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## THE RAMCO CEMENTS LIMITED

RCL/MoEF&CC/18/2022-2023

30<sup>th</sup> May 2022

Ministry of Environment, Forests and Climate Change,  
Integrated Regional Office,  
Green House Complex,  
Gopala Reddy Road,  
VIJAYAWADA – 520 010.

Respected Sir,

Sub: Submission of half yearly Compliance Report for Environmental Clearance for the period – October 2021 to March 2022 - Reg.

Ref: 1. EC Order Lr. No. J-11011/403/2006-IA-II (I) dated 18.12.2019 and its amendment vide Lr. No. J-11011/403/2006/IA.II(I) dated 15.07.2020.  
2. EC Order Lr. No. J-11011/403/2006-IA-II (I) dated 29.09.2016.  
3. EC Order No. J-11011/403/2006-IA II (I) dated 09.06.2009.  
4. EC Order No. J-11011/403/2006-IA-II (I) dated 07.02.2007.

We herewith submit the half yearly Compliance Reports for the above cited Environmental Clearance letters issued for our Cement Plant & Thermal Power Plant for the period October 2021 to March 2022 along with relevant enclosures.

This is to submit that the undersigned is the person in-charge of environmental division. Vide Notice from MoEF&CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to [ecompliance-ap@gov.in](mailto:ecompliance-ap@gov.in).

This is for your kind information and perusal please.

Thanking you,

Yours faithfully,  
for The Ramco Cements Limited,

N Ravi Shankar  
Sr. President (Mfg.)  
Phone No. 08654 224400 - 04,  
Fax No. 08654 – 222352,  
e-mail: [mcljpm@ramcocements.co.in](mailto:mcljpm@ramcocements.co.in).

Encl.: As above.

Cc to: Central Pollution Control Board, Nisarga Bhavan, A-Block, 1<sup>st</sup> & 2<sup>nd</sup> Floors,  
Thimmaiah Road, 7<sup>th</sup> D-Main, Shivanagar, Bengaluru – 560 079.

## HALF-YEARLY COMPLIANCE REPORT

Environmental Clearance Letter/s No. and Date	J-11011/403/2006-IA-II (I) and 18.12.2019
Name of the Project	The Ramco Cements Limited, Cement Plant – 4.685 Million TPA Clinker, 3.65 Million TPA Cement, Thermal Power Plant – 24 MW, WHRB - 27 MW
Period of Compliance Report	October 2021 to March 2022

### A. Specific Conditions:

S.No.	Condition	Compliance Status
i.	Emissions from bag filter should be below 10 mg/Nm <sup>3</sup> .	Being complied. <ul style="list-style-type: none"> <li>Ministry accorded EC order No. J-11011/403/2006-IA-II (I) dated 15<sup>th</sup> July 2020 modifying this condition as 'the emission from bag filter should be below 20 mg/Nm<sup>3</sup>.</li> <li>All the bag filters for the cement plant Line – III are designed and being operated for 20 mg/Nm<sup>3</sup>, accordingly.</li> </ul>
ii.	CER activities shall be implemented within 2 years.	Being complied. The CER commitment for the expansion proposal is Rs. 5.0 crore. Some of the projects are in progress.
iii.	No groundwater shall be abstracted for industrial activities.	Being complied. Obtained NOC from Panchayat Raj & Rural Development department, Government of Andhra Pradesh (nodal agency for Central Ground Water Authority) to utilize mine seepage water for 7000 kLD, vide Lr. No. PRR05-11028/45/2018-SLNA-GIS-CORD dated 13.11.2021, which is valid up to 12.11.2024.

### General Conditions:

#### B. Statutory compliance:

S.No.	Condition	Compliance Status
i.	The project proponent shall obtain forest clearance under the provisions of Forest Conservation Act, 1986, in case of diversion of forest land for non-forest purpose involved in the project	Not applicable, as no diversion of forest land for non-forest purpose involved in the project.
ii.	The project proponent shall obtain clearance from the National Board of	Not applicable, as no Schedule – I species are found within 10 km radius

S.N o.	Condition	Compliance Status
	Wildlife, if applicable.	study area of the plant.
iii.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule – I species in the study area).	Not applicable, as no Schedule – I species are found within 10 km radius study area of the plant. Submitted a letter to Chief Wild Life Warden vide Lr. No. RCL/CWLW/15/2022-2023 dated 11.05.2022, regarding the same.
iv.	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	Being complied. <ul style="list-style-type: none"> <li>Obtained Consent for Establishment for the project from Andhra Pradesh Pollution Control Board vide Order No. 253/APPCB/CFE/RO-VJA/HO/2009 dated 17.10.2019.</li> <li>Obtained Consent for Operation for the project Andhra Pradesh Pollution Control Board vide Order No. APPCB/VJA/VJA/488/HO/CFO/2017- dated 28.07.2021.</li> <li>Obtained Combined Consent for Operation vide order No. APPCB/VJA/VJA/488/HO/CFO/ 2017- dated 02.11.2021 (which is valid up to 31.01.2027), withdrawing the CFO order dated 28.07.2021.</li> </ul>
v.	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.	Being complied. <ul style="list-style-type: none"> <li>Panchayat Raj &amp; Rural Development department, Government of Andhra Pradesh (nodal agency for Central Ground Water Authority) has given NOC for mine seepage water utilization for 7000 kLD, vide Lr. No. PRR05-11028/45/2018-SLNA-GIS-CORD dated 13.11.2021, which is valid up to 12.11.2024.</li> <li>No surface water is being abstracted for industrial activities.</li> </ul>
vi.	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.	Being complied. Hazardous waste authorization obtained vide Order No. APPCB/VJA/VJA/488/HO/ CFO/2017- dated 02.11.2021.
I.	<b>Air quality monitoring and preservation</b>	
i.	The project proponent shall install	Being complied.

S.N o.	Condition	Compliance Status
	<p>24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules, 1986 (GSR No. 612 (E) dated 25<sup>th</sup> August, 2014 (Cement) and subsequent amendment dated 9<sup>th</sup> May 2016 (Cement) and 10<sup>th</sup> May 2016 (Co-processing Cement); SO 3305 (E) dated 7<sup>th</sup> 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 recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.</p>	<ul style="list-style-type: none"> <li>• With respect to operating plant, 10 Nos. of online stack monitors are installed and online data is being transmitted to APPCB &amp; CPCB websites.</li> <li>• With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.</li> </ul>
ii.	<p>The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.</p>	<p>Being Complied. Records being maintained.</p>
iii.	<p>The project proponent shall install system carryout to Continuous Ambient Air monitoring for common / criterion parameters relevant to the main pollutants released (e.g. PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous).</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office &amp; at Mines Office respectively (one station is installed in downwind direction and another in upwind direction) to measure PM<sub>10</sub> and PM<sub>2.5</sub> in reference to PM emission, and SO<sub>2</sub> and NO<sub>x</sub> in reference to SO<sub>2</sub> and NO<sub>x</sub> emissions.</li> <li>• Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li> </ul>
iv.	<p>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&amp;CC, Zonal Office of CPCB and Regional Office of SPCB</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Results of manual stack monitoring and manual air quality monitoring are being submitted to Regional Office of MoEF&amp;CC and Regional Office of SPCB along with half-yearly compliance reports. Consolidated data for the period October 2021 to March 2022 are enclosed as</li> </ul>

S.N o.	Condition	Compliance Status
	along with six-monthly monitoring report.	<p>Annexures - I &amp; II respectively.</p> <ul style="list-style-type: none"> <li>• Copy of this half-yearly compliance report is forwarded to Zonal Office of CPCB.</li> <li>• Continuous stack emission data and continuous ambient air quality monitoring data are being transmitted to APPCB server and CPCB servers.</li> </ul>
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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, etc.: <ul style="list-style-type: none"> <li>○ 118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>○ 5 Nos. of ESPs</li> <li>○ 5 Nos. of Water Fogging Systems</li> </ul> </li> <li>• 25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>• 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>, whereas for cement plant Line – III are designed for 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.</li> <li>• The dust collected from APCE is being totally recycled to the respective process / storage facility.</li> <li>• All conveyers are covered with GI sheets.</li> <li>• To control fugitive emissions, dust extraction system with bag filter facility is provided at truck loading area.</li> <li>• Fly ash and clinker being stored in silos and fly ash is unloaded / conveyed through pneumatic system. The entire fly ash generated from TPP is used in the manufacturing of cement.</li> <li>• Water spray system arranged</li> </ul>

S.N o.	Condition	Compliance Status
		<p>around the coal stacker &amp; reclaimer.</p> <ul style="list-style-type: none"> <li>• Water fogging system is installed at limestone crusher hopper and at wagon tippler.</li> <li>• Permanent water sprinkling system installed at mines haul road.</li> <li>• In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.</li> </ul>
vi.	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Bag Filter / Bag House Differential Pressure (DP) value varies in case of any major leakage / bag drop. Leaking bag is removed immediately by by-passing the concerned chamber.</li> <li>• Bags are cleaned by placing in the chamber itself. After cleaning of the bags, bag filter doors are closed and then bag filter suction / hopper connected conveyance system is operated to clean the dust emitted at the time of cleaning.</li> </ul>
vii.	Pollution control system in the cement plant shall be provided as per the CREP Guidelines of CPCB.	<p>Being implemented.</p> <ul style="list-style-type: none"> <li>• CREP guidelines are being followed. As part of this, waste heat recovery system with 27 MW is installed.</li> <li>• The compliance report for CREP guidelines for cement plant is enclosed as Annexure - III.</li> </ul>
viii.	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	<p>Being complied.</p> <p>3 Nos. of road sweepers and 2 Nos. of industrial vacuum cleaners are being operated to clean plant roads, shop floors, roofs, etc., regularly.</p>
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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• The dust collected from bag filters / bag houses / ESPs (like lime fines, coal fines, clinker fines, cement fines, etc.) are being collected and recycled into the respective process circuits. <ul style="list-style-type: none"> <li>◦ 118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>◦ 5 Nos. of ESPs</li> <li>◦ 5 Nos. of Water Fogging Systems</li> </ul> </li> <li>• 25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>• All the process equipments are</li> </ul>

S.N o.	Condition	Compliance Status
		operated with sufficient vacuum pressure to keep the area clean.
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;	Being complied. <ul style="list-style-type: none"> <li>All the raw material containers are not being overloaded, at the time of transportation.</li> <li>All the belt conveyors (of ore, coal and other raw material) are being used are covered with GI sheds to prevent spillage and dust generation.</li> <li>Fly ash (brought from outside) is transported through closed bulkers and is unloaded / conveyed through pneumatic system.</li> <li>The fly ash generated from TPP is conveyed through pneumatic system and is used in cement plant.</li> </ul>
xi.	Provide wind shelter fence and chemical spraying on the raw material stock piles; and	Being complied.
xii.	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.	Being complied. <ul style="list-style-type: none"> <li>Low NOx burners are being used to control NOx emissions.</li> <li>Separate truck parking area is demarcated with concrete pavement.</li> <li>Vehicular emissions are being regularly monitored by respective transporters.</li> </ul>
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.	Being complied. <ul style="list-style-type: none"> <li>Major portion of raw materials and end products (clinker &amp; cement) is being transported through closed wagons to control dust.</li> <li>All the raw material containers are not being overloaded, at the time of transportation.</li> <li>All the belt conveyors being used are covered with GI sheds to prevent spillage and dust generation.</li> <li>Fly ash (brought from outside) is transported through closed bulkers and is unloaded / conveyed through pneumatic system.</li> <li>The fly ash generated from TPP is conveyed through pneumatic system and is used in cement plant.</li> </ul>
xiv.	Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement	Being complied. <ul style="list-style-type: none"> <li>Motor houses are placed in open area only.</li> <li>Cable tunnels are designed for</li> </ul>

S.N o.	Condition	Compliance Status
	bagging plants.	ventilation systems. • Cement bagging plants are connected with bag filter system.
<b>II</b>	<b>Water quality monitoring and preservation</b>	
i.	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules, 1986 (GSR No. 612 (E) dated 25 <sup>th</sup> August, 2014 (Cement) and subsequent amendment dated 9 <sup>th</sup> May 2016 (Cement) and 10 <sup>th</sup> May 2016 (Co-processing Cement); SO 3305 (E) dated 7 <sup>th</sup> 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 recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: Continuous)	Being complied. • No process waste water generation from cement plant. • Continuous Effluent Monitoring System (CEMS) is installed to monitor Thermal Power Plant Effluent Treatment Plant treated effluent. The same is connected to CPCB & APPCB servers and data is being transmitted. • Regular calibration is being done for these online effluent monitoring analysers. • Compiled data of Thermal Power Plant Effluent Treatment Plant treated effluent samples analysis carried out by MoEF&CC approved agency on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – IV. • Auto garage effluents are being treated in Oil & Grease Trap. • Compiled data of Oil & Grease Trap treated effluent samples analysis carried out by MoEF&CC approved agency on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – V.
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 recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Being complied. Ground water quality is being monitored twice in a year at 9 Nos. of locations in the nearby areas through external labs recognized under Environment (Protection) Act, 1986.
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.	Being complied. • Results of manual effluent testing and manual monitoring of ground water quality are being submitted to Regional Office of MoEF&CC and Regional Office of SPCB along with six-monthly monitoring report. • Copy of this half-yearly compliance report is forwarded to Zonal Office of CPCB.



S.N o.	Condition	Compliance Status
		<ul style="list-style-type: none"> <li>Continuous Effluent Monitoring System (CEMS) is installed to monitor Thermal Power Plant Effluent Treatment Plant treated effluent. The same is connected to CPCB &amp; APPCB servers and data is being transmitted.</li> </ul>
iv.	Adhere to 'Zero Liquid Discharge'.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Cement manufacturing will not generate process effluents.</li> <li>TPP effluent is being treated in effluent treatment plant. The wastewater from boiler blow down, DM plant regeneration, UF &amp; RO rejects and cooling tower blow down of TPP are being neutralized in neutralization tank.</li> <li>Sewage treatment plant is in operation to treat domestic sewage from colony, plant, canteen and offices.</li> <li>Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>These treated effluents are used for greenbelt, water sprinkling &amp; partially for cement plant process activities.</li> <li>The excess treated waste water, if any, is being passed to pond (around 0.5 ha) in our own lands to uplift the water table in the nearby area.</li> <li>With all these measures, 'zero discharge' is being maintained.</li> </ul>
v.	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Sewage treatment plant is in operation to treat domestic sewage from colony, plant, canteen and offices.</li> <li>Compiled data of STP outlet samples analysis carried out by MoEF&amp;CC approved agency on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – VI.</li> </ul>
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.	<p>Being complied.</p> <p>Garland drains are made for stock piles.</p>

S.N o.	Condition	Compliance Status
vii.	The project proponent shall practice rainwater harvesting to maximum possible extent.	Being complied. 48 Nos. & 4 Nos. of rain water harvesting structures are made to recharge the ground water in the colony & plant respectively by March 2022.
viii.	Water meters shall be provided at the inlet to all unit processes in the cement plant.	Being complied. Water meter installed at the inlet of the plant.
ix.	The project proponent shall make efforts to minimize water consumption in the plant complex by segregation of used water, practicing cascade use and by recycling treated water.	Being complied. Various measures to use the treated waste water in the complex are as follows: <ul style="list-style-type: none"> <li>• The wastewater from boiler blow down, DM plant regeneration, UF &amp; RO rejects and cooling tower blow down of TPP are being neutralized in neutralization tank. Part of the treated wastewater is being used for cement plant process (nearly 500 kLD), for greenbelt and for water sprinkling purposes.</li> <li>• Sewage treatment plant is in operation to treat domestic sewage from colony, plant, canteen and offices. The treated sewage is being used for greenbelt and for water sprinkling purposes.</li> <li>• Auto garage wash water is being treated separately at Oil &amp; Grease Trap. The treated outlet is being used for greenbelt activities.</li> <li>• RO plant reject water is being used for greenbelt activities.</li> <li>• To further reduce the water consumption in the plant, installed 27 MW waste heat recovery system boilers with air cooled condensers, thereby stopping 1 No. of coal based boiler having water cooled condenser. Water requirement is reduced from 6788 KLD to 5850 KLD, by this.</li> </ul>
III	<b>Noise monitoring and prevention</b>	
I.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of Ministry as a part of six-monthly compliance report.	Being complied. <ul style="list-style-type: none"> <li>• Noise monitoring is being done and data is being maintained.</li> <li>• Noise level survey will be carried out as per the prescribed guidelines and report will be submitted to MoEF&amp;CC Regional Office.</li> </ul>
ii.	The ambient noise levels should conform to the standards	Being complied. <ul style="list-style-type: none"> <li>• Providing noise control measures</li> </ul>

