

**THE RAMCO CEMENTS LIMITED, KSR NAGAR  
COMPLIANCE REPORT – ENVIRONMENTAL CLEARANCE -  
CEMENT PLANT – 2.80 MILLION TPA CLINKER, 3.65 MILLION TPA CEMENT &  
THERMAL POWER PLANT – 36 MW**

EC Lr. No. : J-11011/403/2006-IA II (I) dated 09<sup>th</sup> June 2009  
Period : October 2018 to March 2019

**A. Specific Conditions:**

i. *Continuous stack monitoring facilities to monitor gaseous emissions from all the stacks shall be provided. After expansion, limit of SPM shall be controlled within 50 mg/Nm<sup>3</sup> by installing adequate air pollution control system viz. Electrostatic precipitators, bag house, bag filters etc. Data on ambient air, fugitive and stack emissions shall be submitted to the Ministry's Regional Office at Bangalore, AP Pollution Control Board (APPCB) and CPCB regularly.*

Complied.

- 10 Nos. of online monitors are installed to measure particulate emissions for stacks (as per CREP guidelines) and linked up with APPCB and CPCB websites.
  - All the air pollution control equipment for cement plant Line – I and Line – II are designed for particulate emission level of 30 mg/Nm<sup>3</sup>.
  - All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.
  - Cooler – I ESP will be replaced with higher capacity. Single phase transformers are replaced with three phase transformers in Cooler – II ESP.
  - As our pyritic sulphur in limestone is less than 0.25%, our SO<sub>2</sub> standard for Kiln – I & Kiln – II is 100 mg/Nm<sup>3</sup> (no time frame). The sulphur content is absorbed in clinker and the emission levels are well within the limit.
  - To meet the NO<sub>x</sub> standard of 600 mg/Nm<sup>3</sup> (with effect from 01.01.2016), low NO<sub>x</sub> burner and low NO<sub>x</sub> calciner are installed for Kiln – I.
  - NO<sub>x</sub> standard for Kiln – II is 800 mg/Nm<sup>3</sup>, as this kiln is commissioned in the year 2007 (with effect from 01.01.2016). To meet this standard, low NO<sub>x</sub> burner and low NO<sub>x</sub> calciner are installed for Kiln – II.
  - Data on ambient air and stack emissions is being regularly submitted to APPCB on monthly basis & half-yearly basis.
  - Compiled data of ambient air and stack monitoring data collected by MoEF&CC approved external laboratory on monthly basis for the period October 2018 to March 2019 is enclosed as Annexure – I & II respectively.
  - 2 Nos. of continuous online ambient air quality monitoring stations are installed and real time monitoring data is transmitted to APPCB and CPCB servers regularly.
- ii. *Possibilities shall be explored for the proper and full utilization of gases generated from the kiln in waste heat recovery boiler (WHRB) and a feasibility report shall be prepared and submitted to the Ministry and its Regional Office at Bangalore within 3 months from the date of issue of the letter.*

By exploring the possibilities, Terms of Reference application is made to MoEF&CC for utilization of these hot gases from the existing Kiln – I & Kiln – II as well as from the proposed Kiln – III. The estimated power generation is about 27 MW, by installing 7 Nos. of boilers from these Kiln lines. ToR is awarded vide letter F. No. J-11011/403/2006-IA-II (I) dated 21.12.2018.

*iii. As proposed, Electrostatic precipitators (ESPs) to clinker, bag house to kiln / raw mill, coal mill and pulse jet bag filters to cement mill and slag mill shall be provided to control gaseous emissions within 50 mg/Nm<sup>3</sup>. Bag filters shall also be provided at transfer points. Water sprinklers shall be provided to control dust emissions in cement plant and mine area.*

Complied. Modifications / replacements in the pollution control equipment are made with the designed emission level of 30 mg/Nm<sup>3</sup> from all the stacks of cement plant.

