

**F. No. J-11011/753/2007-IA.II(I)**  
Government of India  
Ministry of Environment, Forest and Climate Change  
(Impact Assessment Division)

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Dated: 25<sup>th</sup> June, 2018

To,

**Unit Head & President,  
M/s Utkal Alumina International Limited,  
J-6, JaidevVihar,  
Bhubenshwar – 751013,  
Odisha  
e-mail: n.nagesh@adityabirla.com**

**Subject: Proposed enhancement of production capacity of Alumina Refinery (1.5 MTPA to 3.0 MTPA) along with Cogeneration Power Plant (90 MW to 150 MW) by M/s Utkal Alumina International Limited at village Doraguda, Tehsil Kashipur, District Rayagada, Odisha – Environmental Clearance - Regarding.**

Sir,

This has reference to your online application vide proposal no. IA/OR/IND/64028/2017 dated 15<sup>th</sup> January 2018 along with the copies of EIA/EMP seeking Environmental Clearance under the provisions of the EIA Notification, 2006, your letter dated 24<sup>th</sup> November, 2017, 21<sup>st</sup> February 2018, 9<sup>th</sup> March 2018, 10<sup>th</sup> April, 2018 and 16<sup>th</sup> April, 2018 for the above mentioned proposed project. The proposed project activity is listed at S. No. 3(a) Metallurgical industries (ferrous & non-ferrous) under Category "A" of EIA Notification, 2006 and the proposal is appraised at Central level.

**Details of the project as per the submissions of the project proponent:**

2.0 The application for EC of M/s Utkal Alumina International Ltd. located in Village - Doraguda, Tehsil - Kashipur, District - Rayagada, State - Odisha was initially received in the Ministry on 20.04.2017 for obtaining Terms of Reference (ToR) as per EIA Notification, 2006. The project was appraised by the Expert Appraisal Committee (Industry) [EAC(I)] during its 18<sup>th</sup> meeting held on 3<sup>rd</sup> to 5<sup>th</sup> May, 2017 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the Ministry of Environment, Forest and Climate Change had prescribed ToRs to the project on 22.05.2017 vide Lr. No. F. No. J-11011/753/2007-IA-II(I).

3.0 The project of M/s Utkal Alumina International Ltd. located in Village - Doraguda, Tehsil - Kashipur, District - Rayagada, State - Odisha is for enhancement of production capacity of Alumina Refinery (from 1.5 to 3.0 MTPA) along with Cogeneration Power Plant (from 90 to 150 MW). The existing project was accorded environmental clearance vide letter

*EC for the proposed enhancement of production capacity of Alumina Refinery (1.5 MTPA to 3.0 MTPA) along with Cogeneration Power Plant (90 MW to 150 MW) by M/s Utkal Alumina International Limited at village Doraguda, Tehsil Kashipur, District Rayagada, Odisha*

no. F. No. J-11011/753/2007-IA-II(I), dated 29.01.2008. The Status of compliance of earlier EC was obtained from Regional Office, Bhubaneswar vide letter no. 101-375/EPE dated 25.10.2017 and letter. no. 101-375/EPE/134, dated 15.01.2018 and 1<sup>st</sup> March 2018. The proposed capacity for different products for new site area as below:

Particulars	Existing Configuration	Post Expansion Final Configuration
Alumina Refinery (Calcined Alumina)	Line-I: 0.75 MTPA	Line-I: 1.0 MTPA
	Line-II: 0.75 MTPA	Line-II: 1.0 MTPA
		Line-III: 1.0 MTPA
Co-generation Power Plant	90 MW [3x30 MW]	150 MW [5 x 30MW]

4.0 The total land required for the project is 1069.51 ha, out of which 0 ha is an agricultural land, 800.784 ha is grazing land and 164.391 ha is others (164.391 ha Government Land). 104.335 ha of forest land is involved. The entire land has been acquired for the project. The Barha River passes through the project area. It has been reported that no water body/ water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.

5.0 The topography of the area is undulated and reported to lies between 19° 10' 31.5408" to 19° 12' 8.532" N Latitude and 83° 01' 19.65" to 83° 01' 57.1764" E Longitude in Survey of India topo sheet No. E44 F/4 at an elevation of 800m to 823m AMSL. The ground water table reported to ranges between 1.14 mbgl to 11.62 mbgl below the land surface during the post-monsoon season and 5.05 mbgl to 10.99 mbgl below the land surface during the pre-monsoon season. There will be no drawl of ground water.

