

F. No. J-11011/351/2016-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

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Dated: 28th March, 2018

To,

**The Director (Technical),
M/s. Penna Cement Industries Limited,
Village Boyareddypalli, Yadiki Mandal,
District Anantapur, Andhra Pradesh**

Subject: Expansion of Cement Plant (Clinker from 1.5 to 4.0 MTPA and Cement from 2.0 to 4.6 MTPA) located at Village Boyareddypalli, Yadiki Mandal, District Anantapur, Andhra Pradesh by M/s. Penna Cement Industries Limited. – Environmental Clearance regarding.

Sir,

8X This has reference to your online application vide **proposal no. IA/AP/IND/59430/2016** dated **23rd October 2017** along with the copies of EIA/EMP seeking Environmental Clearance under the provisions of the EIA Notification, 2006 for the above mentioned proposed project. The proposed project activity is listed at S. No. 3(b) Cement Plants under Category "A" EIA Notification, 2006 and the proposal is appraised at the Central Level.

2.0 M/s PCIL is operating a cement plant located in Boyareddypalli in South-Western Andhra Pradesh, the unit was commissioned in Sep 2008. PCIL received Environmental Clearance for 2.0 MTPA cement plant 1.5 MTPA Clinker production from MoEF&CC vide letter no. J-11011/351/2006-IA.II(I) dated 18th May 2007. The certified report on status of compliance of earlier EC submitted vide RO, Chennai Lr. No. EP/12.1/570/AP/0985 dated 27th June 2017. There are some non-compliances and partial compliance are reported by the RO.

3.0 Now, M/s PCIL proposed to increase production capacity (Clinker from 1.50 MTPA to 4.0 MTPA; Cement from 2.00 to 4.6 MTPA; and WHRB from 10 to 20 MW) of Boyareddypalli Cement Plant located at Boyareddypalli Village, Yadiki Mandal, Anantapur District, Andhra Pradesh.

4.0 Increase in production of clinker from 1.50 MTPA to 4.0 MTPA inter alia include increase of clinker production from 1.5 MTPA to 1.65 MTPA by up gradation/modernization of existing Unit – I by modification of pre-heater cyclones; up gradation of equipment; increase in kiln in speed; increase of surface area of cooler and installation of a new line i.e., Unit – II with clinker production capacity of 2.35 MTPA. The production capacity of various units of the plant before and after expansion are given below:

Cement Plant	Existing Capacity			Capacity after proposed enhancement		
	Clinker	Cement	WHRB (MW)	Clinker	Cement	WHRB (MW)
	(MTPA)			(MTPA)		
Unit –I	1.5	2.0	10	1.65	2.00(OPC/PSC/PPC)	10
Unit –II (new line)	-	-	-	2.35	2.60 (OPC/PSC/PPC)	10
Total	1.5	2.0	10	4.00	4.60	20

5.0 The expansion proposal was initially received in the Ministry on 04th October 2016 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 12th meeting held during 27th– 28th October, 2016 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 27.03.2017.

6.0 The existing cement plant is located in the area of 60 Ha. The proposed expansion will be carried in the existing plant premises and no additional land is required to be acquired. There is no R&R is involved; no Forest area is involved; and 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. Land break up for the existing and proposed expansion is given below:

Sl. No	Description of plant facilities	Existing	After proposed expansion
		Area in Ha	
1	Plant area and roads	30	34
2	Colony with infrastructure	04	05
3	Parking area	04	01
4	Greenbelt	16	20
5	Vacant land	06	00
	Total	60	60

7.0 The Cement plant is located near Boyarredypalli Village, Yadiki Mandal, Anantapur District, Andhra Pradesh. The project site bounded between 15° 3'35.20" - 15° 3'52.10"N latitude and 77°56'52.03 - 77°57'12.55 E longitude with an average altitude of 276m above MSL and covered in Survey of India Toposheet no. 57/E/16. Ground water table occurs at a depth of 45m bgl as per the gathered information in the nearby villages in summer and 35 m bgl during the rainy season.

8.0 No National Park / Wildlife Sanctuary / Biosphere Reserve / Tiger Reserve / Elephant Reserve etc. are reported in the core and buffer zone of the project. The area also does not report to from corridor for Schedule-I fauna.

9.0 It was reported that dry process of cement manufacture utilising the pre-calciner technology is adopted. The clinkerisation process along with the technological advances in the area of grinding, homogenization, pre-calciner as well as packing of cement will be incorporated.

