To,
M/s Hindalco Industries Ltd.
Renusagar 231218
Sonebhadra, UP

E-mail: mihirm@adityabirla.com; Fax No.: 05446-252107 / 252427;

Subject: Integrated Aluminium Smelter Complex (3.25 LTPA & Primary Aluminium) alongwith coal based Captive Power Plant (750 MW) at Village Orgari, Bargawan, District Sidhi, Madhya Pradesh by M/s Hindalco Industries Ltd. - Environment clearance reg.


Sir,

This has reference to your communication no. HIL/MAHAN PROJ/183 dated 31st January, 2007 alongwith application in Form I, Terms Of Reference, Pre-feasibility Report, EIA/EMP and related project documents and subsequent clarifications furnished by you vide letters dated 1st June, 2007, 24th June, 2007, 7th November, 2008, 11th November, 2008 and 28th December, 2008 for environmental clearance of the above mentioned project.

2.0 The Ministry of Environment and Forests has examined your application. It is noted that the proposal involves setting up of a green field Integrated Aluminium Smelter Complex (3.25 LTPA & Primary Aluminium) alongwith coal based Captive Power Plant (750 MW) at Village Orgari, Bargawan, District Sidhi, Madhya Pradesh by M/s Hindalco Industries Ltd. As per the revised plan, total land will not exceed 1,500 ha. In place of 2006.20 ha, 18.80 ha forest land will be surrendered. No forest land will be involved. Rehabilitation and resettlement (R & R) of 1,750 families is prepared and submitted to the District Authorities. No national park, sanctuary or archaeological monuments exist within 25 Km radius of the site. Mohanban RF (4 km WSW), Jiwan RF (5.6 km NNE), Muher RF (9.2 km SE), Pokhara RF (6.3 km NE), Orgari PF (0.2 km N), Mahigawan PF (7 km NNE), Teldah PF (4.6 km SE), Pachmar PF (9.9 km NNE), Gidher PF (2.7 km NW), Uska PF (6.3 km E), Lohara PF (4.5 km NNW), Bichhi PF (6.8 km N), Parhasti PF (4.6 km NNE) and Bori PF (7.8 km N) are located within 10 km radius of the proposed project site. Total cost of the project is Rs. 7,700 Crores.

3.0 Coal (3.5 MTPA) will be sourced from captive Mahan Coal Mines located at 25 km. Alumina (531, 450 TPA) will be sourced from captive Alumina Refinery of Orissa (located at 200 km.) and U.P. and Utkal Alumina Ltd.

4.0 Gas treatment centers (GTC) will be provided to treat the fumes from pot line. Electrostatic precipitators (ESPs) will be provided to captive power plant (CPP) to control air emissions to 100 mg/Nm³. High efficiency collection hoods, flue gas treatment plant and dry scrubbers will be provided to keep the Fluoride emissions below 0.7 kgs/ton from Anode bake oven. Internal roads will be paved/asphalted. Dust suppression and collection system will be provided to control fugitive emissions.
Total water requirement from River Gopad will be 4,600 m$^3$/hr and the permission has been accorded by the Energy Department of Govt. of M. P. All the wastewater will be treated in ETP and used for dust suppression, green belt development and coal/ash handling. Zero discharge will be adopted. Fly ash will be 100% utilized. Aluminium Fluoride will be used. Spent pot lining, dross, waste oils and grease will be recycled in-house after treatment or disposed off to authorized vendors. A secured landfill as per CPCB design will be constructed for disposal of SPL.

5.0 Public Hearing / Public Consultation meeting was held on 14th March, 2008.

6.0 The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 as amended subsequently subject to strict compliance of the following specific and general conditions.

A. SPECIFIC CONDITIONS:

i) Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan shall be submitted. On-line ambient air monitoring and continuous stack monitoring facilities for all the stacks and sufficient air pollution control devices shall be provided to all the stacks including captive power plant to keep the emission levels below 100 mg/Nm$^3$.

ii) Electrostatic precipitator(s) shall be provided to Captive Power Plant to control gaseous emissions within 100 mg/Nm$^3$. The stacks of adequate height shall be provided to power plant and anode plant 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 Bhopal / Central Pollution Control Board (CPCB) and M.P. Pollution Control Board (MPPCB) six monthly.

iii) Particulate fluoride emissions shall not be more than 0.65 mg/Nm$^3$ and fugitive particulate fluoride emissions from pot room shall not be more than 1.85 mg/Nm$^3$. Continuous fluoride emission monitoring system shall be installed at pot room stack.