S.N o.	Condition	Compliance Status						
	prescribed under E(P)A Rules, 1986 viz., 75 dB(A) during daytime and 70 dB(A) during night time.	including acoustic hoods, silencers, enclosures etc. at all sources of noise generation. <ul style="list-style-type: none"><li>• Efforts are made to achieve noise levels within norms.</li><li>• Ambient noise levels are being monitored during day and night time and records are being maintained.</li></ul>						
IV.	Energy Conservation measures							
i.	Waste heat recovery system shall be provided for kiln and cooler.	Being complied. Waste Heat Boilers connected to Cement Plant Line – I, II & III completed.						
ii.	The project proponent make efforts to achieve power consumption less than 65 units/tonne of Portland Pozzolona Cement (PPC) and 85 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 kCal/kg of clinker.	Efforts are being maintained to achieve these.						
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.	Noted. <ul style="list-style-type: none"><li>• We may explore the feasibility at our plant. Solar light systems are initiated on trial basis as street lights.</li><li>• 4 Nos. of solar tower blinkers are arranged with 30 W (12 V) each are arranged on trial basis.</li></ul>						
vi.	Provide the project proponent for LED lights in their offices and residential areas.	Being complied. <ul style="list-style-type: none"><li>• The details of LED lights by the end of March 2022 are as follows:<table><tr><td>Total Qty of LED lights arranged</td><td>12530 Nos.</td></tr><tr><td>Total rating of LED lights</td><td>570129 W</td></tr><tr><td>Total amount invested for LED lights</td><td>Rs. 281.11 Lakh</td></tr></table><ul style="list-style-type: none"><li>• LED lights are being distributed to prize winners for all energy management system competitions to inculcate LED light usage in the residential areas located in colony as well as in nearby villages.</li></ul></li></ul>	Total Qty of LED lights arranged	12530 Nos.	Total rating of LED lights	570129 W	Total amount invested for LED lights	Rs. 281.11 Lakh
Total Qty of LED lights arranged	12530 Nos.							
Total rating of LED lights	570129 W							
Total amount invested for LED lights	Rs. 281.11 Lakh							
v.	Maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards.	Being complied. <ul style="list-style-type: none"><li>• Fly ash is being used in PPC production, as per BIS specifications.</li><li>• Slag is being used in cement production as sweetener, as per BIS specifications.</li></ul>						
vi.	Maximize utilization of alternate fuels and co-processing to achieve	Being complied. <ul style="list-style-type: none"><li>• Utilization of spent carbon is initiated</li></ul>						

S.N o.	Condition	Compliance Status
	best practice norms.	in the co-processing, in this half-yearly period (October 2021 to March 2022) and used 16 Tonne in this half-yearly period. <ul style="list-style-type: none"> <li>Utilized 155.21 Tonne of alternate fuel in cement plant and 1,756.49 Tonne of alternate fuel in thermal power plant respectively.</li> </ul>
<b>V.</b>	<b>Waste management</b>	
i.	Used refractories shall be recycled as far as possible.	Noted. We may explore the feasibility at our plant for recycling of used refractories 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.	Being complied. <ul style="list-style-type: none"> <li>Waste oil (stored in a tank of capacity 3.5 kL) along with fresh fuel is being used for kiln firing while light up &amp; for reclaimers lubrication and / or sold to APPCB authorized agents.</li> <li>Disposing waste lead acid batteries to APPCB authorized recyclers / re-processors properly, by storing in a designated area.</li> </ul>
iii.	Kitchen waste shall be composted or converted to biogas for further use.	Being complied. Biogas plant is installed with generation capacity of bio-gas @ 15 kg/day. The kitchen waste collected from colony houses is being fed to this.
<b>VI.</b>	<b>Greenbelt</b>	
i.	Greenbelt 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.	Being complied. Greenbelt is developed in an area of 130.24 ha by March 2022. Emphasis is being made to maintain 130.24 ha greenbelt area in and around plant premises.
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.	Noted. Will be carried out accordingly.
<b>VII.</b>	<b>Public hearing and Human health issues</b>	
i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Being complied. Emergency preparedness plan based on the Hazard Identification and Risk Assessment (HIRA) and Disaster Management Plan is being implemented.
ii.	The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection	Noted. <ul style="list-style-type: none"> <li>Heat stress analysis will be carried out accordingly.</li> <li>Requisite personal protection</li> </ul>

S.N o.	Condition	Compliance Status
	Equipment (PPE) as per the norms of Factory Act.	equipments are being provided as per the norms of Factory Act for the workers working at high temperature work zone.
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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Being complied. Separate colony with temporary 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.
iv.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Being complied. <ul style="list-style-type: none"> <li>Occupational health checkup is being carried for all the employees, covering lung function and sputum analysis tests also.</li> <li>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: <ul style="list-style-type: none"> <li>X-ray</li> <li>ECG</li> <li>Spirometry (lung function test)</li> <li>Audiometry</li> <li>Semi-auto analyser to carryout bio-chemical tests</li> <li>Clinical lab for micro-biological tests (including sputum test)</li> <li>Checking colour blindness</li> <li>Dental chair</li> <li>Ambulance</li> </ul> </li> </ul>
<b>VII I.</b>	<b>Corporate Environment Responsibility</b>	
i.	The project proponent shall comply with the provisions contained in this Ministry's OM vide F. No. 22-65/2017-IA.III dated 1 <sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility	Being complied. The CER commitment for the expansion proposal is Rs. 5.0 crore. Some of the projects are in progress.
ii.	The Company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating	Complied. Final EIA report covering the following is submitted to Ministry at the time of processing of EC: <ul style="list-style-type: none"> <li>Environmental Policy</li> </ul>

S.N o.	Condition	Compliance Status
	<p>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 / stock holders. The copy of the board resolution in this regard shall be submitted to the MoEF&amp;CC as a part of six-monthly report.</p>	<ul style="list-style-type: none"> <li>• Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions</li> <li>• System of reporting of non-compliance / violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders</li> </ul>
iii.	<p>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.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Separate environmental management cell is carrying out monitoring functions.</li> <li>• The organization chart of environmental cell at the project area is enclosed as Annexure - VII.</li> </ul>
iv.	<p>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 Six Monthly Compliance Report.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Earmarked funds for environmental protection measures so provided are not being diverted for any other purposes.</li> <li>• Rs. 218 lakh spent towards the total capital cost for environmental pollution control measures at the time of modernization.</li> <li>• Rs. 431 lakh spent on new air pollution control equipment in the financial year 2016-17 as part of the Line - I expansion project.</li> <li>• Greenbelt expenditure in the financial year 2021-2022 is Rs. 117.53 lakh with respect to plant, colony, mining lease areas and nearby areas.</li> <li>• Rs. 3151.24 lakh spent as recurring cost in the financial year 2021-2022, for various environmental protection measures associated with plant. Details are enclosed as Annexure - VIII.</li> <li>• An amount of Rs. 1564.20 lakh is allocated towards Environment Management Activities for the financial year 2022-2023 towards capital as well as recurring costs for plant &amp; mines and being spent.</li> </ul>

S.N o.	Condition	Compliance Status
v.	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Being complied. <ul style="list-style-type: none"> <li>Self environment statement in Form – V is being submitted regularly within stipulated time to the APPCB.</li> <li>Soft copy of the same is being submitted to Regional Office, MoEF&amp;CC, Chennai.</li> <li>Soft copy is also kept on the Company's website regularly.</li> <li>As this expansion project is commissioned in the financial year 2021-2022, third party environmental audit will be carried out in the financial year 2023-2024.</li> </ul>
vi.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.	Being implemented. <ul style="list-style-type: none"> <li>CREP guidelines are being followed.</li> <li>As part of this, waste heat recovery system with 27 MW is installed.</li> <li>The compliance report for CREP guidelines for cement plant is enclosed as Annexure - III.</li> </ul>
<b>IX.</b>	<b>Miscellaneous</b>	
i.	The Project Proponent shall make public the environmental clearance granted for their project along with 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.	Complied. Published the same on 31.12.2019 in The Indian Express – English & Sakshi – Telugu (vernacular language) newspapers and copy submitted to Regional Office, Ministry vide Lr. No. RCL/MoEF&CC/53/2019-20 dated 01.01.2020.
ii.	The copies of 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.	Noted. Informed to local Panchayats.
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.	Being complied. Uploading the status of compliance of the stipulated environment clearance conditions, including results of monitored data on our website and updating the same on half-yearly basis.
iv.	The project proponent shall monitor	Being complied.

S.N o.	Condition	Compliance Status
	<p>the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (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.</p>	<ul style="list-style-type: none"> <li>Monitoring the criteria pollutants level namely; PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> for ambient levels as well as PM, SO<sub>2</sub>, NO<sub>x</sub> for stack emissions and displaying the same at main gate through digital display board for disclosure to the public. The consolidated data is being uploaded in company's website along with half-yearly compliance reports.</li> <li>Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office &amp; at Mines Office respectively (one station is installed in downwind direction) and online data (of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) is being transmitted to APPCB website. Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li> <li>3 Nos. of manual ambient air quality monitoring stations are established near to plant boundary and 9 Nos. of manual ambient air quality monitoring stations are established in nearby villages.</li> <li>Ambient air monitoring is being carried out by MoEF&amp;CC approved external laboratory and efforts are being made that the ambient air quality parameters conform to the norms prescribed by the CPCB.</li> <li>10 Nos. of online stack monitors are installed and online data is being transmitted to APPCB &amp; CPCB websites.</li> <li>3 Nos. of online stack monitoring are installed for this project and online data is being transmitted to APPCB website.</li> <li>14 Nos. stacks are monitored on monthly basis by MoEF&amp;CC approved external laboratory and efforts are being made that the stack parameters conform to the norms prescribed by the CPCB.</li> <li>Compiled data of stack monitoring data &amp; ambient air quality monitoring data collected by MoEF&amp;CC approved external laboratory on monthly basis for the</li> </ul>



S.N o.	Condition	Compliance Status
		period October 2021 to March 2022 is enclosed as Annexure – I & II respectively.
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.	Being complied. Submitting 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, regularly.
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.	Being complied. <ul style="list-style-type: none"> <li>Environment statement in Form – V is being submitted regularly within stipulated time to the APPCB.</li> <li>Soft copy of the same is being submitted to Regional Office, MoEF&amp;CC, Chennai.</li> <li>Soft copy is also kept on the Company's website regularly.</li> </ul>
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, communicating the land development work and start of production operation by the project.	Noted. <ul style="list-style-type: none"> <li>Date of financial closure for this project is not required as total funding for this project is from own funds.</li> <li>Combined Consent for Operation is obtained from APPCB vide order No. APPCB/VJA/VJA/488/HO/CFO/ 2017- dated 02.11.2021.</li> <li>Vide order No. APPCB/VJA/VJA/488 /HO/CFO/2017- dated 02.12.2021 CFO validity is extended to 31.01.2027.</li> </ul>
viii.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Being complied. <ul style="list-style-type: none"> <li>Stipulations made in the corresponding Consent for Establishment order No. 253/APPCB/CFE/RO-VJA/HO/2009 dated 17.10.2019 and Combined Consent for Operation order No. APPCB/VJA/VJA/ 488/HO/CFO/2017- dated 02.11.2021 (which is valid up to 31.01.2026), are being be scrupulously followed.</li> <li>Vide order No. APPCB/VJA/VJA/488 /HO/CFO/2017- dated 02.12.2021 CFO validity is extended to 31.01.2027.</li> </ul>
ix.	The project proponent shall abide by all the commitments and recommendations made in the EIA / EMP report, commitment made	Being complied. <ul style="list-style-type: none"> <li>Regarding all the commitments and recommendations made in the EIA / EMP report, commitment</li> </ul>

S.N o.	Condition	Compliance Status
	during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	<p>made during Public Hearing and also that during our presentation to the Expert Appraisal Committee.</p> <ul style="list-style-type: none"> <li>In the public hearing meeting, it is proposed by Honourable Collector to all nearby villagers to form Village Committees in their respective villages and submit their requirements. These requests are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> </ul>
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).	Noted and prior approval of the Ministry will be taken for further expansion or modification of the plant.
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.	Noted and being adhered to.
xii.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted.
xiii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted and being adhered to.
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.	Noted and being adhered to. Extending 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	<p>Noted.</p> <ul style="list-style-type: none"> <li>Being adhered to the Water (Prevention &amp; Control of Pollution) Act, 1974, the Air (Prevention &amp; Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme</li> </ul>

S.N o.	Condition	Compliance Status
	other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	<p>Court of India / High Courts and any other Court of Law relating to the subject matter.</p> <ul style="list-style-type: none"> <li>• Taken Public Liability Policy No. 0304008408 00 00 for the financial year 2022-2023.</li> </ul>
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.	Noted.

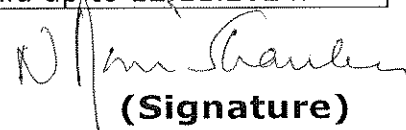
  
(Signature)

## HALF-YEARLY COMPLIANCE REPORT

Environmental Clearance Letter/s No. and Date	J-11011/403/2006/IA.II(I) dated 15.07.2020 (amendment order)
Name of the Project	The Ramco Cements Limited, Cement Plant – 4.685 Million TPA Clinker, 3.65 Million TPA Cement, Thermal Power Plant – 24 MW, WHRB – 27 MW
Period of Compliance Report	October 2021 to March 2022

### A. Specific Conditions:

S.No.	Condition	Compliance Status
i.	Emissions from bag filter should be below 20 mg/Nm <sup>3</sup>	Being complied. All the bag filters for the cement plant Line – III are designed for 20 mg/Nm <sup>3</sup> , accordingly.
ii.	CER activities shall be implemented within 2 years.	Being complied. The CER commitment for the expansion proposal is Rs. 5.0 crore. Some of the projects are in progress.
iii.	No groundwater shall be abstracted for industrial activities.	Being complied. No groundwater is being used for industrial purposes. Obtained NOC from Panchayat Raj & Rural Development department, Government of Andhra Pradesh (nodal agency for Central Ground Water Authority) to utilize mine seepage water for 7000 kLD, vide Lr. No. PRR05-11028/45/2018-SLNA-GIS-CORD dated 13.11.2021, which is valid up to 12.11.2024.

