

F. No. J-11011/235/2008-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

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Dated: 11th September, 2019

To

The Vice President – Environment,
M/s. Shree Raipur Cement Plant (A unit of Shree Cement Limited),
Bangur Nagar, Post Box No. 33,
Beawar, Ajmer,
Rajasthan – 305901.
E-mail: bhargavr@shreecementltd.com

Subject: Proposed Expansion of Integrated Cement Plant - Clinker (2 x 2.6 to 3 x 4.5 Million TPA), Cement (2 x 3.0 to 3 x 5.5 Million TPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) along with Synthetic Gypsum (65 TPH) and DG Sets (2000 KVA) by **M/s. Shree Raipur Cement Plant (A unit of Shree Cement Limited)** located at Village: Khapradih, Tehsil: Simga, District: Balodabazar – Bhatapara, **Chhattisgarh - Environment Clearance – regarding.**

Sir,

1. This refers to the application of **M/s. Shree Raipur Cement Plant (A unit of Shree Cement Limited)** made vide proposal no. IA/CG/IND/26823/2015 dated 25th January, 2019 along with copies of EIA/EMP report along with copies of EIA/EMP report and Form – 2 seeking Environmental Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at Sl. No. 3(b) Cement Plants under Category “A” EIA Notification, 2006 and the proposal is appraised at Central level.
2. The proposal cited above was considered during the 4th meeting of Re-Constituted Expert Appraisal Committee [EAC] (Industry-I) held on 20-22nd February, 2019 and further reconsidered in the 7th meeting of Re-Constituted Expert Appraisal Committee [EAC] (Industry-I) held on 29-31st May, 2019. The EAC proceedings of the proposal is furnished as below.

Details submitted by the Project Proponent

3. The Expansion of Integrated Cement Project - Clinker (2 x 2.6 to 3 x 4.5 Million TPA), Cement (2 x 3.0 to 3 x 5.5 MTPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) along with Synthetic Gypsum (65 TPH) and DG Sets (2000 KVA) of M/s. Shree Cement Raipur Plant (Shree Cement Limited) located at Village - Khapradih, Tehsil - Simga, District - Balodabazar - Bhatapara (Chhattisgarh) was

Environmental Clearance for Proposed Expansion of Integrated Cement Plant - Clinker (2 x 2.6 to 3 x 4.5 Million TPA), Cement (2 x 3.0 to 3 x 5.5 Million TPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) along with Synthetic Gypsum (65 TPH) and DG Sets (2000 KVA) by M/s. Shree Raipur Cement Plant (A unit of Shree Cement Limited) located at Village: Khapradih, Tehsil: Simga, District: Balodabazar – Bhatapara, Chhattisgarh.

initially received in the Ministry on 5th June, 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 20th meeting held on 10th July, 2017 and prescribed ToRs to the project for undertaking detailed EIA study for obtaining environmental clearance. Accordingly, the MoEF&CC had prescribed ToRs to the project on 06th November, 2017 vide letter no. J-11011/235/2008-IA.II (I).

4. The project of M/s. Shree Cement Raipur Plant (A Unit of Shree Cement Limited) located at Village - Khapradih, Tehsil - Simga, District - Balodabazar - Bhatapara (Chhattisgarh) is for Expansion of Integrated Cement Plant - Clinker (2 x 2.6 to 3 x 4.5 Million TPA), Cement (2 x 3.0 to 3 x 5.5 MTPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) along with Synthetic Gypsum (65 TPH) and DG Sets (2000 KVA). The existing project was accorded environmental clearance *vide* letter no. J - 11011/235/2008 - IA - II (I) dated 05th Sept., 2016. The Status of compliance of earlier EC was obtained from Regional Office, Nagpur *vide* letter no. 5 - 11/ 2011 (ENV)/3997 dated 31st July, 2018. There are 9 partially compliances reported by Regional Officer. The closure for partially complied points have been obtained *vide* letter no. 5-11/2011 (ENV) 4373 dated 26th Sept., 2018.

