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VL/MOEF/006/2023-019

November 27, 2023

The Director
I.A. Division
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhawan
Jor Bagh Road
New Delhi-110003

Sub.: Submission of Half Yearly Compliance Report and Environment Quality data of Smelter & CPP of Vedanta Limited, Jharsuguda for the period from April 2023 to September 2023

Ref.: 1. Environment Clearance letter No. J-11011/144/2006-IA.II (I) dated 07.03.2007
2. Environment Clearance letter No. J-13011/10/2006-IA.II (T) dated 14.03.2007
3. Environment Clearance letter No. J-11011/29/2007-IA.II (I) dated 11.06.2008
4. Environment Clearance letter No. J-11011/29/2007-IA.II (I) dated 05.05.2022

Dear Sir,

This has reference to the above subject and cited references. As per the provision of Environment Clearance and EIA notification 2006, we are herewith submitting the half yearly compliance status for conditions in the Environment Clearance for 2.5 LTPA Aluminium Smelter, Captive Power Plant 675 MW, expansion of Aluminium Smelter (2.5 to 16 LTPA) and Captive Power Plant (675 MW to 1350 MW), Aluminium Smelter 18 LTPA (16 to 18 LTPA) and Captive Power Plant at Parivesh Portal along with supporting documents .

Thanking you,
Yours faithfully,
For Vedanta Limited


Dr. Amit Kumar Tyagi
Head- Environment

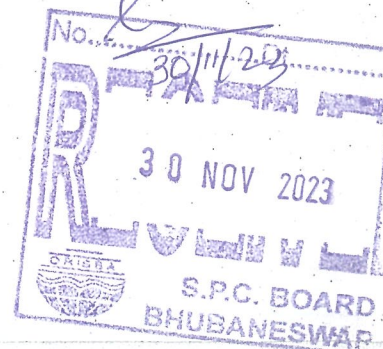
Copies to:

1. The Additional Director, Ministry of Environment, Forests & Climate Change, Regional Office, Odisha, Bhubaneswar
2. The Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar

VEDANTA LIMITED, JHARSUGUDA

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



Your application has been Submitted with following details

Proposal No	F.No. J-11011/29/2007-IA II (I)
Compliance ID	20348766
Compliance Number(For Tracking)	EC/M/COMPLIANCE/20348766/2023
Reporting Year	2023
Reporting Period	01 Dec(01 Apr - 30 Sep)
Submission Date	01-12-2023
IRO Name	ARTATRANA MISHRA
IRO Email	jhk109@ifs.nic.in
State	ODISHA
IRO Office Address	Budgam

Note:- SMS and E-Mail has been sent to ARTATRANA MISHRA, ODISHA with Notification to Project Proponent.



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CRZ Clearance ▾

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Gupta,PP

Back

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Proposal Details

Proposal No	F.No. J-11011/29/2007-IA II (I)	Category	Industrial Projects - 1		
Proposal Name	Proposed Expansion of Aluminium Smelter Production Capacity from 16 LTPA to 18 LTPA, CPP 1215 MW				
Plot / Survey/ Khasra No.		Village(s)		Sub-District(s)	
State	ODISHA	District	JHARSUGUDA		
MoEF File No	F.No. J-11011/29/2007-IA II (I)	Name of the Entity/ Corporate Office	Vedanta Limited, Aluminium and Power	Entity's PAN	NA
Entity Name as per PAN	NA	Entity details mentioned above is correct ?	Agree		

Covering Letter

Covering Letter [Click to View](#)

Compliance Reporting Details

Reporting Year 2023**Reporting Period** 01 Dec(01 Apr - 30
Sep)**Remark(if any)**

Details of Production and Project Area

**Date of
Commencement of
Project/Activity** 03-07-2008

	Project Area as per EC Granted(ha.)	Actual Project Area in Possession(ha.)
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

PRODUCTION CAPACITY							
Sr.No.	Name of the Product	Units	As per EC Granted	As per CTO Granted	CTO ID	Valid Up To	Production during last financial year
1	Aluminium Metal	Tons per Annum (TPA)	1800000	1800000	4695	31-03-2024	1720728 T
2	Power CPP - 1215 (9x135)	MW	1215	1215	4695	31-03-2024	8786887 MWH

