

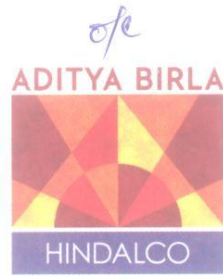


Hindalco Industries Limited

(Unit – Muri Works)



Environment statement for the financial year ending the 31st March 2018



No. Hindalco/Env/2018/20

12th May, 2018

To,

The Member Secretary
Jharkhand State Pollution Control Board
T.A. Bhawan, HEC – Complex, Dhurwa, **Ranchi – 834 004**

Sub.: Submission of Environment Statement in Form-V for financial year 2017-18

Dear Sir,

This is with reference to the aforesaid subject regarding submission of Environment Statement in Form-V under Environmental (Protection) Rule, 1986

Hereby, we are pleased to submitting Environment Statement in Form-V for the financial year 2017-18 to your esteemed office for our Hindalco Industries Limited, Muri Works.

Thanking You,

Your's Faithfully

For & Behalf of
Hindalco Industries Limited - Muri Works



(Prasanta Bose)
Technical Head

Encl.: Environment Statement (Form-V)

Copy to:

The Regional Officer,
Jharkhand State Pollution Control Board
E-1, CTI Colony, **Ranchi – 834 004**

Hindalco Industries Limited

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Corporate ID No.: L27020MH1958PLC011238

FORM – V
Environment statement for the financial year ending the 31st March 2018

PART – A

i) Name and address of the owner / occupier of the industry, operation or process	:	Mr. N.N Roy (Joint President & Unit Head) Hindalco Industries Ltd. Muri Works, P. O.: Chotamuri, Distt.: Ranchi 835101, Jharkhand
ii) Industry category Primary – (STC Code) Secondary – (SIC Code)	:	Alumina Refinery Plant (Large scale industry)
iii) Production capacity	:	575 KTPA
iv) Year of Establishment	:	1948
v) Date of the last environmental Statement submitted	:	23 rd September, 2017

PART – B

Water and Raw Material Consumption

i) Water consumption m³/d

Process	: 5375
Cooling	: NA
Domestic	: 1312

Name of Products	Process water consumption per unit of product output (m ³ /t)	
	During the previous financial year	During the current financial year
1) Alumina	5.37	5.23

ii) Raw material consumption

Name of Raw Materials		Name of Product	Consumption of raw material per unit of output	
			During the previous financial year	During the current financial year
Bauxite	t/t	Alumina / Alumina Tri-hydrate	3.113	3.168
Caustic Soda (as NaOH)	kg/t		151.000	143.700
Coal @3500 GCV)	t / t		0.940	0.964
Diesel	Lit / t		0.940	0.436
Furnace Oil	Lit / t		73.700	72.838
Lime	Kg / t		34.900	38.500
Filter Cloth	m ² / t		0.011	0.011
Synflock	Kg / t		1.051	1.095
Defoamer	Kg / t		0.066	0.073
Tray Flocculent	Kg / t	0.037	0.003	

FORM – V
Environment statement for the financial year ending the 31st March 2018

PART – C

Pollution discharged to environment/unit of output

(Parameter as specified in the consent issued)

1) Pollutants	Quantity of pollutants discharged (mass/day) i.e. Ton/day	Concentrations of pollutants in discharges (mass/vol.) i.e. kg/m ³	Percentage of variation from prescribed standards with reasons
a) Water (Effluent)			
TSS	0.016	0.020	-79.75
BOD	0.007	0.009	-70.00
COD	0.172	0.215	-14.00
O&G	0.004	0.005	-50.50
b) Air (PM)			
Refinery	0.14	0.00007	-24.00
Power Plant	0.27	0.00004	-25-75

Note: Percentage of variation is lower from prescribed standards due to uninterruptedly operation and maintenance of ETP & ESPs (equipped with Refinery and Power Plant Boiler stacks).

PART – D

HAZARDOUS WASTES

(As specified under Hazardous Wastes (Management & Handling & Trans boundary Movement Rules)

Hazardous Wastes	Total Quantity (Kg.)	
	During the previous financial year 2016-17	During the current financial year
1. Used/ Spent Oil (Cat-5.1)	2.510 KL	8168.55 kg
2. Waste containing Oils (Lubricant drums) - 5.2	12 Nos.	Nil
3. Lead acid batteries (Cat-9.3)	Nil	900.00 kg
4. Discarded asbestos (Cat-15.2)	Nil	Nil
5. Vanadium Sludge (Cat-11.7)	-	562510.00 kg

- a) From Process: 562.510 MT of vanadium sludge generated from process as a by-product and same quantity has sold out through authorized recyclers.
- b) From pollution control facilities: Not Applicable

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PART – E

Solid Wastes

Solid Wastes	Total Quantity (Metric Ton)	
	During the previous financial year	During the current financial year
a) From process (generation)		
*Bauxite Residue (Red Mud)	590970	652166
**Fly ash (from power plant)	109082	125776
b) From pollution control facilities	Nil	Nil
c) -		
1. Quantity recycled or re-utilized within the unit	Nil	Nil
2. Sold (Bauxite Residue i.e. red mud)	31398	27613
3. Disposed		
*Bauxite Residue	-	624553
**Fly ash	-	125776

*Bauxite Residue (Red Mud) is transported by dumpers to own red mud pond by a process called DMS (Dry Mud Stacking). 27613 MT of Bauxite Residue sold out to cement plant to M/s. ACC Cement Chaibasa and further we are in process to explore the other cement companies like UltraTech Cement Ltd. (Units i.e. Rawan Cement Works, Hirni Cement Works) & Dalmia Cement.