- Kiln – I ESP, Coal Mill – I ESP and Cement Mill ESP are replaced with Bag Houses.
- Slag Mill bag house upgraded.
- All the air pollution control equipment for cement plant Line – I and Line – II are designed for particulate emission level of 30 mg/Nm<sup>3</sup>.
- All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.
- Single phase transformers are replaced with three phase transformers in Cooler – II ESP and ESP is upgraded for Cooler - I.
- High efficiency bag filters are provided for LS crusher and additive crusher.
- All material transfer points are connected with bag filters.
- Agglomerative Dust Suppression systems (water fogging) are installed at raw material hopper area, coal handling area and additive handling area.
- Water fogging system is installed at limestone crusher hopper.
- Total 87 Nos. of Air Pollution Control Equipments (APCEs) in cement plant & 9 Nos. of APCEs in TPP are in operation (Annexure – III).
- Permanent water sprinkling system installed at mines haul road.
- In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.

*iv. Ambient air monitoring shall be carried out in and around the project site and efforts shall be made to control and minimize the particulate matters to bare minimum. One ambient air quality monitoring station shall be installed in downwind direction. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the CPCB in this regard.*

Being complied.

- Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office & at Mines Office respectively (one station is installed in downwind direction) and online data is being transmitted to APPCB & CPCB websites.
- 3 Nos. of ambient air quality monitoring stations are established near to plant boundary and 9 Nos. of ambient air quality monitoring stations are established in nearby villages.

- Ambient air monitoring is being carried out by MoEF&CC approved external laboratory and efforts are being made that the ambient air quality parameters conform to the norms prescribed by the CPCB.
  - Compiled data of ambient air quality monitoring data collected by MoEF&CC approved external laboratory on monthly basis for the period October 2018 to March 2019 is enclosed as Annexure - I.
- v. *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. 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.*

Complied. Total 87 Nos. of APCE in cement plant and 9 Nos. of APCE are in operation in TPP (Annexure – III) to control process emissions as well as fugitive emissions at various transfer points, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc.

- Along with the modernization activity in the year 2016-17, all the air pollution control equipment for cement plant Line – I and Line – II are designed for particulate emission level of 30 mg/Nm<sup>3</sup>.
- All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.
- All material transfer points are equipped with dust collection systems to control fugitive dust emissions.
- High efficiency bag filters are provided for LS crusher and additive crusher.
- The dust collected from APCE is being totally recycled to the respective process / storage facility.
- All conveyers are covered with GI sheets. All packing machines are fitted with bag filters.
- Closed sheds are provided for additive stacker & reclaimer, coal stacker & reclaimer and for gypsum storage.
- Closed sheds are provided for additive stacker & reclaimer, coal stacker & reclaimer and for gypsum storage.
- Cement, fly ash and clinker being stored in silos and fly ash (brought from outside) is unloaded / conveyed through pneumatic system. The entire fly ash generated from TPP is conveyed through pneumatic system and is used in cement plant.
- Agglomerative dust suppression systems (water fogging) are installed at raw material hopper area, coal handling area and additive handling area.
- Water spray system is arranged around the coal stacker & reclaimer.
- Water fogging system is installed at limestone crusher hopper.
- Permanent water sprinkling system installed at mines haul road.
- In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.

- 3 Nos. of Mobile Road Sweepers & 1 No. of Industrial Vacuum Cleaner are being used for dust removal. The removed / collected dust is being reused in the process.
- vi. *Data on ambient air quality, stack emissions and fugitive emissions shall be regularly submitted on-line to the Ministry's Regional Office at Bangalore, Central Pollution Control Board (CPCB) and AP Pollution Control Board (APPCB) as well as hard copy once in six months. Data on SPM, SO<sub>2</sub> and NO<sub>x</sub> shall also be displayed outside the premises at the appropriate place for the general public.*

Being complied.

- Compiled data of ambient air and stack monitoring data collected by MoEF&CC approved external laboratory on monthly basis for the period October 2018 to March 2019 is enclosed as Annexure – I & II respectively.
  - Online data on ambient air quality and stack monitoring is linked up with APPCB & CPCB websites.
  - Data on PM, SO<sub>2</sub> & NO<sub>x</sub> for the stacks and PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> & NO<sub>x</sub> data for ambient air quality respectively displayed outside the premises for the general public.
- vii. *Asphalting / concreting of roads and water spray all around the critical areas prone to air pollution and having high levels of SPM and RPM shall be ensured.*

Complied.