Conditions

Specific Conditions

Sr.No.	Condition Type	Condition Details	Status of Compliance,Remarks/Reason and Supporting Documents	
1	MISCELLANEOUS	The project proponent shall abide by all orders and judicial pronouncements, made from time to time in OA No. 10/2021/EZ pending before the National Green Tribunal (NGT), Eastern Zone, Kolkata	PPs Submission	All the orders and judicial pronouncements by NGT in the OA No. 10/2021/EZ has been complied with. Details of Court cases are enclosed as Annexure-1. Complied Attachment: Click to View
			PPs Submission	All the orders and judicial pronouncements by NGT in the OA No. 10/2021/EZ has been complied with. Details of Court cases are enclosed as Annexure-1. Complied Attachment: Click to View
2	AIR QUALITY MONITORING AND PRESERVATION	The poly-aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) shall not exceed	PPs Submission	PAH is being monitored in the stack of Bake Oven and is found in the range of 0.16 to 0.26 mg/Nm ³ . The same is monitored regularly and the report is submitted quarterly to the Regional office of the Ministry and monthly to the OSPCB. Please refer

		2 mg/Nm ³ . The data on PAH shall be monitored quarterly and report shall be submitted regularly to the Ministry/Regional Office at Bhubaneswar and Odisha Pollution Control Board.		enclosed Analysis report for the period of Apr'23 to Sep'23 as Annexure-2. Complied Attachment: Click to View
3	WATER QUALITY MONITORING AND PRESERVATION	A nallah is passing through the project site, PP shall maintain the nallah in its natural form and provide the green buffer zone of 10 m on both side of the nallah.	PPs Submission	Nallah is maintained in its natural form; third party draft report finalisation is under progress and will be submitted to your good office at the earliest. Complied Attachment: NA
4	AIR QUALITY MONITORING AND PRESERVATION	Particulate fluoride emissions shall not be more than 0.65 mg/Nm ³ and fugitive particulate fluoride emissions from pot room shall not be more than 1.85 mg/Nm ³ .	PPs Submission	The particulate fluoride emission ranges between 0.032 to 0.070 mg/Nm ³ and fugitive particulate fluoride emissions ranges between 0.74 to 1.7 mg/Nm ³ respectively. Please refer enclosed Analysis report for the period of Apr'23 to Sep'23 as Annexure-2. Complied Attachment: Click to View
5	AIR QUALITY MONITORING AND PRESERVATION	Project proponent shall maintain the Fluoride consumption less than 10 kg/tonne of Aluminium production by April, 2022 and reduce further at 8.0 kg/t by April, 2023 as committed by PP.	PPs Submission	EC condition of 8 Kg/T by Apr'23 has been amended by MOEF & CC New Delhi. MoM of the same was published on 14th Aug'23, wherein MOEF EAC asked us to maintain specific fluoride consumption less than 10 kg/t of Al. From April'23 till Sep'23, Fluoride consumption is 9.56 Kg/T Al. Moreover, efforts have been made to bring down Fluoride consumption limit like revamping of FTP, procurement of low soda alumina & Digital AI based Modelling of Sp. Fluoride. Complied Attachment: NA

6	GREENBELT	Three tier Green Belt shall be developed in a time frame of one year covering 33% of total area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. This shall include development of green belt of 50 width from the project site towards the Jharsuguda village located at 0.2km from the site. In addition to this, following activities shall also be undertaken as committed by the proponent: Green cover on reclaimed ash ponds over an area of 40 Ha shall be developed by June 2022. PP shall undertake plantation over 37.5 ha outside plant premises in consultation with DFO, Jharsuguda	PPs Submission	33% Green belt has been developed all along the plant periphery and plant area. Efforts have been made to cover three tier green belt all along the periphery. High potential local species has been planted to attenuate the pollutants as per the CPCB guidelines. We would like to bring your kind notice towards the fact that Jharsuguda town is situated more than 3 Km. Moreover, as a responsible corporate, we have taken up plantation activities in Jharsuguda district at various locations. More than 70,000 saplings have already been planted. We have requested DFO Jharsuguda for plantation over 37.5 Ha- outside plant premises. There are multiple communications that have been established with DFO & District Administrative office Jharsuguda for the allocation of the outside land for plantation. Communications are enclosed as Annexure-3. Complied Attachment: Click to View
7	WASTE MANAGEMENT	Present stock of SPL carbon (36320 T) and legacy SPL stock shall be liquidated by Sep, 2023 as committed.	PPs Submission	As per commitment, we have disposed ~51998.12 MT of SPL Carbon to authorized recycler and cement industry in FY 22 and FY 23 and the same is being continued. Annual Return (Form 4) of FY 22 and FY 23 are enclosed as Annexure-4. In addition to above quantity, from Apr'23 to Sep'23 we have disposed 7450.66 MT of

