

F. No. J-11011/168/2011- IA II (I)  
Government of India  
Ministry of Environment and Forests  
(I.A. Division)

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Dated 2<sup>nd</sup> March, 2012

To,

Shri C. N. Trivedi,  
Executive Director (PC-CO)  
M/s GAIL (India) Ltd.  
16-Bhikaji Cama Place, R K Puram  
New Delhi-110066.

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**Subject : Expansion of the Petrochemical Complex Plant by adding Gas Sweetening Plant (GSU, 21.12 MMSCMD) and C2/C3 Recovery Unit (21.72 MMSCMD) at Vijaipur, District Guna, Madhya Pradesh by M/s GAIL (India) Ltd. – Environmental Clearance reg.**

**Ref. : Your letter no. GAIL/ND/PETROCHEMICALS-PROJECTS/2011 dated 5<sup>th</sup> October, 2011.**

Sir,

Kindly refer to your letter dated 5<sup>th</sup> October, 2011 alongwith Form-1, Prefeasibility Report, EIA/EMP report, Public Hearing Report and subsequent communications vide your letters dated 28<sup>th</sup> November, 2011 regarding above mentioned subject.

2.0 The Ministry of Environment & Forests has examined your application. It is noted that proposal is for expansion of the Petrochemical Complex Plant by adding Gas Sweetening Plant (GSU, 21.12 MMSCMD) and C2/C3 Recovery Unit (21.72 MMSCMD) at Vijaipur, District Guna, Madhya Pradesh by M/s GAIL (India) Ltd. Total project cost is Rs. 2214.21 Crores. Total plot area of the existing complex is 324.9 ha and expansion will be done within existing complex. No national parks/sanctuary/reserve forests/ecological sensitive areas/reserve forest are located within 10 km. Following are the details of existing and proposed units:

Existing Unit	Proposed Units
LPG Unit-2 no's	Gas Sweetening Unit (GSU); 21.12 MMSCMD
Utilities, Offsites, Storages and ETP	C2/C3 Recovery Unit; 21.72 MMSCMD Utilities, Offsites, Storages.

C2/C3 recovered from the various unit will be sent to Pata Petrochemical Complex in Uttar Pradesh. Equipments namely gas turbine driven compressor (6 Nos.), Fire heaters (2 Nos.), Boiler (1 No.) and Cooling tower (2 Nos.) from the existing plant will be shutdown after completion of the proposed expansion facilities. In place of shutdown equipments, energy efficient new equipments namely Gas Turbine driven lean Gas Compressor with heat recovery steam generator (HRSG) facility (3 Nos. @ 15 MW), fire heater (1 No) and cooling tower (1 No.) will be installed.

3.0 Stack of adequate height will be installed at regeneration gas heater (18-FF-101 Unit), gas turbine (GT) bypass, utility boiler (UB) and heat recovery steam generator (HRSG). Low NOx burner will be installed. Fresh water requirement from Goikrishna Sagar dam will be 830 m<sup>3</sup>/hr after expansion. Effluent generation will be increased from 47 m<sup>3</sup>/hr to

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180 m<sup>3</sup>/hr after expansion. The industrial effluent will be treated in the effluent treatment plant (ETP) and treated effluent will be reused/recycled within factory premises. No effluent will be discharged outside the premises. Spent catalyst and bottom tank sludge will be sent to authorized re-processors/recyclers.

4.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 20<sup>th</sup> & 29<sup>th</sup> meetings held during 3<sup>rd</sup>-4<sup>th</sup> March, 2011 and 17<sup>th</sup>-18<sup>th</sup> November, 2011 respectively.

5.0 All petro-chemical complexes are listed at S.N. 5(c) under category 'A' and appraised at Central level.

6.0 Public hearing/public consultation was conducted on 9<sup>th</sup> September, 2011.

7.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14<sup>th</sup> September, 2006 subject to strict compliance of the following specific and general conditions:

**A. SPECIFIC CONDITIONS :**

- i. All the specific conditions and general conditions specified in the environmental clearance letters accorded vide Ministry's letter nos. J-11011/19/88-IA.II (I) dated 24<sup>th</sup> May, 1988, J-11011/46/2002-IA.II (I) dated 9<sup>th</sup> October, 2002 and J-11011/1054/2007-IA.II (I) dated 8<sup>th</sup> January, 2008 shall be implemented.
- ii. M/s GAIL (India) Ltd. shall comply with new standards/norms prescribed for petrochemical industry notified under the Environment (Protection) Rules, 1986.
- iii. The process emissions (particulate matter, SO<sub>2</sub>, NO<sub>x</sub>, HC, CO and VOCs) from various units shall conform to all standards prescribed by the CPCB/M. P. Pollution Control Board (MPPCB) from time to time. At no time, the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emissions shall be monitored regularly.
- iv. Low NO<sub>x</sub> burner shall be installed to control NO<sub>x</sub> emissions.
- v. Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> September, 2009.
- vi. In-plant control and monitoring measures for checking fugitive emissions from all the vulnerable sources should be provided. Adequate dust suppression systems with water spray shall be provided for storage yard, junction houses. Raw material loading and unloading area should be covered and also provided with water spraying system. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored and records maintained. The emissions should conform to the limits stipulated by the MPPCB.
- vii. Steps shall be taken to minimise fugitive emissions. Monitoring of fugitive emissions shall be carried out as per guidelines of CPCB by fugitive emissions detector and report shall be submitted to the Ministry' Regional Office at Bhopal. Continuous monitoring system for VOCs at all important places/areas should be ensured. When monitoring results indicate above the permissible limits, effective measures should be taken immediately.