  
(Signature)

## HALF-YEARLY COMPLIANCE REPORT

Environmental Clearance Letter/s No. and Date	J-11011/403/2006-IA-II (I) and dated 29 <sup>th</sup> September, 2016
Name of the Project	The Ramco Cements Limited, Cement Plant – 3.185 Million TPA Clinker, 3.65 Million TPA Cement, Thermal Power Plant – 42 MW, WHRB – 27 MW
Period of Compliance Report	October 2021 to March 2022

### A. Specific Conditions:

S.No.	Condition	Compliance Status
i.	The project proponent shall install 24x7 air monitoring devices to monitor air emissions, as provided by the CPCB and submit report to Ministry and its Regional Office.	Being complied. <ul style="list-style-type: none"> <li>• 10 Nos. of on-line stack monitors (24x7) are installed to monitor particulate emissions.</li> <li>• Online data on air emissions is linked up with APPCB &amp; CPCB websites.</li> <li>• With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.</li> <li>• This is being submitted as part of this condition.</li> <li>• Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:eccompliance-ap@gov.in">eccompliance-ap@gov.in</a>.</li> </ul>
ii.	The Standards issued by the Ministry vide G.S.R. No. 612 (E) dated 25 <sup>th</sup> August, 2014 regarding cement plants with respect to particulate matter, SO <sub>2</sub> and NO <sub>x</sub> shall be followed.	Being complied. <ul style="list-style-type: none"> <li>• 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>, whereas for cement plant Line – III are designed for 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.</li> <li>• Cooler – I ESP is replaced with high capacity equipment.</li> <li>• 1-phase transformers are replaced with 3-phase transformers in Cooler – II ESP.</li> <li>• Bags are replaced at Kiln – I RABH, Kiln – II Bag House, Slag Mill Bag House, etc with high efficiency bags.</li> <li>• 3 Nos. of additional bag filters are installed at top of new pre-heater string – 2 of Kiln – I, Coal Mill – I top area and Coal Mill – II top.</li> <li>• As our pyritic sulphur in limestone is less</li> </ul>

S.No.	Condition	Compliance Status
		<p>than 0.25%, our SO<sub>2</sub> standard for Kiln – I &amp; Kiln – II is 100 mg/Nm<sup>3</sup>. The sulphur content is absorbed in clinker and the emission levels are well within the limit.</p> <ul style="list-style-type: none"> <li>• Low NO<sub>x</sub> burners and low NO<sub>x</sub> calciners are installed for Kiln – I, II &amp; III to meet the NO<sub>x</sub> standard of 600 mg/Nm<sup>3</sup> for Kiln – I &amp; III and 800 mg/Nm<sup>3</sup> for Kiln – II respectively.</li> </ul>
iii.	<p>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, A.P. Pollution Control Board (APPCB) and CPCB regularly.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 10 Nos. of on-line stack monitors are installed to monitor particulate emissions and online data is being transmitted to APPCB &amp; CPCB websites.</li> <li>• With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.</li> <li>• 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>, whereas for cement plant Line – III are designed for 20 mg/Nm<sup>3</sup>.</li> <li>• Data on ambient air and stack emissions collected by MoEF&amp;CC approved external laboratories on monthly basis (manual), is being regularly submitted to APPCB on monthly basis &amp; half-yearly basis.</li> <li>• Compiled data of stack monitoring and ambient air collected by MoEF&amp;CC approved external laboratories on monthly basis (manual) for the period October 2021 to March 2022 is enclosed as Annexure – I &amp; II respectively.</li> <li>• Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office &amp; at Mines Office respectively and online data is being transmitted to APPCB website.</li> <li>• Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li> </ul>
iv.	<p>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</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Environmental Clearance No. No. J-11011/403/2006-IA-II (I) dated 18.12.2019 is obtained from MoEF&amp;CC for utilization of these hot gases from 3 Nos. of Kiln lines.</li> <li>• CFO for the same is obtained.</li> <li>• Commissioned these waste heat recovery systems.</li> </ul>

S.No.	Condition	Compliance Status
	from the date of issue of the letter.	
v.	Pet Coke can be used in the total Coal Mix with 60 % Pet Coke and 40 % Indian Imported coal combination for Cement Plant use.	Being complied. Pet coke is being used as part of this condition, for cement plant.
vi.	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.	Being complied. <ul style="list-style-type: none"> <li>Greenbelt is developed in an area of 130.24 ha by March 2022.</li> <li>Emphasis is being made to maintain 130.24 ha greenbelt area in and around plant premises.</li> </ul>
vii.	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.	Being complied. <ul style="list-style-type: none"> <li>The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, etc.: <ul style="list-style-type: none"> <li>118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>5 Nos. of ESPs</li> <li>5 Nos. of Water Fogging Systems</li> </ul> </li> <li>25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>Installed electrostatic precipitators (ESPs) to clinker; bag house to kiln / raw mill, coal mill and pulse jet bag filters to cement mill and slag mill. Bag filters are provided for additive crusher, truck loading and all packing machines.</li> <li>The dust collected from APCE is being totally recycled to the respective process / storage facility.</li> <li>All conveyers are covered with GI sheets.</li> <li>Water spray system is arranged around the coal stacker &amp; reclaimer.</li> <li>Water fogging system is installed at limestone crusher hopper and at wagon tippler.</li> <li>Permanent water sprinkling system installed at mines haul road.</li> <li>In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.</li> </ul>
viii.	Ambient air monitoring shall be carried out in and around the project site and efforts shall be made to control and	Being complied. <ul style="list-style-type: none"> <li>Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office &amp; at Mines Office respectively (one</li> </ul>

S.No.	Condition	Compliance Status
	<p>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.</p>	<p>station is installed in downwind direction) and online data is being transmitted to APPCB website.</p> <ul style="list-style-type: none"> <li>• Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li> <li>• 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.</li> <li>• Ambient air quality monitoring (manual) is being carried out by MoEF&amp;CC approved external laboratory and efforts are being made that the ambient air quality parameters conform to the norms prescribed by the CPCB.</li> <li>• Compiled data of ambient air quality monitoring data collected by MoEF&amp;CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure - II.</li> </ul>
ix.	<p>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.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas, etc.: <ul style="list-style-type: none"> <li>◦ 118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>◦ 5 Nos. of ESPs</li> <li>◦ 5 Nos. of Water Fogging Systems</li> </ul> </li> <li>• 25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>• ESPs of Kiln – I, Coal Mill – I and Cement Mill are replaced with Bag Houses.</li> <li>• Slag Mill bag house upgraded.</li> <li>• 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>. Whereas, all air pollution control equipment for cement plant Line – III are designed for particulate emission level of 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate</li> </ul>



S.No.	Condition	Compliance Status
		<p>emission level of 50 mg/Nm<sup>3</sup>.</p> <ul style="list-style-type: none"> <li>• 1-phase transformers are replaced with 3-phase transformers in Cooler – II ESP and ESP is upgraded for Cooler - I.</li> <li>• High efficiency bag filters are provided for LS crusher and additive crusher.</li> <li>• The dust collected from APCE is being totally recycled to the respective process / storage facility.</li> <li>• All conveyers are covered with GI sheets.</li> <li>• All packing machines are fitted with bag filters.</li> <li>• To control fugitive emissions, dust extraction system with bag filter facility is provided at truck loading area.</li> <li>• Fly ash and clinker being stored in silos and fly ash is unloaded / conveyed through pneumatic system. The entire fly ash generated from TPP is conveyed through pneumatic system and is used in cement plant.</li> <li>• Water spray system arranged around the coal stacker &amp; reclaimer.</li> <li>• Water fogging system is installed at limestone crusher hopper and at wagon tippler.</li> <li>• Permanent water sprinkling system installed at mines haul road.</li> <li>• In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.</li> </ul>
x.	<p>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.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials are made for coal and other raw materials.</li> <li>• Cement, fly ash and clinker are being stored in silos.</li> <li>• Pneumatic system is being used for fly ash handling.</li> <li>• In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads including critical areas prone to air pollution and other vulnerable areas.</li> <li>• 3 Nos. of Mobile Road Sweepers &amp; 2 Nos. of Industrial Vacuum Cleaners are being used for dust removal.</li> <li>• The removed / collected dust is being reused in the process, as per the quality parameters.</li> </ul>

S.No.	Condition	Compliance Status
xi.	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 A.P. 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. <ul style="list-style-type: none"> <li>• Compiled data of stack monitoring and ambient air collected by MoEF&amp;CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – I &amp; II respectively.</li> <li>• Online data on ambient air quality &amp; stack monitoring is linked up with APPCB and online data on stack monitoring is linked up with CPCB websites.</li> <li>• Online data on PM, SO<sub>2</sub> &amp; NO<sub>x</sub> for the stacks and PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> &amp; NO<sub>x</sub> data for ambient air quality respectively displayed outside the premises for the general public.</li> </ul>
xii.	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.	Being complied. <ul style="list-style-type: none"> <li>• All major roads of the plant are paved with concrete.</li> <li>• Water sprinkling is being regularly done with truck mounted sprinklers on critical areas prone to air pollution.</li> </ul>
xiii.	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. <ul style="list-style-type: none"> <li>• Secondary fugitive emissions are controlled by providing air pollution control equipments, concrete roads, water sprinkling, fogging systems, greenbelt development, regular cleaning of roads by using road sweeping machines &amp; vacuum cleaners, etc.</li> <li>• The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, etc.: <ul style="list-style-type: none"> <li>◦ 118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>◦ 5 Nos. of ESPs</li> <li>◦ 5 Nos. of Water Fogging Systems</li> </ul> </li> <li>• 25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>• Guidelines / code of practice issued by the CPCB in this regard are being followed accordingly.</li> </ul>
xiv.	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including	Being complied. <ul style="list-style-type: none"> <li>• Major portion of raw materials, clinker (intermediate product) and cement (end product) is being transported through closed wagons to control dust on</li> </ul>

S.No.	Condition	Compliance Status
	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.	<p>surrounding agricultural lands.</p> <ul style="list-style-type: none"> <li>• Fly ash (brought from outside) is unloaded / conveyed through pneumatic system.</li> <li>• The fly ash generated from TPP is conveyed through pneumatic system and is used in cement plant.</li> <li>• All the raw material vehicles are not being overloaded, at the time of transportation.</li> <li>• It is ensured that vehicular emissions are being regularly monitored by respective transporters.</li> </ul>
xv.	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 wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Cement manufacturing will not generate process effluents.</li> <li>• TPP effluent is being treated in effluent treatment plant. The wastewater from boiler blow down, DM plant regeneration, UF &amp; RO rejects and cooling tower blow down of TPP are being neutralized in neutralization tank.</li> <li>• Sewage treatment plant is in operation to treat domestic sewage from colony, plant, canteen and offices.</li> <li>• Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>• These treated effluents are used for greenbelt, water sprinkling &amp; partially for process activities.</li> <li>• The excess waste water, if any, is being passed to pond (around 0.5 ha) in our own lands to uplift the water table nearby area.</li> <li>• With all these measures, 'zero discharge' is being maintained.</li> </ul>
xvi.	Permission for the drawl of 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.	<p>Being complied.</p> <p>Permission obtained from Panchayat Raj &amp; Rural Development Department (nodal agency for Central Ground Water Department) vide Lr. No. PRR05-11028/45/2018-SLNA-GIS-CORD dated 13.11.2021, which is valid up to 12.11.2024.</p>
xvii.	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	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 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</li> </ul>

S.No.	Condition	Compliance Status
	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.	<p>manufacturing process.</p> <ul style="list-style-type: none"> <li>The sludge from sewage treatment plant (STP) is being used as manure for greenbelt development.</li> <li>Organic wastes is subjected to vermin composting and used as manure for greenbelt.</li> <li>Bio-gas plant is in operation to digest food waste collected and the sludge from this plant is used as manure.</li> <li>Inorganic wastes (papers and other wastes) are properly disposed into calciner of the preheater.</li> <li>Waste oil (stored in a tank of capacity 3.5 kL) along with fresh fuel is being used for kiln firing while light up &amp; for reclaimers lubrication and / or sold to APPCB authorized agents.</li> <li>Disposing waste lead acid batteries to APPCB authorized recyclers / reprocessors properly, by storing in a designated area.</li> </ul>
xviii.	An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Hazardous Waste Authorization for handling various high calorific hazardous wastes obtained from APPCB and applied for regular permission from CPCB.</li> <li>CPCB has rejected our proposal for the specified list of materials.</li> <li>Utilization of spent carbon is initiated in the co-processing, in this half-yearly period (October 2021 to March 2022) and used 16 Tonne in this half-yearly period.</li> <li>Utilized 155.21 Tonne of alternate fuel in cement plant and 1,756.49 Tonne of alternate fuel in thermal power plant respectively.</li> </ul>
xix.	Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>About 15% low grade limestone is being used by blending activity.</li> <li>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.</li> </ul>
xx.	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 Pozzolona Portland Cement (PPC) and	<p>Being complied.</p> <ul style="list-style-type: none"> <li>The fly ash generated from TPP is used in the manufacturing of cement.</li> <li>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</li> </ul>

S.No.	Condition	Compliance Status
	Portland Slag Cement (PSC).	respectively.
xxi.	Permission and recommendations of the State Forest Department regarding impact of proposed plant on surrounding reserve forests viz. Jaggayapeta Extension RT (0.2 - 10.5 km, E-S), Budavada RF (3.2 - 10.5 km, W), Ballusupadu R1(6 - 11 km, WNW), (Grandrayi RF (8.5 - 11km, 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. <ul style="list-style-type: none"> <li>District Forest Officer, Vijayawada has accorded 'No Objection Certificate' for the modernization project, vide Lr. No. 712/2000-V6 dated 13.05.2009.</li> <li>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.</li> <li>Submitted a letter to Chief Wild Life Warden vide Lr. No. RCL/CWLW/15/2022-2023 dated 11.05.2022, regarding the same.</li> </ul>
xxii.	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, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Being complied. <ul style="list-style-type: none"> <li>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.</li> </ul>
xxiii.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 <sup>th</sup> November, 2009 shall be followed.	Being complied. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16 <sup>th</sup> November, 2009 are being complied.
xxiv.	Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30 <sup>th</sup> May, 2008 and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed.	Being complied. <ul style="list-style-type: none"> <li>Gaseous emission levels are being maintained within the specific limits.</li> <li>In cement plant, the limestone absorbs SO<sub>2</sub>.</li> <li>3 Nos. of low NOx burners and 3 Nos. of low NOx calciners are installed for 3 Nos. of Kilns.</li> <li>Secondary fugitive emissions are controlled by providing air pollution control equipments, concrete roads, water sprinkling, fogging systems, greenbelt development, regular cleaning of roads by using road sweeping machines &amp; vacuum cleaners, etc.</li> </ul>

S.No.	Condition	Compliance Status
		<ul style="list-style-type: none"> <li>Guidelines / code of practice issued by the CPCB in this regard are being followed accordingly.</li> </ul>
xxv.	Regular monitoring, of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>No surface water is being used for cement plant, thermal power plant, mines and colony requirements.</li> <li>Mine seepage water is being analysed regularly.</li> <li>Compiled data of influent mine seepage water analysis data collected by MoEF&amp;CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – IX.</li> <li>The wastewater from boiler blow down, DM plant regeneration, UF &amp; RO rejects and cooling tower blow down of TPP are being neutralized in neutralization tank and being used for greenbelt.</li> <li>Sewage treatment plant is in operation to treat domestic sewage from colony, plant, canteen and offices.</li> <li>Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>Compiled data of TPP ETP, Oil &amp; Grease and STP outlet samples analysis carried out by MoEF&amp;CC approved agency on monthly basis being for the period October 2021 to March 2022 is enclosed as Annexure – IV, V &amp; VI respectively.</li> </ul>
xxvi.	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid / hazardous waste shall be submitted to the Ministry's Regional Office, SPCB and CPCB.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>The sludge from sewage treatment plant (STP) is being used as manure for greenbelt development.</li> <li>Organic wastes is subjected to vermin composting and used as manure for greenbelt.</li> <li>Inorganic wastes (papers and other wastes) are properly disposed off into calciner of the preheater.</li> <li>Kitchen waste is being treated in bio-gas plant and gas generated is being used for cooking in industrial canteen. The sludge from the bio-gas plant is being used as manure for greenbelt.</li> <li>Waste oil (stored in a tank of capacity 3.5 kL) along with fresh fuel is being used for kiln firing while light up &amp; for reclaimer lubrication and / or sold to APEMC authorized agents.</li> <li>Disposing waste lead acid batteries to APEMC authorized recyclers / re-</li> </ul>