5. The proposed capacity for the different products as below:

Particular	Unit	Existing Granted Capacity (dated 05 th Sept., 2016)	Existing Status	Additional Proposed Capacity		Total capacity after proposed expansion
				Phase - 1	Phase - 2	
Clinker* (Million TPA)	Unit - I	2.6	Running	2.6 to 3.5 (by internal modifications)	3.5 to 4.5 (by installation of additional preheater)	4.5
	Unit - II	2.6	Running	2.6 to 4.0 (by internal modifications)	4.0 to 4.5 (by internal modifications)	4.5
	Unit - III	Nil	Proposed	Nil	4.5	4.5
	Total	5.2 (2 x 2.6)	-	2.3	6.0	13.5 (3 x 4.5)
Cement (Million TPA)	Mill - I	3.0	Running	3.0 to 4.4 (by modification in VRM)	4.4 to 5.5 (by installation of Ball Mill + RP)	5.5
	Mill - II	3.0	Yet to install	3.0 to 4.4 (by installation of VRM)	4.4 to 5.5 (by installation of additional Ball Mill + RP)	5.5
	Mill - III	Nil	Proposed	Nil	1 x 5.5	5.5

Environmental Clearance for Proposed Expansion of Integrated Cement Plant - Clinker (2 x 2.6 to 3 x 4.5 Million TPA), Cement (2 x 3.0 to 3 x 5.5 Million TPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) along with Synthetic Gypsum (65 TPH) and DG Sets (2000 KVA) by M/s. Shree Raipur Cement Plant (A unit of Shree Cement Limited) located at Village: Khapradih, Tehsil: Simga, District: Balodabazar - Bhatapara, Chhattisgarh.

Particular	Unit	Existing Granted Capacity (dated 05 th Sept., 2016)	Existing Status	Additional Proposed Capacity		Total capacity after proposed expansion
				Phase - 1	Phase - 2	
						(4.4 MTPA by VRM & balance 1.1 MTPA by installation of Ball Mill + RP)
	Total	6.0 (2 x 3.0)	-	2.8	7.7	16.5 (3 x 5.5)
CPP (MW)	-	25	Running	2 x 25	2 x 25	125
Waste Heat Recovery Power Plant (MW)	-	30	Running	25	45	100
Synthetic Gypsum Unit (TPH)	-	65	Yet to install	Nil	Nil	65
D.G. Set (KVA)	-	2000	2*250 KVA (balance yet to be installed in phased manner)	Nil		2000
<i>*Clinker will also be sent to the sister grinding units, market sale and also receive from outside if clinker unit is not in operation or shortfall of clinker.</i>						

6. Total land required for the project 159.256 ha which is industrial land and totally under the possession of M/s. Shree Raipur Cement Plant (A unit of Shree Cement Ltd.). No forest land is involved. No River passes through the project area. It has been reported that no water body exist around the project and modification/diversion in the existing natural drainage pattern at any stage has not been proposed.
7. The topography of the area is almost flat and reported to lies between 21°35'41.84" N to 21°36'29.06" N and 82°02'14.24" E to 82°03'6.17" E Longitude in Survey of India toposheet no. 64 G/14 & 64 K/2 at an elevation of about 272 - 285 m. The ground water level reported to ranges between 3 to 5 m bgl below the land surface during the post-monsoon season and 5 to 10 m bgl below the land surface during the pre-monsoon season. Based on the hydro-geological study, it has been reported that the radius of influence of pumped out water will be less than 300 m. Further, the stage of groundwater development

is reported to be 86 % and 35 % in core and buffer zone respectively and thereby these are designated under safe Category.

8. 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 authenticated list of flora and fauna provided duly authenticated by Forest Officer, Balodabazar reporting presence of no Schedule -I fauna in the study area in the study area.
9. The raw materials required for the proposed expansion project are Limestone, Iron Ore & Red Mud, Indian and Imported Mineral gypsum, Synthetic and Chemical Gypsum, Fly ash and Slag. Cement Plant is based on Dry Process Technology for Cement manufacturing with Pre- Heater and Pre- Calciner Technology. The type of cement manufactured is / will be OPC, PPC and PSC.
10. The targeted production capacity of the Clinker - (2 x 2.6 to 3 x 4.5 Million TPA), Cement - (2 x 3.0 to 3 x 5.5 MTPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) along with Synthetic Gypsum (65 TPH) and DG Sets (2000 KVA). Limestone is being / will be sourced from the Captive Limestone Mines (Semradih - Bharuwadih Mine and Karhi-Chandi Mine) transported through covered conveyer belt. Iron ore & Red Mud is being / will be sourced from Shri Bajrang Power &Ispat Ltd. Tilda / Bharat Aluminium Company Ltd. (Balco - Korba) and transported through Road/Rail. Indian and Imported Mineral gypsum, Synthetic and Chemical Gypsum is being / will be sourced from Swiss Singapore Overseas Pvt. Ltd. Oman Vizag; Coromondal International Ltd. Visakhapatnam Vizag; Synthetic Gypsum plant and transported through Road/Rail.
11. Raw material required for the project along with source with distance and mode of transportation is given below:

