

F. No. J-11011/667/2009-IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi – 110 003

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Dated 16th January, 2012

To, ✓
Shri S. Mitra, General Manager
M/s Indian Oil Corporation Ltd.
9th floor, Indian Oil Bhawan
No.1 Sri Aurobindo marg, Yusuf Sarai, New Delhi-110016

E-mail: mitras1@iocl.co.in / bhatnagars@iocl.co.in ; Fax: 011- 26859271;

**Subject: Installation of “Emulsion Styrene Butadiene Rubber (E-SBR; 1,20,000 MTPA) Unit”
at Panipat Refinery, Panipat, Haryana by Indian Oil Corporation Ltd. –
Environmental Clearance reg.**

Ref. : Your letter no. DO/GM(PJ)/SBR/1/2011 dated 15th July, 2011.

Sir

Kindly refer to your letter dated 15th July, 2011 alongwith Form-1, Prefeasibility Report, EIA/EMP report, Public Hearing Report and subsequent communications vide your letters dated 8th August, 2011 regarding above mentioned subject.

2.0 The Ministry of Environment & Forests has examined your application. It is noted that proposal is for greenfield Emulsion Styrene Butadiene Rubber (E-SBR; 1,20,000 MTPA) Unit near the existing Naphtha Cracker Unit (NCU) of Panipat Refinery. Total project cost is Rs. 890.00 Crores. Total plot area is 2,31,431m² (57 acres). The western Yamuna Irrigation canal is passing at 1 Km from the project site.

3.0 Vent gases generated from various process units and monomer storage tanks as well as intermediates vessels will be burnt in a flare stack of adequate height. Untreated styrene and butadiene from the reactors will be completely recovered in dedicated styrene and butadiene recovery system and reused and the excess will be burnt in the onsite incinerator. Waste heat generated from the incinerator will be recovered in a waste heat boiler to generate steam. Dryer exhaust gas will be passed through wet scrubber with caustic medium to control organic vapours. Total fresh water requirement from Yamuna Canal will be 1220 m³/day. Industrial effluent will be treated in the effluent treatment plant (ETP) comprising primary, secondary and tertiary treatment facility and treated effluent will be recycled and reused within factory premises. No effluent will be discharged outside the factory premises and ‘zero’ discharge concept will be adopted. Concentrated rejects will be evaporated in the multiple effect evaporators (MEE). ETP sludge and MEE salt will be sent to treatment storage disposal facilities (TSDF) for hazardous waste. Waste oil will be handed over to authorized re-processors.

4.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 10th, 25th, 26th and 28th meetings held during 29th–30th April, 2011, 29th – 30th July, 2011, 17th–18th August, 2011 and 20th– 21st October, 2011 respectively.

5.0 All the synthetic organic chemicals industry (synthetic rubbers) located outside the industrial area/estate are listed at S.N. 5(f) under Category ‘A’ and appraised at the Central level. ✓

6.0 Public Hearing/Public Consultation meeting was conducted on 14th June, 2011.

7.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th 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 earlier environmental clearance letters accorded vide Ministry's letter nos. J-11011/27/91-IA-II (I) dated 16th July, 1992, J-11011/60/2000-IA-II (I) dated 9th April, 2001, J-11011/52/2000-IA-II (I) dated 30th April, 2001, J-11011/9/2001-IA-II (I) dated 6th December, 2001, J-11011/153/2004-IA-II (I) dated 4th January, 2005 and J-11011/7/2004-IA-II (I) dated 9th August, 2004 shall be implemented.
- ii. As proposed, vent gases generated from various process units and monomer storage tanks and intermediates vessels shall be burnt in a flare stack of adequate height. Untreated styrene and butadiene from the reactors shall be completely recovered in dedicated styrene and butadiene recovery system and reused and the excess shall be burnt in the onsite incinerator. Dryer exhaust gas shall be passed through wet scrubber with caustic medium to control organic vapours.
- iii. The emission standards prescribed by the MoEF under Environment (Protection) Act for petrochemical industry shall be strictly followed. 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. In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Adequate dust suppression systems with water spray shall be provided for storage yard, junction houses. Raw material loading and unloading area shall 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 shall conform to the limits stipulated by the HSPCB.
- v. The company shall upload the status of compliance of the stipulated environmental clearance conditions, including 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 the Haryana State Pollution Control Board. The levels of PM₁₀, SO₂, NO_x, CO, HC and VOCs in ambient air shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.
- vi. A proper Leak Detection and Repair (LDAR) Program should be prepared and implemented. Focus should 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 should be given. A preventive maintenance schedule for each unit should be prepared and adhered to.
- vii. Continuous monitoring system for VOCs at all important places/areas shall be ensured. When monitoring results indicate above the permissible limits, effective measures shall be taken immediately.
- viii. For further control of fugitive emissions, following steps shall be followed :