S.No.	Condition	Compliance Status
		<p>processors properly, by storing in a designated area.</p> <ul style="list-style-type: none"> <li>No toxic substance is being handled.</li> <li>Hazardous waste returns are being submitted to APPCB, regularly.</li> </ul>
xxvii.	A time bound action plan shall be submitted to reduce solid waste generated due to the project related activities, its proper utilization and disposal.	<p>Being complied.</p> <p>Action plan to reduce / utilization / disposal of solid waste generated due to project related activities:</p> <ul style="list-style-type: none"> <li>All metallic scrap, wooden / packing material is sold out to respective vendors.</li> <li>Dismantled concrete structures are used for land-filling.</li> <li>All the industrial fans / motors are kept separately for re-use.</li> <li>E-waste is kept separately in a designated place and will be sold to the authorized e-waste handlers.</li> </ul>
xxviii.	A Risk and Disaster Management Plan shall be prepared and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Respective Final EIA report covering Risk and Disaster Management Plan is submitted to Ministry's Regional Office, Chennai vide Lr. No. RCL/MoEF&amp;CC/71/2016-17.</li> <li>Final EIA report is also submitted to SPCB at the time of submission of respective Consent for Establishment application.</li> <li>As part of Occupational Health and Safety Management System (OHSMS), we are reviewing Risk Assessment on annual basis or any changes in the process / parameters.</li> </ul>
xxix.	All the commitments made to the public during Public Hearing / public consultation meeting shall be satisfactorily implemented and adequate budget provision shall be made accordingly.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>In the corresponding public hearing meeting, it is proposed by Joint Collector to all nearby villagers to form Village Committees in their respective villages and submit their requirements.</li> <li>These requests are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> </ul>
xxx.	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Total cost of the project is Rs. 100 crore. Out of this, 2.5% is Rs. 2.5 crore and same amount is allocated for Enterprise Social Commitment based on Public Hearing issues, local needs.</li> <li>In the corresponding public hearing meeting, it is suggested by Joint Collector to all nearby villagers to form Village Committees in their respective</li> </ul>

S.No.	Condition	Compliance Status
	Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Panchayat and District Administration. Action taken report in this regard shall be submitted to the Ministry's Regional Office.	<p>villages and submit their requirements.</p> <ul style="list-style-type: none"> <li>• These requests are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> <li>• CSR activities are being carried out for upliftment of local areas and account is being maintained.</li> <li>• These include village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc).</li> <li>• Any request from Village Committees in their respective villages, schools &amp; hospitals are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> </ul>
xxxi.	The proponent shall prepare a detailed CSR plan for every year for the next 5 years for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 Years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• CSR activities are being carried out for upliftment of local areas and account is being maintained.</li> <li>• These include village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc).</li> <li>• Any request from Village Committees in their respective villages, schools &amp; hospitals are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> <li>• Separate budget head is created and the annual capital and revenue expenditure on various activities of the plan is being maintained in corporate level.</li> <li>• Earmarked funds so provided are not being diverted for any other purposes.</li> </ul>
xxxii.	The Company shall submit within three months their	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Final EIA report covering the following is</li> </ul>



S.No.	Condition	Compliance Status						
	policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process / procedure to being into focus any infringement / deviation / violation of environmental or forest norms / conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non-compliance / violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.	submitted to Ministry at the time of processing of EC: <ul style="list-style-type: none"><li>Integrated Management System Policy covering Environmental Management Policy towards Corporate Environment Responsibility.</li><li>Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions.</li><li>System of reporting of non-compliance / violation environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.</li><li>The copy of the same report is also submitted to Ministry's Regional Office, Chennai vide Lr. No. RCL/MoEF&amp;CC /71/2016-17.</li></ul>						
xxxiii.	The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.	Noted. <ul style="list-style-type: none"><li>We may explore the feasibility at our plant. Solar light systems are initiated on trial basis as street lights.</li><li>4 Nos. of solar tower blinkers are arranged with 30 W (12 V) each are arranged on trial basis.</li></ul>						
xxxiv .	The project proponent shall provide for LED lights in their offices and residential areas.	Being complied. <ul style="list-style-type: none"><li>The details of LED lights by the end of March 2021 are as follows:<table><tr><td>Total Qty of LED lights arranged</td><td>12530 Nos.</td></tr><tr><td>Total rating of LED lights</td><td>570129 W</td></tr><tr><td>Total amount invested for LED lights</td><td>Rs. 281.11 Lakh</td></tr></table></li><li>LED lights are being distributed to prize winners for all energy management system competitions to inculcate LED light usage in the residential areas located in colony as well as in nearby villages.</li></ul>	Total Qty of LED lights arranged	12530 Nos.	Total rating of LED lights	570129 W	Total amount invested for LED lights	Rs. 281.11 Lakh
Total Qty of LED lights arranged	12530 Nos.							
Total rating of LED lights	570129 W							
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#### B. General Conditions:

S.No.	Condition	Compliance Status
i.	The project authorities must strictly adhere to the stipulations made by the	<p>Being followed.</p> <ul style="list-style-type: none"> <li>Stipulations made in the corresponding Consent for Establishment order (No.</li> </ul>

S.No.	Condition	Compliance Status				
	Andhra Pradesh Pollution Control Board and the State Government.	253/APPCB/CFE/RO-VJA/HO/2009 dated 24.10.2016) are being be scrupulously followed. <ul style="list-style-type: none"><li>Consent for Operation order No. APPCB/VJA/VJA/488/HO/CFO/2017- is issued to this project on 02.11.2021, which is valid up to 31.01.2026.</li><li>CFO amendment order No. APPCB/VJA/VJA/488/HO/CFO/2017- dated 02.12.2021 is issued, by which the CFO validity is extended up 31.01.2027.</li></ul>				
ii.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change (MoEFCC).	Being complied. <ul style="list-style-type: none"><li>Obtained EC for expansion proposal from MoEF&amp;CC. The details of the same are as follows:<table><tr><th>Project</th><th>EC details</th></tr><tr><td>Increase of clinker production from 3.185 MTPA to 4.685 MTPA &amp; installation of 27 MW Waste Heat Recovery System by installation of Waste Heat Recovery Boilers.</td><td>EC No. J-11011/403/2006-IA-II (I) dated 18.12.2019</td></tr></table></li></ul>	Project	EC details	Increase of clinker production from 3.185 MTPA to 4.685 MTPA & installation of 27 MW Waste Heat Recovery System by installation of Waste Heat Recovery Boilers.	EC No. J-11011/403/2006-IA-II (I) dated 18.12.2019
Project	EC details					
Increase of clinker production from 3.185 MTPA to 4.685 MTPA & installation of 27 MW Waste Heat Recovery System by installation of Waste Heat Recovery Boilers.	EC No. J-11011/403/2006-IA-II (I) dated 18.12.2019					
iii.	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> and NO <sub>x</sub> are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Chennai and the SPCB / CPCB once in six months.	Being complied. <ul style="list-style-type: none"><li>Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office &amp; at Mines Office respectively (one station is installed in downwind direction) and online data (of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>) are being transmitted to APPCB website.</li><li>Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li><li>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.</li><li>Ambient air monitoring is being carried out by MoEF&amp;CC approved external laboratory and efforts are being made that the ambient air quality parameters conform to the norms prescribed by the CPCB.</li><li>Compiled data of ambient air quality monitoring data collected by MoEF&amp;CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as</li></ul>				

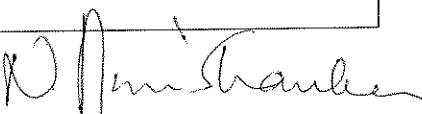
S.No.	Condition	Compliance Status
		Annexure - II.
iv.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Cement manufacturing will not generate process effluents.</li> <li>• TPP effluent is being treated in effluent treatment plant. The wastewater from boiler blow down, DM plant regeneration, UF &amp; RO rejects and cooling tower blow down of TPP are being neutralized in neutralization tank and being used for greenbelt.</li> <li>• Sewage treatment plant is in operation to treat domestic sewage from colony and plant.</li> <li>• Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>• Compiled data of TPP ETP, Oil &amp; Grease and STP outlet samples analysis carried out by MoEF&amp;CC approved agency on monthly basis being for the period October 2021 to March 2022 is enclosed as Annexure - IV, V &amp; VI respectively.</li> <li>• These treated effluents are used for greenbelt, water sprinkling &amp; partially for process activities.</li> <li>• The excess treated waste water, if any, is being passed to pond (around 0.5 ha) in our own lands to uplift the water table nearby area.</li> </ul>
v.	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 should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Providing noise control measures including acoustic hoods, silencers, enclosures etc. at all sources of noise generation.</li> <li>• Efforts are made to achieve noise levels within norms.</li> <li>• Ambient noise levels are being monitored during day and night time and records are being maintained.</li> </ul>
vi.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Occupational health checkup is being carried for all the employees, covering lung function and sputum analysis tests also.</li> <li>• Occupational health surveillance programme is being carried for the employees regularly and records are being maintained. Occupational Health</li> </ul>

S.No.	Condition	Compliance Status
		<p>Centre (with qualified Occupational Health Specialist with supporting staff) is established with the following facilities:</p> <ul style="list-style-type: none"> <li>○ X-ray</li> <li>○ ECG</li> <li>○ Spirometry (lung function test)</li> <li>○ Audiometry</li> <li>○ Semi-auto analyser to carryout bio-chemical tests</li> <li>○ Clinical lab for micro-biological tests (including sputum test)</li> <li>○ Checking colour blindness</li> <li>○ Dental chair</li> <li>○ Ambulance</li> </ul>
vii.	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 48 Nos. &amp; 4 Nos. of rain water harvesting structures are made to recharge the ground water in the colony &amp; plant respectively by March 2022. (Annexure - X).</li> <li>• Run-off and seepage water collected in mine pits is only being used for cement plant, thermal power plant and for domestic purposes, to conserve fresh water.</li> <li>• The excess treated waste water, if any, is being passed to pond (around 0.5 ha) in our own lands to uplift the water table nearby area.</li> </ul>
viii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Environmental protection measures and safeguards mentioned in the EIA / EMP report submitted for the said project are being complied.</li> <li>• CSR activities are being carried out for upliftment of local areas and account is being maintained.</li> <li>• These include village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc). Any request from Village Committees in their respective villages, schools &amp; hospitals are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> <li>• Earmarked funds so provided are not being diverted for any other purposes.</li> </ul>
ix.	Requisite funds shall be earmarked towards capital cost and recurring cost /	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Earmarked funds so provided are not being diverted for any other purposes.</li> </ul>

S.No.	Condition	Compliance Status
	<p>annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Chennai. The funds so provided shall not be diverted for any other purpose.</p>	<ul style="list-style-type: none"> <li>Rs. 431 lakh spent on new air pollution control equipment in the financial year 2016-17 as part of the Line - I expansion project.</li> <li>Greenbelt expenditure in the financial year 2021-2022 is Rs. 117.53 lakh with respect to plant, colony, mining lease areas and nearby areas.</li> <li>Rs. 3151.24 lakh spent as recurring cost in the financial year 2021-2022, for various environmental protection measures associated with plant.</li> <li>Details of expenditure for environmental protection measures the financial year 2021-2022 are enclosed as Annexure - VIII.</li> <li>An amount of Rs. 1564.20 lakh is allocated towards Environment Management Activities for the financial year 2022-2023 towards capital as well as recurring costs for plant &amp; mines and being spent.</li> </ul>
x.	<p>A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.</p>	<p>Noted.</p> <ul style="list-style-type: none"> <li>Informed to local Panchayat.</li> <li>The clearance letter is uploaded to the company's website.</li> </ul>
xi.	<p>The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOFFCC at Chennai, The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or Critical sectoral parameters, indicated for the projects shall be</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>The status of compliance of the stipulated environment clearance conditions, including results of monitored data is uploaded periodically to the company's website.</li> <li>Half-yearly compliance reports are being submitted to APPCB and to the Regional Office of Ministry located at Chennai on regular basis (up to the period October 2018 to March 2019). Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:ecompliance-ap@gov.in">ecompliance-ap@gov.in</a>.</li> <li>The criteria pollutant levels namely; PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions), indicated</li> </ul>

S.No.	Condition	Compliance Status
	monitored and displayed at a convenient location near the main gate of the company in the public domain.	for the projects are monitored and displayed at main gate of the company in the public domain.
xii.	The project proponent shall also 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 MOEFCC, the respective Zonal office of CPCB and the SPCB. The Regional Office of this Ministry at Chennai / CPCB / SPCB shall monitor the stipulated conditions.	Being complied. <ul style="list-style-type: none"> <li>• Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:eccompliance-ap@gov.in">eccompliance-ap@gov.in</a>.</li> <li>• Regularly submitting hard copies of six monthly compliance reports on compliance status of the stipulated environmental conditions including results of monitored data to the State PCB.</li> </ul>
xiii.	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Office of the MOEFCC at Chennai by e-mail.	Being complied. <ul style="list-style-type: none"> <li>• Environment statement in Form – V is being submitted regularly within stipulated time to the APPCB.</li> <li>• Soft copy of the same is being submitted to Regional Office, MoEF&amp;CC, Chennai.</li> <li>• Soft copy is also kept on the Company's website regularly.</li> </ul>
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 SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEFCC) at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are	Complied. Published the same in 05.10.2016 Eenadu (Telugu) & The Hindu (English) newspapers and copy submitted to Regional Office, Ministry vide Lr. No. RCL/MoEF&CC/60/2016-17 dated 05.10.2016.

S.No.	Condition	Compliance Status
	widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office at Chennai.	
xv.	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.

  
**(Signature)**

## HALF-YEARLY COMPLIANCE REPORT

Environmental Clearance Letter/s No. and Date	J-11011/403/2006-IA II (I) and 09.06.2009
Name of the Project	The Ramco Cements Limited, Cement Plant – 2.8 Million TPA Clinker, 3.65 Million TPA Cement, Thermal Power Plant – 36 MW
Period of Compliance Report	October 2021 to March 2022

### A. Specific Conditions:

S.No.	Condition	Compliance Status
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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 10 Nos. of online monitors are installed to measure particulate emissions for stacks and linked up with APPCB and CPCB websites.</li> <li>• With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.</li> <li>• 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>, whereas for cement plant Line – III are designed for 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.</li> <li>• As our pyritic sulphur in limestone is less than 0.25%, our SO<sub>2</sub> standard for Kiln – I, II &amp; III is 100 mg/Nm<sup>3</sup>. The sulphur content is absorbed in clinker and the emission levels are well within the limit.</li> <li>• Low NO<sub>x</sub> burners and low NO<sub>x</sub> calciners are installed for Kiln – I, II &amp; III to meet the NO<sub>x</sub> standard of 600 mg/Nm<sup>3</sup> for Kiln – I &amp; III and 800 mg/Nm<sup>3</sup> for Kiln – II respectively.</li> <li>• Data on ambient air and stack emissions is being regularly submitted to APPCB on monthly basis &amp; half-yearly basis.</li> <li>• Compiled data of stack monitoring and ambient air collected by</li> </ul>



S.No.	Condition	Compliance Status
		MoEF&CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure - I & II respectively.
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.	Being complied. <ul style="list-style-type: none"> <li>Environmental Clearance No. No. J-11011/403/2006-IA-II (I) dated 18.12.2019 is obtained from MoEF&amp;CC for utilization of these hot gases from 3 Nos. of Kiln lines.</li> <li>CFO for the same is obtained and commissioned these waste heat recovery systems.</li> </ul>
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.	Being complied. <ul style="list-style-type: none"> <li>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.</li> <li>All the air pollution control equipment for cement plant Line - I &amp; II are designed for particulate emission level of 30 mg/Nm<sup>3</sup> and 20 mg/Nm<sup>3</sup> for cement plant Line - III.</li> <li>Whereas, all the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.</li> <li>All material transfer points are connected with air pollution control devices.</li> <li>Water fogging system is installed at limestone crusher hopper.</li> <li>The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, etc.: <ul style="list-style-type: none"> <li>118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>5 Nos. of ESPs</li> <li>5 Nos. of Water Fogging Systems</li> </ul> </li> <li>25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>Permanent water sprinkling system installed at mines haul road.</li> <li>In addition to this, water sprinkling</li> </ul>