10.0 The basic raw materials used in the cement plant are Limestone, Iron Ore, Laterite and Gypsum. Imported Coal will be used in the process. The major raw material for manufacture of cement is limestone and is sourced from the captive limestone mine. Limestone excavated from the mines is crushed at the crusher located at 1.5 km from the captive limestone mine and the crushed limestone is transported through closed conveyor of 4.5 km length upto stacker reclaimer provided in the cement plant. The requirement of raw material is given below:

Raw Material	Before Expansion	After Expansion	Source	Mode of Transport
Limestone	2.30	5.30	Captive mines	Conveyor
Iron ore	0.02	0.10	Bellary / Hospet	Railway
Laterite/red mud	0.08	0.24	Veldurty, Rajahmundry	Railway
Gypsum	0.10	0.23	SPIC and Sterlite Industries, Tuticorin, FACT, Chennai & Coramandel Fertilizers Ltd., Vizag	Railway
Coal / petcoke	0.26	0.60	Singareni Collieries Company Ltd/ Imported Coal/Petcoke from USA	Railway
Slag	0.50	1.67	Jindal Steel and Garuda Steel	Railway
Ash requirement for PPC	0.10	1.14	Rayalaseema Thermal Power Station and Jindal Power Plant, AP Genco Power Plant, Nellore.	Road

11.0 The present water requirement of the plant is 930 m³/day (700 m³/day for cement plant and colony and 230 m³/day for waste heat recovery-based power plant) and is sourced from bore wells within the plant site and also from mine pit. Additional Water requirement for expansion of cement plant and WHRB power plant is 500 m³/day and sourced from bore well and mine pit.

12.0 The peak power consumption of the Cement plant at present is 25 MW and is being met from Grid and WHRB Power Plant. Additional power required is about 35 MW and the same will be sourced from Grid and proposed WHRB Power plant.

13.0 Baseline Environmental Studies were conducted during winter season i.e. from December, 2016 to February, 2017. Ambient air quality monitoring has been carried out at 8 locations and the data submitted indicated: PM₁₀ (50.9 – 56.5 µg/m³), PM_{2.5} 21.2 – 26.0 µg/m³, SO₂ 11.7 – 13.0 µg/m³ and NO_x (12.8 – 14.4 µg/m³). The results of the modeling study indicate that the maximum increase of GLC for the proposed project is 8.02 µg/m³ with respect to the PM₁₀, 2.41 µg/m³ with respect to the PM_{2.5}, 1.92 µg/m³ with respect to SO₂ and 11.5 µg/m³ with respect to the NO_x.

14.0 Ground water quality has been monitored in 8 locations in the study area and analysed. pH: 7.12 – 7.56, Total dissolved solids: 72 – 605 mg/l, Chlorides: 23 - 110 mg/l,

Fluoride: 0.16 – 0.12 mg/l. Heavy metals are within the limits. Surface water samples were analysed from 1 location. pH: 7.26; Total dissolved solids: 412 mg/l.

15.0 Noise levels recorded were found to be in the range of 50.5 – 70.3 dB (A) during daytime and in the range of 40.3 – 61.7 dB (A) during night time.

16.0 No additional area is required for the expansion. Therefore, No Rehabilitation and Resettlement involved.

17.0 The dust collected in the air pollution control equipment in the cement plant will be recycled back to the process. Hence no solid waste which requires disposal is generated from the plant. Refractory bricks are one of the solid waste generated from the kiln section will be disposed to outside agencies. Solid waste generated from colony is disposed after segregating the waste into biodegradable and non-biodegradable. Bio- Degradable waste is being used as compost and Non- Bio- Degradable waste is land filled within the colony premises at identified areas. Solid waste generated at STP is dried in the sand beds and is being used as compost for Green Belt development.

18.0 Consent Order for operation of the plant issued by APPCB vide letter no. APPCB/KNL/ATP/97/HO/CFO/2015-475 dated 22nd April 2015.

19.0 The Public hearing of the project was held on 2nd August, 2017 at existing plant premises under the chairmanship of Joint Collector and Additional District Magistrate for the proposed expansion project. The issues raised during public hearing are inter alia include employment; development of social infrastructure; supply of drinking water; pollution issues; etc. An amount of 20.00 Crores (2.5% of Project cost) has been earmarked for Enterprise Social Commitment based on public hearing issues and need based assessment. The details of Enterprise Social Commitment proposed by project proponent is as follows:

ACTIVITY	Capital Cost Rs Lakhs	Implementation Year				
		1 st	2 nd	3 rd	4 th	5 th
Development of Internal Roads	220	30	30	50	50	60
Installation of RO plants for Drinking water	120	20	20	20	30	30
Construction of Toilet Facilities	50	10	10	10	10	10
Drainage Development - side drains	60	10	10	10	10	20
Providing Solar Street Lights	40	5	5	10	10	10
Construction of Culvert on drainage	120	-	-	120	-	-
College construction for the villagers	500	-	500	-	-	-
Hostel for the students and maintenance						
Laying of pipeline to villages for drinking water supply	160	-	40	40	40	40
Construction of checkdams and Rainwater harvesting structures	400	50	50	100	100	100
Boundary wall & Burial grounds in three village and renovation of	20	10	10	-	-	-

ACTIVITY	Capital Cost Rs Lakhs	Implementation Year				
		1 st	2 nd	3 rd	4 th	5 th
roads to burial ground.						
Tree Guards for plants	50	10	10	10	10	10
Other Social commitments	260	Amount will be allocated based on the needs as when arise				
Total	2000					