6.0 No National Park/Wildlife Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve etc. are reported to be located in the core and buffer zone of the project. The area also does not report to form corridor for Schedule-I fauna. The approval w.r.t. the "Site Specific Conservation Plan & Wildlife Management Plan" is given at Annexure – 3.1 in EIA/EMP Report.

7.0 The Bayer's process for extraction of Alumina using the basic raw material (Bauxite, Caustic Soda, Lime, Furnace Oil and Coal) and the various processes involved (Bauxite crushing, Grinding, Predesilication, Digestion, Clarification, Mud washing, Security filtration, Hydrate classification, Seed filtration, Precipitation, Hydrate washing and Calcination to produce the Calcined alumina. Waste generated in Bayer's process is Red Mud, Lime Grit (From lime slaking) and Fly ash from the captive power plant.

8.0 The targeted production capacity of the Alumina refinery is 3.0 million TPA of Calcined Alumina. The ore for the plant would be procured from Captive Bauxite Mine (Baphlimali Bauxite Mine). The ore transportation will be done through Long Distance Conveyor.

9.0 The water requirement of the project is estimated as 20,000 m<sup>3</sup>/day, out of which 19,800 m<sup>3</sup>/day of fresh water requirement will be obtained from the San River. The permission for drawl of surface water is obtained from Department of Water Resources, Govt. of Odisha vide Lr. No. 3326/WR.,Irr-II-WRC-154/2009, dated 11.02.2010.

10.0 The power requirement of the project is estimated as 150 MW, which will be obtained from the Co-generation Power Plant.

11.0 Baseline Environmental Studies were conducted during Pre-Monsoon season i.e. from March to May, 2017 Ambient air quality monitoring has been carried out at 11 locations  
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during 01.03.2017 to 31.05.2017 and the data submitted indicated: PM<sub>10</sub> (42.1 to 73.2 µg/m<sup>3</sup>), PM<sub>2.5</sub> (21.7 to 40.7 µg/m<sup>3</sup>), SO<sub>2</sub> (11.5 to 24.6 µg/m<sup>3</sup>) and NO<sub>x</sub> (11.6 to 25.2 µg/m<sup>3</sup>). The results of the modeling study indicates that the maximum increase of GLC for the proposed project is 0.3075 µg/m<sup>3</sup> (0.11394 µg/m<sup>3</sup> w.r.t. Point Source Emission and 0.19356 µg/m<sup>3</sup> w.r.t. Line Source Emission) µg/m<sup>3</sup> with respect to the PM<sub>10</sub>; 0.82689 µg/m<sup>3</sup> (0.63333 µg/m<sup>3</sup> w.r.t. Point Source Emission and 0.19356 µg/m<sup>3</sup> w.r.t. Line Source Emission) with respect to the SO<sub>2</sub>; 0.82689 µg/m<sup>3</sup> (0.63333 µg/m<sup>3</sup> w.r.t. Point Source Emission and 0.19356 µg/m<sup>3</sup> w.r.t. Line Source Emission) µg/m<sup>3</sup> with respect to the NO<sub>x</sub>.

12.0 Ground water quality has been monitored in 8 locations in the study area and analysed. pH: 6.5 to 7.5, Total Hardness: <0.05 to 172 mg/l, Chlorides: 7.6 to 95 mg/l, Fluoride: 0.06 to 0.65 mg/l. Heavy metals are within the limits. Surface water samples were analysed from 10 locations. pH: 6.5 to 8.0; DO: 6.6 to 7.4 mg/l and BOD: 4.0 to 14.0 mg/l. COD from 19 to 81 mg/l.

13.0 Noise levels are in the range of 45.9 to 67.1 dB(A) for daytime and 40.0 to 61.8 dB(A) for night time.

14.0 It has been reported that there are no people in the core zone of the project. No/ R&R is involved. It has been envisaged that no families to be rehabilitated, which will be provided compensation and preference in the employment.

15.0 It has been reported that a total of 40,80,000 tons/m<sup>3</sup> of waste will be generated due to the project and same will be dumped in the earmarked dump yard. It has been envisaged that an area of 353 ha will be developed as green belt around the project site to attenuate the noise levels and trap the dust generated due to the project development activities.

16.0 It has been reported that the Consent to Operate from the Odisha State Pollution Control Board obtained vide Lr. No 5057/IND-I-CON-6101 dated 22.03.2016 and consent is valid up to 31.03.2021.