S.No.	Condition	Compliance Status
		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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Installed 2 Nos. of Continuous Ambient Air Quality Monitoring Stations at Time Office &amp; at Mines Office respectively (one station is installed in downwind direction) and online data is being transmitted to APPCB website.</li> <li>• Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li> <li>• 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.</li> <li>• Ambient air monitoring is being carried out by MoEF&amp;CC approved external laboratory and efforts are being made that the ambient air quality parameters conform to the norms prescribed by the CPCB.</li> <li>• Compiled data of ambient air quality monitoring data collected by MoEF&amp;CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure - I.</li> </ul>
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	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant 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..: <ul style="list-style-type: none"> <li>◦ 118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>◦ 5 Nos. of ESPs</li> <li>◦ 5 Nos. of Water Fogging Systems</li> </ul> </li> <li>• 25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>• All the air pollution control equipment for cement plant Line – I</li> </ul>

S.No.	Condition	Compliance Status
	out in critical areas prone to air pollution and having high levels of SPM and RPM particularly in mine area and other vulnerable areas.	<p>&amp; II are designed for particulate emission level of 30 mg/Nm<sup>3</sup> and 20 mg/Nm<sup>3</sup> for cement plant Line - III.</p> <ul style="list-style-type: none"> <li>• All material transfer points are equipped with air pollution control systems to control fugitive dust emissions.</li> <li>• High efficiency bag filters are provided for LS crusher and additive crusher.</li> <li>• The dust collected from APCE is being totally recycled to the respective process / storage facility.</li> <li>• All packing machines are fitted with bag filters.</li> <li>• Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials are made for coal and other raw materials. Cement, fly ash and clinker are being stored in silos.</li> <li>• Unloading of brought out fly ash and conveyance of cement &amp; fly ash (from silo / from TPP) are carried out through pneumatic system.</li> <li>• Water spray system is arranged around the coal stacker &amp; reclaimer.</li> <li>• Water fogging system is installed at limestone crusher hopper.</li> <li>• Permanent water sprinkling system installed at mines haul road.</li> <li>• In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.</li> <li>• 3 Nos. of Mobile Road Sweepers &amp; 2 Nos. of Industrial Vacuum Cleaners are being used for dust removal.</li> <li>• The removed / collected dust is being reused in the respective process.</li> </ul>
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	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Compiled data of stack monitoring and ambient air collected by MoEF&amp;CC approved external laboratory on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure - I &amp; II respectively.</li> <li>• Online data on stack monitoring is linked up with APPCB &amp; CPCB websites and online data on ambient air quality is linked up with APPCB</li> </ul>

S.No.	Condition	Compliance Status
	appropriate place for the general public.	<p>website.</p> <ul style="list-style-type: none"> <li>Data on PM, SO<sub>2</sub> &amp; NO<sub>x</sub> for the stacks and PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> &amp; NO<sub>x</sub> data for ambient air quality respectively displayed outside the premises through digital display for the general public.</li> </ul>
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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>All major roads of the plant are paved with concrete.</li> <li>Water sprinkling is being done with truck mounted sprinklers on critical roads of cement plant.</li> </ul>
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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Secondary fugitive emissions being controlled by providing air pollution control equipments, concrete roads, water sprinkling, fogging systems, greenbelt development, regular cleaning of roads by using road sweeping machines &amp; vacuum cleaners, etc.</li> <li>All the material transfer points are equipped with dust collection systems to control secondary fugitive emissions.</li> <li>The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, etc.: <ul style="list-style-type: none"> <li>118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>5 Nos. of ESPs</li> <li>5 Nos. of Water Fogging Systems</li> </ul> </li> <li>25 Nos. of bag filters are erection and commissioning stage. These will be commissioned along with associated process equipment.</li> <li>Water fogging system is installed at limestone crusher hopper.</li> <li>Guidelines / code of practice issued by the CPCB in this regard are being followed accordingly.</li> </ul>
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	<p>Being complied.</p> <ul style="list-style-type: none"> <li>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.</li> </ul>

S.No.	Condition	Compliance Status
	containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored.	<ul style="list-style-type: none"> <li>Fly ash is being transported in the closed containers only.</li> <li>The fly ash generated from TPP is used in the manufacturing of cement, through pneumatic system.</li> <li>All the raw material containers are not being overloaded, at the time of transportation.</li> <li>It is ensured that vehicular emissions are being regularly monitored by respective transporters.</li> </ul>
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 blowdown, 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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Total water requirement for cement plant, power plant and domestic usages is from mine pit water only and the present water consumption is within 6,260 m<sup>3</sup>/day.</li> <li>Cement manufacturing will not generate process effluents.</li> <li>TPP effluent is being treated in effluent treatment plant. The wastewater from boiler blowdown, DM plant regeneration, UF &amp; RO rejects and cooling tower blowdown of TPP are being neutralized in neutralization tank and being used for greenbelt.</li> <li>Sewage treatment plant is in operation to treat domestic sewage from colony, office, canteen and plant.</li> <li>Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>Compiled data of TPP ETP, Oil &amp; Grease and STP outlet samples analysis carried out by MoEF&amp;CC approved agency (on monthly basis) for the period October 2021 to March 2022 is enclosed as Annexure – IV, V &amp; VI respectively.</li> <li>These treated effluents are used for greenbelt, water sprinkling &amp; partially for process activities.</li> <li>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.</li> <li>With all these measures, 'zero discharge' is being maintained.</li> </ul>
xi.	'Permission' for the drawl of 6,630 m <sup>3</sup> /day ground water /	<p>Being complied.</p> <p>Permission obtained from Panchayat Raj</p>

S.No.	Condition	Compliance Status
	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.	& Rural Development Department (nodal agency for Central Ground Water Department) vide Lr. No. PRR05-11028/45/2018-SLNA-GIS-CORD dated 13.11.2021, which is valid up to 12.11.2024 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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• The sludge from sewage treatment plant (STP) is being used as manure for greenbelt development.</li> <li>• Organic wastes is subjected to vermin composting and used as manure for greenbelt.</li> <li>• Bio-gas plant is in operation to digest food waste collected and the sludge from this plant is used as manure.</li> <li>• Inorganic wastes (papers and other wastes) are properly disposed into calciner of the preheater.</li> <li>• Waste oil (stored in a tank of capacity 3.5 kL) along with fresh fuel is being used for kiln firing while light up &amp; for reclaimers lubrication and / or sold to APEMC authorized agents.</li> <li>• Disposing waste lead acid batteries to APEMC authorized recyclers / reprocessors properly, by storing in a designated area.</li> </ul>
xiii.	An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Hazardous Waste Authorization for handling various high calorific hazardous wastes obtained from APPCB.</li> <li>• Utilization of spent carbon is initiated in the co-processing, in this half-yearly period (October 2021 to March 2022) and used 16 Tonne in this half-yearly period.</li> <li>• Necessary feeding arrangements are made to use high calorific value</li> </ul>

S.No.	Condition	Compliance Status
		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. <ul style="list-style-type: none"> <li>About 15% low grade limestone is being used by blending activity.</li> <li>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.</li> </ul>
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. <ul style="list-style-type: none"> <li>The fly ash generated from TPP is used in the manufacturing of cement.</li> <li>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.</li> </ul>
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.	Being complied. <ul style="list-style-type: none"> <li>Greenbelt is developed in an area of 130.24 ha by March 2022, 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: <ul style="list-style-type: none"> <li>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.</li> </ul> </li> <li>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.</li> </ul>
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	Being complied. <ul style="list-style-type: none"> <li>District Forest Officer, Vijayawada has accorded 'No Objection Certificate' for the modernization project, vide Lr. No. 712/2000-V6 dated 13.05.2009.</li> <li>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.</li> <li>Submitted a letter to Chief Wild Life Warden vide Lr. No.</li> </ul>

S.No.	Condition	Compliance Status
	consultation with the State Forest Department shall be prepared and implemented.	RCL/CWLW/15/2022-2023 dated 11.05.2022, regarding the same.
xviii.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.	Being implemented. <ul style="list-style-type: none"> <li>• CREP guidelines are being followed.</li> <li>• The compliance report for CREP guidelines for cement plant is enclosed as Annexure - III.</li> </ul>
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.	Being complied. <ul style="list-style-type: none"> <li>• 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.</li> <li>• Potability certificates for RO plant inlet and outlet samples for the period October 2021 to March 2022 are enclosed as Annexure - XI.</li> </ul>

## B.General Conditions:

S.No.	Condition	Compliance Status						
i.	The project authority shall adhere to the stipulations made by Andhra Pradesh Pollution Control Board (APPCB) and State Government.	Being complied. <ul style="list-style-type: none"><li>• Combined Consent for Operation order No. APPCB/VJA/VJA/488/HO/CFO/2017- dated 02.11.2021 (which is valid up to 31.01.2026), are being be scrupulously followed.</li><li>• Vide order No. APPCB/VJA/VJA/488/HO/CFO/2017- dated 02.12.2021 CFO validity is extended to 31.01.2027.</li></ul>						
ii.	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.	Being complied. Ministry accorded EC for expansion projects (after this subject EC): <table><tr><th>Project</th><th>ToR / EC details</th></tr><tr><td>Increase of clinker production from 2.80 MTPA to 3.185 MTPA &amp; for installation 6 MW Turbo Generator</td><td>EC No. J-11011/403/2006-IA-II (I) dated 29.09.2016.</td></tr><tr><td>Increase of clinker production from 3.185 MTPA to 4.685 MTPA &amp; installation of 27 MW Waste Heat Recovery System by installation of 7 Nos. of boilers</td><td>EC No. J-11011/403/2006-IA-II (I) and 18.12.2019.</td></tr></table>	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	EC No. J-11011/403/2006-IA-II (I) and 18.12.2019.
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	EC No. J-11011/403/2006-IA-II (I) and 18.12.2019.							
iii.	The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the AP	Being complied. <ul style="list-style-type: none"><li>• Efforts are being made to adhere to the gaseous and particulate matter emissions from various units to the</li></ul>						



S.No.	Condition	Compliance Status
	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.	<p>standards prescribed by the APPCB.</p> <ul style="list-style-type: none"> <li>• All the air pollution control equipment for cement plant Line – I &amp; Line – II are designed for particulate emission level of 30 mg/Nm<sup>3</sup> and cement plant Line – III air pollution control equipment are designed for particulate emission level of 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate emission level of 50 mg/Nm<sup>3</sup>.</li> <li>• As our pyritic sulphur in limestone is less than 0.25%, our SO<sub>2</sub> standard for Kiln – I, II &amp; III is 100 mg/Nm<sup>3</sup>.</li> <li>• The sulphur content is absorbed in clinker and the emission levels are well within the limit.</li> <li>• Low NO<sub>x</sub> burners and low NO<sub>x</sub> calciners are installed for Kiln – I, II &amp; III to meet the NO<sub>x</sub> standard of 600 mg/Nm<sup>3</sup> for Kiln – I &amp; III and 800 mg/Nm<sup>3</sup> for Kiln – II respectively.</li> <li>• In the event of pollution control equipment not working, the respective unit(s) gets stopped automatically in phased manner with associated interlocks.</li> </ul>
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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Compiled data of stack monitoring and ambient air quality monitoring carried out by MoEF&amp;CC approved agency on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – I &amp; II respectively.</li> <li>• Monthly stack &amp; ambient air quality monitoring data are being submitted to APPCB on regular basis.</li> <li>• Half-yearly compliance reports are being submitted to APPCB and to the</li> </ul>

S.No.	Condition	Compliance Status
		<p>Regional Office of Ministry located at Chennai on regular basis (up to the period October 2021 to March 2022).</p> <ul style="list-style-type: none"> <li>• Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:eccompliance-ap@gov.in">eccompliance-ap@gov.in</a>.</li> <li>• Providing noise control measures including acoustic hoods, silencers, enclosures etc. at all sources of noise generation.</li> <li>• Efforts are being made to achieve noise levels within norms.</li> </ul>
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.	<p>Being complied.</p> <p>To conserve fresh water,</p> <ul style="list-style-type: none"> <li>• 48 Nos. &amp; 4 Nos. of rain water harvesting structures are made to recharge the ground water in the colony &amp; plant respectively by March 2022. (Annexure – X).</li> <li>• Water collected in mine pits is being used for cement plant, for thermal power plant, mines &amp; for domestic uses.</li> <li>• Treated waste water from TPP ETP, Oil &amp; Grease Trap and STP is used for greenbelt, water sprinkling and partially for process activities.</li> </ul>
vi.	The company shall undertake eco-development measures including community welfare measures in the project area.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• CSR activities are being carried out for upliftment of local areas and account is being maintained.</li> <li>• These include village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc).</li> <li>• Any request from Village Committees in their respective villages, schools &amp; hospitals are being fulfilled by necessary budgetary allocation in phased manner, in priority basis.</li> </ul>
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	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Providing noise control measures including acoustic hoods, silencers, enclosures etc. at all sources of noise generation.</li> <li>• Efforts are made to achieve noise levels within norms.</li> <li>• Ambient noise levels are being</li> </ul>

S.No.	Condition	Compliance Status
	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).	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. <ul style="list-style-type: none"> <li>The compliance report for CREP guidelines for cement plant is enclosed as Annexure - III.</li> </ul>
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. <ul style="list-style-type: none"> <li>Proper housekeeping is maintained in the plant premises.</li> <li>3 Nos. of mobile road sweepers and 1 No. of vacuum cleaner are being used for better housekeeping.</li> <li>Occupational health checkup is being carried for all the employees and records are being maintained.</li> </ul>
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. <ul style="list-style-type: none"> <li>Separate environmental management cell is carrying out monitoring functions.</li> <li>The organization chart of environmental cell is enclosed as Annexure - VII.</li> </ul>
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. <ul style="list-style-type: none"> <li>Occupational health checkup is being carried for all the employees, covering lung function and sputum analysis tests also.</li> <li>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: <ul style="list-style-type: none"> <li>X-ray</li> <li>ECG</li> <li>Spirometry (lung function test)</li> <li>Audiometry</li> <li>Semi-auto analyser to carryout bio-chemical tests</li> <li>Clinical lab for micro-biological tests (including sputum test)</li> <li>Checking colour blindness</li> <li>Dental chair</li> <li>Ambulance</li> </ul> </li> </ul>
xii.	As proposed, Rs. 2.00 Crores and Rs. 2.50 Crores shall be	Being complied. <ul style="list-style-type: none"> <li>Earmarked funds so provided are</li> </ul>

S.No.	Condition	Compliance Status
	<p>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.</p>	<p>not being diverted for any other purposes.</p> <ul style="list-style-type: none"> <li>Rs. 218 lakh spent towards the total capital cost for environmental pollution control measures at the time of modernization.</li> <li>Rs. 431 lakh spent on new air pollution control equipment in the financial year 2016-2017 as part of the Line – I expansion project.</li> <li>Greenbelt expenditure in the financial year 2021-2022 is Rs. 117.53 lakh with respect to plant, colony, mining lease areas and nearby areas.</li> <li>Rs. 3151.24 lakh spent as recurring cost in the financial year 2021-2022, for various environmental protection measures associated with plant. Details are enclosed as Annexure - VIII.</li> <li>An amount of Rs. 1564.20 lakh is allocated towards Environment Management Activities for the financial year 2022-2023 towards capital as well as recurring costs for plant &amp; mines and being spent.</li> </ul>
xiii.	<p>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.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>This compliance report along with statistical interpretation of monitored data is submitted as per this stipulation.</li> <li>Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:ecompliance-ap@gov.in">ecompliance-ap@gov.in</a>.</li> </ul>
xiv.	<p>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.</p>	<p>Noted.</p> <p>Date of financial closure for this project is not required as total funding for this project is from own funds.</p>
xv.	<p>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</p>	<p>Complied.</p> <p>Published the same in 11.06.2009 Eenadu (Telugu) &amp; The Hindu (English) newspapers and copy submitted to Regional Office, Ministry.</p>

S.No.	Condition	Compliance Status
	<a href="http://envfor.nic.in">http://envfor.nic.in</a> . 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.	

