

F. No. J-11011/929/2008-IA-II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

ORIGINAL

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Dated: 2nd December, 2011

To,
M/s Hindalco Industries Limited
Century Bhavan, 3rd Floor, Dr. Annie Besant Road,
Mumbai - 400 025

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Sub: Modernization and expansion of existing Alumina Refinery (660 KTPA to 900 KTPA) and Smelter Plant (356 KTPA to 472 KTPA) at Renukoot, District Sonbhadra in Uttar Pradesh by **M/s Hindalco Industries Limited - regarding Environmental Clearance**

Sir,

This has reference to your letter no. nil dated 12.11.2009 along with copies of final EIA/EMP and public hearing reports and subsequent communications dated 21.07.2011 and 1.10.2011 seeking environment clearance under the provisions of EIA Notification, 2006.

2. The Ministry of Environment and Forests has examined the proposal. It is noted that M/s Hindalco Industries Ltd. have proposed for the modernization and expansion of existing Alumina Refinery (from 660 KTPA to 900 KTPA) and Smelter Plant (from 356 KTPA to 472 KTPA) at Renukoot, District Sonbhadra, Uttar Pradesh. No captive power plant is proposed since it will be sourced from Renukoot TPP, a sister concern, located nearby. The existing unit is in operation since 1962. Process efficiency improvement through de-bottlenecking measures are envisaged. In smelter plant, 660 pots of 60 KA with advanced dry scrubbing system are envisaged. Total land required for the proposed expansion is 9.25 ha which is available within the existing plant premises. No additional land is required. Green belt has been raised in an area of 165.6 ha out of 487.1 ha of existing plant area. No National park and Wildlife Sanctuary is located within 10 km of the project area. Dudhi RF (4.5 km. E), Muirpur RF (5.0 km., SE) and Singrauli RF (9 km- NW) are located within 10 km radius of the plant. Rihand Reservoir is located at 2.5 km. (W) distance. Bayer's process will be adopted for the extraction of Alumina from Bauxite. Primary Aluminium will be produced by electrolytic reduction of Alumina using Hall-Heroult Process. Total cost of the project is Rs. 2,535.00 Crores. About Rs. 198.5 Crores will be invested for environment protection measures.

3. It is noted that bauxite (25,08,826 MTPA), Lime (47,685 MTPA), Aluminium Fluoride (7,785 MTPA), C.P Coke (1,94,454 MTPA), Fuel Oil (1,09,236 TPA from IOC Haldia), Coal (2,00,000 TPA) from Coal India Limited and open market and Caustic Soda (95,685 MTPA) will be used as raw material. Bauxite will be sourced from Hindalco captive mines. Lime from Madhya Pradesh, coke from Barauni, Aluminium fluoride from TANFAC and caustic soda from BCCL and ABCIL, Renukoot will be obtained. Total power requirement for the proposed expansion will be 866.5 MW and sourced through Co-generation unit and Renukoot Captive Power Plant.

4. It is also noted that Electrostatic Precipitators and Advance Dry Scrubbing System (ADSS) will be provided to control SO₂, SPM, FI & NO_x emissions. Fluoride emissions from pots will be controlled within (<) 0.8 kg/ton of Alumina produce. To control fugitive emissions,

enclosure and fog dust suppression system will be provided in unloading area. Bag filters will be provided to all transfer points for dust suppression. Regular water sprinkling will be carried during unloading. With the above measures, no significant impact is envisaged on the reserve forests located at a distance of 4.5km to 9.0 km in East, South East and North West direction. The predominant wind direction is east towards WSW.

5. There will be no extra water withdrawal for proposed modernization and expansion. About 56750m³/day of water is required for the existing plant. 11250m³/day of waste water from the plant which is recycled after treatment and 9000 m³/day of domestic water is used for green belt. The total water drawl from downstream of Rehand River will be 45000m³/day. After the proposed expansion, water requirement will be 62,500m³/day. About 21,000 m³/day of liquid waste will be generated which after treatment will be recycled. There will be no additional drawl of water from the downstream of Rehand River. Existing effluent treatment plant and sewage treatment plant will be used during expansion also for the treatment of effluent and sewage. All the effluent will be recycled / reused and 'zero' discharge will be adopted.

6. Red mud will be the solid waste from the Bauxite refining. Rotary vacuum drum filters will be used to convert wet mud slurry into cake form having 70% solid which will be disposed off in earmarked area. The fly ash will be supplied to cement manufacturers. Spent pot lining will be utilized after recovery of its fluorine value to produce Cryolite in smelting process. Its residue will be efficiently used in boilers as fuel with coal. Used oil will be provided to authorized recyclers. ETP and STP sludge will be used for plantation in red mud area. Industrial and domestic effluent will be treated and recycled for process use, greenbelt development etc.

