

Ref.: AA/E&S/2019/493

Date: 20/09/2019

To

The Regional Officer
State Pollution Control Board,
Plot No.1070, Hospital Road, Modipara,
Sambalpur – 768 002, Odisha

Sub.: Submission of Environmental Statement (Form – V) for the FY 2018 – 19.

Ref.: Environment Clearance (EC) Letter No.J-11011/136/2009-IA-I (1) dated 29th Nov. 2012 and amendments dated 14/06/2013 and 14/08/2018.

Dear Sir,

With reference to the Clause No. XIII, General Conditions of the Environmental Clearance, please find attached herewith the Annual Environment Statement for the year 2018-19 in Form-V.

We request for acknowledgement of receipt of the letter.

Thanking you,

Yours faithfully,
For Aditya Aluminium

(Kailash Nath Pandey)
President & Unit Head

Copy to:

1. The Director, Eastern Regional Office, MoEFCC, A/3, Chandrasekharpur, Bhubaneswar.
2. The Member Secretary, State Pollution Control Board, A/118, Nilakanthanagar, Bhubaneswar.

Hindalco Industries Limited

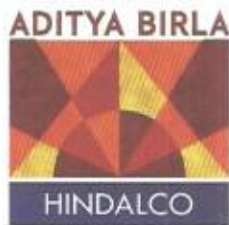
Aditya Aluminium - P.O.: Lapanga - 768 212, District: Sambalpur, Odisha, India

Registered Office: Ahura Centre, 1st Floor, B-Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093

Tel: +91 22 6691 7000 | Fax: +91 222 6691 7001

Corporate ID No.: L27020MH1958PLC011238





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Hindalco Industries Limited

Aditya Aluminium: At/P.O.: Lapanga - 768 212, District: Sambalpur, Odisha, India
T: +91 663 2536 247 | Fax: +91 663 2536 499 | E: hindalco@adityabirla.com | W: www.hindalco.com
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Tel: +91 22 6691 7000 | Fax: + 91 222 6691 7001
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FORM – V

(See rule 14)

Environmental Statement for the financial year ending the 31st March 2019.**PART – A**

Name and address of the owner/occupier of the industry operation or process.	Mr. Kailash Nath Bhandari 5, New House Road, Sector 7 Jodhpur 342004, Tel No- 0291- 2549948
Industry category	Large scale Industry (Red Category)
Production capacity	6x150 MW CPP & 0.36 MTPA Aluminium Smelter
Year of establishment	2013-14
Date of the last environmental statement submitted	28 th September 2018

PART – B**(1) Water Consumption (m³/Day):**

Process:	}	31722 m ³ /day (avg.)
Cooling :		
Domestic:		1080 m ³ /day (avg.)

Sl. No.	Name of Products	Process water consumption per unit of product output	
		During the Previous Financial Year 2017-18	During the Current Financial Year 2018 -19
1	Aluminium Metal	0.81 m ³ / MT	0.86 m ³ / MT
2	Power	2.10 m ³ /MWH	2.05 m ³ /MWH

ii) Raw Material Consumption

Sl. No.	Name of raw materials	Name of products	Consumption of raw material per Unit of output	
			During the Previous financial year 2017-18	During the current financial year 2018-19
1	Coal	Power	0.70 Kg /KWH	0.68 Kg/KWH
2	Alumina	Aluminium metal	1.908 ton / ton of metal	1.907 ton / ton of metal
3	Carbon		0.414 ton/ ton of metal	0.414 ton/ ton of metal
4	Energy (electricity)		14,320 KWH/ ton of metal	14,199 KWH/ ton of metal
5	AIF3		12 kg / ton of metal	13.5 kg / ton of metal

PART – C**Pollution discharged to environment/unit of output**
(Parameter as specified in the consent issued)

1) Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	% of variation from prescribed standards with reasons
a) Water	Nil	NA	NA
b) Air:	CPP Stacks: 3663 kg/Day	PM: 46.44 mg/Nm ³	Within the prescribed limit.
(PM Emission from stacks)	GTC-1: 441 kg/Day	PM: 8.68 mg/Nm ³	
	GTC-2: 356.8 kg/Day	PM: 7.06 mg/Nm ³	
	FTC-1: 20.33 kg/Day	PM: 8.78 mg/Nm ³	
	FTC-2: 13.39 kg/Day	PM: 9.32 mg/Nm ³	
b) Air:	GTC-1: 32.17 kg/day	Total Fluoride: 0.65 mg/Nm ³	
Total Fluoride Emission	GTC-2: 31.87 kg/day	Total Fluoride: 0.64 mg/Nm ³	
	FTC-1: 1.375 kg/day	Total Fluoride: 0.60 mg/Nm ³	
	FTC-2: 0.827 kg/day	Total Fluoride: 0.58 mg/Nm ³	
Note: All the emission values are expressed as annual average value.			

PART – D**Hazardous Wastes**

(As specified under Hazardous Waste Management and Handling Rules, 1989)

Hazardous Waste	Waste category	UOM	Total Generated Quantity	
			During the Previous Financial year 2017-18	During the current Financial year 2018-19
a) From Process	Used Oil	KL	52.266	38.155
	Waste containing Oil	MT	Nil	Nil
	Spent Pot lining (Cathode Residues)	MT	2405.73	4131.25
	Pot Lining Scraps and Wastes	MT	Nil	14
	Rejected lining of furnace(Refractory)	MT	Nil	Nil
	Shot Blasting Dust (Containing Fluoride)	MT	664.3	747

	Ladle Cleaning Residue	MT	90.98	73.4
	Rejected AIF3 Bags	No's	28856	25316
	Aluminium Dross	MT	2433.56	2537.79
	Aluminium Dross Residue*		1397	1925.5
	Fluoride contaminated waste (Spilled waste from pot line)	MT	726.46	1865.77
	Drain cleaning sludge	MT	Nil	Nil
	Floor sweeping/house-keeping waste	MT	77	215
	ETP sludge	MT	541	180
	Used anode Butts of Aditya	MT	43946.61	46521.28
	Pre-processed Used Anode Butts received from M/s Hindalco Industries Ltd, Hirakud.	MT	20365.28	19393.75
	Discarded containers/ Liners used of storage of Hazardous Chemicals	MT	1.1431	0.5753
	Spent Resin	MT	Nil	Nil
b) From pollution control facilities	Tar containing waste (from FTC)	MT	12.34	12
	Rejected filter bags (GTC & FTC)	Nos.	698	27500

* Aluminium Dross Residue is generated during recycling of aluminium dross in the dross processing unit.

PART – E
(Solid Wastes)

	Category	UOM	Total Quantity	
			During the Previous financial year 2017-18	During the current financial year 2018-19
(a) From process	Fly ash and Bottom Ash Generated	MT	1533148.94	1471257.09

(b) From pollution control facility	Supplied to Cement industries	MT	839327.	924687.97
(c) (1) Quantity recycled or re-utilized within the unit (2) Sold	Utilized for road making	MT	0	0
	Utilized for Dyke raising	MT	12000	
	Utilized for low lying area development/filing	MT	269080.80	203973.73
	Supplied to Bricks Manufacturing	MT	964.43	460.85
(3) Disposed	Sent to Ash Pond	MT	411775.85	333634.87

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Sr. No.	Name of Hazardous Waste	UOM	Qty. of generation in FY 2018-19	Qty. of Disposal FY 2018 -19	Mode of Disposal
1	Used Oil	KL	38.155	44.31	Sold to authorize recyclers.
2	Waste containing oil	MT	0	0	Not generated
3	Spent Pot lining (Cathode Residues)	MT	4131.25	1887.06	Sold to authorize re-Processing units i.e. Green Energy Resources, Sambalpur
4	Pot Lining Scraps and Wastes	MT	14	0	To be disposed in TSDF of Ramky
5	Rejected lining of furnace(Refractory)	MT	0	0	Not generated
6	Shot Blasting Dust (Containing Fluoride)	MT	747	837.04	Disposed in CHW-TSDF of Ramky
7	Ladle Cleaning Residue	MT	73.4	109.41	Disposed in CHW-TSDF of Ramky
8	Rejected Filter Bags (GTC/FTC)	No's	27500	2425	Burnt inside the electrolytic pots.
9	Rejected AlF ₃ Bags	No's	25316	23308	Burnt inside the electrolytic pots.
10	Aluminium Dross	MT	2537.79	241.71	Sold to authorize recyclers.
				2327.75	306.57 MT reused along with bath material in pots and 2021.18 MT