  
 (Signature)

## HALF-YEARLY COMPLIANCE REPORT

Environmental Clearance Letter/s No. and Date	J-11011/403/2006-IA-II (I) and 07.02.2007
Name of the Project	The Ramco Cements Limited, Cement Plant – 2.5 Million TPA Clinker, 2.6 Million TPA Cement & Thermal Power Plant – 36 MW
Period of Compliance Report	October 2021 to March 2022

### A. Specific Conditions:

S.No.	Condition	Compliance Status
i.	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 50 mg/Nm <sup>3</sup> . The emissions from CPP shall be less than 100 mg/Nm <sup>3</sup> . Continuous on-line monitors for particulate emissions shall be carried out as per the recommendations of the CREP guidelines and on-line data shall be submitted to the APPCB and CPCB regularly. 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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Efforts are being made to control particulate matter emissions from stacks within the prescribed limit.</li> <li>• All the air pollution control equipment for cement plant Line – I &amp; II are designed for particulate emission standard of 30 mg/Nm<sup>3</sup> and cement plant Line – III are designed for particulate emission standard of 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate emission standard of 50 mg/Nm<sup>3</sup>.</li> <li>• As our pyritic sulphur in limestone is less than 0.25%, our SO<sub>2</sub> standard for Kiln – I, II &amp; III is 100 mg/Nm<sup>3</sup>.</li> <li>• The sulphur content is absorbed in clinker and the emission levels are well within the limit.</li> <li>• Low NO<sub>x</sub> burners and low NO<sub>x</sub> calciners are installed for Kiln – I, II &amp; III to meet the NO<sub>x</sub> standard of 600 mg/Nm<sup>3</sup> for Kiln – I &amp; III and 800 mg/Nm<sup>3</sup> for Kiln – II respectively.</li> <li>• 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.</li> <li>• With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.</li> <li>• In the event of pollution control</li> </ul>

S.No.	Condition	Compliance Status
		equipment not working, the respective unit(s) gets stopped automatically in phased manner with associated interlocks.
ii.	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. One ambient air quality monitoring station shall be installed in downwind direction.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Reports of ambient air quality and stack emissions monitoring (manual) submitted to the APPCB, regularly once in a month and consolidated data to MoEF&amp;CC, RO, along with half-yearly compliance reports.</li> <li>• Compiled data of stack monitoring and ambient air quality collected by MoEF&amp;CC approved external laboratory (manually) on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure – I &amp; II respectively.</li> <li>• These stations are selected covering all directions of cement plant.</li> <li>• 2 Nos. of continuous online ambient air quality monitoring stations are installed and real time monitoring data is transmitted to APPCB server.</li> <li>• Installation of 2 Nos. of Continuous Ambient Air Quality Monitoring Stations is under progress.</li> <li>• 10 Nos. of online monitors are installed to measure particulate emissions for stacks and linked up with APPCB and CPCB websites.</li> <li>• With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.</li> <li>• Ambient noise levels are being monitored during day and night time and records are being maintained.</li> </ul>
iii.	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. Bag filters will be provided in the kiln / raw mill and coal mill and ESP to AFBC boilers and coolers to control air emissions less than	<p>Complied.</p> <ul style="list-style-type: none"> <li>• The following air pollution control equipment are in operation in the present operating cement plant &amp; thermal power plant to control process emissions as well as fugitive emissions from all vulnerable sources, etc.: <ul style="list-style-type: none"> <li>○ 118 Nos. of RABH / Bag Houses / Bag Filters</li> <li>○ 5 Nos. of ESPs</li> <li>○ 5 Nos. of Water Fogging Systems</li> </ul> </li> <li>• 25 Nos. of bag filters are erection and</li> </ul>

S.No.	Condition	Compliance Status
	<p>50 mg/Nm<sup>3</sup>. The dust collected from the pollution control equipments shall be recycled back into the process. Storage of raw material shall be in closed roof sheds. Water spray system shall be provided all around the coal stockpiles and dust suppression system around the coal conveyor system</p>	<p>commissioning stage. These will be commissioned along with associated process equipment.</p> <ul style="list-style-type: none"> <li>• All the air pollution control equipment for cement plant Line – I &amp; II are designed for particulate emission standard of 30 mg/Nm<sup>3</sup> and cement plant Line – III are designed for particulate emission standard of 20 mg/Nm<sup>3</sup>.</li> <li>• All the air pollution control equipments for TPP are designed for particulate emission standard of 50 mg/Nm<sup>3</sup>.</li> <li>• The dust collected from all APCEs is being totally recycled to the respective process / storage facility.</li> <li>• All the packing machines are fitted with bag filters.</li> <li>• Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials are made for coal and other raw materials.</li> <li>• Cement, fly ash and clinker are being stored in silos.</li> <li>• Fly ash (brought from outside) is transported through closed bulkers and is unloaded / conveyed through pneumatic system.</li> <li>• The fly ash generated from TPP is conveyed through pneumatic system and is used in cement plant.</li> <li>• Water spray system arranged around the coal stacker &amp; reclaimer.</li> <li>• Water fogging system is also installed at limestone crusher hopper.</li> <li>• 3 Nos. of Mobile Road Sweepers &amp; 2 Nos. of Industrial Vacuum Cleaners are being used for dust removal. The removed / collected dust is being reused in the respective process.</li> </ul>
iv.	<p>Asphalting / concreting of roads and water spray all around the coal stockpiles shall be carried out to control fugitive emissions.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• All major roads of the plant (including coal stacker / reclaimer road) are paved with concrete.</li> <li>• Water sprinkling system is installed around the coal stockpile and water sprinkling is being carried out with truck mounted tanker on roads of cement plant to control fugitive emissions.</li> </ul>
v.	<p>Total water requirement from</p>	<p>Being complied.</p>



S.No.	Condition	Compliance Status
	<p>the ground water source shall not exceed 5,519.60 m<sup>3</sup>/d and prior permission for the drawl of ground water from the SGWB / CGWA shall be obtained. No process wastewater shall be discharged due to its use either in the process or evaporation. All the treated wastewater shall be recycled and reused for ash conditioning, dust suppression, greenbelt development and other plant related activities etc. No effluent shall be discharged outside the factory premises and 'zero' discharge shall be adopted. Domestic effluent shall be used after treatment in Sewage Treatment Plant (STP) for greenbelt development within the plant and colony area.</p>	<ul style="list-style-type: none"> <li>• Permission obtained from Panchayat Raj &amp; Rural Development Department (nodal agency for Central Ground Water Department) vide Lr. No. PRR05-11028/45/2018-SLNA-GIS-CORD dated 13.11.2021, which is valid up to 12.11.2024 for drawl of 7000 m<sup>3</sup>/day water from the available quantity of water from the mine de-watering only.</li> <li>• Cement manufacturing will not generate any process effluents.</li> <li>• TPP effluent such as DM wastewater, boiler blow down are being treated in effluent treatment plant and reused. The cooling water blow down is recycled and reused. Only make up water is added.</li> <li>• Sewage treatment plant (of capacity 650 kLD) is in operation to treat domestic sewage from colony, office, canteen and plant.</li> <li>• Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>• Compiled data of TPP ETP, Oil &amp; Grease Trap and STP outlet samples analysis carried out by MoEF&amp;CC approved agency (on monthly basis) for the period October 2021 to March 2022 is enclosed as Annexure – IV, V &amp; VI respectively.</li> <li>• These treated effluents are used for greenbelt, water sprinkling &amp; partially for process activities.</li> <li>• The excess treated waste water, if any, is being passed to pond in our own lands to uplift the water table in the nearby area.</li> <li>• With all these measures, 'zero discharge' is being maintained.</li> </ul>
vi.	<p>The company must harvest the rainwater from the roof tops and storm water drains to recharge the ground water. The company must also collect rain water in the mined out pits of captive lime stone mine and use the same water for the various activities of the project to conserve fresh water.</p>	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• 48 Nos. &amp; 4 Nos. of rain water harvesting structures are made to recharge the ground water in the colony &amp; plant respectively by March 2022. (Annexure – X).</li> <li>• Water collected in mine pits is being used for cement plant, for thermal power plant, mines &amp; for domestic uses.</li> <li>• Treated waste water from STP, ETP and Oil &amp; Grease Trap is used for</li> </ul>

S.No.	Condition	Compliance Status												
		greenbelt, water sprinkling and partially for process activities.												
vii.	As proposed in EIA / EMP, greenbelt shall be developed in 172.7 ha (60%) out of total 248 ha. land in consultation with the local DFO as per the CPCB guidelines.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Greenbelt is developed in an area of 130.24 ha by March 2022, 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: <ul style="list-style-type: none"> <li>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.</li> </ul> </li> <li>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.</li> </ul>												
viii.	All the cement dust collected from pollution control devices shall be recycled and reutilized in the process. The entire ash generated from the power plant will be pneumatically conveyed to the cement plant and used for manufacturing of PPC. Hazardous waste viz. spent oil from gear boxes and automatic batteries etc. shall be properly stored in a designated area and sold to authorized recyclers / reprocessors.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>The dust collected from air pollution control equipment is being recycled in the respective process, totally.</li> <li>The fly ash generated from TPP is transported pneumatically and is used in the manufacturing of cement.</li> <li>Disposing waste lead acid batteries to APEMC authorized recyclers / re-processors properly, by storing in a designated area.</li> <li>Waste oil (stored in a tank of capacity 3.5 kL) along with fresh fuel is being used for kiln firing while light up &amp; for reclaimers lubrication and / or sold to APEMC authorized agents.</li> </ul>												
ix.	The company shall undertake eco-development measures including community welfare measures in the project area.	<p>Being complied.</p> <p>CSR activities are being carried out for upliftment of local areas and account is being maintained.</p>												
x.	Present requirement of limestone shall be sourced from the Ravirala Forest Mine only for which environmental clearance has been accorded by the Ministry on 16 <sup>th</sup> October, 2002. The limestone required in future shall be sourced from the captive limestone mine for which prior environmental	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Limestone is being sourced from Captive mines, for which EC are obtained. The details are:</li> </ul> <table border="1"> <tr> <td>Jayanthipuram (North Band)</td><td>Limestone Mine</td><td>1.8 million TPA</td></tr> <tr> <td>Jayanthipuram (South Band)</td><td>Limestone Mine</td><td>0.5 million TPA</td></tr> <tr> <td>Ravirala Limestone Mine (RF)</td><td></td><td>1.2 million TPA</td></tr> <tr> <td>Ramco Budawada Limestone Mine (RF)</td><td></td><td>1.1 million TPA</td></tr> </table>	Jayanthipuram (North Band)	Limestone Mine	1.8 million TPA	Jayanthipuram (South Band)	Limestone Mine	0.5 million TPA	Ravirala Limestone Mine (RF)		1.2 million TPA	Ramco Budawada Limestone Mine (RF)		1.1 million TPA
Jayanthipuram (North Band)	Limestone Mine	1.8 million TPA												
Jayanthipuram (South Band)	Limestone Mine	0.5 million TPA												
Ravirala Limestone Mine (RF)		1.2 million TPA												
Ramco Budawada Limestone Mine (RF)		1.1 million TPA												

S.No.	Condition	Compliance Status
	clearance has been accorded by the Ministry.	<ul style="list-style-type: none"> <li>Limestone is sourced from Ravirala Limestone Mine (RF) and other captive limestone mines, after obtaining prior environmental clearances from Ministry only.</li> </ul>
xi.	All the recommendations of the CREP guidelines shall be strictly followed.	<p>Being implemented.</p> <ul style="list-style-type: none"> <li>CREP guidelines are being followed.</li> <li>The compliance report for CREP guidelines for cement plant is enclosed as Annexure - III.</li> </ul>

### B. General Conditions:

S.No.	Condition	Compliance Status								
i.	The project authority must adhere to the stipulations made by AP State Pollution Control Board (APPCB) and State Government.	Being complied. <ul style="list-style-type: none"><li>Obtained Consent for Operation for the project Andhra Pradesh Pollution Control Board vide Order No. APPCB/VJA/VJA/488/HO/CFO/2017-dated 28.07.2021.</li><li>Obtained Combined Consent for Operation for plant vide Order No. APPCB/VJA/VJA/488/HO/CFO/ 2017-dated 02.11.2021 (which is valid up to 31.01.2027), withdrawing the CFO order dated 28.07.2021.</li></ul>								
ii.	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry.	Being complied. The status of EC orders from Ministry for expansion projects (after this EC) is as follows: <table><tr><th>Project</th><th>ToR / EC details</th></tr><tr><td>Modernization and up-gradation project to produce 2.80 MTPA clinker &amp; 3.65 MTPA cement</td><td>EC No. J-11011/403/2006-IA II (I) dated 09.06.2009</td></tr><tr><td>Increase of clinker production from 2.80 MTPA to 3.185 MTPA &amp; for installation 6 MW Turbo Generator</td><td>EC No. J-11011/403/2006-IA-II (I) dated 29.09.2016</td></tr><tr><td>Increase of clinker production from 3.185 MTPA to 4.685 MTPA &amp; installation of 27 MW Waste Heat Recovery System by installation of 7 Nos. of boilers</td><td>EC No. J-11011/403/2006-IA-II (I) dated 18.12.2019</td></tr></table>	Project	ToR / EC details	Modernization and up-gradation project to produce 2.80 MTPA clinker & 3.65 MTPA cement	EC No. J-11011/403/2006-IA II (I) dated 09.06.2009	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	EC No. J-11011/403/2006-IA-II (I) dated 18.12.2019
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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	EC No. J-11011/403/2006-IA-II (I) dated 18.12.2019									
iii.	At least four ambient air quality monitoring stations shall be established 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 in	Being complied. <ul style="list-style-type: none"><li>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</li></ul>								

S.No.	Condition	Compliance Status
	consultation with the APPCB. Data on ambient air quality and stack emissions shall be regularly submitted to this Ministry including its Regional Office at Bangalore and APPCB once in six months.	<p>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.</p> <ul style="list-style-type: none"> <li>• Monthly stack &amp; ambient air quality monitoring data are being submitted to APPCB on regular basis.</li> <li>• Compiled data of stack monitoring and ambient air quality monitoring carried out by MoEF&amp;CC approved agency on monthly basis for the period October 2021 to March 2022 is enclosed as Annexure - I &amp; II respectively.</li> <li>• Half-yearly compliance reports are being submitted to APPCB and to the Regional Office of Ministry located at Chennai on regular basis (up to the period October 2018 to March 2019).</li> <li>• Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:ecompliance-ap@gov.in">ecompliance-ap@gov.in</a>.</li> </ul>
iv.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Cement manufacturing does not generate process effluents.</li> <li>• TPP effluent (1439 kLD) is being treated in effluent treatment plan.</li> <li>• Sewage treatment plant of 650 kLD is installed to treat domestic effluent from office, canteen, plant and colony.</li> <li>• Auto garage wash water is being treated separately at Oil &amp; Grease Trap.</li> <li>• Compiled data of TPP ETP, Oil &amp; Grease Trap and STP outlet samples analysis carried out by MoEF&amp;CC approved agency (on monthly basis) for the period October 2021 to March 2022 is enclosed as Annexure - IV, V &amp; VI respectively.</li> <li>• The treated wastewater is being used for greenbelt, water sprinkling and partially for process.</li> <li>• The excess treated waste water, if any, is being passed to pond (around 0.5 ha) in our own lands to uplift the water table in the nearby area.</li> </ul>
v.	The overall noise levels in and	Being complied.

