

F. No. J-11011/1227/2007- IA II (I)
Government of India
Ministry of Environment and Forests
(I.A. Division)

Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi - 110 003

E-mail : pb.rastogi@nic.in
Telefax : 011: 2436 7668

Dated 29th September, 2008

To,

✓
M/s Penna Cement Industries
703, Srinikethan Colony, Road No.3
Banjara Hills, Hyderabad - 500 034
Andhra Pradesh

E-mail : projects@pennacements.com ; Fax No. : 040-23355941

Subject : Integrated Cement Plant (Clinker 1.50 MTPA, Cement 2.0 MTPA) at Village Belkatun, Mandal Tandur, District Ranga Reddy, A. P. and Captive Limestone Mine (206.9 ha; 2.30 MTPA) at Village Ogipur, Mandal Tandur, District Ranga Reddy, A. P. by M/s Penna Cement Industries - - Environment clearance reg.
Ref. : Your letter no. PCIL/MOEF/TND/2007 dated 23rd October, 2007.

Sir,

Kindly refer your letter no. PCIL/MOEF/TND/2007 dated 23rd October, 2007 alongwith project documents including Application Form, Questionnaire, EIA/EMP Report and subsequent clarifications furnished vide communications dated 18th February, 2008 and 18th June, 2008 regarding above mentioned project.

2.0 The Ministry of Environment and Forests has examined your application. It is noted that the proposal is for the Integrated Cement Plant (Clinker 1.50 MTPA, Cement 2.0 MTPA) at Village Belkatun, Mandal Tandur, District Ranga Reddy, A. P. and Captive Limestone Mine (221.92 ha; 2.30 MTPA) at Village Ogipur, Mandal Tandur, District Ranga Reddy, A. P. by M/s Penna Cement Industries. Total project area for cement plant and mine lease will be 16 ha. and 221.92 ha respectively. No National Park and Wild life sanctuary is located within 10 km radius of the project. Gingurthy Reserve Forest is located at 9.6 km. Estimated limestone reserves in 721.92 ha. area are 106.27 millions tonnes, which will be sufficient for more than 50 years. Mining lease approval is obtained from the State Govt. and approval from the IBM is under process. Total cost of the cement plant and mines is Rs. 350.00 and Rs. 30.00 Crores respectively.

2.0 Limestone will be required for the cement plant as raw material and is available within 6 km. of plant site. Coal will be procured from M/s Singareni Collieries Co. Ltd. Laterite, gypsum, slag for Pozollona Slag Cement (PSC) and fly ash for Pozollona Portland Cement (PPC) cement will also be used.

3.0 State of art pre-calcliner technology will be used for manufacturing cement. Cement manufacturing will involve crushing, grinding, blending of raw material; coal crushing and fine

coal grinding; preheating of raw material and calcinations in the six stage pre-calciner string; Clinkerisation in the kiln; cement grinding and packing. Limestone mining will involve drilling of 115 dia., holes in the limestone bed, fed the explosive in it, blast and then excavate the limestone. Bottom tube initiation blasting method will be adopted. Wet drilling will be done by inbuilt water injection system. Water sprinkling will be done on blasted heaps and haul roads. Over filling of dumpers will be avoided.

4.0 Electrostatic precipitators (ESPs) have been provided to CPP, cement mill, cooler 2 & 3, kiln-2 and kiln-3. ESP of kiln-3 will be converted to Bag filter during expansion. ESP to cooler, bag house to raw mill/kiln and bag filter to coal mill, cement mill will be provided to control emissions within 50 mg/Nm^3 . Asphaltting/concreting of the roads, water spray arrangements around the coal stock piles and bag filters at transfer points have been proposed to control fugitive emissions. Increase in production of cement will be achieved by upgradation of various units. Total ground water requirement will be $500 \text{ m}^3/\text{day}$ and have applied for the permission to the SGWB/CGWA. Mine water requirement will be $100 \text{ m}^3/\text{day}$. An effluent treatment plant and chlorination plant will be installed. All the dust collected from air pollution control equipments will be reused in the cement plant.