					processed in dross processing unit.
11	Aluminium Dross Residue	MT	1925.5	1923.65	The Disposed in CHW-TSDF
12	Fluoride contaminated waste (Spilled waste from pot line)	MT	1865.77	1483.69	Disposed in CHW-TSDF of Ramky
13	Drain cleaning sludge	MT	0	0	Not generated
14	Floor sweeping/house-keeping waste	MT	215	240.66	Disposed in CHW-TSDF of Ramky
15	Tar Containing Waste (FTC conditioning dust)	MT	12	12	Reused in green anode making
16	ETP sludge	MT	180	205.4	Disposed in CHW-TSDF of Ramky
17	Used anode Butts of Aditya	MT	46521.28	46113.73	Reused in Green Anode Plant for making green anode.
18	Pre-processed Used Anode Butts generated from M/s Hindalco Industries Ltd, Hirakud.	MT	19393.75	19399.35	Reused in Green Anode Plant for making green anode.
19	Discarded containers/ Liners used of storage of Hazardous Chemicals	MT	0.5753	1.07	Supply to authorized party.
20	Spent Resin	MT	0	0	Not generated
Sr. No.	Solid Waste		Quantity of generation in FY 2018-19	Quantity of disposal FY 2018-19	Mode of Disposal
1	Fly Ash and Bottom Ash	MT	1471257.09	924687.97	Supplied to Cement industries
		MT		0	Utilized for road making
		MT		8500	Utilized for Ash Pond dyke raising
		MT		203973.73	Utilized for low lying area development/filing inside the plant premises
		MT		460.85	Supplied to Bricks Manufacturing
		MT		333634.87	Sent to Ash Pond

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production:

Pollution abatement measure taken on conservation of natural resources are as follows:

A. Water Pollution Control Measures:

1. We have implemented integrated waste water management system first time in the country by mixing both the waste water of CPP & Smelter areas which are collected in a Guard Pond of 65,000m³ capacity and then treated with a RO based ETP of 300 cum/hr capacity and the permeate water is send back to the Power Plant for reuse.
2. Separate drainage system constructed for collection of initial rain water & waste water and the guard pond of 65,000 cum capacity is constructed close to the ETP, to store waste water and storm water from Smelter and waste water from CPP.
3. The Effluent Treatment Plant (ETP) of 300 Cum/hr capacity is coupled with double Staged Reverse Osmosis system and is the latest ETP plant in the Odisha.
4. Two nos. of Sewage treatment plants (STP) established in Plant and Township separately for 600 KLD and 300 KLD respectively. The treated water from STPs used for greenbelt and gardening purposes.
5. The water consumption in power plant is reduced by adopting the Dry bottom ash collection system for PF boilers first time in Odisha and increased CoC of Cooling water which reduces the generation of waste water.
6. Ash pond is lined with HDPE liners to prevent contamination of ground water.

B. Air Pollution Control Measures :

1. ESPs having two parallel gas paths of 99.9% efficiency installed in each units of CPP to achieve the emission level within 50 mg/Nm³. One ESP path in maintenance while the plant is in operation is a unique procedure developed in Aditya Aluminium to improve overall efficiency of ESP.
2. Tri-Flue Stacks with 275 m height installed for wider dispersion of pollutants.
3. 12 nos. of Bag filters installed in Coal Handling Plant & Ash Handling Plant for fugitive dust control.
4. 20 nos. of Dust suppression & DFDS system installed in coal handling/conveying circuit (Excluding Coal yard) & 4 nos. of dust suppression & dry Fog System installed in ash silo areas.

