

F. No. J-11011/279/2006-IA II (I)
Government of India
Ministry of Environment, Forest and Climate Change
(I.A. Division)

Indira Paryavaran Bhawan
Jor Bagh Road, Ali Ganj,
New Delhi - 110003
E-mail: satish.garkoti@nic.in
Tele ph.: 011: 24695316

Dated: 1st October, 2015
5th

✓ To

M/s Vedanta/Hindustan Zinc Ltd.
Chanderiya Lead Zinc Smelter,
P.O.-Putholi, District-Chittorgarh,
Rajasthan-312021

Fax No. – 01472-253016

Subject: Inclusion of Fumer Plant (Pyrometallurgical Process) within the existing Zinc Smelter (2,50,000TPA) and CPP (100MW) plant to convert Jarosite to slag by M/s Hindustan Zinc Ltd. at Village- Putholi, District- Chittorgarh, Rajasthan Environmental Clearance –regarding.

Sir,

This has reference to your letter No. HZL/CLZS/Env/2014-2015/025 dated 24th September, 2014 on the subject mentioned above. The project proponent had applied to the Ministry for seeing amendment in the Environment Clearance granted to Zinc Smelter (2,50,000TPA) plant and CPP (100MW) vide letter No. J-11011/279/2006-IA.II(I) dated 06.12.2006. The matter was considered during the 25th meeting of the Expert Appraisal Committee held on 13th – 14th October, 2014. The Committee decided that the establishment of the Fumer Plant, although an environmentally friendly technology; however, cannot be treated as an amendment to the environment clearance dated 6th December, 2006. The Committee therefore decided that an EIA/EMP report is required on the project and recommended to prescribe ToRs to the proposal. The ToRs were awarded by MoEFCC vide letter No. J-11011/279/2006-IA.II(I) dated 20th November, 2014 for preparation of EIA/EMP report. The application based on ToRs was received in the Ministry vide letter No. HZL/CLZS/Env/2015-16/027 dated 13.06.2015 along with EIA/EMP report. The proposed project activity is listed at S.No. 3(a) in Metallurgical industries (ferrous & non ferrous) under Category 'A' of the Schedule of EIA Notification 2006 and appraised by the Expert Appraisal Committee (Industry) of MoEFCC.

2.0 The Ministry of Environment Forest and Climate Change examined the application in consultation with the Expert Appraisal Committee. It has been noted that M/s Hindustan Zinc Ltd. has proposed to establish Fumer plant (pyro-metallurgical process) within the existing leaching circuit of Hydro-II Zinc Smelter at Chanderiya Lead Zinc Smelter, Hindustan Zinc Limited. The project was earlier granted Environmental Clearance by the Ministry for 2,50,000 TPA Zinc smelter and CPP of 100 MW vide letter No. J-11011 /279/2006-IA.II(I) dated 6th December 2006.

3.0 The proponent has envisaged that the proposed project will eliminate the generation of Jarosite, which is presently stabilized with lime and cement to convert into stabilized Jarofix and is stored in secured Jarofix disposal yard. The modified process of Hydro-II Zinc smelter will produce clean slag instead of Jarosite, which will be used by cement manufacturers. The proposal will be executed within the existing plant premises only. The project site is situated in the village Putholi, at about 8.5 km North of Chittorgarh city in Rajasthan. The site is located at the intersection of latitude $24^{\circ}57'21''$ N to $24^{\circ}58'00''$ N and longitude $74^{\circ}38'34''$ E to $74^{\circ}40'22''$ E. The elevation of the site is about 400 m above mean sea level. The Chittorgarh-Ajmer highway (NH-79) passes at a distance of 5.0 km from plant boundary. The nearest railway station is at Chanderiya (2.5 km, SW) under Western Railway situated on Chittorgarh - Ajmer railway line. The estimated cost for conversion of unusable solid waste to usable slag is about Rs.500 Crores and cost on EMP is about Rs.80 Crores. There will not be any additional land acquisition for this project.

4.0 It has also been mentioned that with this process, generation of Jarosite and recurring land requirement for disposal will be eliminated, wherein clean Fumer slag will be generated to be utilized further in cement industries. Existing Hydro-I smelter having capacity of 2,10,000 TPA of Zinc metal will continue to operate through Jarosite process route.