				SPL carbon to authorized recycler and cement industry. Complied Attachment: Click to View
8	WASTE MANAGEMENT	Refractory SPL stock (40000 T) stored in covered shed on concrete floors shall be disposed of Dec, 2025 as committed	PPs Submission	At the outset, we would like to bring your kind immediate attention towards the fact that the problem of SPL management is not limited to Vedanta but is a major global issue of the Aluminum industry. Invariably most of the National & International companies opt for landfill or indefinite storage options for SPL Refractory. All companies are in the process of evaluating different options to manage SPL Refractory in a sustainable manner. Further, there is no Standard Operating Procedure (SOP) developed for SPL refractory portion by CPCB till date. We have stored the SPL refractory portion on concrete platform under covered shed within our premises till the time SOP is developed by CPCB. Once the SOP is established, we will liquidate the entire stock of SPL refractory. In addition to the above barriers, we have explored the utilization of SPL refractory mixed fines for co-processing in cement industries like Dalmia Cement, Ambuja Cement. Our initiative of successful management of SPL refractory in cement kiln is unique and stands out as most successful amongst other Aluminium industries of India and also among many countries. MOU copy enclosed Annexure.22. Complied Attachment: Click to View
9	AIR QUALITY MONITORING AND PRESERVATION	PM levels shall be less than 30 mg/Nm3 for all units under expansion. In case of older units, PP shall initiate retrofitting/modification action to achieve the PM emission level of 30 mg/Nm3 by October, 2024.	PPs Submission	Air pollution control devices like hybrid ESPs, bag filters of high efficiency have been installed across the Jharsuguda complex to maintain the PM levels as prescribed by the authority. Reports are enclosed as Annexure-5. Complied Attachment: Click to View

10	WASTE MANAGEMENT	Wastes shall be sent to RAMKY TSDF located at Sukinda. Further, waste disposed in this SLF shall be evacuated and disposed to authorized agency for detoxification as committed by PP.	PPs Submission	Hazardous wastes such as Shot Blast Dust, Drain Cleaning Sludge, House Keeping waste, ETP Sludge etc. are being sent to RAMKY (renamed as Re-Sustainability) TSDF. SPL disposed in the SLF has been evacuated and disposed to authorized agency for detoxification. We are not disposing hazardous waste in the captive SLF and details are monthly submitted to OSPCB office for the same. Letter submitted to OSPCB for the month of Sep'23 enclosed as Annexure-6. Complied Attachment: Click to View
11	WATER QUALITY MONITORING AND PRESERVATION	PP shall use Roof Top Rainwater Harvesting systems with a total capacity of around 10000 m3 of rainwater and re-use the water in the plant.	PPs Submission	We have installed 7 nos. of roof top rainwater harvesting systems facilities with a total capacity of more than 10000 m3 of rainwater for reusing the same in gardening. Moreover, we have completed cleaning and restoration of more than 40 community ponds thereby augmenting the capacity for rainwater harvesting in the surrounding villages. Relevant photos are enclosed as Annexure-7. Complied Attachment: Click to View
12	Corporate Environmental Responsibility	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.	PPs Submission	The recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector is being implemented at site. Status of CREP compliance is enclosed as Annexure-8. Complied Attachment: Click to View
13	WASTE MANAGEMENT	PP shall utilize 100% ash as per Fly Ash Notification 2021 and its subsequent amendments. Further, legacy ash shall be utilized	PPs Submission	As per MOEF&CC Fly ash amendment notification dated 30th December 2022, we have declared our all ash ponds & dykes are operational in nature. The communication letter sent to the OSPCB & CPCB office vide letter no VL/AU/22-23/117/OPCB dated 30th March 2023. A copy of the same is enclosed as Annexure-9 As per Fly ash notification 2021, more than 106 % ash utilized in FY 2023.