20.0 The cost of the proposed expansion is estimated to be about Rs. 800 Crores and the Capital Cost of Environmental measures (EMP) is about Rs. 120 Crores and the annual recurring cost is about Rs. 4.5 Crores. The details of budget allocated for implementation of environmental management plant is given below:

Sl	Component	Area	Capital Cost	Recurring Cost
1	Air environment	Raw Mill / Kiln bag house	44.0	04.00
2		Cooler ESP, Coal Mill and Cement Mill bag houses	49.0	
3		Transfer point Bag Filters	20.0	
4		Continuous Monitoring Equipment	02.0	
5	Green belt Development	Plant and Colony	01.0	0.50
6	Rainwater Harvesting		04.00	--
	Total		120.00	4.5

21.0 The required greenbelt as per norms is 33 % of the plant area. PCIL has already developed greenbelt in an area of 16 Ha and now proposes to develop the greenbelt in additional area of 4.0 Ha. PCIL has taken up plantation outside the cement plant area in an area of about 11.17 Ha.

22.0 The proponent has mentioned that there is no court case to the project or related activity.

23.0 The project proponent has made detailed presentation on the proposal along with EIA Consultant M/s B. S. Envi-Tech Pvt Limited, Hyderabad.

24.0 The proposal was considered in the 24th meeting of Expert Appraisal Committee held during 13th – 15th November 2017 and further considered in the 28th meeting held during 5th – 7th February, 2018. After detailed deliberations, the committee recommended the project for environmental clearance subject the following Specific and General conditions in addition to any other conditions stipulated by the Ministry during the processing of application.

25.0 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 Expansion of Cement Plant (Clinker from 1.5 to 4.0 MTPA and Cement from 2.0 to 4.6 MTPA) located at Village Boyareddypalli, Yadiki Mandal, District Anantapur, Andhra Pradesh by M/s. Penna Cement Industries Limited under the provision of EIA Notification dated 14th September, 2006, as amended, subject to strict compliance of the following Specific and General conditions:

A. SPECIFIC CONDITION:

- i. The PP shall comply with stack emission norm of 25 mg /Nm³ of particulate matter.
- ii. Greenbelt, in addition to 16.0 ha of green belt already prescribed in earlier EC, over an area of 4.0 ha shall be developed (total 20.0 ha) with native and broad-leaved tree species *inter alia*, covering all along the boundary of the plant.
- iii. Groundwater drawl shall not be exceeded 70 m³/day and balance shall be met through rainwater harvesting.
- iv. An amount of Rs 20 Crores proposed towards Enterprise Social Commitment (ESC) 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.
- v. The Capital cost Rs. 120 Crores and annual recurring cost Rs. 4.5 Crores towards the environmental protection measures shall be provided separately. The funds so provided shall not be diverted for any other purpose.

B. GENERAL CONDITIONS:

1. The project proponent shall (Air Quality Monitoring):
 - a. 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 and subsequent amendment dated 9th May, 2016 and 10th May, 2016; S.O. 3305 (E) dated 7th December 2015 as amended from time to time and connected to SPCB and CPCB online and calibrate these system from time to time according to equipment supplier specification through labs recognized 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 recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
 - c. Install system carryout Continuous Ambient Air Quality monitoring for parameters relevant to pollutants released as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 (as amended from time to time) within and outside the plant area at least at four locations one within and three outside the plant area at an angle of 120o 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.
2. The project proponent shall (Water Quality Monitoring):

- a. install 24x7 continuous effluent monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 (in G.S.R. No. 612 (E) dated 25th August, 2014 and subsequent amendment dated 9th May, 2016 and 10th May, 2016 as amended from time to time; S.O. 3305 (E) dated 7th December 2015 as amended from time to time) and connected to SPCB and CPCB online 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 for calibration of CEMS 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.
3. The project proponent shall (Air Pollution Control):
- a. 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.
 - b. provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags;
 - c. provide pollution control system in the cement plant as per the CREP Guidelines of CPCB;
 - d. provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly;
 - e. 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;
 - f. 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;
 - g. Provide wind shelter fence and chemical spraying on the raw material stock piles;
 - h. provide Low NOX burners as primary measures and SCR /NSCR technologies as secondary measure to control NOX emissions. have separate truck parking area and monitor vehicular emissions at regular interval.
4. The project proponent shall (Water Pollution Control):
- a. adhere to 'zero liquid discharge';
 - b. provide Sewage Treatment Plant for domestic wastewater; and

of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.

13. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.
14. 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.
15. 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.
16. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
17. 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).
18. The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
19. The storage of NH₃ and other hazardous chemicals at the site shall be as per the provisions of Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as amended from time to time.
20. 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.
21. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
22. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.
23. Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.
24. Sufficient number of colour coded waste collection bins shall be constructed at shop floors in each shop to systematically segregate and store waste materials generated at the shop floors (other than Process waste) in designated coloured bins for value addition by promoting reuse of such wastes and for good housekeeping.
25. 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, 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;
- 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.

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

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


28.0 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.

29.0 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.

30.0 This Environmental Clearance is issued in supersession of the J-11011/351/2006-IA.II(I) dated 18th May 2007.

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:-