- All major roads of the plant are paved with concrete.
  - Water sprinkling is being done with truck mounted sprinklers on critical roads of cement plant.
- viii. *Secondary fugitive emissions shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines / Code of Practice issued by the CPCB in this regard shall be followed.*

Being complied.

- Secondary fugitive emissions shall be controlled by providing air pollution control equipments, concrete roads, water sprinkling, fogging systems, greenbelt development, regular cleaning of roads by using road sweeping machines & vacuum cleaner, etc.
- All the material transfer points are equipped with dust collection systems to control secondary fugitive emissions.
- Total 87 Nos. of APCE in cement plant and 9 Nos. of APCE in TPP are in operation.
- Water fogging system is installed at limestone crusher hopper.
- Agglomerative Dust Suppression systems (water fogging) are installed at raw material hopper area, coal handling area and additive handling area.
- Guidelines / code of practice issued by the CPCB in this regard are being followed accordingly.

- 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 regularly monitored.*

Being complied.

- Major portion of raw materials, clinker (intermediate product) and cement (end product) are being transported through closed wagons to control dust on surrounding agricultural lands.
  - Fly ash is being transported in the closed containers only.
  - The entire fly ash generated from TPP is used in the manufacturing of cement.
  - All the raw material containers are not being overloaded, at the time of transportation.
  - It is ensured that vehicular emissions are being regularly monitored by respective transporters.
- x. *Total water requirement for cement plant from bore wells / mine pit water shall not exceed 6,630 m<sup>3</sup>/day. The wastewater from boiler blow down, DM plant regeneration waste water, UF & RO rejects shall be neutralized in neutralization tank and mixed with cooling tower blow down in a Central Monitoring Basin (CMB) and used for greenbelt development. All the treated wastewater shall be recycled and reused in the process and / or for dust suppression and greenbelt development and other plant related activities etc. No process waste water shall be discharged outside the factory premises and 'zero' discharge shall be adopted.*

Being complied.

- Total water requirement for cement plant, power plant and domestic usages is from mine pit water only and the present water consumption is well within 6,260 m<sup>3</sup>/day.
- Cement manufacturing will not generate process effluents.
- TPP effluent is being treated in effluent treatment plant. The wastewater from boiler blow down, DM plant regeneration, UF & RO rejects and cooling tower blow down of TPP are being neutralized in neutralization tank and being used for greenbelt.
- Sewage treatment plant (of capacity 650 kLD) is in operation to treat domestic sewage from colony, office, canteen and plant.
- Auto garage wash water is being treated separately at Oil & Grease Trap.
- Compiled data of STP, TPP ETP and Oil & Grease outlet samples analysis carried out by MoEF&CC approved agency (on monthly basis) for the period October 2018 to March 2019 is enclosed as Annexure – IV, V & VI respectively.
- These treated effluents are used for greenbelt, water sprinkling & partially for process activities.
- The excess treated waste water, if any, is being passed to pond in our company's own lands to uplift the water table in the nearby area.
- With all these measures, 'zero discharge' is being maintained.

- xi. 'Permission' for the drawl of 6,630 m<sup>3</sup>/day ground water / mine pit water shall be obtained from the Central Ground Water Authority / State Ground Water Board (GGWA / SGWB) and a copy of the letter shall be submitted to the Ministry's Regional Office at Bangalore within 3 months of issue of the environment clearance.*

Complied. Permission obtained from GWD vide Lr. No. 11/Hg/MC/2006 dated 29.03.2007 (enclosed as Annexure - VII) for drawl of 7000 m<sup>3</sup>/day water from the available quantity of water from the mine de-watering only and present water drawl is less than 6,630 m<sup>3</sup>/day.