S.No.	Condition	Compliance Status
	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).	<ul style="list-style-type: none"> <li>• Providing noise control measures including acoustic hoods, silencers, enclosures etc. at all sources of higher noise generation.</li> <li>• 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.</li> </ul>
vi.	Proper housekeeping and adequate occupational health programmes must be taken up. 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.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Proper housekeeping is maintained in the plant premises.</li> <li>• 3 Nos. of Mobile Road Sweepers &amp; 2 Nos. of Industrial Vacuum Cleaners are being used for better housekeeping.</li> <li>• Occupational health surveillance programme is being carried for the employees regularly and records are being maintained.</li> <li>• Occupational Health Centre (with qualified Occupational Health Specialist with supporting staff) is established with the following facilities: <ul style="list-style-type: none"> <li>○ X-ray</li> <li>○ ECG</li> <li>○ Spirometry (lung function test)</li> <li>○ Audiometry</li> <li>○ Semi-auto analyser to carryout bio-chemical tests</li> <li>○ Clinical lab for micro-biological tests (including sputum test)</li> <li>○ Checking colour blindness</li> <li>○ Dental chair</li> <li>○ Ambulance</li> </ul> </li> </ul>
vii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>• Air pollution control equipments are established as per EIA / EMP report and are being maintained properly.</li> <li>• Sewage treatment plant to treat plant, colony &amp; office sewage; effluent treatment plant to treat thermal power plant effluents and oil &amp; grease trap to treat auto garage effluent are established and are being operated as proposed in EIA / EMP.</li> <li>• The treated effluents &amp; sewage is</li> </ul>

S.No.	Condition	Compliance Status
		<p>used for greenbelt development, water sprinkling activities and partially for process activities.</p> <ul style="list-style-type: none"> <li>Socio-economic measures are being carried out as per EIA / EMP reports, for upliftment of nearby areas.</li> </ul>
viii.	A separate environmental management cell with full fledged laboratory facilities to carry out various management and monitoring functions shall be set up under the control of Senior Executive.	<p>Being complied.</p> <p>Separate environmental management cell is carrying out monitoring functions. The organization chart of environmental cell is enclosed as Annexure - VII.</p>
ix.	As mentioned in the EIA / EMP, Rs. 16.35 Crores and Rs. 10.00 Crores kept towards the total cost and recurring cost / annum for implementing environmental pollution control measures shall be judiciously used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>Earmarked funds so provided are not being diverted for any other purposes.</li> <li>Rs. 1635 lakh spent towards total cost of various pollution control equipment for cement plant Line - II &amp; thermal power plant Line - II at the time of installation of plant.</li> <li>Rs. 431 lakh spent on new air pollution control equipment in the financial year 2016-17 as part of the Line - I expansion project.</li> <li>Greenbelt expenditure in the financial year 2021-2022 is Rs. 117.53 lakh with respect to plant, colony, mining lease areas and nearby areas.</li> <li>Rs. 3151.24 lakh spent as recurring cost in the financial year 2021-2022, for various environmental protection measures associated with plant. Details are enclosed as Annexure - VIII.</li> <li>An amount of Rs. 1564.20 lakh is allocated towards Environment Management Activities for the financial year 2022-2023 towards capital as well as recurring costs for plant &amp; mines and being spent.</li> </ul>
x.	The Regional Office of this Ministry at Bangalore / Central Pollution Control Board / AP Pollution Control Board shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	<p>Being complied.</p> <ul style="list-style-type: none"> <li>This is being submitted as part of six month compliance report with required statistical interpretations of monitored data.</li> <li>Half-yearly compliance reports are being submitted to APPCB and to the Regional Office of Ministry on regular basis (up to the period October 2018 to March 2019).</li> </ul>

S.No.	Condition	Compliance Status
		<ul style="list-style-type: none"> <li>Vide Notice from MoEF&amp;CC, Chennai dated 13.08.2019, this copy of half-yearly compliance report is mailed to <a href="mailto:eccompliance-ap@gov.in">eccompliance-ap@gov.in</a>.</li> </ul>
xi.	The Project Authorities should 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.	Informed.
xii.	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 / Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . 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 should be forwarded to the Regional office.	Complied. Advertised in "Eenadu" Telugu daily and "The Hindu" English daily on 14-02-2007. Copy of the same is forwarded to MOEF, RO, Bangalore vide Lr. No. LAB/PCB/10836/2007 dated 20-02-2007.

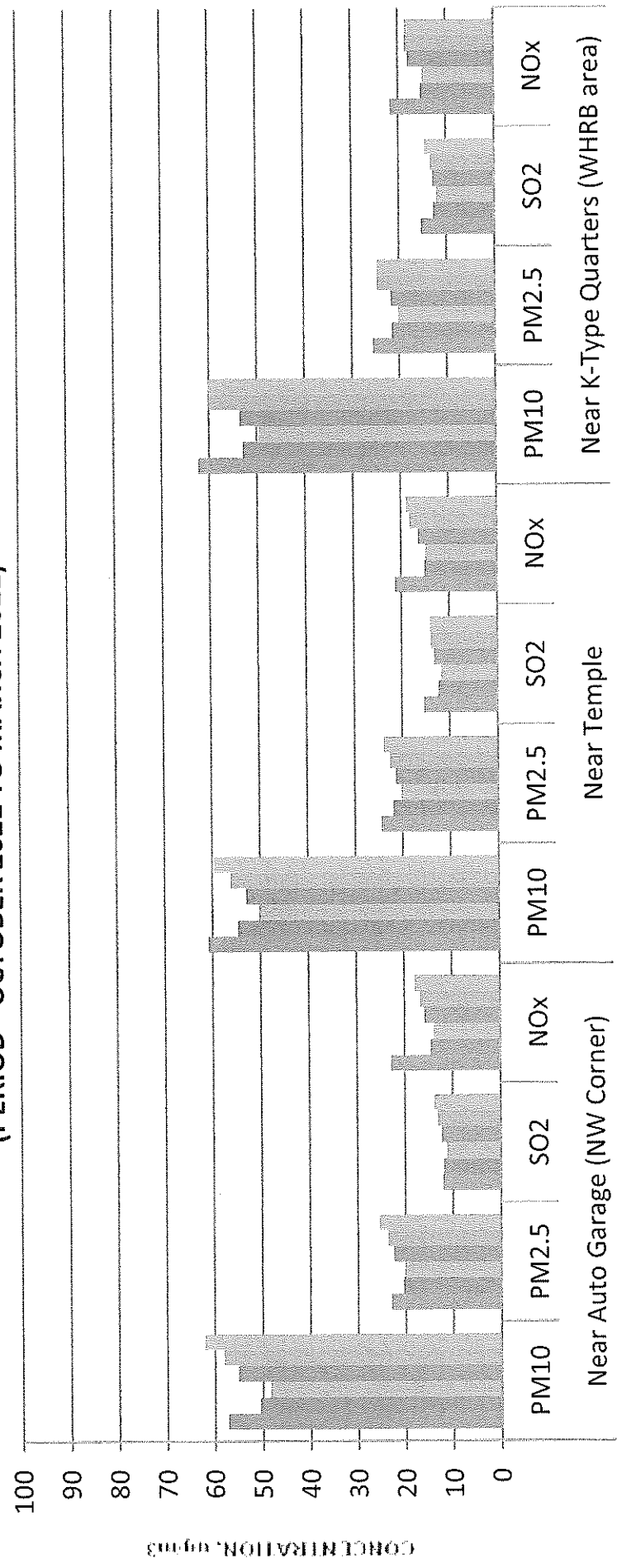
  
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**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**STACK MONITORING DATA**  
**PERIOD - OCTOBER 2021 TO MARCH 2022**

PERIOD - OCTOBER 2021 TO MARCH 2022						
S. No.	Stack Attached to	Month			Average	Norm
		Oct-21	Feb-22	Mar-22		
i.	PM Concentration, mg/Nm <sup>3</sup>					
1	Kiln - I Bag House	21.2	11.7	12.1	15.0	30
2	Coal Mill - I Bag House	10.3	8.9	9.1	9.4	30
3	Cooler - I - ESP	15.3	13.4	9.0	12.6	30
4	Kiln - II RABH	25.3	13.6	13.8	17.6	30
5	Coal Mill - II Bag House	9.1	14.6	7.6	10.4	30
6	Cooler - II - ESP	14.6	17.2	18.3	16.7	30
7	Cement Mill Separator Bag House	19.3		10.3	14.8	30
8	Cement Mill Vent Bag Filter	12.2		13.5	12.9	30
9	Slag Mill Bag House	22.5	21.6	10.6	18.2	30
10	Limestone Crusher	8	7.7	7.9	7.9	30
11	Thermal Power Plant ESPs	37.0	38.0	17.0	30.7	50
12	Kiln - III Bag House		15.8	10.7	13.3	20
13	Coal Mill - III Bag House	17.3	18.1	15.3	16.9	20
14	Cooler - III - ESP		16.6	15.1	15.9	20
II.	SO <sub>2</sub> Concentration, mg/Nm <sup>3</sup>					
1	Kiln - I Bag House	23	36	54	37.7	100
2	Kiln - II RABH	13	10	BDL (DL: 3.0)	11.5	100
3	Thermal Power Plant ESPs	342	550	345	412.3	600
4	Kiln - III Bag House		BDL (DL: 3.0)	BDL (DL: 3.0)	#DIV/0!	100
III.	NO <sub>x</sub> Concentration, mg/Nm <sup>3</sup>					
1	Kiln - I Bag House	492	474	364	443.3	600
2	Kiln - II RABH	532	364	375	423.7	800
3	Thermal Power Plant ESPs	389	406	290	361.7	450
4	Kiln - III Bag House		367	467	417.0	600



THE RAMCO CEMENTS LIMITED, KSR NAGAR,  
AMBIENT AIR QUALITY MONITORING DATA - CEMENT PLANT  
(PERIOD - OCTOBER 2021 TO MARCH 2022)



**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**AMBIENT AIR QUALITY MONITORING DATA - BUFFER ZONE VILLAGES**  
**PERIOD - OCTOBER -2021 to MARCH-2022**

Location	Parameter	Month												Limit
		October-2021		November-2021		December-2021		January-2022		February-2022		March-2022		
		I FORT NIGHT	II FORT NIGHT	I FORT NIGHT	II FORT NIGHT	I FORT NIGHT	II FORT NIGHT	I FORT NIGHT	II FORT NIGHT	I FORT NIGHT	II FORT NIGHT	I FORT NIGHT	II FORT NIGHT	
Dharmavarapupadu Tanda	PM 10	45.1	53.7	48.3	46.9	46.1	45.4	47.8	47.1	48.9	52.3	51.2	53.9	100
	PM 2.5	18.3	21.6	19.6	18.9	18.7	18.3	19.4	19.0	19.9	21.1	20.8	21.7	60
	SO <sub>2</sub>	11.9	12.8	10.6	12.1	10.4	11.9	10.9	12.6	12.5	13.5	13.1	13.1	80
	NO <sub>x</sub>	14.5	15.5	13.2	14.8	13.0	14.6	13.5	15.3	15.1	16.2	15.7	15.8	80
	CO	201.0	212.0	198.0	196.0	201.0	184.0	209.0	191.0	223.0	205.0	226.0	215.0	2000
Jayanthipuram	PM 10	51.2	49.7	46.9	50.2	43.8	48.9	44.6	51.2	52.3	53.5	53.4	54.1	100
	PM 2.5	20.5	20.3	18.8	20.5	17.6	20.0	17.9	20.9	21.0	21.8	21.4	22.1	60
	SO <sub>2</sub>	12.9	13.5	11.2	10.6	10.8	11.1	11.2	11.6	11.6	12.9	12.4	13.2	80
	NO <sub>x</sub>	15.8	16.4	14.1	13.5	13.7	14.0	14.1	14.5	14.5	15.8	15.3	16.1	80
	CO	182.0	215.0	179.0	178.0	211.0	169.0	218.0	176.0	241.0	223.0	248.0	229.0	2000
Chillakallu	PM 10	50.3	51.3	46.2	48.3	45.1	46.1	47.1	48.9	47.6	49.6	48.9	52.3	100
	PM 2.5	20.3	20.8	18.7	19.6	18.2	18.7	19.0	19.8	19.2	20.1	19.8	21.2	60
	SO <sub>2</sub>	12.8	12.9	10.9	12.3	11.2	11.9	14.2	12.4	12.9	12.1	13.2	12.4	80
	NO <sub>x</sub>	15.5	16.0	13.6	15.4	13.9	15.0	16.9	15.5	15.6	15.2	15.9	15.5	80
	CO	212.0	231.0	186.0	191.0	202.0	187.0	204.0	193.0	215.0	208.0	221.0	216.0	2000
K.Agraharam Village	PM 10	49.8	51.9	47.1	47.1	44.9	45.3	45.3	47.3	53.5	54.3	55.2	55.2	100
	PM 2.5	20.1	21.2	19.0	19.2	18.1	18.5	18.3	19.3	21.6	22.2	22.2	22.5	60
	SO <sub>2</sub>	13.9	16.6	11.1	10.9	11.5	10.2	12.5	10.8	13.5	13.8	13.9	13.9	80
	NO <sub>x</sub>	17.0	19.0	14.2	13.3	14.6	12.6	15.6	13.2	16.6	16.2	17.0	16.3	80
	CO	223.0	239.0	191.0	168.0	187.0	154.0	192.0	159.0	249.0	212.0	253.0	222.0	2000
Jaggayyapet	PM 10	51.2	47.2	45.4	48.8	42.1	47.6	44.9	48.6	52.9	51.2	53.6	52.3	100
	PM 2.5	21.0	19.1	18.7	19.7	17.3	19.2	18.5	19.6	21.7	20.7	22.0	21.1	60
	SO <sub>2</sub>	13.1	16.1	10.8	11.6	10.5	11.5	11.2	11.9	12.6	12.6	12.8	12.6	80
	NO <sub>x</sub>	15.5	19.1	13.2	14.6	12.9	14.5	13.6	14.9	15.0	15.6	15.2	15.6	80
	CO	241.0	247.0	182.0	171.0	189.0	163.0	195.0	165.0	246.0	221.0	248.0	228.0	2000
Budawada	PM 10	55.1	53.5	50.3	51.6	47.3	50.2	48.6	52.3	50.6	49.8	52.7	51.6	100
	PM 2.5	21.8	22.0	19.9	21.2	18.7	20.6	19.2	21.5	20.0	20.5	20.8	21.2	60
	SO <sub>2</sub>	13.7	14.7	12.9	13.9	11.9	12.6	12.3	12.8	12.8	13.1	13.3	13.7	80
	NO <sub>x</sub>	16.5	17.3	15.7	16.5	14.7	15.2	15.1	15.4	15.6	15.7	16.1	16.3	80
	CO	221.0	231.0	201.0	242.0	210.0	212.0	214.0	218.0	242.0	206.0	251.0	217.0	2000
Vedadri	PM 10	52.3	51.6	43.2	45.3	44.9	44.9	45.3	47.1	53.8	52.9	54.2	54.6	100
	PM 2.5	21.3	20.5	17.6	18.0	18.3	17.9	18.5	18.7	22.0	21.1	22.1	21.7	60
	SO <sub>2</sub>	12.1	13.9	11.1	12.8	10.6	12.9	11.1	13.2	12.1	13.5	12.6	13.9	80
	NO <sub>x</sub>	14.4	16.7	13.4	15.6	12.9	15.7	13.4	16.0	14.4	16.3	14.9	16.7	80
	CO	242.0	226.0	174.0	169.0	180.0	158.0	186.0	164.0	219.0	208.0	223.0	219.0	2000
Pochampalli	PM 10	50.7	48.9	41.9	44.9	43.7	43.6	44.1	45.2	48.6	50.6	49.3	53.4	100
	PM 2.5	20.7	19.9	17.1	18.2	17.9	17.7	18.0	18.4	19.9	20.5	20.2	21.7	60
	SO <sub>2</sub>	13.4	14.3	10.2	11.9	10.1	11.6	10.9	11.9	12.7	12.6	12.9	12.8	80
	NO <sub>x</sub>	16.3	16.6	13.1	14.2	13.0	13.9	13.8	14.2	15.6	14.9	15.8	15.1	80
	CO	179.0	229.0	169.0	162.0	169.0	156.0	174.0	163.0	221.0	198.0	229.0	201.0	2000
Ravirala	PM 10	53.2	48.6	42.7	43.1	44.0	42.7	45.2	44.9	51.1	48.7	53.5	49.6	100
	PM 2.5	21.7	19.8	17.4	17.6	17.9	17.4	18.4	18.3	20.8	19.9	21.8	20.2	60
	SO <sub>2</sub>	12.5	13.6	10.5	12.1	10.3	11.4	10.6	11.8	11.9	13.2	12.3	13.3	80
	NO <sub>x</sub>	15.5	16.5	13.5	15.0	13.3	14.3	13.6	14.7	14.9	16.1	15.3	16.2	80
	CO	192.0	242.0	158.0	151.0	161.0	149.0	165.0	155.0	208.0	212.0	223.0	228	2000

Note: All values are mentioned in µg/m<sup>3</sup>

## THE RAMCO CEMENTS LIMITED, KSR NAGAR COMPLIANCE REPORT ON CREP CONDITIONS

Period: October 2021 to March 2022

*1. Implementation of standards in non-complying units.*

Complying with the latest notified norms.