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- viii. Continuous ambient air quality monitoring stations for PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO, HC and VOCs shall be set up in the Petrochemical complex in consultation with CPCB/MPPCB. Unit shall follow CPCB/MoEF calibration protocol for the calibration of continuous stack as well as ambient air quality monitoring analyzer installed in all stations. Data of stack monitoring and ambient air shall be displayed on web as well as outside the premises at prominent place for public viewing. The company shall upload the results of monitored data on its 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 MPPCB.
- ix. A proper Leak Detection and Repair (LDAR) Program shall be prepared and implemented. Focus shall be given for prevention of 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.
- x. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.
- xi. Total fresh water requirement from Goikrishna Sagar dam shall not exceed 830 m<sup>3</sup>/hr and prior permission shall be obtained from the concerned Authority. No ground water shall be used.
- xii. As proposed, additional effluent generation shall not exceed 133 m<sup>3</sup>/hr. Industrial effluent shall be treated in effluent treatment plant (ETP) and treated effluent shall be recycled and reused within factory premises. Company shall construct guard pond for collection of treated effluent and shall carry out the water quality test by collecting the treated effluent from the guard pond before application. Water quality of treated effluent shall conform to the norms prescribed by the CPCB/MPPCB from time to time. As proposed, sewage shall be transferred to aeration tank alongwith process wastewater.
- xiii. No effluent shall be discharged outside the factory premises and 'Zero' discharge concept shall be adopted.
- xiv. Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- xv. The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from MPPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Measures shall be taken for fire fighting facilities in case of emergency.
- xvi. Spent catalyst and bottom tank sludge shall be sent to authorized re-processors/recyclers.
- xvii. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system should be as per the OISD norms. All the OISD standards shall be followed.
- xviii. OISD guidelines shall be followed for minimum distance between various units.

- xix. 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.
- xx. The company shall undertake following waste minimization measures :-
- 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.
- xxi. Green belt shall be developed in 33 % area to mitigate the effects of fugitive emissions all around the plant as per CPCB guidelines in consultation with the local DFO. Thick greenbelt with suitable plant species shall be developed around the proposed expansion.
- xxii. Occupational health surveillance programme shall be undertaken as regular exercise for all the employees. The first aid facilities in the occupational health centre shall be strengthened and the regular medical test records of each employee shall be maintained separately.
- xxiii. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxiv. All the commitments made during the Public Hearing / Public Consultation meeting held on 9<sup>th</sup> September, 2011 shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- xxv. Company shall prepare project specific environmental manual and a copy shall be made available at the project site for the compliance.
- xxvi. Company shall adopt Corporate Environment Policy as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26<sup>th</sup> April, 2011 and implemented. Under Corporate Social Responsibility (CSR), sufficient budgetary provision shall be made for health improvement, education, water and electricity supply etc. in and around the project.
- xxvii. Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction wastes shall be managed so that there is no impact on the surrounding environment.

**B. GENERAL CONDITIONS:**

- i. The project authorities shall strictly adhere to the stipulations made by the M.P. Pollution Control Board (MPPCB).
- 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

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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 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).
- v. 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.
- vi. 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.
- vii. 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.
- viii. 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.
- ix. The company shall undertake eco-developmental measures including community welfare measures in the project area for the 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 and Forests 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, the respective Zonal Office of CPCB and MPPCB. 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 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://envfor.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.

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 shall implement these conditions.

10.0 The above conditions shall 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, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.

*Lalit Bokolia*  
**(Lalit Bokolia)**  
**Joint Director**

**Copy to:**

1. The Principal Secretary, Department of Housing and Environment, Government of Madhya Pradesh, Paryavaran Parisar, E- 5, Arera Colony, Bhopal, Madhya Pradesh, PIN 462016.
2. The Chief Conservator of Forests (Western Zone), Ministry of Environment & Forests, Regional Office, E-5, Arera Colony, Link Road -3, Bhopal -462 016, M.P.
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Madhya Pradesh Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar, Bhopal - 462 016, Madhya Pradesh.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Joint Secretary, IA Division-II(I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File/Monitoring File/Record File.

*Lalit Bokolia*  
**(Lalit Bokolia)**  
**Joint Director**