- xii. All the bag filter dust, raw meal dust, coal dust, clinker dust and cement dust from air pollution control devices shall be recycled and reused in the process and used for cement manufacturing. The sludge from sewage treatment plant (STP) shall be used as manure for greenbelt development. Organic wastes shall be subjected to vermin composting and used as manure for greenbelt. Inorganic wastes (papers and other wastes) shall be properly disposed off or sold to rag pickers / scrap dealers. Used oil and batteries shall be used in kiln as an alternate fuel and / or sold to authorized recyclers / reprocessors only.*

Being complied.

- All the bag filter dust, raw meal dust, coal dust, clinker dust and cement dust from air pollution control devices are being recycled totally in the respective section and reused in the cement manufacturing process.
- The sludge from sewage treatment plant (STP) is being used as manure for greenbelt development.
- Organic wastes is subjected to vermin composting and used as manure for greenbelt.
- Inorganic wastes (papers and other wastes) are properly disposed into calciner of the preheater.
- Waste oil (stored in a tank of capacity 3.5 kL) along with fresh fuel is being used for kiln firing while light up & for reclaimers lubrication and / or sold to APPCB authorized agents
- Disposing waste lead acid batteries to APPCB authorized recyclers / reprocessors properly, by storing in a designated area.

- xiii. An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.*

Being complied.

- Hazardous Waste Authorization for handling various high calorific hazardous wastes obtained from APPCB and applied for regular permission from CPCB.
- CPCB has rejected our proposal for the specified list of materials.
- Necessary feeding arrangements are made to use high calorific value hazardous waste in the kilns.

- xiv. Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.*

Being complied.

- About 15% low grade limestone is being used by blending activity.
  - For production capacity of 3.65 million TPA cement, the total fly ash requirement is 1.11 million TPA and slag requirement is 0.287 million TPA respectively.
- xv. *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 and slag maximum in making Pozollona Portland Cement (PPC) and Portland Slag Cement (PSC).*

Being complied.

- The entire fly ash generated from TPP is used in the manufacturing of cement.
  - For production capacity of 3.65 million TPA cement, the total fly ash requirement is 1.11 million TPA and total slag requirement is 0.287 million TPA respectively.
- xvi. *As proposed, greenbelt shall be developed in 172.75 ha (69.63%), out of total 248.08 ha area in and around the cement plant as per the CPCB guidelines to mitigate the effects of air emissions in consultation with local DFO.*

Greenbelt is developed in an area of 130.24 ha by March 2019, out of 248 ha by planting different species including native species. This condition is modified in the latest Environmental Clearance issued for Cement Plant expansion project [No. J-11011/403/2006-IA-II (I) dated 29<sup>th</sup> September, 2016], as point No. vi of specific conditions:

- A greenbelt of 130.24 ha (52.5 % of 248.08 ha) as on 30.11.2014 has been developed, which should be maintained as it is.

Emphasis is being made to maintain 130.24 ha greenbelt area in and around plant premises and for planting dust capturing plants in consultation with local DFO to mitigate the effects of air emissions.

- xvii. *Permission and recommendations of the State Forest Department regarding impact of proposed plant on surrounding reserve forests viz. Jaggayapeta Extension RF (0.2-10.5 km, E-S), Budavada RF (3.2-10.5 km, W), Ballusupadu RF (6-11 km, WNW), Gandrayi RF (8.5-11 km, NNW) and Kuntimaddi RF (8 km, SSE) 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.*

Complied.

- District Forest Officer, Vijayawada has accorded 'No Objection Certificate' for the modernization project, vide Lr. No. 712/2000-V6 dated 13.05.2009.
- Wild life conservation plan is not required as no wild life and schedule -1 species are present in the area as per the DFO Krishna Division, Vijayawada through Letter No. Rc. No.712/95-V6 date 29.08.2008.

xviii. *All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.*

Being implemented. CREP guidelines are being followed. As part of this, modernization project is done by replacing / modifying the pollution control equipment of cement plant with designed emission rate of 30 mg/Nm<sup>3</sup>, after obtaining valid EC, CFE & CFO. The compliance report for CREP guidelines for cement plant is enclosed as Annexure - VIII.

xix. *The company shall provide housing for 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.*

Complied.