17.0 The Public hearing of the project was held on 15.11.2017 at village Baghrijholla, Tahsil- Kashipur in Rayagada district under the chairmanship of Project Director, DRDA, Rayagada for production of Alumina Refinery from 1.5 to 3.0 MTPA and CPP from 90 to 150 MW. The issues raised during public hearing inter alia, include Barrier around Red Mud Pond & Ash Pond for protection of human & animals; Prevention of Dust pollution caused by the industry; River water Pollution in Bada Nadi due to discharge from plant; Plantation over surrounding bare hills; employment and development of social infrastructure; etc.

18.0 An amount of Rs. 135.8 Crores (2.5% of Project cost of Rs. 5432.00 Crore) has been earmarked for Enterprise Social Commitment based on public hearing issues. The details of ESC proposed are as follows:

Sl. No	Enterprise Social Commitment Activities	Year 1 (FY18)	Year 2 (FY19)	Year 3 (FY20)	Year 4 (FY21)	Year 5 (FY22)	Year 6 (FY23)	Total
1	Education	8	705	550	298	100	75	1736
2	Health & Hygiene	500	114	20	146	183	355	1318
3	Village	86	399	296	571	682	800	2834

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	Infrastructure							
4	Skill development	0	300	190	530	485	0	1505
5	Livelihood & Entrepreneurship	0	90	0	2390	2090	1640	6210
	Total	594	1608	1056	3935	3540	2870	13603

All figures above are in Rs Lakhs

### DETAILED ENTERPRISE SOCIAL COMMITMENT (ESC)

Sl	Project	Village	Type of intervention	Budget (in lakhs)						Total
				FY18	FY19	FY20	FY21	FY22	FY23	
1	Construction of School building upto +2 Science.	Oshapada			700	540	220	20	20	1500
2	Infrastructure for Govt. Schools in the periphery	Upper Kampore	School boundary wall, Bore well with OHT, Providing Equipments	2			7	3	8	20
		Khotlapadar	School boundary wall, Providing Equipments				6	3	2	11
		Gokulmun da	School boundary wall, Providing Equipments	2				5	3	8
		Kucheipadar	School Painting, Playground development, Kitchen building, Providing equipments, solar lighting system	2	3	3	35	2	6	51
		G.Koral	Bore well with OHT, Boundary wall, Electricity, Providing equipments			2	6	3	4	15
		Kapuguda	School boundary wall					5	3	8
		Thutiber	Toilets & Hand basins, Providing equipments	2	2		3	6	4	17
		Oshapada	Rising height of School boundary wall, Providing equipments				2	4	2	8
		Tikiri	Protection wall in Girls High School						6	6
		Bilamal	School boundary wall, Providing equipments	2			2	5	3	12
	Makapadar	School boundary wall, Playground,			3	5	3	8	19	

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			Providing Equipments							
		Ratachuan	School boundary wall, Providing Equipments				2	7	2	11
		Jogiparitunda	School boundary wall, Providing Equipments				5	2	2	7
		Dangasil	Solar lighting system					30		
		Dwimundi	School building, Providing equipments, School boundary wall				5	4	2	13
Sub Total				8	5	10	78	80	55	236
3.	Construction of Hospital Building at Ushapada			100						100
4	Hospital equipment's and assets for Utkal Hospital			350			30	30		440
5	Provision of 4 ambulances									
		Tikiri			10					10
		Dongasil				10				10
		Kucheipadar				10				10
		Chandragiri			10					10
Sub					20	20				40
Total					20	20				40
6	Drinking water facility in the peripheral villages									
		Semiliguda	HandpumpTubewell, OHT with borewell	2.5					45	47.5
		Tikiri	HandpumpTubewell, OHT with borewell	2.5			3		100	105.5
		Ghuguput	HandpumpTubewell				3	4		7
		Lacchuguda	OHT with borewell				40	3		43
		Bhitarmuskuni	OHT with borewell		17		2			19
		Doraguda	OHT with borewell			22		3		25
		Kucheipadar	OHT with borewell			7	40	7		54
		Gokulmun da	OHT with borewell			30				30
		Makapadar	OHT with borewell					35		35
		Ratachuan	OHT with borewell					30		30
		RR Colony I	OHT with borewell	45	40					85
		Dudighat	SwajalDhara,		7				9	16

