

F. No. J-11011/301/2011- 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 24th December, 2012

To,

Shri Alok Kumar
Vice President-CS2 Business
M/s Indo Baijin Chemicals Pvt. Ltd.
Off: S.V. Road, Azad Nagar
Sandoz Baug P.O., Thane-400607
Maharashtra.

E-mail: alokkumar-icc@modi.com ; Fax No. 022-25898357:

Subject: Carbon Di-sulphide (50,000 TPA) Manufacturing Unit at Plot No. Z-7/1 & Z-8/Part, Taluka Vagara, Dahez SEZ, District Bharuch, Gujarat by M/s Indo Baijin Chemicals Pvt. Ltd. – Environmental Clearance reg.

Ref. : Your letter no. nil dated 11th January, 2012.

Sir,

Kindly refer to your letter dated 11th January, 2012 alongwith project documents including Form I, Terms of References, Pre-feasibility Report alongwith EIA/EMP Report and subsequent submission of additional information vide letters dated 24th May, 2012 regarding above mentioned project.

2.0 The Ministry of Environment and Forests has examined the application. It is noted that the proposal is for setting up of Carbon Di-sulphide (50,000 TPA) manufacturing unit at Plot No.Z-7/1 & Z-8/Part, Dahez SEZ, District Bharuch, Gujarat by M/s Indo Baijin Chemicals Pvt. Ltd. Total plot area is 50,000 sq.m. No national park /reserve forest is located within 10 km. Site falls under the earth quake zone-III. Total cost of the project is Rs.178.00 Crores. CS₂ will be produced by using natural gas. Following facilities will be installed:

- i. Sulphur Melting Unit
- ii. Natural Gas Receiving & Purification Unit
- iii. CS₂ Synthesis Unit & CS₂ Refining Unit
- iv. Sulphur Recovery Unit
- v. Tank farms for CS₂/Molten Sulphur storage
- vi. Sulphur godown
- vii. Tanker Filling Station
- viii. Utilities

3.0 Stack of adequate height will be provided to tail gas treatment unit & flue gas reaction heating furnace. Adequate flare system will be designed for emergency venting. Sulphur recovery unit of 99.9 % efficiency will be installed. Total fresh water requirement from GIDC Dahej water supply will be 750 m³/day Total industrial wastewater generation will be 204 m³/day. Industrial effluent will be treated in the effluent treatment plant (ETP) and sewage will be treated in the sewage treatment plant (STP). Treated effluent will be recycled/reused within factory premises. No effluent will be discharged outside the industrial premises and zero discharge concepts will be adopted. Furnace slag, sludge from sulphur filter

will be sent at common incineration facility. ETP sludge and evaporation salt will be sent to Treatment Storage Disposal Facility (TSDF) for hazardous waste. Waste oil and used batteries will be sold to authorized recyclers/re-processors.

4.0 Public hearing was exempted as per section 7 (i), (iii) Stage (3), Para (i)(b) of EIA Notification, 2006.

5.0 All carbon Di-sulphide manufacturing units are listed at S.N. 5(b) under category 'A' and appraised at Central level.

6.0 The proposal was considered by the Expert Appraisal Committee (Industry-2) in its 27th and 35th meetings held during 21st-22nd September, 2011 and 11th -12th May, 2012 respectively. The Committee recommended the proposal for environmental clearance.

