

VL/OPCB/002/2022-207
September 23, 2022

The Member Secretary
State Pollution Control Board, Odisha
Parivesh Bhawan,
A/118, Nilakantha Nagar,
Unit-VIII
Bhubaneswar – 751 012

Sub.: **Submission of Environment Statement for 2021-22 of 2400 MW Thermal Power Plant of Vedanta Limited, Jharsuguda**

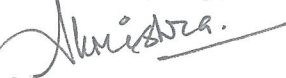
Ref.: **Rule 14 of the Environment (Protection) Rules, 1986**

Dear Sir,

This has reference to the captioned subject and the cited reference. Please find the Environment Statement of 2400 MW Thermal Power Plant (IPP) of Vedanta Limited, Jharsuguda for 2021-22 duly filled in Form-V.

Thanking you,

Yours faithfully,



Ashok Kumar Mishra
Head-Env. Compliance & strategy

Encl.: Environment Statement in Form-V

Copy to: The Regional Officer, State Pollution Control Board, Odisha, Jharsuguda

VEDANTA LIMITED, JHARSUGUDA

Vill : Bhurkamunda, P. O. : Kalimandir, Dist. : Jharsuguda (Odisha) : 768202
T +91-664 566 6000 F +91-664 566 6267 www.vedantalimited.com

REGISTERED OFFICE: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala,
Andheri (East), Mumbai 400093, Maharashtra, India.

CIN: L13209MH1965PLC291394

Sensitivity: Internal (C3)





vedanta

transforming for good

VL/OPCB/002/2022-207

September 23, 2022

The Member Secretary
State Pollution Control Board, Odisha
Parivesh Bhawan,
A/118, Nilakantha Nagar,
Unit-VIII
Bhubaneswar – 751 012

Sub.: Submission of Environment Statement for 2021-22 of 2400 MW Thermal Power Plant of Vedanta Limited, Jharsuguda

Ref.: Rule 14 of the Environment (Protection) Rules, 1986

Dear Sir,

This has reference to the captioned subject and the cited reference. Please find the Environment Statement of 2400 MW Thermal Power Plant (IPP) of Vedanta Limited, Jharsuguda for 2021-22 duly filled in Form-V.

Thanking you,

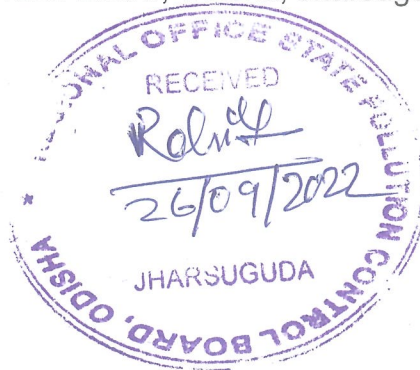
Yours faithfully,

Ashok Kumar Mishra

Head-Env. Compliance & strategy

Encl.: Environment Statement in Form-V

Copy to: The Regional Officer, State Pollution Control Board, Odisha, Jharsuguda



VEDANTA LIMITED, JHARSUGUDA

Vill : Bhurkamunda, P. O. : Kalimandir, Dist : Jharsuguda (Odisha) : 768202
T +91-664 566 6000 F +91-664 566 6267 www.vedantalimited.com

REGISTERED OFFICE: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala,
Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

Sensitivity: Internal (CS)

FORM – V
(See Rule 14)

Environmental Statement for the financial Year ending the 31st March 2022

PART- A

- i Name and address of the occupier of the industry operation or process : Mr. Sunil Duggal
Whole Time Director
Vedanta Limited,
2400 MW Thermal Power Plant (TPP)
Banjari, Jharsuguda – 768202
- ii Industry Category Primary (STC Code) : -
Secondary – (SIC Code)
- iii Production Capacity (Units) : 2400 MW (4 X 600)
- iv Year of Establishment : 2010
- v Date of the last Environmental Statement submitted : 18th September 2021

PART – B

Water and Raw Material Consumption

(1) Water Consumption m³/Day

Process	: 1116 m ³ /Day
Cooling & Boiler Feed	: 76736 m ³ /Day
Domestic	: 2700 m ³ /Day

Name of Product	Process Water Consumption per Unit of Product Output	
	During the previous year (2020-21)	During the current year (2021-22)
Power	2.05 m ³ /MWH	2.12 m ³ /MWH

(2) Raw Material Consumption

Name of Product	Name of Raw Materials	Unit	Consumption of Raw Material Per unit output	
			During the previous year (2020-21)	During the current year (2021-22)
Electricity (2400 MW TPP)	Coal	MT/MWH	0.753 (at GCV 3158 Kcal/Kg)	0.765 (at GCV 3120 Kcal/Kg)
	LDO	KL/MWH	0.000192	0.00023

* Industry may use Codes if disclosing details of raw material would violate contractual obligations, otherwise, all industries have to name the raw materials used.