Raw Material	Quantity (MTPA)				Source	Distance & Mode of Transportation
	Basis	Existing as per EC granted (5.2 MTPA Clinker & 6.0 MTPA Cement)	Additional (8.3 MTPA Clinker & 10.5 MTPA Cement)	Total (13.5 MTPA Clinker & 16.5 MTPA Cement)		
Lime stone	1.6 T/ T of Clinker	8.32	13.28	21.6	Captive Limestone Mine (Semradih-Bharuwadih Mine and Karhi-Chandi Mine)	Adjacent; Covered Conveyor belt
Iron ore & Red Mud	0.015 T/ T of Clinker	0.08	0.13	0.21	Shri Bajrang Power &Ispat Ltd. Tilda / Bharat Aluminium	Tilda - 47, Korba - 151 Road / Rail

Raw Material	Quantity (MTPA)				Source	Distance & Mode of Transportation
	Basis	Existing as per EC granted (5.2 MTPA Clinker & 6.0 MTPA Cement)	Additional (8.3 MTPA Clinker & 10.5 MTPA Cement)	Total (13.5 MTPA Clinker & 16.5 MTPA Cement)		
					Company Ltd. (Balco-Korba)	
Indian, Imported Mineral gypsum, synthetic and chemical Gypsum	0.07 T / T of Cement	0.42	0.73	1.15	Swiss Singapore Overseas Pvt. Ltd. Oman Vizag; Coromondal Inter National Ltd. Visakhapatnam Vizag; Synthetic Gypsum plant	Vizag - 573; Road / Rail
Fly Ash	0.35 T/T of Cement	2.10	3.67	5.77	CPP, GMR Chhattisgarh Energy Ltd Tilda, Sarda Energy & Minerals Ltd Siltara, NSPCL Limited Bhilai, NTPC Limited Sipat, KSK Mahanadi Power Co. Ltd Akaltara, Chhattisgarh Power Gen. Co. Ltd. (CSEB) Marwa, D B Power Limited Raigarh	Tilda - 47, Siltara - 172, Bhilai - 121, Sipat - 106, Akaltara - 119, Marwa - 120, Raigarh - 154 Road
Slag	0.50 T/T of Cement	3.00	5.25	8.25	Metalman Siltara, JayaswalNeco Industries Ltd Siltara, Jindal Steel & Power Ltd Raigarh	Siltara - 172, Raigarh - 154 Road / Rail

Note: Limestone (0.09 MTPA) will also be required for lime dosing in CPP after proposed expansion.