5. Gas Treatment Center (GTC) with dry scrubbing system installed in Pot Line for recycling of fluoride and venting out clean air through the stack having 100 m height.
6. Larger anodes and Hyper dense phase system (HDPS) for dust free alumina transfer installed in pot room, zero alumina leakage from receipt to consumption stage gives us the best "specific alumina consumption/ton of Aluminum".
7. Fume Treatment Center (FTC) installed and attached to ABF for recovery of Fluoride and vents out clean air to atmosphere.
8. 63 nos. De-dusting system installed at Alumina Handling, Coke Handling, Green Anode Plant, Anode Rodding Shop, Bath Recycling Shop, Carbon Recycling Shop, Anode Baking Furnace and other areas of Smelter for control for fugitive emission and recycling of the dust collected in the bag filters. Vacuum cleaning system installed of Green Anode Plant makes the Plant very much clean.
9. Mechanized road sweeping machine deployed for cleaning of all internal roads and shop floors to minimize fugitive dust emission from roads.

C. Solid Waste Management Practice :

1. Maximum quantity of ash is being send to Cement Plants.
2. Guideline of Centre for Fly Ash Resource Management followed for low lying area filling/development inside the plant, the developed area is being made ready for 30 MW (DC) PV Module based Solar Project.
3. 100% Tarpaulin cover during transportation ash and coal is ensured.

D. Hazardous Waste Management Practice :

1. All the hazardous waste is being kept inside covered storage shed with display of SOPs and MSDS and maintaining record in Form – 3 for all the hazardous waste generated.
2. Exploring maximum recycling of Hazardous Waste generated from Smelter like Shot blasting dust, Aluminium Dross, Skimmed coke, GTC/FTC and Other DE system used filter bags, AlF₃ bags and tar containing waste etc.
3. Butt generated is completely recycled and pre processed used anode butt received from Hirakud Smelter is also reused in green anode making.

E. Green Belt Development :

1. Thick green belt developed around the plant boundary, with a density of approx. 1000 no's/acres and more than 3, 80,500 no's of trees planted with in an area of 573 acres till 2018-19. Besides 1 lakhs target plantation taken for FY 2019-20 and nursery also established for development of saplings for plantation inside the plant and distribution in local areas. The plantation activity for FY 19-20 is under progress.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution:

Areas	Investment made till 01.04.2019 (lakhs)
Water pollution control system	5038.18
Air pollution control system	66550.9
Solid Waste Management System	20327.5
Hazardous Waste Management System	1653.5
Biomedical Waste Management System	18.8
Total (Lakhs)	93,589

1. A solar power project of 30 MW capacity is established inside the plant for generation of power from renewal source (PV Solar) of energy.
2. Food waste is being used in Biocomposter in colony areas for conversion of food waste & organic wastes for generation manure and which is being used in gardening purposes.
3. Rainwater harvesting structure established in all township and the harvested water used for gardening.
4. Two no's of Mechanized housekeeping machine used for cleaning of internal roads to keep control on the fugitive dust emission from roads during vehicle movement.

PART – I

Any other particulars for improving the quality of environment:

1. Implemented Integrated Management System (ISO 9001 & ISO 14001) for better quality & environmental management system and control.
2. Training to employees for hazardous waste management.
3. Phase-wise greenbelt development work is under implementation to achieve 33% of the project area under greenbelt/green cover.
4. Environmental laboratory established for monitoring and analysis of environmental pollutants.
5. Celebrating Environmental promotional activities like World Environment Day, Vanmahotsav, National Safety Day/Week, etc.
6. Promote the principles of waste prevention, reduction, reuse, recycling and recovery to minimize waste generation and strengthen the practices for management of wastes through "Value from Wastes Programme".
7. Raise environmental awareness at all levels of our operations, through training and effective communication, participation and consultation.


(Authorized Signatory)