iv) The particulate emissions from the bake oven plant shall not exceed 50 mg/Nm$^3$.

v) Data on ambient air quality, stack emissions and fugitive emissions shall be regularly submitted on-line to the Ministry's Regional Office at Bhopal, M.P. Pollution Control Board (MPPCB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months. Data on SPM, SO$_2$ and NO$_x$ shall also be displayed outside the premises at the appropriate place for the general public.

vi) In plant, control measures for checking fugitive emissions from spillage/raw materials handling shall be provided. Fluoride emissions shall be monitored from the pot room and in the forage around the smelter complex and the data submitted regularly to the Ministry/Regional Office at Bhopal and MPPCB. Further dry scrubbing system to control the emissions from the pot lines shall be provided. Total fluoride emissions shall not exceed 0.7 kg/ton of Aluminium produced. Further, the pot emissions through fume treatment plant shall not exceed 0.30 kg/ton of Aluminium produced. Fugitive fluoride emissions from the pot room shall be monitored and report submitted regularly to the Ministry/Regional Office at Bhopal and MPPCB.

vii) The company shall install gas treatment centers (GTC) to treat the fumes coming out from pot line pots. The emissions shall conform to the standards prescribed by the Ministry/CPCB/MPPCB which ever is more stringent.
viii) Bag filters shall be provided to anode baking plant and transfer points to control fugitive emissions. Gas treatment centers (GTC) shall be provided to treat the fumes from pot line. Closed Alumina wagon and dense phase conveying for Alumina handling shall be provided to reduce fugitive emissions. High efficiency collection hoods, flue gas treatment plant and dry scrubbers shall be provided to keep the Fluoride emissions below 0.7 Kg/Ton from Anode bake oven. Internal roads shall be paved/asphalted. Calcined petroleum based dry scrubber, dust suppression and collection system shall be provided to Carbon paste plant. De-dusting system shall be provided to control fugitive emissions. Dust suppression system shall be provided to control fugitive emissions from the crushing house, dumpers, conveyer belt, moving vehicles, pneumatic compressors, raw material handling etc.

ix) The poly-aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) shall not exceed 2 mg/Nm³. The data on PAH shall be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Bhopal and MPPCB.

x) Fluoride consumption shall be less than 10 kg/ton of Aluminium produced as specified by the CREP guidelines. Accordingly, Fluoride emission load shall be reduced.

xi) Efforts shall be made to reduce the impact of transport system due to movement of raw material, semi finished products and finished products on the surrounding environment.

xii) Total water requirement from River Gopad shall not exceed 4,600 m³/hr and prior permission from the draw of 4,600 m³/hr water from concerned department shall be obtained. Closed circuit system shall be adopted to reduce water consumption and control water pollution. As reflected in the EIA /EMP, all the process effluent shall be treated in the effluent treatment plant (ETP) and treated waste water shall be recycled and reused for cooling, dust suppression, green belt development and fuel/ash handling to achieve ‘zero’ discharge. Domestic effluent shall be treated in sewage treatment plant (STP) and treated wastewater conforming to the standards for land application shall be reused for green belt development within the plant premises.

xiii) A detailed hydrological study of ground water movement shall be carried out for the assessment of ground water contamination to assess the risk of ground water contamination and report submitted to the Ministry and its Regional Office at Bhopal within six months.

xiv) Proper care shall be taken to ensure no run off or seepage from the disposal site to natural drainage. Ground water all around the disposal area shall be monitored regularly and report submitted to the MPPCB/CPCB and Regional Office of the Ministry at Bhopal.

xv) The spent pot lining generated from the smelter shall be properly treated and disposed off in a secured landfill site (SLF). The location and design of the landfill site shall be approved by the MPPCB as per Hazardous Wastes (Management and Handling) Rules, 2003 and should be as per CPCB guidelines. The ground water quality around the landfill site shall be monitored and data submitted to the Ministry/MPPCB. Spent pot lining generation shall not exceed as per guidelines mentioned in the Corporate Responsibility for Environment Protection (CREP) for the Aluminium Sector and shall be disposed off in secured land fill (SLF) designed and constructed as per CPCB guidelines with proper leachate collection system. ETP & STP sludge will be used as a soil conditioner for green belt development. All the dross, used oil and batteries shall be sold to the authorized recyclers/reprocessors.

