analyzers.

- vi. The proponent shall upload the status of compliance of the stipulated EC conditions, including monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant namely; Particulate matter (PM₁₀ /PM_{2.5}, SO₂, NO_x, Benzene (Ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at the convenient location near the main gate of the Company in the public domain.
- vii. Monitoring of fugitive emissions should be carried out as per the guidelines of CPCB by fugitive emission detectors and reports should be submitted to the Ministry's Regional Office at Bangalore. For control of fugitive emission all unsaturated hydrocarbon will be routed to the flare system and the flare system should be designed for smoke less burning.
- viii. Fugitive emissions of HC from product storage tank yards etc. must be regularly monitored. Sensors for detecting HC leakage should also be provided at strategic locations. The company should use low sulphur fuel to minimize SO₂ emission. Sulphur recovery units should have efficiency of 99.5 %. Leak Detection and Repair programme should be implemented to control HC/VOC emissions. Work zone monitoring should be carried out near the storage tanks besides monitoring of HCs/VOCs in the work zone.
- ix. The waste water should be treated in the waste water treatment plant and the treated effluent should meet the prescribed standards. Efforts should be made to recycle the treated effluent to achieve zero discharge. The RO plant shall be installed for reuse and conservation of water.
- x. The project authorities must strictly comply with the rules and regulation with regard to handling and disposal of Hazardous Wastes (Management, Handling and Trans Boundary Movement) Rules, 1989/ 2003/ 2008 wherever applicable. Authorization from the State Pollution Control Board must be obtained for collections/ treatment/ storage/ disposal of hazardous wastes.
- xi. The company should strictly follow all the recommendation mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP) for the oil refineries.
- xii. The Company should 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 should be installed to minimize gaseous emissions during flaring.
- xiii. 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 should be in place.
- xiv. The operators and lab room shall be shifted to safe location as the predicted damage distance due to leaking pre-fractionators is 90m only.
- xv. Onsite and offsite DMP shall be updated to cover the additional facilities and the updated plans shall be implemented.

- xvi. Occupational health surveillance of worker should be done on a regular basis and records maintained as per the Factory Act.
- xvii. Greenbelt should be developed to mitigate the effect of fugitive emission all around the plant in a minimum 33% plant area in consultation with DFO as per CPCB guidelines.
- xviii. The Company should undertake measures for rain water harvesting to recharge the ground water and minimize fresh water consumption.
- xix. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

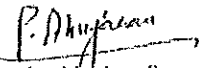
B. GENERAL CONDITIONS

- i. The project authorities must strictly adhere to the stipulations made by the concerned State Pollution Control Board (SPCB) and the State Government and any other statutory body.
- ii. No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case of deviations or alternations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry.
- iii. At no time, the emissions shall go beyond the prescribed standards. In the event of failure of any pollution control system, the respective facilities should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done.
- iv. Waste water shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB.
- v. The overall noise levels in and around the premises shall be limited within the prescribed standards (75 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- vi. The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project, if required. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.

- vii. The project authorities will provide adequate funds as non-recurring and recurring expenditure to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.
 - viii. The company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water.
 - ix. The stipulated conditions will be monitored by the concerned Regional Office of this Ministry/ Central Pollution Control Board/ State Pollution Control Board. A six monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the Website of the Company.
 - x. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both on hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.
 - xi. A copy of clearance letter shall be sent by the 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. The clearance letter shall also put up on the website of the Company by the proponent.
 - xii. 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.
 - xiii. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent 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 alongwith the status of compliance of EC conditions and shall also be sent to the respective regional Office of the MoEF by e-mail.
 - xiv. 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.
 - xv. 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
9. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
10. The Ministry reserves the right to stipulate additional conditions if found necessary. The company will implement these conditions in a time bound manner.

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

12. 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 Wastes (Management, Handling and Trans boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Karnataka or any other Court of Law relating to the subject matter.


(Dr. P. L. Ahujara)
Director

Copy to:

1. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
2. Chairman, Karnataka State Pollution Control Board, 6,7,8&9th Floor, (Public Utility Building) NSB building, Mahatma Gandhi Marg, Bangalore -560001, Karnataka.
3. Chief Conservator of Forests (Central), Regional Office (SZ), Kendriya Sadan, IVth Floor, E&F Wing, 17th Main Road, Koramangala, Bangalore-560034.
4. Secretary, State Department of Environment and Forests, Govt. of Karnataka, Bangalore.
5. Director, Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhawan, CGO Complex, New Delhi.
6. Guard File.
7. Monitoring File.
8. Record File.

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(Dr. P. L. Ahujara)
Director