



Letter No: AAP/E&F/EC/2016/187

Date: 28/11/2016

To

The Director
Eastern Regional Office
Ministry of Environment & Forests
A/3, Chandrashekharpur
Bhubaneswar - 750 023 (Odisha)

Sub: Submission of Six Monthly Compliance from April' 16 to Sept' 16.
Ref: Environmental Clearance Letter No: J-11011/136/2009-IA.I (1), dated 29/11/2012.

Dear Sir,

As a part of the compliance to the Environmental Clearance accorded by MoEFCC to Aditya Aluminium for 0.72 MTPA Smelter and 1650 MW CPP at Lapanga in Sambalpur district, please find enclosed herewith the six monthly compliance reports of aluminium smelter and captive power plant for the period April '16 to September' 16.

Kindly acknowledge receipt of the reports.

Thanking You

Yours faithfully
For Aditya Aluminium

A handwritten signature in blue ink, appearing to read 'Bibhu Mishra', with a horizontal line underneath.

Bibhu Mishra
President & COO

Copy for kind information to:

1. The Member Secretary, SPCB, Bhubaneswar
2. The Scientist 'D' & In-charge, Zonal office of CPCB, Kolkata
3. The Regional Officer, SPCB, Sambalpur

Hindalco Industries Limited

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STATUS OF IMPLEMENTATION OF CONDITIONS STIPULATED IN ENVIRONMENTAL CLEARANCE FOR 7,20,000 TPA ALUMINIUM SMELTER& 1650 MW CAPTIVE POWER PLANT FOR ADITYA ALUMINIUM BY M/S HINDALCO INDUSTRIES AT LAPANGA, SAMBALPUR, ORISSA.

REF: Environmental Clearance Letter No: J-11011/136/2009-IA.I (1), Dated 29th November 2012 From MOEF, GOI.

Sr. No	Specific Conditions	Compliance
i)	The streams passing through the project site shall not be disturbed w.r.t their quantity and quality of flow	The streams passing through the project site will not be disturbed.
ii)	Alumina shall be obtained from those refineries, which have been accorded environmental clearance by the Ministry of Environment and Forests.	The Alumina is obtained from Utkal Alumina International Limited (UAIL), Rayagada Distt. and it has been accorded environmental clearance from MoEF.
iii)	<p>The gaseous emissions (PM, 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 SPCB 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.</p> <p>The particulate emissions from the bake oven plant shall not exceed 50 mg/Nm³.</p>	<p>Online Monitoring equipments have been installed at the outlet of following stacks for monitoring of gaseous emissions etc.</p> <p>a) GTC- 2 Nos. b) FTC - 2 Nos. c) CPP - 5 Nos.</p> <p>Particulate matter emission from the bake oven does not exceed the prescribed limit of 50 mg/Nm³.</p>
iv)	Particulate fluoride emissions should not be more than 0.65 mg/Nm ³ and fugitive particulate fluoride emissions from pot room should not be more than 1.85 mg/Nm ³ .	Online monitoring equipment at Gas Treatment Centre (GTC) and Fume Treatment Centre (FTC) installed for monitoring of Hydrogen Fluoride (HF), Particulate Matter (PM). The particulate matter emission from the gas treatment system is within the prescribed standard. The monitoring report is attached as annexure-1 .
v)	The poly aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) should not exceed 2 mg/Nm ³ .The data on PAH should be monitored quarterly and report submitted regularly to the Ministry/Regional Office at Bhubaneswar and SPCB.	The poly aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) are being monitored on quarterly basis and found within the standard. The monitoring report is enclosed as Annexure-2 .
vi)	In plant, control measures like fume extraction and dust extraction system for controlling fugitive emissions from all the materials handling/transfer points shall be provided to	Fume Extraction Centre (FTC) in Anode Baking furnace, Gas Treatment Plant (GTC) in potlines and bag filters in raw material handling, GAP, Anode Baking, Roding areas,