xvi) Efforts shall be made to find application and use of spent pot lining generated from the smelter.

xvii) Proper utilization of fly ash shall be ensured as per Fly ash Notification, 1999 and
subsequent amendment in 2003. All the fly ash generated shall be properly stored in ash storage pond and provided to cement and brick manufacturers for further utilization.

xviii) Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

xix) Green belt shall be developed in 500 ha. (33%) out of total 1500 ha. area to mitigate the impact of fugitive emissions as per the CPCB guidelines.

xx) The company shall develop rain water structures to harvest the run off water for recharge of ground water in consultation with the Central Ground Water Authority / Board.

xxi) Land acquisition for the proposed Integrated Aluminium Smelter Complex (3.25 LTPA & Primary Aluminium) alongwith coal based Captive Power Plant (750 MW) at Village Orgari, Bargawan, District Sidhi, Madhya Pradesh shall not exceed 1,500 ha.

xxii) As proposed, no forest land shall be used.

xxiii) Recommendations of the State Forest Department regarding impact of the proposed expansion plant on the surrounding reserve forests viz. Mohanban RF (4 km WSW), Jiwan RF (5.5 km NNE), Muher RF (9.2 km SE), Pokhara RF (6.3 km NE), Orgari PF (0.2 km N), Majhigawan PF (7 km NNE), Teldah PF (4.6 km SE), Pachwar PF (9.9 km NNE), Gidher PF (2.7 km NW), Uska PF (6.3 km E), Lohara PF (4.5 km NNW), Bichhi PF (6.6 km N), Parihasi PF (4.6 km NNE) and Bori PF (7.8 km N) shall be obtained and implemented.

xxiv) Measures shall also be taken to prevent impact of particulate emissions / fugitive emissions, if any from the proposed plant on the surrounding forest located within 10 km radius of the project. Further, Conservation Plan for the conservation of wild fauna of Schedule I located in the forest/reserve forests in consultation with the State Forest Department shall be prepared and implemented.

xxv) Rehabilitation and Resettlement shall be implemented as per the R & R Policy of the State Govt. of Madhya Pradesh. Suitable employment to all the custees shall be provided. Compensation paid to the land custees in any case shall not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.

xxvi) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.

xxvii) The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report and suggested during the public hearing meeting.

xxviii) The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, 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.

B. GENERAL CONDITIONS:

i. The project authorities must strictly adhere to the stipulations made by the M.P. Pollution Control Board (MPPCB) and the State Government.

ii. No expansion or modification 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 should conform to the standards prescribed by the concerned authorities from time to time. The MPPCB 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 emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.

iv. Adequate ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO₂ and NO₅ are anticipated in consultation with the MPPCB. Data on ambient air quality, fugitive emission and stack emissions shall be regularly submitted to this Ministry including its Regional Office at Bhopal and MPPCB once in six months.

v. In-plant control measures for checking fugitive emissions from spillage/raw materials handling etc. shall be provided. Closed Alumina wagon and dense phase conveying for Alumina handling shall be provided to reduce fugitive emissions. Bag filters and covered conveyors and adequate water sprinkling shall be done to control fugitive emissions.

vi. The overall noise levels in and around the plant area should 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. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

viii. The company shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company shall earmark funds separately for improving socio-economy and ecology of the region.

ix. As proposed. Rs. 405.00 Crores for environmental management plan, Rs. 45.00 Lakhs towards total capital cost and Rs. 21.00 Lakhs earmarked towards recurring cost/annum for environmental pollution control measures shall be judiciously utilized for implementation of the conditions stipulated by the Ministry of Environment and Forests as well as the State Government alongwith the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.

x. The Regional Office of this Ministry at Bhopal/MPPCB/OSPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.

xi. The company 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 MPPCB and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in. This should 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.

xii. 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 commencing the land development work.
7.0. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

8.0. The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner will implement these conditions.

9.0. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

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

11.0. The Environmental Clearance letter issued vide even no. letter dated 2nd January, 2009 may be treated as null and void.

(Dr. P. B. Rastogi)
Director

Copy to:

1. The Secretary, State Department of Environment, Govt. of M.P., Bhopal, M.P.
2. The Chairman, Central Pollution Control Board, Paryavaran Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032
3. The Chairman, Madhya Pradesh Pollution Control Board, Paryavaran Parisar, E-5, Arera Colony, Bhopal - 462 010, Madhya Pradesh.
4. The Chairman, M.P. State Election Commission, 30, Nishat Colony, Bhopal, MP-462003
5. The Chief Conservator of Forests (Central), Ministry of Environment & Forests, Regional Office, Link Road No.3, E - 5, Arera Colony, Bhopal - 462 016, M.P.
8. Guard File.
10. Record File.