12. The water requirement of the project is estimated as 3935 KLD (including both captive mines); out of which, 3000 KLD fresh water requirement will be sourced from Ground Water and the remaining requirement of 935 KLD will be sourced from Rain Water collected in Mine Pits of Semradih-Bharuwadih Mine & Karhi-Chandi Mine and Earthen Pond in the plant. The Permission for withdrawal of 3000 KLD ground water has been renewed vide letter no. 21-4 (36) / NCCR / CGWA /2008- 2079 dated 24th Oct., 2018.
13. The Power requirement of the project is estimated as 220 MW, which will be sourced from Existing & Proposed CPP (125 MW) and WHRS (100 MW), Grid & D.G Set (for backup). The Committee noted that confirmed coal linkage document for the power plant along with its characteristics has not been submitted.
14. Baseline Environmental Studies were conducted during Post - Monsoon Season i.e. from Oct., to Dec., 2017. Ambient air quality monitoring was carried out at 15 locations during 01st Oct, 2017 to 31st Dec., 2017 and the data submitted indicated: PM₁₀ (59.7 to 84.2 µg/m³), PM_{2.5} (24.3 to 43.2 µg/m³), SO₂ (5.3 to 13.5 µg/m³) and NO₂ (12.5 to 28.5 µg/m³). The results of the modeling study indicates that the maximum increase of GLC for the proposed expansion Project is 8.5 µg/m³ with respect to the PM, 5.25 µg/m³ with respect to the SO₂, 7.58 µg/m³ with respect to the NO_x.
15. Ground water quality has been monitored at 8 locations in the study area and analyzed. pH: 7.36 to 8.02, Total Hardness: 246.76 to 552.29 mg/l, Chlorides: 11.40 to 181.41 mg/l, Fluoride: 0.54 to 1.06 mg/l. Heavy metals are within the limits. Surface water samples were analyzed from 6 locations. pH: 7.36 to 8.08, DO: 4.4 to 5.0 mg/l, BOD: 2.3 to 7.2 mg/l and COD: 6.80 to 25.69 mg/l.
16. Noise levels are in the range of 49.5 to 65.6 Leq dB (A) for day time and 38.2 to 58.8 Leq dB(A) for night time.
17. It has been reported that there is no habitation in the core zone of the project. No/ R&R is involved. It has been envisaged that none of families to be rehabilitated, which will be provided compensation and preference in the employment.
18. No solid waste will be generated in the cement manufacturing process. Dust collected from various air pollution control equipments is being / will be totally recycled back into the process. STP Sludge is being / will be utilized as manure for greenbelt development within the plant premises. Fly ash from CPP is being / will be utilized in manufacturing of PPC grade cement. Used oil & grease is being / will be generated from plant machinery / Gear boxes; which is being / will be sold out to the CPCB authorized recycler. It has been envisaged that out of the total existing plant area of 159.256 ha, 33% (i.e. 52.55 ha) will be developed under greenbelt / plantation; out of which 39.5 ha (i.e. 25 % of the total plant area) has already been covered under greenbelt development / plantation and rest 13.05 ha area will be developed. As per the specific "TOR point no. (iv)", additional 6.5 ha will also be developed under greenbelt / plantation as greenbelt to attenuate the noise levels and trap the dust generated due to the project development activities.
19. It has been reported that Consent to operate from CECB obtained vide letter no. 6517/TS/CECB/2018/Naya Raipur dated 16th Feb., 2018 under Air Act & letter no. 6515/TS/CECB/2017/Naya Raipur dated 16th Feb., 2018 under Water Act which is valid up to 31st Jan., 2020.

20. Public hearing of the project was held on 1st Aug., 2018 at Village Chandi Ground (Near Panchayat Bhawan), Tehsil- Simga, Dist.- Balodabazar- Bhatapara (C.G.) under the chairmanship of Mr. T. R. Agrawal, Additional District Magistrate, District - Balodabazar (Chhattisgarh) for Proposed Expansion Project having production capacity of Clinker (2 x 2.6 to 3 x 4.5 Million TPA), Cement (2 x 3.0 to 3 x 3.5 MTPA), Captive Power Plant (25 to 125 MW) and Waste Heat Recovery Power Plant (30 to 100 MW) under the Chhattisgarh Environment Conservation Board.

21. The capital cost of the project is Rs. 2282.75 Crores and the capital cost for environmental protection measures is proposed as Rs. 140 Crores. The annual recurring cost towards the environmental protection measures is proposed as Rs. 1.5 Crores / annum.

22. The details of capital cost for environmental protection measures and annual recurring cost towards the environmental protection measures is as follows:

(In Rs. Crores)

Particular	Capital Cost	Recurring Cost / annum
Air Pollution Control	135.5	1.05
Water Pollution Control and Rain Water Harvesting Measures	1.5	0.15
Environment Monitoring and management	1.0	0.20
Greenbelt Development	2.0	0.10
Total	140	1.50

The employment generation from the proposed expansion project is 650 persons.

23. The revised CER action plan submitted by the project proponent is furnished as below:

REVISED CER PLAN FOR SHREE RAIPUR CEMENT PLANT EXPANSION

PROJECT COST RS. 2282.75 CR

CER COST RS. 971 LACS

SN	AREA OF CER	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total Amt Rs in Lacs
HEALTH & FAMILY WELFARE							
1	Renovation of public health center of village Khapradih, Semradih, Bharuwadih, Chandi and Karhi: 1. Construction of Male, Female and Child ward-15 nos. 2. Construction of male and female toilet- 20 nos. 3. Water cooler-5 nos. 4. Ambulance: 5 nos.	0.00	0.00	25.00	25.00	30.00	80.00