5.0 Public hearing / Public consultation meeting was held on 20th May, 2008.

6.0. The Ministry of Environment and Forests hereby accords environmental clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 subject to strict compliance to the following specific and general conditions:

A. SPECIFIC CONDITIONS :

- i. Continuous monitoring system to monitor gaseous emissions shall be provided and limit of SPM shall be controlled within 50 mg/Nm^3 by installing adequate air pollution control system like electrostatic precipitators and bag filters. The monitoring data collected for ambient air, fugitive and stack emissions shall be submitted to the Ministry's Regional Office at Bangalore, A. P. Pollution Control Board (APPCB) and CPCB regularly.
- ii. All the existing electrostatic precipitators (ESPs) provided to captive power plant, cement mill, cooler 2 & 3, kiln-2 and dust collectors shall be properly maintained to achieve standards as prescribed by the APPCB or under (E(P) Act which ever are more stringent. As proposed, ESP of kiln-3 shall be converted to bag house during expansion. ESP to cooler, bag house to raw mill/kiln and bag filter to coal mill, cement mill shall be provided to control emissions within 50 mg/Nm^3 . Dust collectors shall be provided to raw mills, coal mills, cement mills, packing plant, crushers etc. Bag filters shall also be provided to blending silos, cement silos, gypsum hoppers, vertical coal mill, kiln feed system, crusher etc.
- iii. Ambient air monitoring shall be carried out in the nearby villages and efforts shall be made to control and minimize the particulate matters to bare minimum. The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc. Crusher shall be operated with high efficiency bag filters. All conveyers shall be covered with GI sheets. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided besides coal,

cement, fly ash and clinker shall be stored in silos. Pneumatic system shall be used for fly ash handling.

- iv. Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM particularly in mine area and other vulnerable areas. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- v. Asphaltting/concreting of roads and water spray all around the critical areas prone like coal stock piles and bag filters at transfer points shall be provided to control air pollution having high levels of SPM and RPM shall be ensured.
- vi. Secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed. Secondary emissions from the drilling, blasting, excavation, loading and transportation operations shall be controlled by water sprinkling and other dust suppression methods.
- vii. All the necessary care shall be taken to avoid exposure to Silica.
- viii. Digital processing of the entire lease area using remote sensing technique shall be done regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bangalore.
- ix. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash shall be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles shall be covered with a tarpaulin and shall not be overloaded.
- x. Total ground water requirement from bore wells for cement plant and mining shall not exceed 500 m³/day and 100 m³/day respectively. An effluent treatment plant (ETP) and chlorination plant shall be installed for the treatment of liquid effluent. Mined out area shall be developed as artificial reservoir and water stored in the artificial reservoir made in the mine pit shall be used maximum to reduce water consumption. All the treated wastewater from the workshop of mines shall be treated for oil and grease removal and used in the process and/or for dust suppression, green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.
- xi. 'Permission' for the drawl of 500 m³/day ground water from SGWB / CGWA shall be obtained. The water stored in the artificial reservoir made in the mine pit shall be used maximum to reduce ground water consumption. No effluent shall be discharged from the mine to any surface water body. Detailed hydrological study shall be carried out and implementation of recommendations of the detailed hydrological study shall be ensured.
- xii. Domestic wastewater shall be treated in sewage treatment plant (STP) and treated domestic effluent shall be used for green belt development within the plant premises.