	<p>control dust emissions.</p> <p>Fugitive Fluoride emissions from the pot room and in the forage around the smelter complex and the data submitted regularly to the Ministry Regional Office at Bhubaneswar and SPCB.</p> <p>Further dry scrubbing system to control the emissions from the pot lines should be provided.</p>	<p>bath recycling, carbon recycling area, butts recycling area, cathode sealing shop etc in smelter area and coal handling, ash handling plant in captive power plant is installed to control fugitive dust emissions.</p> <p>HF analyzer for Fugitive fluoride monitoring in potroom has been installed in each pot rooms for monitoring of Hydrogen Fluoride. Forage around the smelter is being monitored on quarterly basis and the report is enclosed as Annexure-3.</p> <p>Dry scrubbing system in GTC is installed in smelter to control fugitive emission.</p>
vii)	<p>Electrostatic Precipitators (ESP) will be provided to Captive Power Plant (CPP) to control particulate emissions below 50 mg/Nm³.</p> <p>The company shall provide bag filters, dry scrubbing system and dust suppression system to control all the emissions including fluoride emissions from all melting and casting units. Tar, Dust and fluoride in the fumes shall be controlled in baking furnace by providing dry scrubber.</p> <p>The emissions shall conform to the standards prescribed by the Ministry CPCB/SPCB whichever is more stringent.</p>	<p>Electrostatic Precipitators (ESP) of 99.98% efficiency is installed in Captive Power Plant (CPP) to restrict particulate emissions below 50 mg/Nm³.</p> <p>Gas Treatment Centre (GTC) and bag filters are provided in all material handling & transfer points.</p> <p>Fume treatment plant (FTP) is installed in Anode Baking Furnace 1 & 2 to treat the tar, dust, gaseous and particulate fluorides.</p> <p>The standards prescribed by the Ministry/ CPCB/ SPCB is being adhered.</p>
viii)	<p>Provision for installation of FGD shall be provided for future use.</p>	<p>Provisional Space has been kept for installation of FGD in future, if required.</p>
ix)	<p>Three tri-flue and one bi-flue stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with continuous online monitoring equipment's for SO₂, NO_x, and PM₁₀.</p>	<p>Two (02) numbers of tri-flue stacks of 275 m height is installed in phase-I.</p> <p>Continuous monitoring equipment is installed for monitoring of SO₂, NO_x, and PM at unit # 1, 2, 3, 4 & 5 of CPP.</p>
x)	<p>Adequate dust extraction system such as cyclones/ bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.</p>	<p>Dust extraction systems (DE) and Dry fog system installed in coal handling plant and ash handling system of Captive Power Plant.</p>
xi)	<p>Utilization of 100% fly ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.</p>	<p>Presently, 100% of Ash generated is being utilized by means of supplying to M/s Ultratech Cements, Jharsuguda, M/s OCL, Bargarh for cement manufacturing and in Road construction of Sambalpur-Rourkela SH expansion work by L&T and brick manufacturing. Remaining ash is being utilized for filling the low lying areas inside the Plant with prior approval of SPCB and subsequently utilized for development of greenbelt.</p>

