



NATIONAL ALUMINIUM COMPANY LIMITED

(A Public Sector Undertaking)

Panchpatmali Bauxite Mine

DAMANJODI – 763008

Dist. KORAPUT (ORISSA)

Ref-NAL/MIN/CGM (Mines)/2025/ 67

Date: 03/09/2025

To,
The Member Secretary,
State Pollution Control Board, Odisha
Parivesh Bhawan,
A/118, Nilakantha Nagar,
Unit-VIII, Bhubaneswar – 751012.

Sub: Submission of Environmental Statement for the financial year ending with 31st March 2025 in respect of Panchpatmali Central & North Block Bauxite Mine, NALCO

Sir,

Please find enclosed herewith the “Environmental Statement for the financial year ending with 31st March 2025” in respect of Panchpatmali Central & North Block Bauxite Mine, NALCO in the prescribed format.

Thanking you.

Yours faithfully

(Purusottam Mohanta)
Chief General Manager (Mines)

PURUSOTTAM MOHANTA
Chief General Manager (Mines)
Panchpatmali Bauxite Mines
NALCO, Damanjodi-763008

Encl: As above.

Copy- The Regional Officer, - - for kind information
Regional Office,
State Pollution Control Board, Odisha
Koraput,
Ground Floor, Door Sanchar Bhawan, BSNL, Koraput Odisha

Samir Ranjan Pattnaik
63.09.25
Sr. Manager (Geology)-Environment
Panchpatmali Bauxite Mine
NALCO, Damanjodi-763008

FORM-V
(See Rule 14)

Environmental Statement for the Financial Year ending
31st March 2025

PART-A

- i. Name & address of the Owner/Occupier of the industry Operation or process : Sri Pankaj Kumar Sharma
Director (Production),
National Aluminium Co.Ltd.
P/1, Nayapalli, Bhubaneswar-751061
- ii. Industry Category :
- Primary - (STC Code)
- Secondary - (STC Code)
- iii. Production capacity - Units : Central & North Block -68.25 lakh
Ton /Year
- iv. Year of Establishment : 1986
- v. Date of the last Environmental Statement submitted : 30.09.2024

PART – B

Water and Raw Material Consumption:

i. **Water Consumption m3/day**

- Process :
Cooling (Dust suppression and washing Of equipments) : 1247.400 m3/day
Domestic : 1002.600 m3/day
Others : Nil

Name of the Products	Process Water consumption per unit of product output	
	During the Current Financial year 2023-2024 (KL/MT)*	During the Current Financial year 2024-2025 (KL/MT)*
1. Bauxite Ore	0.134	0.134
2. ----	--	--
3. --	--	--


Samir Ranjan Pattnaik
Sr. Manager (Geology)-Environment
Panchpatmali Bauxite Mine
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ii. **Raw Material Consumption:**

Name of the Raw Materials	Name of Products	Consumption of raw material per unit output	
	Bauxite Ore	During Current Financial year 2023-2024	During Current Financial year 2024-2025
a) Explosive		79.84 g/T	38.01 g/T
b) Diesel		0.80 L/t	0.91 L/t
c) Power		1.74 KWH/t	2.22 KWH/t
d) Lubricant		18.20 ml/t	22.01 ml/t

PART- C

Pollution Discharge to Environment/Unit of Output :

(Parameter as specified in the consent issued)

(I)	Pollution	Quantity of pollutant discharge (Mass/Day)	Concentration of pollutant discharges (Mass/Day)	% of variation from prescribed standards with reasons
(a)	Water*	Nil	Nil	Nil
(b)	Air**	Nil	Nil	Nil

* No water pollutant is being discharged, as it is not a process unit.