7. The Alumina Refinery & Alumina Smelter Projects are listed at S.N. 3(a) under Primary Metallurgy Industry under Category 'A' and appraised by the Expert Appraisal Committee-1 (Industry) in the Ministry.

8. The proposal was considered by the Expert Appraisal Committee-1 (Industry) in its 28th meeting held during 26th - 27th September, 2011. The Committee recommended the proposal for environmental clearance subject to stipulation of specific conditions along with other environmental conditions. Public hearing for the project was held on 24.07.2009

9. Based on the information submitted by you and presentation made by you and the Consultant, M/s Vimta labs Limited, Hyderabad, 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. The gaseous emissions (PM₁₀, SO₂, NO_x, PAH, HC, VOCs and Fluoride) from various process units shall conform to the standards prescribed by the concerned authorities from time to time. The UPPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. 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. The particulate emissions from the bake oven plant shall not exceed 50 mg/Nm³.

- ii. The poly-aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) shall not exceed 2 mg/Nm^3 . The data on PAH shall be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Lucknow and UPPCB.
- iii. Fluoride consumption should be less than 10kg/ton of Aluminium produced as specified in the CREP guidelines.
- iv. Fugitive Fluoride emissions from the pot room and in the forage around the smelter complex shall be monitored and data submitted regularly to the Ministry's Regional Office at Lucknow and UPPCB. Further dry scrubbing system to control the emissions from the pot lines should be provided.
- v. The proponent shall upload the status of compliance of the stipulated environmental clearance 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; PM_{10} , SO_2 , NO_x (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.
- vi. Electrostatic precipitator(s) shall be provided to kiln and boiler stacks to control gaseous emissions within 50 mg/Nm^3 . The height of the stacks shall be as per the CPCB guidelines. Gaseous emissions shall be regularly monitored and records maintained and reports submitted to this Ministry including its Regional Office at Lucknow / CPCB and UPPCB six monthly.
- vii. Total water requirement after expansion from downstream of Rehand River shall not exceed $45,000 \text{ m}^3/\text{day}$. Oily wastewater shall be treated in API separator and routed to reclamation pond for recycling. All the treated wastewater shall be treated in ETP and recycled. Closed circuit system with 'zero' discharge concept shall be adopted to control water pollution. No wastewater shall be discharged outside the plant. The domestic wastewater shall be treated in the sewage treatment plant and treated wastewater conforming to the standards for land application shall be reused for green belt development within the plant premises.
- viii. Red mud shall be stored in the red mud pond only designed as per the CPCB guidelines with proper leachate collection system and ground water all around the red mud disposal area shall be monitored regularly and report submitted to the UPPCB/CPCB and Regional Office of the Ministry at Lucknow. Efforts shall also be made to find out productive uses of red mud in brick and ceramic products etc. Proper care shall be taken to ensure no run off or seepage from the red mud disposal site to natural drainage. Sewage sludge shall be used as manure within the premises.
- ix. Green belt shall be developed in 33% area to mitigate the effects of fugitive emissions as per the CPCB guidelines.
- x. Anode butts generated from the pots shall be cleaned and recycled to the Anode Plant. The spent pot lining generated from the smelter should be properly treated in spent pot lining treatment plant to remove fluoride and cyanide and disposed off to the Cement/Steel plants and as minimum as possible to secured landfill. The location and design of the landfill site should be approved by the UPPCB as per Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008. Leachate collection facilities should be provided to the secured landfill facility (SLF). The dross shall be recycled in the cast house.

- xi. Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.
- xii. The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector should be strictly implemented.
- xiii. The company shall comply with all the commitment made during public hearing/public consultation held on 24th July, 2009.
- xiv. At least 5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing Issues and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Lucknow. Implementation of such program shall be ensured accordingly in a time bound manner.
- xv. 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, 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.
- xvi. The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to being into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.

B. GENERAL CONDITIONS:

- i. The project authorities must strictly adhere to the stipulations made by the Uttar Pradesh State 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 and Forests.
- iii. The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.
- iv. 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, 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.
- v. 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 form time to time. The treated wastewater shall be utilized for plantation purpose.

- vi. 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).
- vii. The company shall develop surface 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 and public hearing reports. 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 amount 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 and Forests 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 MOEF 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, such as fluoride emission 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 MOEF, 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 alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEF 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 and Forests 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.
10. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
11. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
12. 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. P.L. Ahujara)
Scientist-F

Copy to: -

1. The Secretary, State Department of Environment, Government of Uttar Pradesh , Room No. 13, New Buildings, Vidhan Bhavan, Lucknow -226001 , UP.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
3. The Chairman, Uttar Pradesh State Pollution Control Board, 111 Floor, PICUP Bhavan, Vibhuti Khand, Lucknow-226020.
4. The Chief Conservator of Forests, Regional Office (Central Region), B-1/72, Sector H, Aliganj, Lucknow-226020.
5. Guard File / Monitoring File / Record File.


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