- Domestic waste from colony and STP shall be segregated into bio-degradable and non-biodegradable. Bio-degradable waste shall be composted and non-biodegradable waste shall be land filled at identified sites.
- xiii. ✓ The project proponent shall ensure that no natural water course shall be obstructed due to any mining operations.
 - xiv. The project proponent shall take appropriate mitigative measures to prevent pollution of nearby River and other surface water body, if any.
 - xv. All the bag filter dust, raw meal dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. The sludge from STP shall be used as manure for green belt development. Waste/spent oil shall be sold to authorized recyclers / reprocessors only.
 - xvi. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.
 - xvii. Efforts shall be made to use low grade lime, more fly ash and solid waste in the cement manufacturing.
 - xviii. All the fly ash shall be utilized as per Fly ash Notification, 1999 subsequently amended in 2003. Efforts shall be made to use fly ash maximum in making Pozollona Portland Cement (PPC).
 - xix. Mechanized open casting shall be adopted and no change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.
 - xx. All the top soil and solid waste shall be stacked separately at specified dumping site with proper safeguards and used for the plantation / green belt development. No top soil shall be used to reclaim the mined out area by backfilling limestone mine.
 - xxi. ✓ The over burden (OB), inter burden and other waste generated from mines, if any, shall be stacked at the earmarked dump sites only and shall not be kept active for long period. Backfilled OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of reclaimed areas shall continue until the vegetation becomes self-sustaining. Regular compliance shall be submitted to the Ministry and its Regional Office at Bangalore on six monthly basis.
 - xxii. ✓ The area for external over burden dump shall be reduced by suitably increasing the height of the dumps with proper terracing. It shall be ensured that the overall slope of the dump does not exceed 28°.
 - xxiii. Garland drains shall be constructed to arrest silt and sediment flows from soil. The water so collected shall be used for watering the mine area, haul roads, green belt development etc. The drains shall be regularly de-silted and maintained properly.

- xxiv. Suitable rainwater harvesting and conservation measures to augment groundwater resources in the area on long term basis shall be planned and implemented in consultation with Regional Director, Central Ground Water Board in cement plant and mining area to augment ground water resources and use for dust suppression and horticulture.
- xxv. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and new peizometers at suitable locations by the project proponent in and around project area in consultation with Regional Director, Central Ground Water Board during the mining operation. The ground water monitoring shall be carried out 4 times in a year i.e. pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and data thus collected shall be regularly sent to the Ministry, its Regional Office at Bangalore, Central Ground Water Authority and State Ground Water Board, Bangalore.
- xxvi. Bottom tube initiation wet drilling blasting method shall be used and provision for the control air emissions during blasting using dust collectors etc. shall be made.
- xxvii. Blasting operation shall be carried out during the daytime only and one bench at a time shall be blasted. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders shall be implemented. 'No objection certificate' from the Chief Controller of Explosives shall be obtained.
- xxviii. Bench height, width and slope for individual bench shall be properly assessed and implemented. Adequate measures shall be adopted to stabilize the slope before abandonment. The fencing around the reservoir shall be provided to prevent accidents.
- xxix. As proposed, green belt shall be developed in at least 6.5 acres (33 %), out of 16 acres area in the cement plant area and all the mined out area except used for reservoir by planting the native species around mining lease area, over burden dumps, around water body, roads etc. in consultation with the local DFO / Agriculture Department. Plantation already done in mine area shall be properly maintained and suitably replaced time to time. At least, 1,500 trees per year shall be planted with a tree density of 2,000 trees per ha. An action plan shall be submitted in this regard.
- xxx. The void left unfilled shall be converted into water reservoir at the end of the life of the mine. The higher benches of excavated void/mining pit shall be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.
- xxxi. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional office within 3 months from the date of issue of this letter.