		Status of utilization of Ash from Apr 15 to Sep 16 is enclosed as Annexure-4 .
xii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized ash shall be disposed-off in the ash pond in the form of slurry. Mercury and other heavy metals (Ag, Hg, Cr, Pbetc) will be monitored in the bottom ash as also in the effluent emanating from the existing ash pond. No ash shall be disposed-off in low laying area.	Fly ash & bottom ash are being collected in dry form and Silos of adequate capacity have been installed. Presently, 100 % utilization is being ensured. However, HCSD system installed for disposal of ash into the ash pond. Monitoring of Mercury and other heavy metals (Ag, Hg, Cr, Pbetc) is being done for bottom ash. Bottom ash analysis report is enclosed as Annexure-5 .
xiii)	Fluoride (as F) consumption shall be less than 10 kg/ton of Aluminium produced as specified by the CREP.	Fluoride (F) consumption for the period Apr 16 to Sept is 6.31 kg/ton of Al produced.
xiv)	Anode butts generated from the pots shall be cleaned and recycled to the Anode Plant. The spent pot lining generated from the smelter shall be properly treated in spent pot lining treatment plant to remove fluoride and cyanide and disposed-off in secured landfill. The location and design of the land fill site shall be approved by the SPCB as per the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008. Leachate collection facilities shall be provided to the secured land fill facilities (SLF). The dross shall be recycled in the cast house. STP sludge shall be utilized as manure for greenbelt development. All the used oil and batteries shall be sold to the authorized recyclers/ re-processors.	Anode butts generated from the pots is being cleaned and recycled completely. Refractory part of the SPL is being stored under covered shed and carbon part is being sold to authorized recyclers. The location and design of the land fill site has been prepared as per the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and approved from SPCB. We are in the process of establishment dross recycling unit inside the plant. Application submitted to SPCB to issue the consent to establish and permission from CPCB received from CPCB under Rule-11 of the Hazardous Waste (Management & Handling) Rule, 2008. STP is commissioned at township & Plant area, the sludge is being used for greenbelt development. The used oil and batteries are being sold to authorized recyclers/reprocessors.
xv)	As proposed, spent pot lining waste shall also be provided to cement and steel industries for further utilization.	SPL generated is being stored under covered shed, the carbon part of the SPL is being supplied to authorized recyclers having permission from CPCB under rule 11 of the Hazardous Waste (M,H & TM) Rules 2008. The disposal pathway for disposal of the refractory part of the SPL in the CHW-TSDF is under progress by CPCB & SPCB.
xvi)	Ash pond shall be lined with HDP/LDPE lining or any other suitable impermeable media such that	No ash is being disposed off in the designated ash pond at present. All

	no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached. Ash pond water shall be recirculated and reused.	precautionary measures will be taken so that no leachate from the ash pond takes place, and adequate safety measures area also being implemented.
xvii)	Cycle of concentration (CoC) of 5.0 shall be adopted.	Water Balance of CPP is being optimized gradually, so as to maintain a CoC of 5.
xviii)	Regular monitoring of ground water shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the regional office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Regular monitoring of ground water is being carried out at baseline locations of EIA. The ground water analysis report is enclosed as Annexure-6 . Monitoring of heavy metals (Hg, Cr, As, Pb) around the Ash pond area will be carried out as soon as it is in operation and records will be maintained and compared with the baseline data.
xix)	Regular ground water monitoring shall be carried out by installing peizometers all around the secured land fill site in consultation with the SPCB, Central Ground Water Authority and State Ground Water Board and data submitted to the Ministry's Regional Office and SPCB.	Regular ground water monitoring will be carried out by installing peizometers all around the secured landfill site after establishment of the SLF in consultation with the SPCB, Central Ground Water Authority and State Ground Water Board and data will be submitted to the Ministry's Regional Office and SPCB after establishment of secured land fill site.
xx)	Total water requirement for the expansion from Hirakud Reservoir shall not exceed 5,200 m ³ /hr and prior permission for the existing and proposed expansion shall be obtained from the concerned department before commissioning of the plant. All the effluent including from the cooling tower and de-mineralization plant shall be treated in the effluent treatment plant and treated effluent shall be recycled/reutilized in the process in smelter and CPP and also for fire protection, dust suppression, greenbelt development etc. Domestic effluent shall be treated in sewage treatment plant (STP) and treated domestic waste water will be used for greenbelt development.	No additional fresh water will be sourced from Hirakud Reservoir for the proposed expansion. The water requirement is within 52.73 cusec as approved. The Effluent from the cooling towers and de-mineralization plant is being treated in Double Stage RO based effluent treatment plant and is being recycled/reutilized in the process of CPP and other areas. Separate Sewage Treatment Plant (STP) is installed @ capacity 25 m ³ /hr for Smelter & Captive Power Plant, STP of 300 KLD capacity is installed at Township area and the treated water being used for greenbelt development.
xxi)	No effluent shall be discharged outside the premises of smelter during non-monsoon period and shall be discharged during the monsoon period only after treatment and meeting the	We are operating a Double Stage RO based effluent treatment plant (ETP) of 300 m ³ /hr capacity (150m ³ /hr at present) and therefore no effluent water is being