- Separate colony with permanent structures is constructed for contract workmen with all necessary infrastructure facilities such as toilets connected with septic tanks, safe drinking water, medical health care, etc., at the time of construction. These housings were in the form of temporary structures and were removed after completion of the project work.
- Potability certificates for RO plant inlet and outlet samples for the period October 2018 to March 2019 are enclosed as Annexure - IX.

#### **B. General Conditions:**

i. *The project authority shall adhere to the stipulations made by Andhra Pradesh Pollution Control Board (APPCB) and State Government.*

Being complied as per the CFO Order No. APPCB/HO/UH-IV/CFO:VJA/Auto Renewal-9/2016 dated 08.12.2016, which is valid up to 31<sup>st</sup> January 2022.

ii. *No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.*

Complied. Ministry accorded EC for expansion project (after this subject EC):

Project	ToR / EC details
Increase of clinker production from 2.80 MTPA to 3.185 MTPA & for installation 6 MW Turbo Generator	EC No. J-11011/403/2006-IA-II (I) dated 29.09.2016
Increase of clinker production from 3.185 MTPA to 4.685 MTPA & installation of 27 MW Waste Heat Recovery System by installation of 7 Nos. of boilers	ToR No. J-11011/403/2006-IA-II (I) dated 21.12.2018

iii. *The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the AP 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 shutdown automatically.*

Complied.

- Efforts are being made to adhere to the gaseous and particulate matter emissions from various units to the standards prescribed by the APPCB.
  - Along with the modernization activity in the year 2016-17, all the air pollution control equipment for cement plant Line – I and Line – II are designed for particulate emission level of 30 mg/Nm<sup>3</sup>.
  - All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.
  - As our pyritic sulphur in limestone is less than 0.25%, our SO<sub>2</sub> standard for Kiln – I & Kiln – II is 100 mg/Nm<sup>3</sup> (no time frame). The sulphur content is absorbed in clinker and the emission levels are well within the limit.
  - To meet the NO<sub>x</sub> standard of 600 mg/Nm<sup>3</sup> (with effect from 01.01.2016), low NO<sub>x</sub> burner and low NO<sub>x</sub> calciner are installed for Kiln – I.
  - NO<sub>x</sub> standard for Kiln – II is 800 mg/Nm<sup>3</sup>, as this kiln is commissioned in the year 2007 (with effect from 01.01.2016). To meet this standard, low NO<sub>x</sub> burner and low NO<sub>x</sub> calciner are installed for Kiln – II.
  - In the event of pollution control equipment not working, the respective unit(s) gets stopped automatically in phased manner with associated interlocks.
- iv. *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.*

Being complied.

- 3 Nos. of ambient air quality monitoring stations are established near to plant boundary (including in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated) and 9 Nos. of ambient air quality monitoring stations are established in nearby villages.
  - Compiled data of ambient air quality monitoring (spread all around the cement plant) carried out by MoEF&CC approved agency on monthly basis for the period October 2018 to March 2019 is enclosed as Annexure – I.
  - Compiled data of stack emission monitoring levels carried by MoEF&CC approved external laboratory for the same period is enclosed as Annexure - II.
  - Monthly stack & ambient air quality monitoring data are being submitted to APPCB on regular basis.
  - Half-yearly compliance reports are being submitted to APPCB and Regional Office of Ministry located at Chennai on regular basis
  - Providing noise control measures including acoustic hoods, silencers, enclosures etc. at all sources of noise generation.
  - Efforts are being made to achieve noise levels within norms.
- 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.*

Being complied. To conserve fresh water,

- 48 Nos. of rain water harvesting structures are made to recharge the ground water in the colony by March 2019. 4 Nos. of rain water harvesting structure

are made to recharge the ground water in the plant by March 2019 (Annexure – X).

- Water collected in mine pits is being used for cement plant, for thermal power plant, mines & for domestic uses.
- Treated waste water from STP, ETP and Oil & Grease Trap is used for greenbelt, water sprinkling and partially for process activities.

vi. *The company shall undertake eco-development measures including community welfare measures in the project area.*

Being complied.