		completely by 31/05/2027 as committed by PP.		<p>From April 23 to Sep 23, we have utilized 78.48 % (lower utilization due to extended monsoon) and monthly fly ash utilization report has been uploaded in CPCB portal. Moreover, continuous efforts have been made to utilize fly ash in different sustainable avenues as per enclosed plan for 100% Fly ash utilization/disposal. Copy of plan is enclosed as Annexure-9.</p> <p>Complied</p> <p>Attachment: Click to View</p>
14	AIR QUALITY MONITORING AND PRESERVATION	Dust Suppression measures such as water sprinkling through mobile tankers is being carried out especially during the dry season. Ash laden trucks are covered with tarpaulin to avoid spillage.	PPs Submission	<p>Water sprinkling is being done for dust suppression through mobile tankers on regular basis and mobile mist canon has also been deployed to arrest fugitive emissions. Tarpaulin covering is being ensured for ash trucks. Photos of the same are enclosed as Annexure 10.</p> <p>Complied</p> <p>Attachment: Click to View</p>
15	Statutory compliance	Regular monitoring of Air, Water & Soil quality shall be carried out in the Ash Pond area.	PPs Submission	<p>The monitoring of Air, water and soil quality is being carried out regularly in the Ash Pond Areas. Analysis report of the same is enclosed as Annexure 2 for your ready reference.</p> <p>Complied</p> <p>Attachment: Click to View</p>
16	Statutory compliance	Performance monitoring of pollution control equipment shall be taken up yearly and compliance status in this regard shall be reported to RO.	PPs Submission	<p>Performance monitoring of pollution control equipment has been completed and report submitted to Board vide letter no. VL/OPCB/002/2023-049 dated 28th Feb 2023 and to RO, MOEF office vide letter no. VL/MOEF/006/2023-016 dated 19th Oct'23. Performance Evaluation report enclosed as Annexure-11.</p> <p>Complied</p> <p>Attachment: Click to View</p>

17	Statutory compliance	The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.	PPs Submission	<p>The Principal Chief Conservator of Forests, (Wildlife) and Chief Wildlife Warden, Odisha has approved the site-specific wildlife conservation plan on 30.04.2021 with a financial forecast of Rs. 610.894 lakhs to be spent for implementation by the Forest Department (Both Jharsuguda and Sambalpur Forest Division) for this plan. Accordingly, as per the demand raised by the Divisional Forest Officer, Jharsuguda, an amount of Rs. 530.904 lakhs have been deposited on 17.05.2021 towards implementation of the above-mentioned plan over a period of 10 years. The plan is under implementation by Forest Department. Moreover, the recommendations given in the wildlife management plan to be executed by Vedanta Ltd, have been completed except compliance of condition for providing the software for WL-Anukampa and its maintenance. We are continuously taking follow-up with the DFO office for the implementation status and way forward to comply the WL-Anukampa and its maintenance condition. Copy of the latest communication & implementation status are enclosed as Annexure 12.</p> <p>Complied</p> <p>Attachment: Click to View</p>
18	AIR QUALITY MONITORING AND PRESERVATION	The area of sampling and analysis of fluoride in soil and forage should extend up to 10 kilometres radius of plant premises covering upwind and downwind directions. Further, fluoride sampling and analysis should be taken quarterly at the nearest irrigated lands growing crops, vegetables, and other products of human consumption.	PPs Submission	<p>Monthly sampling and analysis of fluoride in soil and forage has been extended up to 10 Kilometres radius covering upwind and downwind directions. Reports are regularly being submitted to the statutory bodies. Analysis report of the same is enclosed as Annexure-2.</p> <p>Complied</p> <p>Attachment: Click to View</p>

19	AIR QUALITY MONITORING AND PRESERVATION	The major emissions are from the pot room roof. The sampling frequency should be increased, and sampling is done at multiple locations. The laser-based advance technology shall be adopted to continuously monitor gaseous fluoride emissions from pot rooms on real time basis by March, 2023.	PPs Submission	Laser Based continuous online monitoring system has been installed and commissioned at all the potrooms to monitor gaseous fluoride emissions and the same is also connected to OSPCB server. Details of the same is enclosed as Annexure 13 for your reference. Moreover, fugitive fluoride emissions in the potroom are being monitored regularly through MOEF&CC & NABL accredited lab. Analysis report enclosed as Annexure 2. Complied Attachment: Click to View
20	AIR QUALITY MONITORING AND PRESERVATION	Wheel Washing mechanism shall be provided in entry and exit gates with complete water recirculation system.	PPs Submission	Wheel washing system has been provided at the main entry and exit gate with water recirculation system. Refer photos as Annexure 14. Complied Attachment: Click to View
21	AIR QUALITY MONITORING AND PRESERVATION	Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.	PPs Submission	Greening and Paving has been implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface. Complied Attachment: NA
22	MISCELLANEOUS	Design the pot roofs with louvers and roof ventilators	PPs Submission	Louvers with roof ventilators have been provided in the potrooms. Complied Attachment: NA