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			Dugwells								
		Karli	SwajalDhara						15	15	
		Badlijhara n	SwajalDhara, Tubewell			9		3	12		
		Ghatiguda	SwajalDhara			12		2	14		
		Dwimundi	SwajalDhara			6		4	10		
		D.Koral	OHT with bore well					100	100		
Sub Total				50	64	0	86	153	295	648	
7	Community Toilet to facilitate SwachataAbhiyan at Nuapada, Tikiri and Kashipur	Nuapada			30					30	
		Tikliri					30			30	
		Kashipur							30	30	
Sub Total					30	0	30	0	30	90	
8	Creation of irrigation infrastructure in the peripheral villages		Check dam/ Irrigation Channel/ DBI etc.								
		Dwimundi	Water Harvesting Structure, Irrigation Channel		8	9	6	6	5	34	
		Bilamal	Dam, Irrigation Channel		9	7	5		4	25	
		Kodipari	Dam, Irrigation Channel		6	12	4	8	10	40	
		Gulmijhola	Dam, Irrigation Channel		10		6		4	20	
		Tharli	Water Harvesting Structure, Irrigation Channel	4		5	3		4	16	
		Lundrukona	Dam, Irrigation Channel		7				5	12	
		G.Koral	Water Harvesting Structure, Irrigation Channel		4	4			6	14	
		Makapadar	Water Harvesting Structure, Irrigation Channel			9			7	16	
		Sanamatikona	Dam, Irrigation Channel					12	6	18	
		Mailiguda	Dam, Irrigation Channel		7				8	15	
		Tikirapada	Irrigation Channel						6	6	
		Kucheipadar	Irrigation Channel	6	7	4	8	5	4	34	
		Bariaguda	Irrigation Channel				4		3	7	
	Dongasil	Irrigation Channel		3		5		4	12		
	Tikiri	Irrigation Channel		13	14	6	5	5	43		
	TalaKampore	Irrigation Channel		4		3	5	6	18		
	Upper Kampore	Irrigation Channel			4		6	4	14		
	D.Koral	Irrigation Channel					8	5	13		
	Mundagao n	Irrigation Channel					4	6	10		
	Karli	Irrigation Channel					6	8	14		
	Dudukabahal	Irrigation Channel					10	9	19		

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		Lachhuguda	Irrigation Channel					8	7	15
		Ratachuan	Irrigation Channel					6	4	10
		Badlijhara n	Irrigation Channel					4	5	9
		Baliguda	Diversi on Based Irrigation	5					2	
		Renganasi l	Irrigation Channel					7	4	11
Sub Total				15	78	68	50	100	141	452
9	Construction of Community Centres in peripheral villages									
		D.Koral	Community Hall			15				15
		Bagrijhola	Community Hall				15			15
		Tikiri	Community Hall		30					30
		Gokulmun da	Community Hall						15	15
		Ratachuan	Community Hall				15			15
		Ushapada	Community Hall						15	15
		Bhitarmus kuni	Community Hall		15					15
		Hadiguda	Community Hall				15			15
		Lacchugu da	Community Hall				15			15
		G.Koral	Community Hall					15		15
		Kucheipad ar	Community Hall				15			15
		Sorishapa dar	Community Hall					15		15
		Kodipari	Community Hall					15		15
		Semiligud a	Community Hall						15	15
		Bariaguda	Community Hall					15		15
		Karli	Community Hall					15		15
		Dongasil	Community Hall						15	15
		Pandakapa dar	Community Hall						15	15
		Sanamatik ona	Community Hall						15	15
		Gulmijhol a	Community Hall						15	15
Total				0	45	15	60	90	105	315
10	Setting up of Skill building centre (Mobile repairing, bike repairing, vermicomposting, mushroom cultivation, household equipment repairing, applique making, nursery raising, computer training, agricultural training, watch				200	190	530	485		1405

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	repairing etc.)									
11	Lemon Grass promotion project	Bagrijhola , Andirakan ch, D.Koral, Paikupakh al, etc.			50	50	50	50	200	

19.0 The capital cost of the project is Rs 5432.00 Crores and the capital cost for environmental protection measures is proposed as Rs. 255.00 Crore. The annual recurring cost towards the environmental protection measures is proposed as Rs. 5.55 Crores. The employment generation from the proposed project/expansion is 375 direct employees and about 725 contractual workforces. The details of capital cost for environmental protection measures and annual recurring cost towards the environmental protection measures are as follows:

Sl. No.	Particulars	Rs. in Lakhs
I	AIR POLLUTION CONTROL	
1	Electrostatic precipitator	10000
2	Chimney	3000
3	Flue Gas Desulphurization System unit for boilers	2000
4	Dust Collector – Bag Filters	500
5	Water Sprayer (Stationary)	200
II	WATER POLLUTION CONTROL	
1	Domestic effluent treatment plant	100
2	Industrial ETP	200
3	Storm water drains, Caustic drain	1500
4	Caustic Pond/Guard Pond	300
5	Sewage System	100
6	Ash Pond/Red Mud Pond lining	3000
7	Sump Pit & Pumps	2000
III	NOISE POLLUTION CONTROL	200
IV	ENV. MONITORING AND LAB INSTRUMENTS	200
V	OCCUPATIONAL HEALTH & FIRE FIGHTING SYSTEM	
1	Occupational Health Equipment	100
2	Fire Fighting Equipment & Network System	1500
VI	GREEN BELT AND PLANTATION	500
VII	RAIN WATER HARVESTING	100
	GRAND TOTAL	25500

**Recurring Annual Cost for Environmental Protection**

Sl. No.	Particulars	Rs. in Lakhs
1	Air pollution control	50
2	Water pollution control	70
3	Noise pollution control	30
4	Environmental monitoring and management	80
6	Occupational health	150
7	Green belt & Plantation	100
8	Others (Environmental studies, expert advice etc.)	75
	<b>TOTAL</b>	<b>555</b>

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20.0 Greenbelt will be developed in 353 Ha which is about 33% of the total acquired area. A 100-m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hectare. Total no. of 3,00,000 saplings will be planted and nurtured in 353 hectares in 6 years.

21.0 The proponent has mentioned that there is court case (W.P.No. 5697 of 2007 in High Court of Odisha and No order/direction of the court as on today) and no violation under EIA Notification to the project or related activity.

22.0 The EIA/EMP has been prepared by EIA Consultant Organization M/s Kalyani Laboratories Pvt. Ltd. Accredited vide QCI/NABET Ref.:RAAC-137, dated 07.07.2017; Sl. No. 87 of the list in QCI Accreditation Register dated 5.01.2018.

23.0 The proposal was considered in the 28<sup>th</sup> Meeting of the Expert Appraisal Committee on Industry – 1 projects held during 5<sup>th</sup>- 7<sup>th</sup> February 2018; further considered in the 30<sup>th</sup> meeting of Expert Appraisal Committee held during 9<sup>th</sup> -10<sup>th</sup> April, 2018 and 31<sup>st</sup> meeting of EAC held during 7<sup>th</sup> to 9<sup>th</sup> May 2018. After detailed deliberations the committee recommended the instant proposal for environmental clearance with following Specific and General conditions.

24.0 The Ministry of Environment, Forest and Climate Change has considered the application based on the recommendations of the Expert Appraisal Committee (Industry-I) and hereby decided to grant Environmental Clearance for the proposed enhancement of production capacity of Alumina Refinery (1.5 MTPA to 3.0 MTPA) along with Cogeneration Power Plant (90 MW to 150 MW) by M/s Utkal Alumina International Limited at village Doraguda, Tehsil Kashipur, District Rayagada, Odisha under the provisions of EIA Notification, 14<sup>th</sup> September, 2006, as amended, subject to strict compliance of the following Conditions:

- 01
1. The PP shall implement recommendations of the approved Site-Specific Conservation Plan & Wildlife Management Plan in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report.
  2. The red mud already generated from the existing plant shall be stored in the red mud pond lined with impervious clay prior to use to prevent leakage, designed as per the CPCB guidelines with proper leachate collection system. Ground water shall be monitored regularly all around the red mud disposal area and report submitted to the Regional Office of the Ministry. Proper care shall be taken to ensure no run off or seepage from the red mud disposal site to natural drainage. Plan shall be prepared and implemented for utilising the already generated red mud in a time bound manner.
  3. Water spraying on the red mud pond shall be arranged to prevent fine dust from being blown off the stack. Longer- term treatment of the red mud shall include reclamation of the mud ponds, neutralization, covering with topsoil, and planting with vegetation.
  4. Decanted water from red mud pond is collected in the Process Water Lake during the monsoon and the same water recycled back to the process through pumping arrangements.
  5. 100 % of the fly ash generated shall be utilised.