- Spent about Rs. 102.55 lakh in the financial year 2018-19 for various socio-economic activities for the surrounding villages as part of corporate social responsibility.
- CSR activities for the nearby villages are being carried out as per the need basis of the local people, subjected to the budget availability.
- Details of CSR expenditure for the financial year 2018-19 are enclosed as Annexure – XI.

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).*

Being complied.

- Providing noise control measures including acoustic hoods, silencers, enclosures etc. at all sources of noise generation.
- Efforts are made to achieve noise levels within norms.
- Ambient noise levels are being monitored during day and night time and records are being maintained.

viii. *All recommendations made in the Corporate Responsibility for Environment Protection (CREP) for cement plants shall be implemented.*

Being implemented.

- CREP guidelines are being followed. As part of this, modernization project is done by replacing / modifying the pollution control equipment of cement plant with designed emission rate of 30 mg/Nm<sup>3</sup>, after obtaining valid EC, CFE & CFO.
- The compliance report for CREP guidelines for cement plant is enclosed as Annexure - VIII.

ix. *Proper housekeeping 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.*

Being complied.

- Proper housekeeping is maintained in the plant premises.
- 3 Nos. of mobile road sweepers and 1 No. of vacuum cleaner are being used for better housekeeping.
- Occupational health checkup is being carried for all the employees and records are being 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.*

Complied. Separate environmental management cell is carrying out monitoring functions. The organization chart of environmental cell is enclosed as Annexure - XII.

xi. *Occupational health surveillance programme shall be done on a regular basis and records maintained. The programme must include lung function and sputum analysis tests once in six months.*

Being complied.

- Occupational health checkup is being carried for all the employees, covering lung function and sputum analysis tests also.
- Occupational health surveillance programme is being carried for the employees regularly and records are being maintained. Occupational Health Centre (with qualified Occupational Health Specialist with supporting staff) is established with the following facilities:

- X-ray
- ECG
- Spirometry (lung function test)
- Audiometry
- Semi-auto analyser to carryout bio-chemical tests
- Clinical lab for micro-biological tests (including sputum test)
- Checking colour blindness
- Dental chair
- Ambulance

xii. *As proposed, Rs. 2.00 Crores and Rs. 2.50 Crores shall be earmarked towards the total capital cost and recurring cost/annum for environmental pollution control measures and shall be suitably used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Rs. 25.00 Lakhs and Rs. 25.00 Lakhs earmarked towards EMP / greenbelt and occupational health per annum and Rs. 50.00 Lakhs earmarked for corporate social responsibility shall be judiciously utilized and regular report shall be submitted to the Regional Office of this Ministry at Bangalore. The funds so provided shall not be diverted for any other purpose.*

Being complied. Earmarked funds so provided are not being diverted for any other purposes.

- Rs. 2.18 crore spent towards the total capital cost for environmental pollution control measures at the time of modernization.

- Rs. 4.31 crore spent on new air pollution control equipment in the financial year 2016-17 as part of the Line – I expansion project.
- Greenbelt expenditure in the financial year 2018-19 is Rs. 120.25 lakh with respect to plant, colony, mining lease areas and nearby areas.
- Rs. 18,724 crore spent as recurring cost in the financial year 2018-19, for various environmental protection measures associated with plant. The expenditure details for various environmental protection measures are enclosed as Annexure – XII for the financial year 2018-19.
- An amount of Rs. 14.90 crore is allocated towards Environment Management Activities for 2019-20 towards capital as well as recurring costs for plant & mines and being spent.

*xiii. The Regional Office of this Ministry at Bangalore / CPCB / APPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.*

This compliance report along with statistical interpretation of monitored data is submitted as per this stipulation.

*xiv. 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.*

Noted. Date of financial closure for this project is not required as total funding for this project is from own funds.

*xv. 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 AP 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.*

Complied. Published the same in 11.06.2009 Eenadu (Telugu) & The Hindu (English) newspapers and copy submitted to Regional Office, Ministry.