- xxxii. Action plan for the mining, management of over burden (removal, storage, disposal etc.), reclamation of the mined out area and mine closure shall be submitted to the Ministry and its Regional Office at Bangalore. A final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.
- xxxiii. 'Consent to Operate' shall be obtained from APPCB before starting enhanced production from the mine.
- xxxiv. 'Permission' and 'Recommendations' of the State Forest Department regarding impact of cement plant and mining activities on the surrounding reserve forests viz. Gingurthy Reserve Forest shall be obtained and implemented. Further, Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department shall be prepared and implemented.
- xxxv. The company shall obtain necessary clearances / approval from the concerned Departments i.e. Indian Bureau of Mines, State Government, MoEF etc. for the linked mining component before undertaking any construction activity at the project site.
- xxxvi. Rehabilitation and Resettlement Plan for the project affected population including tribals, if any, shall be implemented as per the policy of the State Govt. in consultation with the State Govt.. Compensation paid in any case shall not be less than the norms prescribed under the National Resettlement and Rehabilitation Policy, 2007.
- xxxvii. Acoustic enclosures shall be provided to control noise wherever necessary. Mine machine shall be provided with silencers. Noise shall also be controlled from cooler fans, compressor house, cement mill and raw mill, cement plant and drilling machines, excavator, blasting at mine site using appropriate noise control measures.
- xxxviii. All the safety norms stipulated by the Director General, Mine & Safety (DGMS) shall be implemented.
- xxxix. A separate budget shall be kept for the occupational health surveillance within and outside the campus in the nearby villages.
- xl. Suggestions made during the public hearing shall be implemented.

B. GENERAL CONDITIONS :

- i. The project authority shall adhere to the stipulations made by Andhra Pradesh Pollution Control Board (APPCB) and State Government.
- ii. No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.
- iii. The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the A.P. Pollution Control Board. At no time, the particulate emissions from the cement plant shall exceed APPCB limit. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) is shut down automatically.

- iv. One ambient air quality monitoring station shall be installed in downwind direction. Ambient air quality including ambient noise levels shall not exceed the standards stipulated under EPA or by the State authorities. Monitoring of ambient air quality and stack emissions shall be carried out regularly in consultation with APPCB and report submitted to the APPCB quarterly and to the Ministry's Regional Office at Bangalore half-yearly.
- v. The company must harvest the rainwater from the rooftops and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.
- vi. The company shall undertake eco-development measures including community welfare measures in the project area.
- vii. The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- viii. All recommendations made in the Corporate Responsibility for Environment Protection (CREP) for cement plants shall be implemented.
- ix. Proper house keeping shall be taken up. Regular annual medical examination of all the employees shall be carried out from the occupational health point of view and records maintained.
- x. A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive.
- xi. Adequate funds shall be earmarked towards the environment pollution control measures for the cement plant and mine and shall be suitably used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. The funds so provided shall not be diverted for any other purpose.
- xii. The Regional Office of this Ministry at Bangalore / CPCB / APPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.
- xiii. The Project Authorities 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 and the date of commencing the land development work.
- xiv. The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the A. P. Pollution Control Board and may also be seen at Website of the Ministry of Environment and Forests at <http://envfor.nic.in>. This shall be advertised 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 of the locality concerned and a copy of the same shall be forwarded to the Regional office at Bangalore.

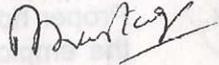
7.0 The Ministry or any other competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions shall be monitored by the Regional Office of this Ministry located at Bangalore.

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

9.0 Any other conditions or alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.

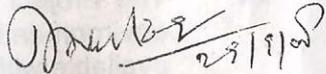
10.0 Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.

11.0 The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.


(Dr. P. B. Rastogi)
Director

Copy to:

1. The Secretary, Department of Environment and Forests, Govt. of Andhra Pradesh, Mantralaya, Hyderabad, A.P.
2. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi – 110032.
3. The Chairman, Andhra Pradesh Pollution Control Board, Paryavaran Bhavan, A-3, Industrial Estate, Sanathnagar, Hyderabad – 500 018, Andhra Pradesh.
4. The Chief Conservator of Forests (Central), Ministry of Environment & Forest, Regional Office (SZ), Kendriya Sadan, IVth Floor, E & F Wing, 17th Main Road, Koramangla, Bangalore 560 034, Karnataka.
5. Adviser, IAI(I), Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003.
6. Monitoring Cell, Ministry of Environment and Forests, Paryavaran Bhavan, CGO Complex, New Delhi-110003.
7. Guard file.
8. Monitoring file.
9. Record file.


(Dr. P. B. Rastogi)
Director