	norms of the OSPCB/CPCB.	discharged to outside without treatment from Smelter.
xxii)	Greenbelt of adequate width and density around the project site shall be developed in 33% area in consultation with the DFO as per the CPCB guidelines having density of 2,000 trees/Ha.	Aditya Aluminium has developed Greenbelt over 320 acres inside the Core plant & Township areas. Around 2,31,000 saplings planted till date.
xxiii)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Odisha Factories Act.
xxiv)	The company shall develop rain water structures in the township area for recharge of ground water in consultation with the Central Ground Water Authority/Board.	Rain water harvesting structure arrangement is being made in the buildings of township area and water storage is done in township area for rain water recharge. A rain water scheme submitted to CGWA for approval vide letter no. AA/E&F/EC/2016/131, dated 09/04/2016.
xxv)	Rehabilitation and Resettlement Action Plan as prepared and submitted to the State Govt. shall be implemented as per the R & R Policy of the State Government. All the recommendations mentioned in the R&R Plan shall be strictly followed including suitable employment and other facilities to all the oustees.	Rehabilitation and Resettlement Action Plan is being implemented as per the R & R policy, 2006 of the State Govt. All the recommendations are being followed/complied.
xxvi)	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium Sector shall be strictly implemented.	All the conditions of CREP guideline for Aluminium sector is being followed.
xxvii)	The company shall adopt well laid down corporate policy and identified and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with environmental clearance, environmental laws and regulations.	The company has adopted a well laid down corporate Environment policy. The Corporate Environment Policy is approved by the Board of Directors and submitted to MoEFCC.
xxviii)	All the commitments made to the public during public hearing /public consultation meeting held on 2 nd march 2012 should be satisfactorily implemented and a separate budget for implementing the same should be allocated and information submitted to the Ministry's Regional Office at Bhubaneswar.	All the commitments made to the public during public hearing/public consultation meeting held on 2 nd march 2012 is under gradual implementation.
xxix)	At least 5% of the total cost of the project shall be earmarked for towards the Enterprise Social Commitment and item-wise details along with time bound action plan should be prepared and submitted to the Ministry's office at Bhubaneswar. Implementation of such program should be ensured accordingly in a time bound manner.	As the expansion will be carried out in two phases i.e. Aluminium Smelter from 0.26 MTPA to 0.36 MTPA & Captive Power Plant from 650 MW to 900 MW in phase-I and expansion will be made upto 0.72 MTPA in smelter and 1650 MW in Captive Power Plant in phase II. The details of the CSR activities undertaken upto September 2016 are attached as

		Annexure- 7.
xxx)	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 ensured accordingly in a time bound manner.	All necessary infrastructure and facilities are being provided to the workers from time to time.
xxxi)	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 forests norms/ conditions (ii) Hierarchical system or administrative order of the company to deal with environmental issues and ensuring compliance to the environmental clearance and (iii) system of reporting of non-compliance/violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.	The Corporate Environment Policy prepared and approved by the company Board of Directors, Organizational Structure for Hindalco Corporate Environment, Deployment of Corporate Policy in manufacturing Plants & communication of Policy as regards Corporate Environment already submitted to MoEF.
	GENERAL CONDITIONS	
i)	The project authorities must strictly adhere to the stipulations made by the OSPCB and the State Government.	We will follow the stipulations made by OSPCB and the State Government.
ii)	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	We will not carry out any expansion or modification in the plant without prior approval of MoEF.
iii)	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19 th May, 1993 and standards prescribed from time to time. The SPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	We have noted and accepted the stipulated condition.
iv)	At least four number of ambient air quality monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO ₂ and NO _x are anticipated in consultation with the OSPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and Orissa State Pollution Control Board once in Six months.	Installation of four (04) CAAQM Stations completed and commissioned. The stack emission from operating units (the connectivity work under progress in CPP, Unit-5) and ambient air monitoring stations synchronized with the webserver of the SPCB with URL http://117.239.117.27/ospcbtrtdas/&CPCB with URL http://113.19.81.38/cpcbtrtdas/ respectively. The six-monthly compliance is being submitted to the concerned authorities regularly.