REVISED CER PLAN FOR SHREE RAIPUR CEMENT PLANT EXPANSION

PROJECT COST RS. 2282.75 CR

CER COST RS. 971 LACS

SN	AREA OF CER	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total Amt Rs in Lacs
2	Health management center with fullfledged medical check-up, doctors & nursing staff, free medicines and 10 beds for male and female ward for primary health treatment and availability of 24x7 ambulance at village Bharuwadih	150.00	0.00	0.00	0.00	0.00	150.00
EDUCATION AND SPORTS PROMOTION							
3	Renovation of Govt. schools of village Khapradih, Semradih, Bharuwadih, Chandi and Karhi: 1. Construction of rooms: 25 rooms. 2. Construction of male and female toilet- 30 nos. 3. Water cooler-5 nos. 4. Computer labs: 5 nos. 5. Furnitures	0.00	0.00	25.00	25.00	30.00	80.00
4	English medium school of 12th standard at village Bharuwadih	0.00	200.00	0.00	0.00	0.00	200.00
5	Sports complex in village Khapradihand Bharuwadih: 1. Construction of rooms: 2 rooms. 2. Construction of male and female toilet- 4 nos. 3. Water cooler-2 nos. 4. Preparation of play ground: 2. nos. 5. Sports equipement-2 sets	12.00	12.00	0.00	0.00	0.00	24.00
COMMUNITY INFRASTRUCTURE DEVELOPMENT PROJECTS							
6	Construction of roads in village: 1. Bharuwadih: 2.0 kms 2. Chnadi: 3.0 kms	35.00	35.00	35.00	35.00	35.00	175.00

REVISED CER PLAN FOR SHREE RAIPUR CEMENT PLANT EXPANSION
PROJECT COST RS. 2282.75 CR
CER COST RS. 971 LACS

SN	AREA OF CER	1st Year	2nd Year	3rd Year	4th Year	5th Year	Total Amt Rs in Lacs
7	Construction of Community center at village Khapradih, Semradih, Bharuwadih, Chandi and Karhi: 5 Nos	10.00	10.00	10.00	12.00	12.00	54.00
8	Drinking water tank at village Lohari&Paunsari	0.00	0.00	0.00	15.00	15.00	30.00
9	Renovation of existing water ponds for Rainwater recharge and plantation all around the boundary of pond at Village Khapradih, Semradih, Bharuwadih, Chandi and Karhi:	10.00	10.00	10.00	10.00	10.00	50.00
10	Subsidy on drip irrigation system, seeds& agroforestry in 100 Ha agriculture land in nearby villages Khapradih, Semradih, Bharuwadih, Chandi and Karhi	10.00	10.00	12.00	12.00	15.00	59.00
11	Plantation in nearby villages along the roads, Govt. offices and available free space at villages Khapradih, Semradih, Bharuwadih, Chandi and Karhi@ 5000 /YEAR	5.00	5.00	5.00	5.00	5.00	25.00
12	Installation of Solar street lights at community center, common area, dispensary, bus stand & school at village Khapradih, Semradih, Bharuwadih, Chandi and Karhi	5.00	5.00	5.00	5.00	5.00	25.00
Total		242.00	292.00	132.00	149.00	162.00	977.00

24. Greenbelt will be developed in 52.55 ha (33 % of the total plant area) will be developed under greenbelt / plantation; out of which 39.5 ha (i.e. 25 % of the total plant area) has already been covered under greenbelt development / plantation and rest 13.05 ha area will be developed. Greenbelt will be developed along the plant boundary as per CPCB/MoEFCC, New Delhi guidelines. Local and native species will be planted with a

proposed density of 2470 trees per hectare. Total no. of 54216 saplings will be planted and nurtured in 21.95 hectares in 3 years.

25. The proponent has mentioned that there is no court case or violation under EIA Notification to the project or related activity.
26. Name of the consultant: M/s. J. M. Environet Pvt. Ltd., Gurugram [S.No. 90, List of QCI Accredited Consultant Organizations (Alphabetically) Rev. 73, February 08, 2019].

Observations and recommendations of the Committee

27. The proposal cited above was considered during the 4th meeting of Re-Constituted Expert Appraisal Committee [EAC] (Industry-I) held on 20-22nd February, 2019 and further reconsidered in the 7th meeting of Re-Constituted Expert Appraisal Committee [EAC] (Industry-I) held on 29-31st May, 2019. After detailed deliberations, the Committee recommended the project cited above for grant of environmental clearance under the provisions of EIA Notification, 2006 subject to environmental safeguards.