General Conditions

Sr.No.	Condition Heading	Condition Details	Status of Compliance,Remarks/Reason and Supporting Documents	
1	Statutory compliance	The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	PPs Submission	Noted. Complied Attachment: NA
2	AIR QUALITY MONITORING AND PRESERVATION	The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	PPs Submission	All the process stacks have been equipped with Continuous Emission Monitoring System (CEMS). Four (4 no.s) of Continuous Ambient Air Quality Monitoring Station has been installed as per the guidelines. All the CEMS and CAAQMS are connected to SPCB and CPCB online servers and are being calibrated from time to time. Complied Attachment: NA
3	AIR QUALITY MONITORING AND	The project proponent shall monitor fugitive emissions in the	PPs Submission	The source of Fugitive emission in Aluminium industries is from potroom and we are regularly monitoring the same.

	PRESERVATION	plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.		<p>Fugitive Fluoride emissions in the plant are being monitored regularly through MOEF&CC & NABL accredited lab. Monitoring report attached as Annexure-2. Moreover, laser-based fluoride monitoring system have been installed in pot room for monitoring of fugitive fluoride and online data transmitted on OSPCB server. Ambient air quality monitoring is regularly carried out in the Jharsuguda complex, wherein all prescribed parameters are regularly being monitored and reports submitted to your good office on six monthly basis and monthly basis to OSPCB.</p> <p>Complied</p> <p>Attachment: Click to View</p>
4	AIR QUALITY MONITORING AND PRESERVATION	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	PPs Submission	<p>Leakage Detection and Mechanized bag cleaning facilities have been provided for maintenance of bags.</p> <p>Complied</p> <p>Attachment: NA</p>
5	AIR QUALITY MONITORING AND PRESERVATION	The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash.	PPs Submission	<p>Coal, other raw material and fly ash are being transported and conveyed in covered trucks and railway rakes. Closed Bulkers are used for the Fly ash transportation, which are directly filled pneumatically from Silos and disposed in the nearby Cement Industries. The Conditioned fly ash which is being transported in covered trucks are used in nearby Brick manufacturing industries, NHAI Road construction and other sustainable avenues. Further, fly ash is being dispatched through tarpaulin covered Railway wagons to the outside state cement plants for sustainable use. Photos of the same are enclosed as Annexure 15.</p> <p>Complied</p> <p>Attachment: Click to View</p>
6	AIR QUALITY MONITORING AND	The project proponent shall provide wind shelter fence and	PPs Submission	<p>The raw material of aluminium industries is alumina, which comes through BTAP (Bogie Tank wagon for Alumina Powder)</p>

	PRESERVATION	chemical spraying on the raw material stockpiles.		<p>rakes and stored pneumatically in the Alumina Silos. The other raw material like coal is also transported in a controlled manner. Moreover, Fixed type mist cannons/sprinklers have been provided at Coal handling plant to arrest the emissions and truck mounted mist cannons/water tankers, wheel wash system provided in plant premises. Concreate Boundary wall with additional mitigative measures have also been provided in Coal storage area. Efforts have also been made to attenuate emissions through Green belt, which has been developed all along the plant premises. Relevant Photos are enclosed as Annexure 16.</p> <p>Complied</p> <p>Attachment: Click to View</p>
7	AIR QUALITY MONITORING AND PRESERVATION	Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.	PPs Submission	<p>We have Aluminium Smelter and Power Plant. We do not have cement bagging plants, however the plant has been designed with proper ventilation systems.</p> <p>Complied</p> <p>Attachment: NA</p>
8	AIR QUALITY MONITORING AND PRESERVATION	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	PPs Submission	<p>We have provided dedicated Mechanical Road sweeping machines (7 Nos Large and 16 Nos Small) for housekeeping of the complete plant premises.</p> <p>Complied</p> <p>Attachment: NA</p>
9	AIR QUALITY MONITORING AND PRESERVATION	Adopt measures to recover fluoride gas from electrolytic cells and recycle the same in the process.	PPs Submission	<p>Fluoride gas from electrolytic cells are being captured through Fume Treatment Plants installed in Smelter Plants and recycled back into the system.</p> <p>Complied</p> <p>Attachment: NA</p>