(Dr. P. B. Rastogi)
Director
To:

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

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Sub: Proposed Modernization and expansion of the ongoing integrated green field Aluminium Smelter Complex of Hindalco Industries Limited Unit: Mahan Aluminium, from 325 to 359 KTPA and captive Power Plant 1x150 MW stand by within installed captive coal based power plant of 900 MW capacity at Village Orgari, Bargawan, District Sidi in Madhya Pradesh by M/s Hindalco Industries Limited — regarding amendment in environmental clearance

Sir,

This is in continuation of this Ministry’s letter of even no. dated 18.03.2009 and your subsequent communications dated 9.09.2011 and 2.12.2011 for amendment of environmental clearance of even no. dated 18.03.2009 due to technology upgradation of Aluminium Smelter from 329 KTPA to 350 KTPA to include billet and wire rod facilities in addition of ingots and SOWs and stand by 1x150 MW captive power plant (generation will not exceed 5x150 MW = 750 MW).

2. The proposal was placed before the Expert Appraisal Committee-1 (Industry) in its meeting held during 28th - 29th November, 2011. The Committee noted that there is no additional land, water and coal requirement. Although the overall power requirement would increase from 624 MW to 895 MW and would be met from the CPP (750 MW) and lower power consumption by 80 KWH/ton of aluminium would be achieved. The alumina requirement would increase from 6.4 LTPA to 6.9 LTPA and would be met from the captive refinery.

3. The Committee recommended the proposal for amendment in environmental clearance dated 18.03.2009 i.e. for proposed Technology Upgradation of Aluminium Smelter Plant from 325 KTPA to 359 KTPA, along with installation of additional facilities for conversion of primary Aluminium metal to finished product and Installation of Standby 1x150 MW Captive Power Plant in the ongoing integrated green field Aluminium Smelter Complex of Hindalco Industries Limited (Unit: Mahan Aluminium).

4. The Ministry accepts the recommendation of Expert Appraisal Committee-1 (Industry) for amendment of environmental clearance 18.03.2009 for technology upgradation of Aluminium Smelter from 329 KTPA to 359 KTPA to include billet and wire rod facilities in addition of ingots and SOWs and stand by 1x150 MW captive power plant (generation will not exceed 5x150 MW = 750 MW) subject to stipulation of following additional safeguards:

i. There shall be no additional acquisition of land, requirement of water and coal which will remain same as per the environmental clearance dated 18.03.2009.
ii. The company shall achieve levels of fluoride emissions from 0.7 kg/ton to 0.67 kg/ton of aluminium produced within a period of three years.

iii. The particulate emissions shall be controlled below 50 mg/Nm$^3$ by installation of ESP in the captive power plant.

iv. Data on ambient air, stack and fugitive emissions shall be regularly submitted online to Ministry's Regional office at Bhopal, SPCB and Central Pollution Control Board as well as hard copy once in six months and display data on PM$_{10}$, SO$_2$ and NO$_x$ outside the premises at the appropriate place for the general public.

v. The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 shall be followed.

vi. 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 respective Regional Office of MCEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bhopal/CPCB/SPCB shall monitor the stipulated conditions.

vii. 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 Offices of the MCEF by e-mail.

viii. 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.

5. The company shall comply with all the conditions stipulated vide Ministry's letter of even no. dated 18.03.2009. In future, in case of change in the scope of the project, the company shall obtain fresh environmental clearance.

This issues with approval of the Competent Authority.

Yours faithfully,

(Dr. P.L. Ahulwar)
Scientist 'P'
Copy to:

1. The Secretary (Environment), Govt. of Madhya Pradesh, Mantralaya, Ballabh Bhawan, Bhopal, MP.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110032.
3. The Chairman, Madhya Pradesh Pollution Control Board, Paryavaran Parishar, E-5, Arera Colony, Bhopal - 462016.
4. The Chief Conservator of Forests (Central), Ministry of Environment, and Forests, Western Regional Office, Kendriya Paryavaran Bhavan, Link Road No. 3, Ravi Shankar Nagar, Bhopal - 462016.
6. Guard file / Record file

(Dr. P.L. Ahujeral)
Scientist ‘F’