Decision of MoEF&CC

28. 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 project cited above under the provisions of EIA Notification, 14th September, 2006, as amended, subject to strict compliance of the following Specific and General Conditions:

A. Specific conditions

- i. The limestone for the project shall be sourced only from (i) Existing Captive Semradih & Bharuwadih Limestone (M.L Area - 531.126 ha) and (ii) KarhiChandi Limestone Mine (ML area 242.127 ha) which are located adjacent to plant site. In case of any change in source of limestone, the project proponent shall obtain prior permission from MoEF&CC.
- ii. Project proponent shall conduct health studies in all the villages covered within a radius of 2km radius of the project site for assessment of prevalence of silicosis for once in six months.
- iii. Railway siding shall be completed in a time frame of five years.
- iv. CER related activities shall be completed within a time frame of three years.
- v. The project proponent shall reduce the abstraction of ground water by shifting the requirement to surface water and regular report shall be submitted to the Regional Office of the Ministry at the interval of six months.

B. General conditions

I. Statutory compliance:

- i. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- ii. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

- iii. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R. No. 612 (E) dated 25th August, 2014 (Cement) and subsequent amendment dated 9th May, 2016 (Cement) and 10th May, 2016 (Co-processing Cement); 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.
- ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.
- iii. The project proponent shall install system carryout to Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x 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.
- iv. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.
- vi. The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.
- vii. Pollution control system in the cement plant shall be provided as per the CREP Guidelines of CPCB.
- viii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.
- ix. Recycle and reuse lime fines, coal fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after agglomeration.
- x. 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;
- xi. Provide wind shelter fence and chemical spraying on the raw material stock piles; and
- xii. Provide Low NO_x burners as primary measures and SCR /NSCR technologies as secondary measure to control NO_x emissions. Have separate truck parking area and monitor vehicular emissions at regular interval.
- xiii. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of covered conveyor belts/railways as a mode of transport
- xiv. Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.

III. Water quality monitoring and preservation

- i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R. No. 612 (E) dated 25th August, 2014 (Cement) and subsequent amendment dated 9th May, 2016 (Cement) and 10th May, 2016 (in case of Co-processing Cement) as amended from time to time; 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.
- ii. 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.
- iii. The project proponent shall 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.
- iv. Adhere to 'Zero Liquid Discharge'.
- v. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
- vi. Garland drains and collection pits shall be provided 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
- vii. The project proponent shall practice rainwater harvesting to maximum possible extent.
- viii. Water meters shall be provided at the inlet to all unit processes in the cement plant.
- ix. The project proponent shall make efforts to minimize water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report
- ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

- i. Waste heat recovery system shall be provided for kiln and cooler.
- ii. The project proponent make efforts to achieve power consumption less than 65 units/tonne for Portland Pozzolona Cement (PPC) and 85 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.
- iii. 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.
- iv. Provide the project proponent for LED lights in their offices and residential areas.
- v. Maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards.
- vi. maximize utilization of alternate fuels and Co-processing to achieve best practice norms.

VI. Waste management

- i. Used refractories shall be recycled as far as possible.
- ii. The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
- iii. Kitchen waste shall be composted or converted to biogas for further use.

VII. Green Belt

- i. Green belt shall be developed in an area 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
- ii. 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.

VIII. Public hearing and Human health issues

- i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- ii. The PP 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.
- iii. 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.
- iv. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved 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.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- vi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.

X. Miscellaneous

- i. 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.
- ii. 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.
- iii. 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.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (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.
- v. 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.
- vi. 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.
- vii. 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 development work and start of production operation by the project.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. 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.
- x. 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).
- xi. 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.
- xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiv. 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.

- xv. 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 and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvi. 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.
29. This issues with the approval of the Competent Authority.


(A.K. Agrawal)
Director

Copy to:-

1. The Secretary, Department of Environment, Government of Chhattisgarh Secretariat Raipur.
2. The Deputy Director General (C), Ministry of Environment, Forest and Climate Change, Regional Office (WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur – 44000.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
4. The Chairman, Chhattisgarh Environment Conservation Board, Nanak Niwas, Civil Lines, Raipur, Chhattisgarh.
5. The Member Secretary, Central Ground Water Authority, West Block –II, Wing -3, Sector I, R.K.Puram, New Delhi – 110086.
6. The District Collector, District Balodabazar – Bhatapara, Chhattisgarh.
7. Guard File / Record file / Monitoring file.
8. MOEF&CC Website.


(A.K. Agrawal)
Director