v)	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).	The overall noise levels in and around the plant area is within the prescribed standards and it is made possible by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The overall noise level is within the standard, regular monitoring is being done. All necessary PPEs are provided to the workers and engineers working in the factory.
vi)	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Occupational Health Surveillance of the workers is being done as per the Factories Act.
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.	The company has developed surface water harvesting structures to store water in the lean season and it will harvest the rain water during rainy season in the same reservoirs.
viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA report. Further the company must undertake socio-economic development activities in the surrounding villages like community development programmes, drinking water supply and health care etc.	We have noted and accepted all the conditions and will comply in a time bound manner. The economic development activities are going on regularly as a part of our corporate social responsibility. Details of the CSR, R&R activities undertaken is attached as Annexure-7 . A team of personnel are working dedicatedly for peripheral development work like conducting health camps, community developed programmes, formation SHG groups, supply of drinking water and other common infrastructural development works.
ix)	Requisite fund 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 & Forests as well the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	Requisite fund has been allotted towards capital cost and recurring cost/annum for environment pollution control measures and the fund will not be diverted for any other expenditure.
x)	A copy of the clearance letter shall be send by the proponent to concerned Panchayat, Zillaparishad/Municipality corporation, urban local boby and the local NGO, if any from whom suggestions/representations, if any, were	Copy of the clearance letter has already been communicated to all concerned as mentioned in the condition. Scanned copy of the letter is also displayed in our official website.

	received while processing the proposal. The clearance letter 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 monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Bhubaneswar. The respective zonal office of CPCB and SPCB. The criteria pollutant levels namely' PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	<p>The status of compliance is being submitted to the Regional office of the MOEF regularly on 1st June and 1st Dec respectively.</p> <p>The monitoring is being done for ambient air quality, Ambient Noise, Water, Soil and Meteorological etc at all the baseline locations after operation of the plant. Installation of continuous stack emission monitoring equipment's completed and commissioned. Four (04) CAAQMS installed and commissioned.</p> <p>All the stack emission and ambient air monitoring stations synchronized with the webserver of the SPCB & CPCB.</p>
xii)	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitoring data (both in hard & soft copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Offices of CPCB and the SPCB. The Regional office of this Ministry at Bhubaneswar. CPCB/SPCB shall monitor the stipulated conditions.	<p>We are submitting the six monthly compliance reports of the stipulated environmental conditions (both in hard & soft copies as well as by e-mail) to the Regional Office of MOEF, the respective Zonal Offices of CPCB and the SPCB.</p> <p>The monitoring data in respect of AAQ, water, soil, noise etc is enclosed as Annexure-8.</p>
xiii)	The environmental statement for each financial year ending 31 st 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 at Bhubaneswar.	The environmental statement for each financial year ending 31 st March in Form-V is being submitted to the concerned authorities of SPCB and MoEF.
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 & Forest at http://www.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	<p>Information to Public has been madethrough advertisement of the environmental clearance in two widely circulated daily newspapers i.e. "The New Indian Express" on 04-12-2012 & "The Samaja" on 05-12-2012, within seven days of receiving the clearance letter.</p> <p>The copy of the advertisement was submitted to the Ministry's Regional Office at Bhubaneswar vide our office letter no. AAP/E&F/786, dated 07-12-2012.</p>

	Bhubaneswar.	
xv)	The 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.	Financial closure for Phase-1(Smelter capacity of 0.36 MTPA and CPP of 1650 MW) of the Project is completed on 17th September 2012 and operation of Phase-1 is under progress. Four Units(5 x 150 MW) of CPP and 360, out of 360 Pots are in operation.

Encl: As above



(Authorized Signatory)