** No point source emission is there.

PART- D

Hazardous Wastes

[As specified under Hazardous & other Wastes (Management & Transboundary Movement) Rules,2016 and amendments]

Hazardous Wastes	Total Quantity (Kg)			Quantity	
(a) From process	Sl no	Description	Unit	2023-24*	2024-25*
	1	Oily sludge	MT	Nil	Nil
	2	Oil filter and filter materials	MT	12.09	7.135
	3	Waste containing oil (cotton waste)	MT	0.3	1.8
	4	Used oil	KL	73.29	67.185
	5	Discarded containers/ barrels of used oil	Nos.	Nil	270
	6	Incinerator ash	MT	0.100	0.1169
(b) From pollution control facilities	NA			NA	

Shamir
Shamir Pattnaik
 Sr. Manager (Geology)-Environment
 Panchpatmali Bauxite Mine
 NALCO, Damanjodi-763008

PART- E

SOLID WASTES

Solid Wastes	Total Quantity (In Lakh Tonnes)	
	During the current financial year 2023-2024	During the current financial year 2024-2025
a) From process	8.00	3.79
b) From pollution control facilities	Nil	Nil
c) 1. Quantity recycled or re-utilised within the unit	8.00*	3.79*
2. Sold	Nil	Nil
3. Disposed	Nil	Nil

* Lateritic overburden and Topsoil

PART- F

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

A. Hazardous waste

Sl.no.	Description of waste	Characterisation	Disposal practice
1	Oily sludge	Major constituent-oil	Oily sludge generated during cleaning of oil-water separator are stored temporarily on concrete floor under shed. Oily sludge is burnt in the hazardous waste incinerator and the ash is disposed to authorised TSDF of M/s RE Sustainability Ltd.
2	Oil filter and filter materials	Major constituent-oil	Oil filter and filter Materials generated during maintenance of HEMMs are stored temporarily in bins on concrete floor under shed. Used filter elements are stacked in oil collecting trays. The oil thus collected on self draining by gravity is transferred to a barrel which is finally sent to oil disposal yard at Central Store, whereas filter elements almost dried up of oil are taken to a hazardous waste incinerator for control burning. The residual metallic parts after burning are sent as scrap to Central Store for disposal action. The ash is disposed to authorised TSDF of M/s RE Sustainability Ltd.

[Signature]
S. Manager (Safety)-Environment
Panchajanya Bauric HSE
NALCO, Damanjodi-763006

3	Waste containing oil (cotton waste)	Major constituent-oil	The cotton waste in HEMM is stored in designated bins under shed. The waste containing oil like cotton waste are incinerated in the hazardous waste incinerator. The ash is disposed to authorised TSDF of M/s RE Sustainability Ltd.
4	Used oil	Major constituent-oil	Used/waste oil (as drained out from equipment and vehicles) is collected in the barrels and stored at a place earmarked in specified waste/used oil disposal area. The floor of the storage area is concreted and bunds have been made surrounding the area in order to prevent the oil contamination to the landmass. In order to collect spilled oil from barrels (whatever little might be there) the said flooring of the disposal area has been given suitable gradient so as to collect the spilled oil in a pit. The oil from the pit is also collected back in barrel by use of hand pumps. These are disposed to authorized recyclers.
5	Discarded containers/ barrels of used oil	Major constituent-oil	Discarded containers i.e used oil storage barrels whenever generated are kept in the used oil storage yard. Empty used oil barrels whenever they are generated are reused for storage of used oil and disposed to authorized recyclers.
6	Incinerator ash	Major constituent-Silica	Disposed to TSDF of M/s RE Sustainability Ltd authorized for disposal of hazardous waste.

B. Solid Waste

Sl.no.	Description of waste	Characterisation	Disposal practice
1	Overburden material	Top Soil and Laterite	This is used for backfilling of mined out area as a part of land reclamation programme concurrent to mining operation/production.