PART – C

Pollution Discharged to Environment /Unit of Output (Parameters as specified in the consent issued)

Pollutants	Units & Parameters		Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	% of variation from prescribed standards with reasons
a) Water			Nil	NA	NA
b) Air	UOM		Kg/Day	Mg/Nm3	Within the prescribed limits
	TPP Unit - 1	PM	2416.22	40.31	
		SOx	62735.37	1048.49	
		NOx	17013.00	284.39	
	TPP Unit - 2	PM	2135.17	36.69	
		SOx	60415.32	1039.64	
		NOx	14580.01	251.18	
	TPP Unit - 3	PM	2365.58	40.81	
		SOx	60068.00	1035.71	
		NOx	16451.92	283.98	
	TPP Unit - 4	PM	2230.51	38.69	
		SOx	59427.00	1034.53	
		NOx	16186.82	281.83	

PART-D

Hazardous Waste

{As specified under Hazardous Wastes (Management, Handling & Transboundary Movement) Rules 2016}

(a) From Process:

Sl. No.	Hazardous Wastes	Total Quantity	
		Previous financial year (2020-21)	Current financial year (2021-22)
1	Used oil	40.77 MT	51.02 MT
2	Spent resins	0.0 MT	0.0 MT
3	Waste containing oil	2.88 MT	1.056 MT

PART – E

Solid Waste*

(a) From Process & (b) from Pollution Control Facilities

Sl. No.	Solid Waste	Total Quantity	
		Previous financial year (2020-21)	Current financial year (2021-22)
1	Ash (Fly ash+ Bottom ash)	48,73,137 MT	44,00,643 MT

(c)

(1) Quantity recycled or re-utilized within the unit:

Sl. No.	Solid Wastes	Total Quantity	
		Previous financial year (2020-21)	Current financial year (2021-22)
1.	Ash (Fly ash+ Bottom ash)	16,95,061.820 MT (Inside) 43,03,801.750 MT (Outside in Brick, Cement plant, road making, Low lying filling)	1,61,730.160 MT (Inside) 51,14,446.930 MT (Outside in Brick, Cement plant, road making, Low lying filling)

(2) Sold: Nil

(3) Disposed:

Sl. No.	Solid Wastes	Total Quantity	
		Previous financial year (2020-21)	Current financial year (2021-22)
1.	Ash (Fly ash+ Bottom ash)	NIL	NIL

PART – F

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

Characteristics of Solid Wastes

Fly ash

Parameter	Unit	Fly Ash
Aluminium	mg/kg	6538
Calcium	mg/kg	2899
Chromium as Cr	mg/kg	28.20
Magnesium	mg/kg	517
Manganese as Mn	mg/kg	96.74
Molybdenum as Mo	mg/kg	46.08
Nickel as Ni	mg/kg	8.69
Phosphates as P ₂ O ₅	%	0.91
Potassium	mg/kg	360
Silicon dioxide as SiO ₂	%	55.71
Sodium	mg/kg	77.48
Titanium as TiO ₂	mg/kg	516
Total Sulphur as SO ₃	%	0.09
Unburnt carbon	%	1.26

Disposal practice of Solid waste:

(a) Disposal practice of Hazardous Waste:

Sl. No	Type of Hazardous Waste	Disposal practice
1.	Waste containing oil	Impervious Pit /Disposal in SLF & CHWTSDF
2.	Spent resins	Impervious pit/ Incineration /Disposal in SLF & CHWTSDF

(b) Disposal practice of Non-hazardous waste:

Sl. No	Type of Hazardous Waste	Disposal practice
1.	Ash (Fly ash + Bottom ash)	Disposal in ash pond through HCSD system/Utilization in filling up of low-lying area/ Utilization in Cement/ Brick industry

PART – G

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

(A) Water Conservation Programmes

- Commissioning and operation of 500 m3/hr RO based ETP to recycle the treated wastewater.
- Revamping of firefighting water pipeline and service water line from underground to overground.

(B) Energy Conservation Initiatives

- U#3 APH, Duct, ESP & FF leakage arrested to reduce ID fan loading.
- U#3 condenser cleaned & air ingress rectified
- Compressor power consumption optimized.
- Mill Loading improved thereby reducing energy consumption.

PART – H

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

(A) Additional Measures:

Air Pollution Control:

- Wheel wash system installed at Plant Main Entry/Exit Gate to control dust emissions.
- 3 Nos. of Mist cannons installed at new coal yard.
- Dust Suppression System (Spray line) has been installed in track hopper to reduce dust emission.
- Mobile mist cannons have been deployed at site to control fugitive emissions.
- Replacement of DRC pipe with CBC Coated pipe to improve life of pipeline and avoid leakages.
- RVF installed in wet ash unloading system for uniform flow and to improve mixing.
- Filter bags replaced in all silo tops to avoid ash emission from bag house.
- FF bags replaced in Unit 3 & Unit 1.
- Silo top conveying pipes have been replaced by HI chrome pipe to avoid ash leakage from silo top.
- Nozzle replaced at TT area to control fugitive emission.
- Water sprinkling arrangement done at Banjari Road to minimize fugitive emission
- Improved DE and DS System utilization at CHP area

Water pollution Control:

- Reuse of cooling water blow down post treatment by RO.
- Cleaning of CMB to enhance the capacity and reuse of CMB water post treatment.
- Leakages arrested in the firefighting as well as service water lines.
- Phase 1&2 GT yard and IW pump house fire fighting line (around 1.5 KM) changed from underground to over ground.
- Roof top rainwater harvesting systems installed to reuse back into the system.
- ETP treated water is being reused for ash slurry disposal.

Solid Waste Management:

- Achieved around 119.90% ash utilization in various avenues such as highway projects, cement plants, brick manufacturing etc.

(B) Investment Proposals:

- Installation of mist cannon at truck tippler area to reduce fugitive emission.
- Replacement of DRC pipe with alternate pipe (with CBC coating inside the pipe).
- Replacement of NI hard paddle mixture in wet ash unloader.
- Replacement of U#2 & U#4 all bags

PART – I

Any other particulars for improving the quality of the environment

- Implemented Integrated Management System (IMS) across 2400 MW Thermal Power Plant for better quality, pollution control and improve health of people working in the plant.
- World Environment Day Celebration to build up Environmental awareness among employees and community.
- Distribution of tree sapling in community for developing greenery