10	AIR QUALITY MONITORING AND PRESERVATION	Practice use of low-Sulphur tars for baking anodes.	PPs Submission	Low Sulphur tar is being used for making anodes. Low Sulphur tar is being used for making anodes. We are procuring low Sulphur Coal Tar Pitch (CT Pitch) from renowned industries and maintaining, the Sulphur less than 1%. Sulphur analysis report of Coal tar pitch is enclosed as Annexure 17. Complied Attachment: Click to View
11	AIR QUALITY MONITORING AND PRESERVATION	Make efforts to increase the life of pot lining through better construction and operating techniques.	PPs Submission	Efforts are being taken to increase the pot life with better operational practices & installation of graphitized cathode. Complied Attachment: NA
12	WATER QUALITY MONITORING AND PRESERVATION	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 742 (E) dated 30th August 1990 and further amended vide G.S.R 46 (E) dated 3rd February 2006 (Aluminium); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.	PPs Submission	Continuous Effluent monitoring systems have already been provided and Real time data is being transmitted to CPCB and OSPCB servers. Complied Attachment: NA

13	WATER QUALITY MONITORING AND PRESERVATION	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	PPs Submission	Sewage Treatment Plants are in place or the treatment of domestic wastewater. Analysis report of all Sewage treatment plant is enclosed as Annexure 2. Complied Attachment: Click to View
14	WATER QUALITY MONITORING AND PRESERVATION	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.	PPs Submission	Regular ground water monitoring is being carried out in the plant and adjacent areas through NABL Accredited/MOEF approved laboratory and the data is being submitted to OSPCB and Regional Office of the Ministry. Ground water analysis report is enclosed as Annexure 2. Complied Attachment: Click to View
15	WATER QUALITY MONITORING AND PRESERVATION	Garland drains and collection pits shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.	PPs Submission	Garland drains along with settling ponds have been provided in Coal Storage area and Ash Pond areas. Relevant Photos are enclosed as Annexure 18. Complied Attachment: Click to View
16	WATER QUALITY MONITORING AND PRESERVATION	Water meters shall be provided at the inlet to all unit processes in the cement plant.	PPs Submission	Water meters has been provided at the inlet of the unit processes. Complied Attachment: NA

17	WATER QUALITY MONITORING AND PRESERVATION	The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.	PPs Submission	The water consumption of the Smelter and power plants are being monitored on a regular basis and treated water is being recycled back into the system. Specific Water consumption report enclosed as Annexure 19. Complied Attachment: Click to View
18	Noise Monitoring & Prevention	Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	PPs Submission	The overall noise levels are being maintained below the stipulated standards as per EPA Rules, 1989. The ambient noise levels monitored are observed within 61.9 dB(A) to 74.8 dB(A) during day time and 56.60 dB(A) to 69.50 dB(A) in night time. Monitoring report is enclosed as Annexure 2 for the period of Apr'23 to Sep'23. Complied Attachment: Click to View
19	ENERGY PRESERVATION MEASURES	The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases.	PPs Submission	Waste Heat recovery systems such as rotary APH (air preheater) for flue gas heat recovery already incorporated in Captive Power Plant. Complied Attachment: NA
20	ENERGY PRESERVATION MEASURES	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, streetlights, parking around project area and maintain the same regularly.	PPs Submission	One Rooftop Solar project of 10 KWH implemented in plant premises. Vedanta Aluminium is the first in India to offer low carbon, 'green' aluminium, branded Restora and Restora Ultra, for its global customer base, many of whom are focused on ensuring the sustainable provenance of their materials. Notably, the company was also India's largest industrial consumer of renewable energy in FY22, having procured nearly 3 billion units and in FY 23, Vedanta Jharsuguda procured 750 million units of Renewable power. This Renewable Power is being used in plant premises for green product manufacturing and for all common areas.

				<p>Moreover, as a responsible corporate and to enhance green energy utilization in communities? areas, we have distributed more than 200 solar streetlights. Relevant Photos are enclosed as Annexure 20.</p> <p>Complied</p> <p>Attachment: Click to View</p>
21	ENERGY PRESERVATION MEASURES	Provide LED lights in their offices and residential areas.	PPs Submission	<p>LED lights have been provided in the offices as well as residential areas. Refer photos as Annexure-21.</p> <p>Complied</p> <p>Attachment: Click to View</p>
22	WASTE MANAGEMENT	Used refractories shall be recycled.	PPs Submission	<p>At the outset, we would like to bring your kind attention towards the fact that the problem of SPL management is not limited to Vedanta but is a major global issue of the Aluminium industry. Invariably most of the National & International companies opt to landfill or indefinite storage options for SPL Refractory. All companies are in the process of evaluating different options to manage SPL Refractory in a sustainable manner. Further, there is no Standard Operating Procedure (SOP) developed for SPL refractory portion by CPCB till date. We have stored the SPL refractory portion on concrete platform under covered shed within our premises till the time SOP is developed by CPCB. Once the SOP is established, we will liquidate the entire stock of SPL refractory. In addition to the above barriers, we have explored the utilization of SPL refractory mixed fines for co-processing in cement industries like Dalmia Cement, Ambuja Cement. Our initiative of successful management of SPL refractory in cement kiln is unique and stands out as most successful amongst other Aluminium industries of India and also among many countries. MOU and LOI copy enclosed as Annexure 22.</p> <p>Complied</p> <p>Attachment: Click to View</p>