Devi
Samir Rajan Pattnaik
 Sr. Manager (Geology)-Environment
 Panchpatmali Bauxite Mine
 NALCO, Damaniadi-763008

PART- G

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

1. Measures against Soil erosion and land slides.

After complete exploitation of bauxite, the overburden from the advancing faces are dumped for back filling, for restoring landscape by providing proper benches, slopes and depressions (basins) matching the natural topography. The backfilled area basins act as suitable water reservoir in arresting wash out materials from going to the valley. The back filled area is levelled followed by top dressing with preserved top soil before plantation. Afforestation is carried out with selected forest and fruit bearing species in these back filled areas as well as on the slopes to prevent soil erosion. Inclined benches are suitably covered with grass turfs to prevent soil erosion.

2. Measures against Water pollution:

Peripheral garland drains and catch drains have been developed ahead of the mining area as per plan and these are regularly maintained to avoid surface run off water entering into the mined out area. This pollution free surface run off water is guided to the valley following natural gradient. As a precaution, check dams have been constructed down below the valley to arrest any washouts.

Rain water inside the mines is being collected in sumps within the mining area. Water from the sumps mostly percolates down through thick clay layer which acts as a filtration chamber. Insitu barriers/bunds are constructed on the edges of Mines to prevent water flow from mined out area to the valley/natural water course at foot hill.

The waste water generated in canteen is treated in a biological reactor. The waste water generated in HEMM area from vehicle washing are passed through a series of oil water separators. The treated waste water from canteen and HEMM area are combined together and are reused for dust suppression and plantation purpose. There is zero discharge of effluents from Mines.

3. Measures against Air pollution:

- i. Dust suppression in the mining area is being carried out by water sprinkling using movable tankers. Besides this an auto sprinkling system has been installed/maintained along the central/main haul road.
- ii. Drilling machineries are provided with efficient dust extractors and wet drilling system.
- iii. In the crusher house, an efficient dry fog system is provided for suppression of dust at ROM hopper and transfer points. Also dust extractors and hoods are provided at transfer points in crushing and conveying system. Fog cannons have been provided at stock piles to suppress dust.
- iv. Frequent checking & maintenance is done for all the heavy earth moving machineries to restrict exhaust burnt fuels/gases polluting the atmosphere.
- v. Concentration of air borne dust in terms of PM_{10} and $PM_{2.5}$ are measured once in a month and the dust concentration is within permissible limit.
- vi. Continuous online ambient air quality monitoring stations have been installed in Mines for real time monitoring of ambient air quality.

Shamir
Senior Engineer
Sr. Manager (Geology-Environment)
Panipat District
H.NO. 1, Main Road, Panipat

vii. Plantation has been carried out in the periphery of mines to prevent escape of dust into the surroundings.

4. **Measures against Noise pollution:**

Noise and vibration due to operation of heavy earth moving machineries are within the tolerable limit. With the multiple face working the equipment gets scattered over a vast area thereby reducing the concentration of noise and vibration level.

Quarterly Noise monitoring being carried out in core and buffer zone of Mines.

Blasting has been eliminated.

At present noise and vibration are within the permissible limit.

The total expenditure on pollution control activities (inclusive of backfilling of mined out area) during 2024-25 is Rs 82,419,179.00

PART- H

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

Fruit bearing seedlings are being distributed to Mines peripheral villagers for creating awareness towards afforestation and development of bio diversity.

Apart from conventional plantation in Mined out areas, an additional specialized plantation called Miyawaki plantation has been carried out to restore the ecosystem and for development of biodiversity within a short span of time. This will be act as carbon sink which will help to absorb atmospheric CO2 effectively than conventional plantation.

PART- I

Any other particulars for improving the quality of environment:

1. Industrial hygiene survey (Noise, Vibration, Air pollution etc.) is being carried out on regular basis. Corrective measures /recommendations thereof are being implemented for improving quality of environment.
2. Implementation of Environmental Management System under ISO 14001 certified by M/s Bureau Veritas, Kolkata. Corrective measures /recommendations thereof are being implemented for improving quality of environment.
3. Biogas plants have been installed to treat canteen vegetable waste.
4. Solar power plants of 180.76 kWp capacity have been installed.

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