- a. Closed handling system shall be provided for chemicals.
 - b. Reflux condenser shall be provided over reactor.
 - c. System of leak detection and repair of pump/pipeline based on preventive maintenance.
 - d. The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
 - e. Cathodic protection shall be provided to the underground solvent storage tanks.
- ix. Incinerator design shall be as per CPCB guidelines. HCl, SO₂, NO_x, PM, Styrene, dioxin and furan shall be monitored at the incinerator stack.
 - 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 water requirement shall not exceed 3583 m³/day. Total fresh water requirement from Yamuna Canal shall not exceed 1220 m³/day and prior permission shall be obtained from the concerned agency. Out of this, about 98.5 m³/hr (2364 m³/day) water requirement shall be met from treated wastewater. No ground water shall be used.
 - xii. Industrial effluent shall be treated in ETP comprising primary, secondary and tertiary treatment facility and treated effluent shall be recycled and reused within factory premises. Concentrated rejects shall be sent to onsite MEE for concentration. Water quality of treated effluent shall be monitored regularly.
 - xiii. No effluent shall be discharged outside the factory premises and 'zero' discharge concept shall be adopted.
 - xiv. Oil catchers/oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.
 - xv. As proposed, waste rubber shall be disposed to waste recycling unit. ETP Sludge and MEE salt shall be sent to TSDF. Used oil shall be handed over to authorized re-processor. Excess un-reacted styrene shall be incinerated. Excess recovered butadiene shall be reprocessed in the Naphtha cracker unit.
 - xvi. 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 HSPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Measures shall be taken for fire fighting facilities in case of emergency. Membership of TSDF for hazardous waste disposal shall be obtained.
 - xvii. 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.
 - xviii. 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 OISD norms.

- xix. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- xx. 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 distillery to mitigate the odour problem.
- xxi. All the commitments made during the Public Hearing / Public Consultation meeting held on 14th June, 2011 shall be satisfactorily implemented and adequate budget provision shall be made accordingly.
- xxii. Company shall adopt Corporate Environment Policy as per the Ministry's O.M. No. J-11013/41/2006-IA.II(I) dated 26th April, 2011 and implemented.
- xxiii. 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.
- xxiv. Unit shall follow CPCB/MoEF calibration protocol for the calibration of continuous stack as well as ambient air quality monitoring analyser installed in all existing stations at Panipat Refinery Complex.
- xxv. Oily sludge treatment facility at existing Panipat Refinery shall be developed as per CPCB/MoEF guidelines. Existing oily sludge treatment facility needs to be improved. Oil sludge treatment facility shall be closed type to avoid VOCs emissions. Residue after treatment shall be handled, stored and disposed as per CPCB/MoEF guidelines. Spilled Oil sludge shall be removed and contaminated soil shall be remediated. Arrangement shall be made so that Oil sludge treatment facility shall not allow entering rain water within facility. M/s IOCL shall develop time bound action plan and submit to the Ministry's Regional Office at Chandigarh within one month time. Based on action plan, M/s IOCL shall submit monthly compliance report to the Ministry's Regional Office.
- xxvi. Compliance report of existing environmental clearance alongwith environmental monitoring data shall be placed on the Panipat Refinery's website.
- 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 Haryana State Pollution Control Board (HSPCB).
- 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 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 Rs 56.31 Crores and Rs. 85 Lakhs 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 HSPCB. 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 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.

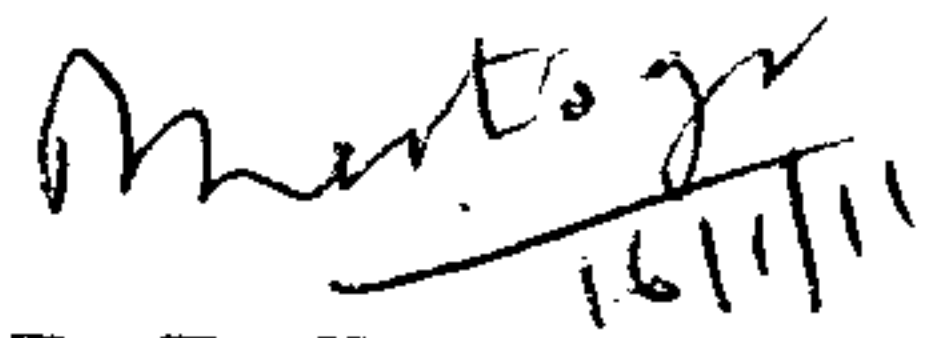
10.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.



(Dr. P. B. Rastogi)
Director

Copy to:-

1. The Principal Secretary, Environment Department, Government of Haryana, SCO 1-2-3, Sector 17-D (2nd Floor), Chandigarh.
2. The Chief Conservator of Forests (Central), Regional Office (Northern Zone), Bay No.24-25, Sector 31-A, Dakshim Marg, Chandigarh-160030.
3. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, Haryana State Pollution Control Board, C-11, Sector-6, Panchkula.
5. The Adviser, IA II(I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File/Monitoring File/Record File.



(Dr. P. B. Rastogi)
Director