5.0 The water requirement for the proposed Fumer plant is about $2400 \text{ m}^3/\text{day}$, which would be within the stipulated water requirement of the existing Hydro-II plant water requirement including 100MW CPP (of $11000 \text{ m}^3/\text{day}$). The proposed environment improvement project mainly aims at waste reduction, better utilization of available land for alternative use and conservation of natural resources. The following are the advantages of this project:

- i. Current Jarosite process requires land for storage of Jarofix. Proposed Fumer plant will generate usable clean slag, which can be sold to cement plants and hence it eliminates the need of land for storage of hazardous waste in future.
- ii. Off-gases from Fumer will be passed through waste heat recovery boiler, which will produce -21MWH of electrical power as Green Energy. Out of ~ 21MW production, - 11MW will be used in running Fumer. Therefore Fumer is self-sufficient in energy requirement and will produce additional power of ~ 10MW, which will be either utilized for other plants or will be available to the State grid.
- iii. Fumer Slag contains -7.6% Lime and -43% Fe_2O_3 . This will reduce consumption of - 17000 metric tons CaCO_3 in cement industry and will reduce carbon footprint by ~7700 tons. Hence it will conserve natural resources.

6.0 The matter was considered in the 43rd meeting of the Expert Appraisal Committee held on 2nd -3rd July, 2015. After detailed deliberations, the EAC (I) recommended the project for Environmental Clearance and stipulated Specific Conditions along with other environmental conditions while considering for accord of Environmental Clearance.

7.0 The Ministry of Environment, Forest and Climate Change (MoEFCC) on the basis of the aforesaid recommendations of the EAC (I), hereby decided to grant Environmental Clearance to Include Fumer Plant to convert Jarosite to slag under provisions of EIA Notification dated 14th September 2006, subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITION:

- i. The project proponent should install 24x7 air monitoring devices to monitor air emission as provided by CPCB and submit report to Ministry and its Regional Office.
- ii. The Committee observed that the piezometer samples have shown very high sulphate content upto 3158 mg/l. This indicates seepage of leachate from the jarofix in the landfill. This needs to be investigated and an action plan for remedial action needs to be submitted to the Ministry within 6 months.
- iii. All the slag from the Fumer plant should be utilized in the cement plant.
- iv. All the existing jarofix landfill site should be scientifically capped as per CPCB guideline.
- v. The PP should install piezometer on the northern side of the new landfill site.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Rajasthan Pollution Control Board and the State Government.
- ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM₁₀, PM_{2.5}, SO₂ and NO_x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Lucknow and the SPCB/CPCB once in six months.
- iv. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.
- v. The overall noise levels in and around the plant area shall be kept well within the standards (85 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 (daytime) and 70 dBA (nighttime).
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

- vii. The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.
- viii. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.
- ix. Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Lucknow. The funds so provided shall not be diverted for any other purpose.
- x. 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 be put on the web site of the company by the proponent.
- xi. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEFCC at Lucknow. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM₁₀, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- xii. The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MOEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Lucknow / CPCB / SPCB shall monitor the stipulated conditions.
- 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 along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Lucknow by e-mail.
- xiv. 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 and may also be seen at Website of the Ministry of

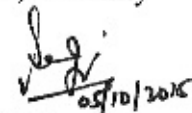
Environment, Forests and Climate Change (MoEFCC) at <http://envfor.nic.in>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Lucknow.

- xv. 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 commencing the land development work.

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, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.


(Dr. Satish C. Garkoti)
Scientist 'F'

Copy to:-

1. The Secretary, Department of Environment, Govt. of Rajasthan, Jaipur.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi, 110 032.
3. The Chairman, Rajasthan State Pollution Control Board, 4, Jhalana Institutional Area, Jhalana Doongri, Jaipur, Rajasthan 302004
4. The Additional Principal Chief Conservator of Forests (C) Ministry of Env. And Forests Regional Office (CZ) Kendriya Bhawan, 5th Floor, Sector "H" Aliganj, Lucknow-226020 (Uttar Pradesh)
5. Guard File / Record File/Monitoring file.


(Dr. Satish C. Garkoti)
Scientist 'F'