7.0 Based on the information submitted by the project proponent, 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) Stack of adequate height shall be provided to tail gas treatment unit & flue gas reaction heating furnace as per CPCB/Gujarat Pollution Control Board (GPCB) guidelines. The flare system shall be designed as per norms.
- ii) The process emissions [CS₂, H₂S, SO₂, NO_x, HC (Methane & Non-methane)] and VOCs from various units shall conform to the standards prescribed under the Environment (Protection) Act, 2008. At no time, the emission levels shall go beyond the prescribed standards. The system shall be interlocked with the pollution control equipments so that in case of any increase in pollutants beyond permissible limits, plant shall be automatically stopped.
- iii) Sulphur recovery unit (SRU) shall be installed for control of H₂S emissions and 99.9 % efficiency of the SRU shall be maintained. Continuous on-line stack monitoring for SO₂ and H₂S shall be carried out. Efficiency of SRU should be monitored regularly and maintained properly.
- iv) Record of sulphur balance shall be maintained at the unit as part of the environmental data on regular basis. The basic component of sulphur balance include sulphur input through feed, sulphur output from unit through products, byproduct (elemental sulphur), atmospheric emissions etc.
- v) Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S.R. No. 826(E) dated 16th September, 2009. The levels of PM₁₀, SO₂, NO_x, H₂S, VOC and CS₂ shall be monitored in the ambient air and emissions from the stacks and displayed at a convenient location near the main gate of the company and at important public places. 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 the GPCB.
- vi) In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling & conveyance of chemicals/materials, multi cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system shall be provided at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits stipulated by the GPCB.

- vii) For further control of fugitive emissions, following steps shall be followed :
1. Closed handling system shall be provided for chemicals.
 2. Reflux condenser shall be provided over reactor.
 3. System of leak detection and repair of pump/pipeline based on preventive maintenance.
 4. 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.
 5. Cathodic protection shall be provided to the underground solvent storage tanks.
- viii) 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.
- ix) A proper Leak Detection and Repair (LDAR) Program for CS₂ industry shall be prepared and implemented as per CPCB guidelines. 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) As proposed, online continuous detecting sensors at all locations where there is likelihood of presence of CS₂ and H₂S alongwith alarm shall be installed. Effective measures shall be taken immediately, when monitoring results indicate above the permissible limits. The plant shall automatic shut down if any failure observed in SRU, flare sytem and other critical system.
- xi) Total fresh water requirement from GIDC water supply shall not exceed 750 m³/day. No ground water shall be used.
- xii) The industrial effluent generation from unit shall not exceed 204 m³/day. Effluent shall be treated in the effluent treatment plant and treated water shall be recycled/reused within factory premises. No process effluent shall be discharged in and around the project site. Water quality of treated effluent shall be monitored regularly and monitoring report shall be submitted to the GPCB. Sewage shall be treated in the STP.
- xiii) No effluent shall be discharged outside the industrial premises and zero discharge concepts 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) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps.
- xvi) As proposed, furnace slag, sludge from sulphur filter shall be sent at common incineration facility. ETP sludge and evaporation salt shall be sent to Treatment Storage Disposal Facility (TSDF) for hazardous waste.
- xvii) 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 GPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Measures shall be taken for fire fighting facilities in case of emergency.

- xviii) 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.
- xix) 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.
- xx) All the measures proposed in the risk assessment study shall be implemented.
- xxi) 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.
- xxii) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- xxiii) Since the site falls under the earth quake zone-III and proper care will be taken at the design stage itself for this aspect.
- xxiv) Thick greenbelt shall be developed in 16501 m² out of total land 50,000 m² in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO. Selection of plant species shall be as per the CPCB guidelines.
- xxv) 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 Gujarat Pollution Control Board.
- 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 stations 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).

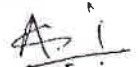
- v. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.
- vi. Training shall be imparted to all employees on safety and health aspects of 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. Usage of Personnel Protection Equipments (PPEs) by all employees/ workers shall be ensured.
- 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, risk mitigation measures and public hearing 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. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
- xii. The company shall earmark sufficient funds toward 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.
- xiii. 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 who suggestions/ representations, if any, were received while processing the proposal.
- xiv. 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 the Gujarat Pollution Control Board. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- xv. 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.

- xvi. 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.
- xvii. 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 will implement these conditions.

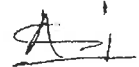
10.0 The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986 Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.



(A.N. Singh)
Dy. Director (S)

Copy to :-

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, Gandhi Nagar - 382 010, Gujarat.
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, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhi Nagar-382 043, Gujarat.
5. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
6. Adviser, IA II(I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi.
7. Guard File/Monitoring File/Record File.



(A.N. Singh)
Dy. Director (S)