**Fly ash disposed off through filling of low lying area under prior intimation to the Jharkhand Pollution Control Board (JSPCB) as well as supply to bricks & cement manufacturing company 1323 MT & 579 MT respectively for further utilization.

PART – F

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

Solid Wastes: Residue left after digestion of Bauxite, called “Red Mud” is filtered under pressure by Pressure Filters up to a mud consistency of around 72-75 % solids. The Bauxite Residue (Red Mud) is transported by dumpers to own red mud pond by a process called DMS (Dry Mud Stacking). We have established filter press project – Reduce caustic consumption with mud and reducing mud foot print with increased solids. We have initiated to dispose Bauxite Residue for further utilization in cement application.

Characteristics of Bauxite Residue (FY'2017-18)	
% SiO ₂	8.46
% Fe ₂ O ₃	41.49
% TiO ₂	14.28
% Al ₂ O ₃	17.42
% Na ₂ O	6.54

PART – G

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

Hindalco Industries Ltd, Muri Works is a flagship company of the Aditya Birla Group engaged in Aluminium Business is fully committed to sustainable development and play a constructive role in Building “A Green and Clean Environment” by adoption of state-of-the-art-technology including:

1. Use of Plate & Frame type filter press in the mud filtration unit

- Filter Press installed in the mud circuit.
- Through this initiatives solid concentration improved from 62% to 75%.
- Enhancement of RMP (Red Mud Pond) life.
- Process Soda loss minimized.
- In India first ever Mud Filtration System has been installed in Alumina Industry @ Muri Works & spent on its approx.



Photo: Pressure Filter

2. Gabion & Reinforced Soil Wall (in Red Mud Pond)

RMP capacity augmentation work completed in Sep'2017 with Gabion retaining wall technology as designed and drawings approved by the IIT Mumbai; the design is full proof and ensures stability of height of red mud stacking in RMP4.



Photo: Gabion & Reinforced Soil Wall

3. Green belt on RMP by Hydro seeding:

Green belt developed in by growing grass on RMP by hydro-seeding technology (from USA) 1.0 acre and further 8.82 acres is planned to complete by Jun 2018. It is helping to improve green belt in RMP as well as reduce the fugitive dust emission.



Photo: Green belt development in RMP by hydro-seeding technology

4. To control the fugitive dust emission from RMP:

Dust suppression system with water sprinklers along the road and periphery of RMP and dedicated water tanker in RMP area and road to suppress dust.



Photo: Dust suppression system with water sprinklers in the periphery of RMP.



Photo: Dedicated water tanker in RMP area and road to suppress dust

FORM – V
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PART – H

Additional measures/investment proposal for environmental protection including abatement of Pollution, Prevention of pollution

Following measures/investment has been proposed for the environmental protection during FY'19:

Sr. No.	Proposed environment protection measures/investment	(Rs. In Lacs)
1	Installation of bag filter/Rectifier in ESPs	1050
2	Lime dosing system in CGPP for SOx reduction	200
3	Pit & pumping arrangement for kitchen/wash water of D-type quarter in south plot to SSTP pit.	15
4	Dust extraction system in Bauxite and Coal Handling area	150
5	Online data connection with company lease line	2
6	Bio-degradable and Hazardous area up gradation	20
Total proposed cost approx. Rs. in Lacs		1437

PART – I

Any other particulars for improving the quality of the environment

The measures have been taken to improving the quality of environment is given as following:

- The Effluent, after treatment in our ETP (Effluent Treatment Plant) is fully re-used in the plant.
- ETP & STP equipped with the EQMS & real time data being transferred to the JSPCB & CPCB.
- Refinery & Power Plant stacks equipped with the CEMS & real time data being transferred to the JSPCB & CPCB.
- Bio-Medical Waste is being disposed-off through JSPCB authorized Common Bio Medical Waste Treatment Facility (CBMWTF).
- Dense plantation being done in and around plant premises.
- Sewage & Sludge generated from STP is being used in horticulture activities.
- Disposal of wastes including BMW, E-waste, H&O wastes etc. are being done in safe and environment friendly manner through authorized vendors.
- Fly ash disposed off through filling of low laying area & back filling in CCL as well as local entrepreneurs.
- Bauxite Residue (Red Mud) dispatched through Railway rake to ACC Cement Plant. In FY'18 we have dispatched 27613 MT.
- Pre & Post monsoon Hydrological study around 1 km radius of the RMP is being conducted from 2006 onwards. In the year 2017 Pre & Post monsoon Hydrological study was also conducted by ISM, Dhanbad for ground water sources 60 locations at Muri and as per the report all the parameters are well in the limit.