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6. The company shall construct separate RCC drains for carrying storm water inside the plant.
7. The water drawl shall not exceed 20,000 m<sup>3</sup>/day (existing and the expansion project put together).
8. An amount of Rs Rs. 135.8 Crores (2.5% of Project cost of Rs. 5432.00 Crore) proposed towards Corporate Environmental Responsibility shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.
9. Green belt shall be developed in 353 Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
10. The Capital cost Rs. 255.00 Crore and annual recurring cost Rs. 5.55 Crores towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.
11. Kitchen waste shall be composted or converted to biogas for further use.
12. The project proponent shall (Air Quality Monitoring):
  - a. install 24x7 continuous emission monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 742 (E) dated 30<sup>th</sup> August 1990 and thereafter amended vide G.S.R 46 (E) dated 3<sup>rd</sup> 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.
  - b. monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
  - c. Install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions;
  - d. submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring for calibrations of CEMS and manual monitoring of air quality /fugitive emission to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
13. The project proponent shall (Water Quality Monitoring):
  - a. install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 742 (E) dated 30<sup>th</sup> August 1990 and further amended vide G.S.R 46 (E) dated 3<sup>rd</sup> February 2006 (Aluminium); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from

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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.

- b. 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; and
- c. submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

14. The project proponent shall (Air Pollution Control):

- a. ensure ambient air quality around the project site as prescribed under National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16<sup>th</sup> November, 2009 (as amended from time to time)
- b. provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- c. provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
- d. provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;
- e. ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation;
- f. provide covered sheds for raw materials like bauxite, coal, etc;
- g. recycle alumina dust collected in ESPs installed in calciner.

15. The project proponent shall (Water Pollution Control):

- a. adhere to 'zero liquid discharge';
- b. provide Sewage Treatment Plant for domestic wastewater; and
- c. provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.

16. The project proponent shall (Water Conservation):

- a. practice rainwater harvesting to maximum possible extent; and
- b. reduce water consumption in bauxite beneficiation and alumina refinery by concentrating the solids in the tailings;

17. The project proponent shall (Energy Conservation):

- a. provide waste heat recovery system (pre-heating of combustion air) at the flue gases.
- b. provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly; and

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- c. Provide the project proponent for LED lights in their offices and residential areas.
18. Used refractories shall be recycled as far as possible.
  19. Oily scum and metallic sludge recovered from ETP shall be mixed, dried, and briquetted and reused.
  20. The project proponent shall prepare GHG emissions inventory and shall submit the programme for reduction of the same including carbon sequestration including plantation.
  21. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
  22. 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 of Factory Act.
  23. The project proponent shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.
  24. Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses.
  25. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.
  26. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium Industry shall be implemented.
  27. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.
  28. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
  29. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
  30. 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).
  31. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
  32. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.
  33. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

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34. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.

35. The project proponent shall (Post-EC Monitoring):

- a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;
- b. put on the clearance letter on the web site of the company for access to the public.
- c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at <http://envfor.nic.in>.
- d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;
- e. 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;
- f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;
- g. 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;
- h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.

25.0 The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

26.0 The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

27.0 The PP shall abide by all the commitments and recommendations made in the EIA/EMP report and that during their presentation to the EAC. The commitment made by the project proponent to the issue raised during Public Hearing shall be implemented by the proponent

28.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

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29.0 This EC is issued in supersession of the earlier EC vide F. No. J-11011/753/2007-IA-II(I), dated 29.01.2008.

30.0 This EC is subject to the out come of the court case in W.P.No. 5697 of 2007 (Prafulla Samantray Vs Union of India & Others) before High Court of Odisha.


31.0 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.

This issues with the approval of competent Authority.

  
(Sharath Kumar Pallerla)  
Scientist 'F' / Director

**Copy to:-**

1. **The Secretary**, Department of Environment, Government of Odisha, Secretariat, Bhubaneswar.
2. **The Additional Principal Chief Conservator of Forests(C)**, Ministry of Environment, Forest and Climate Change, Regional Office (EZ), A/3, Chandrasekharpur, Bhubaneswar – 751023.
3. **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
4. **The Chairman**, Odisha State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
5. **The Member Secretary**, Central Ground Water Authority, A-2, W3, Curzon Road Barracks, K.G. Marg, New Delhi-110001.
6. **The District Collector**, Rayagada, Odisha.
7. **Guard File / Record file / Monitoring file.**
8. **MOEF&CC Website.**

  
(Sharath Kumar Pallerla)  
Scientist 'F'/Director