23	WASTE MANAGEMENT	Oily scum and metallic sludge recovered from ETP shall be mixed, dried, and briquetted and reused.	PPs Submission	As per the Hazardous Waste Management Handling Rules 2016, ETP sludge of Aluminium Smelter comes under hazardous Waste category Schedule I, 35.3 and the same is being disposed off to OSPCB approved CHWTSDf. Complied Attachment: NA
24	GREENBELT	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the Programme for reduction of the same including carbon sequestration including plantation.	PPs Submission	GHG emissions have been monitored regularly and the data has been published in the Sustainability Report/TCFD report of the company. You may please refer the given link of our company website for further detail. https://vedantaaluminium.com/sustainability/sustainability-report/ Complied Attachment: NA
25	GREENBELT	Project proponent shall submit a study report on De-carbonization program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitor able with defined time frames.	PPs Submission	We have engaged a recognized consultant to carry out de-carbonization program study. Draft report finalization is in progress and will be submitted to your good office. Moreover, GHG emissions have been monitored regularly and the data has been published in the Sustainability Report/TCFD report of the company. You may please refer the given link of our company website for further detail. https://vedantaaluminium.com/sustainability/sustainability-report/ Complied Attachment: NA

26	PUBLIC HEARING	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	PPs Submission	Emergency Preparedness Plan based on the HIRA is being implemented at site. Mock Drills are being conducted on regular basis. Copy of Submission letter enclosed as Annexure 23. Complied Attachment: Click to View
27	PUBLIC HEARING	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.	PPs Submission	Heat stress analysis of workmen of high temperature work zone is being carried out and PPEs like high temperature resistant suits are being provided as per the norms of Factory Act. Heat stress analysis report as Annexure ? 24. Complied Attachment: Click to View
28	PUBLIC HEARING	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	PPs Submission	Occupational Health Surveillance of the workers is being done on a regular basis and records are being maintained. Samples report are enclosed as Annexure 25. Complied Attachment: Click to View
29	Corporate Environmental Responsibility	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.	PPs Submission	At Vedanta we are committed to transforming the lives of the communities in our areas of operations and beyond. We look at our role as making the local people participants in the growth process of the organization while we work as facilitators of socio-economic transformation in rural India. Our social development initiatives are structured along the dimensions of Sustainable Livelihood, Women's Empowerment, Quality Education, Health, Water & Sanitation, Community Infrastructure, Agriculture, and Sports & Culture. We strive to identify the needs of communities, plan projects and facilitate their execution, working in close partnership with the government, local administrations, NGOs and implementing agencies, as well as the communities

				<p>themselves. In Vedanta Jharsuguda, we are covering 79 villages in core, periphery and outer periphery area based on socio-economic survey carried out through renowned third party. Details of CSR activities are enclosed as Annexure 26.</p> <p>Complied</p> <p>Attachment: Click to View</p>
30	Statutory compliance	<p>The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and /or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.</p>	<p>PPs Submission</p>	<p>The company has a well-defined Environment policy duly approved by Group C.E.O and Board of Directors. Environment Policy is enclosed as Annexure 27 and also we have following environment compliance procedures: ? Comprehensive compliance checklist in place for every unit wherein all the applicable laws and regulations are mapped. ? Automated compliance monitoring system in place developed by third party covering over 200 Acts & Rules for every unit. ? Timely updation & regular review of the compliance checklist from time to time.</p> <p>Complied</p> <p>Attachment: Click to View</p>
			<p>PPs Submission</p>	<p>The company has a well-defined Environment policy duly approved by Group C.E.O and Board of Directors. Environment Policy is enclosed as Annexure 27 and also we have following environment compliance procedures: ? Comprehensive compliance checklist in place for every unit wherein all the applicable laws and regulations are mapped. ? Automated compliance monitoring system in place developed by third party covering over 200 Acts & Rules for every unit.</p> <p>Complied</p> <p>Attachment: Click to View</p>
31	MISCELLANEOUS	<p>A separate Environmental Cell both at the project and company head quarter level, with qualified</p>	<p>PPs Submission</p>	<p>Separate Environmental Cell is in place with required qualified personnel and Head of Environment is reporting directly to the Unit Head (CEO). Organogram Enclosed as Annexure 28.</p>

		personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.		Complied Attachment: Click to View
32	MISCELLANEOUS	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	PPs Submission	The grant of Environment Clearance of the expansion project was published in two widely circulated newspaper. 1. The Samaja - 11th May 2022 (Odia) 2. Orissa Post - 11th May 2022 (English) Details of the advertisement published in the newspaper are enclosed as Annexure 29. Complied Attachment: Click to View
33	MISCELLANEOUS	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	PPs Submission	The copies of the environmental clearance have been submitted to the Heads of local bodies, Panchayats, Municipal Bodies and relevant Govt. Offices vide Letter No. VL/PH/007/2022-001 dated 14.05.2022. Copy of the letter enclosed as Annexure 30. Complied Attachment: Click to View
34	MISCELLANEOUS	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	PPs Submission	We are uploading half yearly compliance report along with monitoring data and supporting annexures on our website link of the same is as below. Link: https://vedantaaluminium.com/sustainability/compliance-report-jharsuguda/ Complied Attachment: NA

35	MISCELLANEOUS	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	PPs Submission	We are regularly monitoring all the prescribed parameters in stack and ambient stations. Data of the same is being displayed at main gate and company's website also for public view. Link: https://vedantaaluminium.com/sustainability/compliance-report-jharsuguda/ Photo of main gate display board enclosed as Annexure 31. Complied Attachment: Click to View
36	MISCELLANEOUS	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	PPs Submission	We are uploading half yearly compliance report along with monitoring data and supporting annexures on our website link of the same is as below. And the same is also being uploaded at MOEF Parivesh portal. Link: https://vedantaaluminium.com/sustainability/compliance-report-jharsuguda/ Complied Attachment: NA
37	MISCELLANEOUS	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	PPs Submission	The environment statement has been submitted to OSPCB on 28.09.2023 and uploaded on company's website. Copy of the environment statement is enclosed as Annexure 32. Link: https://vedantaaluminium.com/sustainability/compliance-report-jharsuguda/ Complied Attachment: Click to View
38	MISCELLANEOUS	The project proponent 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, commencing the land	PPs Submission	The expansion project of Aluminum Smelters from 16 LTPA to 18 LTPA was approved by MOEF&CC vide EC letter no J-11011/29/2007-IA-II (I) dated 05.05.2022 and OSPCB Consent to Establish (CTE) vide letter no 11767/IND-II-CTE-6607 dated 06.07.2022 and OSPCB Consent to Operate (CTO) vide letter no 19245/IND-I-CON-6079 dated 15.10.2022.

		development work and start of production operation by the project.		Complied Attachment: NA
39	MISCELLANEOUS	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	PPs Submission	Implementation status Commitment and recommendation made during public hearing is enclosed as Annexure 33. Complied Attachment: Click to View
			PPs Submission	Implementation status Commitment and recommendation made during public hearing is enclosed as Annexure 33. Complied Attachment: Click to View
40	MISCELLANEOUS	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	PPs Submission	Noted. Complied Attachment: NA
41	MISCELLANEOUS	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	PPs Submission	Noted. Complied Attachment: NA
42	MISCELLANEOUS	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	PPs Submission	Noted. Complied Attachment: NA

43	MISCELLANEOUS	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	PPs Submission	Noted. Complied Attachment: NA
44	MISCELLANEOUS	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.	PPs Submission	Noted. Full cooperation will be extended to the Regional Office by furnishing with the requisite data/information/monitoring reports from time to time. Complied Attachment: NA
45	MISCELLANEOUS	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	PPs Submission	Noted. Complied Attachment: NA

Document Upload

**Last Site Visit Report
(if available)** NA

**Last Site Visit Report
Date (if available)** 11-09-2023

**Additional
Attachment (if any)** NA

**Additional Remarks
(if any)** IRO ,Bhubaneswar visited our plant on 11.09.2023.

- ☒ I '[Vedanta Limited, Aluminium and Power](#)' hereby give undertaking that the data and information given in the filed compliance and enclosures are true to be best of my knowledge and belief and I am aware that if any part of the data and information found to be false or misleading at any stage, the clearance given to the project will be revoked at our risk and cost. In addition to above, I hereby give undertaking that no activity such as change in project layout, construction, expansion, etc. has been taken up without due approval.

Cover Letter From IRO

Cover Letter From IRO	NA
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Back