*2. Plants in critically polluted or urban area (5 km distance outside urban boundary) will meet 100 mg/Nm<sup>3</sup> SPM emission.*

Not applicable as our cement plant is not located in critically polluted or urban area (5 km distance outside urban boundary).

*3. The new cement kilns to be accorded NOC / EC for complying 50 mg/Nm<sup>3</sup> emission limit.*

- As per the latest emission norm of 30 mg/Nm<sup>3</sup> for cement plants by CPCB (effect from 01.04.2017), upgradation projects are made for some of the air pollution control equipments of cement plant and presently operating the plant with less than 30 mg/Nm<sup>3</sup> of PM emissions level.
- The emission norm of 20 mg/Nm<sup>3</sup> is defined for our cement plant Line – III.

*4. CPCB will evolve load based standards by June 2004.*

As per the latest load based standard of 0.125 kg/tonne of clinker (particulate matter from raw mill, kiln and pre-calciner system put together) for cement plants by CPCB (effect from 01.04.2017), upgradation projects are made for some of the air pollution control equipments of cement plant.

*5. CPCB and NCBM will evolve SO<sub>2</sub> and NO<sub>x</sub> emission standards by June 2004.*

The new standards are formulated recently, as follows:

- As our pyritic sulphur in limestone is less than 0.25%, our SO<sub>2</sub> standard for Kiln – I, II & III is 100 mg/Nm<sup>3</sup>. The sulphur content is absorbed in clinker and the emission levels are well within the limit.
- NO<sub>x</sub> standards are 600 mg/Nm<sup>3</sup> for Kiln – I & III and 800 mg/Nm<sup>3</sup> for Kiln – II respectively. To meet the same, low NO<sub>x</sub> burners and low NO<sub>x</sub> calciners are installed for 3 Nos. of Kiln circuits.

*6. Control fugitive emissions from all the raw material and products storage and transfer points by December 2003. The feasibility for the control of fugitive emissions from limestone and coal storage areas will be decided by the NTF. The NTF shall submit its recommendations within three months.*

- Installed unit bag filters in all conveyor transfer points.
- Installed closed conveyors to transport raw materials to avoid fugitive emissions.
- Operating pneumatic systems to convey fly ash to silos and for extraction systems.

- Provided water sprinklers in the raw material yards and roads.
- Operating 3 Nos. of road sweepers and 2 Nos. of vacuum cleaners for cleaning the concrete roads and floors.

7. *CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of pet coke as fuel by July 2003.*

As per SO 3518(E) dated 23.11.2016 and its amendments thereof, pet coke is permitted as approved fuel for cement plant. Pet coke is being used as alternate fuel.

8. *NTF will decide feasible unit operations / sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003.*

Complied.

- With respect to operating plant, 10 Nos. of online stack monitors are installed and online data is being transmitted to APPCB & CPCB websites.
- With respect to this expansion proposal, 3 Nos. of online stack monitors are installed for the major process equipment associated with this project and online data is being transmitted to APPCB website.

9. *Tripping in Kiln ESP to be minimize by July 2003.*

Not applicable as no ESPs are installed for Kiln exhaust gases emitting circuit.

10. *Industries will submit the target date to enhance utilization of waste materials.*

Waste material from other industries like fly ash, iron sludge, gypsum, slag and pet coke are being used in our plant.

11. *NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003.*

Utilization of spent carbon is initiated, which is procured through Andhra Pradesh Environment Management Corporation (APEMC), in our cement kilns and used 16 Tonne in this half-yearly period.

Application submitted to APPCB for utilization of Iron Sludge as alternate raw material along with Iron Ore, in the month of November 2014. Trial run conducted from 04<sup>th</sup> to 08<sup>th</sup> July 2017, for which report is submitted to Board.

12. *Cement industry will carry out feasibility study and submit target date to CPCB for cogeneration of power by July 2003.*

Being complied.

- The kiln exit gases are utilized for drying of raw materials while raw mill & coal grinding. Cooler vent gases are utilized for cement grinding section.
- Waste Heat Recovery Boilers connected to Cement Plant Lines – I, II & III are commissioned to produce 27 MW power.

**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**THERMAL POWER PLANT - EFFLUENT TREATMENT PLANT OUTLET QUALITY DATA**  
**PERIOD - OCTOBER 2021 TO MARCH 2022**

S. No	Parameter	Unit	Month						Range / Average	Norm
			Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22		
1	p <sup>H</sup>		7.81	7.87	7.89	7.85	7.87	7.86	7.81 - 7.89	5.5 - 9.0
2	Total Dissolved Solids	mg/L	932	918	929	914	923	915	921.83	2100
3	Total Suspended Solids	mg/L	31.2	30.9	29.6	28.3	29.6	30.6	30.03	100
4	Chemical Oxygen Demand	mg/L	68.6	67.1	65.4	63.9	65.1	64.3	65.73	250
5	BOD (for 3 days at 27 °C)	mg/L	20.9	21.2	19.9	18.6	19.2	21.2	20.17	100
6	Oil & Grease	mg/L	1.5	1.4	1.2	1.1	1.2	1.4	1.30	10

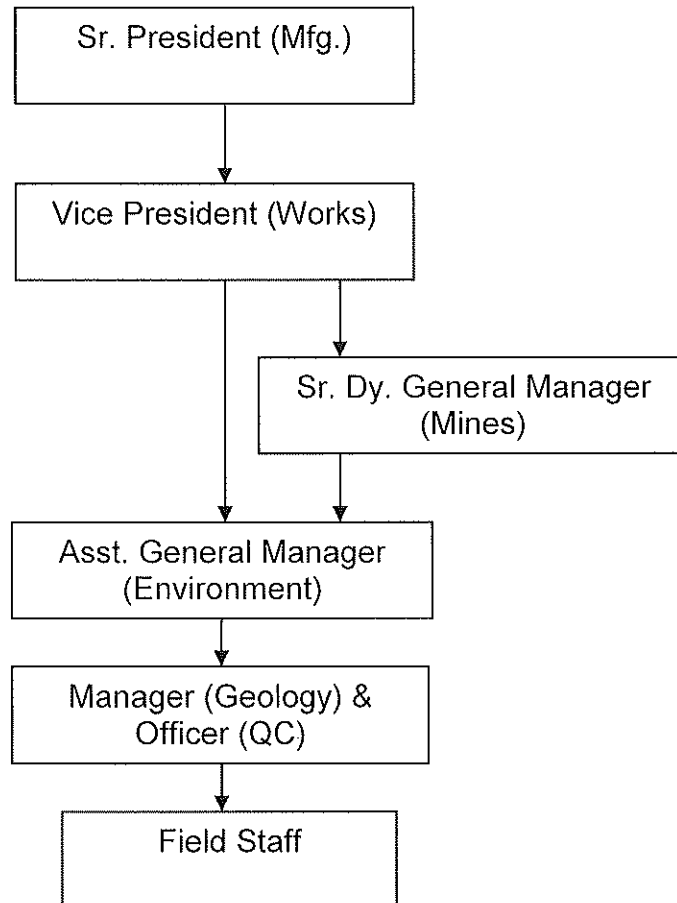
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S. No	Parameter	Unit	Month						Range / Average	Norm
			Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22		
1	p <sup>H</sup>		7.87	7.81	7.87	7.81	7.89	7.84	7.81 - 7.89	5.5 - 9.0
2	Total Dissolved Solids	mg/L	996	981	999	965	958	942	974	2100
3	Total Suspended Solids	mg/L	82.7	80.6	83.5	81.9	82.9	79.6	81.9	100
4	Chemical Oxygen Demand	mg/L	149	139	142	135	141	138	141	250
5	BOD (for 3 days at 27 °C)	mg/L	43.1	42.7	43.5	42.9	43.5	42.9	43.10	100
6	Oil & Grease	mg/L	2.6	2.5	2.9	2.7	2.9	2.6	2.70	10

**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**SEWAGE TREATMENT PLANT OUTLET QUALITY DATA**  
**PERIOD - OCTOBER 2021 TO MARCH 2022**

S. No	Parameter	Unit	Month						Range / Average	Norm
			Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22		
1	p <sup>H</sup>		7.67	7.69	7.74	7.70	7.78	7.69	7.67 - 7.78	5.5 - 9.0
2	Total Dissolved Solids	mg/L	623	614	628	618	629	639	625.17	2100
3	Total Suspended Solids	mg/L	27.9	26.3	25.9	23.9	25.1	24.6	25.62	100
4	Chemical Oxygen Demand	mg/L	29.3	28.6	27.1	28.6	29.6	32.3	29.25	250
5	BOD (for 3 days at 27 °C)	mg/L	8.9	8.7	7.9	7.7	7.8	8.1	8.18	100
6	Oil & Grease	mg/L	1.4	1.3	1.1	1.0	1.2	1.3	1.22	10

**THE RAMCO CEMENTS LIMITED, KSR NAGAR  
ORGANIZATIONAL CHART OF ENVIRONMENTAL CELL**





**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**ENVIRONMENTAL PROTECTION EXPENDITURE FOR YEAR 2021-2022**

S. No.	DESCRIPTION	Expenditure incurred in 2021-2022, Rs.	Budget for 2022-2023, Rs.
<b>I.</b>	<b>Recurring Cost - Plant</b>		
	Electrical units for operation of PCE (22528193*3.81)	85832415	120000000
	Electrical units for operation of STP (53178*3.81)	202608	
	APPCB Analysis Charges	42330	
	APPCB - Consent / authorization fees	26777683	
	Hydro-geological stuides by Ground Water Department	53106	
	BF Maintenance - M/s Sri Ganesh Traders & Engineering Works	3615894	
	Road sweepers, vacuum cleanear, mobile water sprinkler & dozer	2458198	
	Environmental Monitoring Charges - Plant & Mines	1033649	
	STP Operation charges - M/s UEA	1215976	
	CAAQMS AMC - M/s Swan	278400	
	CAAQMS consumables - M/s Swan	662903	
	CPCB & APPCB transmission - Yokogawa - AMC	77198	
	CPCB & APPCB transmission - Glens - AMC	87000	
	Calibration charges of environmental monitoring equipment	59565	
	BMW handling charges - M/s Safenviron	12000	
	Bio-gas plant - consumables	1199	
	Operation of water treatment plant	378505	
	Operation of STP - chemicals & consumables	57090	
	<b>Total (Rs.)</b>	<b>122845719</b>	
<b>II.</b>	<b>Plant - APCE Modifications</b>		
	Replacement of filter bags, accessories, etc	17697106	300000
	<b>Total (Rs.)</b>	<b>17697106</b>	
<b>III.</b>	<b>Mines - Recurring</b>		
	Nonel detonators	2407000	21720000
	Wet drilling	122000	
	Reclamation	41069000	
	Permanent water sprinkler system & water sprinkling	5714000	
	<b>Total (Rs.)</b>	<b>49312000</b>	
<b>IV.</b>	<b>Plantation (Plant &amp; Mines)</b>		
	Mines - M/s Sri Laxmi Narasimha	2063880	8000000
	Plant & Colony - Pragathi	3557248	
	Plant & Colony - Ramdasu Naik	1749000	
	Colony - Bharathi Contract Works	1371531	
	Hussain - Budawada	551184	
	Nurseries maintenance cost (packets, vermicompost, fertilizers, etc)	88580	
	Purchase of sapplings from prative / government agencies	2372000	
	<b>Total (Rs.)</b>	<b>11753423</b>	
<b>V.</b>	<b>Capital - Plant &amp; Mines</b>		
	Sheds for limestone stock piles	58841692	6400000
	Additioanl bag filters installed	46815000	
	Purchase of 2 Nos. of CAAQMS - M/s Sun	7670120	
	Auto weather station - M/s Swan	188800	
	<b>Total (Rs.)</b>	<b>113515612</b>	
	<b>Grand Total (Rs.)</b>	<b>315123860</b>	<b>156420000</b>

**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**JAYANTHIPURAM LIMESTONE MINE (NORTH BAND)**  
**MINE DISCHARGE WATER QUALITY DATA**  
**PERIOD - OCTOBER-2021 to MARCH-2022**

S. No	Parameter	Unit	Month						Limits
			October-2021	November-2021	December-2021	January-2022	February-2022	March-2022	
1	p <sup>H</sup>		7.87	7.92	7.97	7.86	7.78	7.84	5.5 - 9.0
2	Total Suspended Solids	mg/L	51.6	50.6	52.3	53.6	50.2	52.3	100
3	Total Dissolved Solids	mg/L	959	912	935	949	929	937	2100
4	Chlorides (as Cl)	mg/L	279	299	301	323	312	326	1000
5	Sulphates (as SO <sub>4</sub> )	mg/L	75.3	61.6	63.5	65.1	60.6	58.3	1000
6	BOD (for 3 days at 27 °C)	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	30
7	Chemical Oxygen Demand	mg/L	16.80	15.40	15.90	16.70	15.90	16.60	250
8	Oil & Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
9	Iron (as Fe)	mg/L	0.34	0.29	0.35	0.38	0.32	0.31	3.0
10	Fluoride (as F)	mg/L	0.52	0.47	0.52	0.54	0.51	0.49	2.0

**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**JAYANTHIPURAM LIMESTONE MINE (SOUTH BAND)**  
**MINE DISCHARGE WATER QUALITY DATA**

**PERIOD - OCTOBER-2021 to MARCH-2022**

S. No	Parameter	Unit	Month						Limits
			October-2021	November-2021	December-2021	January-2022	February-2022	March-2022	
1	p <sup>H</sup>		7.59	7.64	7.69	7.86	7.97	7.94	5.5 - 9.0
2	Total Suspended Solids	mg/L	54.1	53.5	55.6	57.3	58.6	56.3	100
3	Total Dissolved Solids	mg/L	729	736	740	781	796	781	2100
4	Chlorides (as Cl)	mg/L	187	189	193	199	212	223	1000
5	Sulphates (as SO <sub>4</sub> )	mg/L	68.1	67.2	69.1	72.4	73.5	71.2	1000
6	BOD (for 3 days at 27 °C)	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	30
7	Chemical Oxygen Demand	mg/L	16.80	15.90	16.20	17.30	18.20	19.10	250
8	Oil & Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
9	Iron (as Fe)	mg/L	0.29	0.27	0.29	0.34	0.35	0.31	3.0
10	Fluoride (as F)	mg/L	0.42	0.39	0.43	0.45	0.47	0.42	2.0

**THE RAMCO CEMENTS LIMITED, KSR NAGAR**  
**RAVIRALA LIMESTONE MINE (RF)**  
**MINE DISCHARGE WATER QUALITY DATA**  
**PERIOD - OCTOBER-2021 to MARCH-2022**

S. No	Parameter	Unit	Month						Limits
			October-2021	November-2021	December-2021	January-2022	February-2022	March-2022	
1	p <sup>H</sup>		7.79	7.81	7.87	7.82	7.89	7.92	5.5 - 9.0
2	Total Suspended Solids	mg/L	64.10	62.9	63.5	63.5	65.1	63.6	100
3	Total Dissolved Solids	mg/L	836	827	836	838	842	851	2100
4	Chlorides (as Cl)	mg/L	229	218	224	209	223	238	1000
5	Sulphates (as SO <sub>4</sub> )	mg/L	89.2	87.3	89.6	84.2	85.1	84.2	1000
6	BOD (for 3 days at 27 °C)	mg/L	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	30
7	Chemical Oxygen Demand	mg/L	19.20	18.90	19.80	17.90	18.20	17.90	250
8	Oil & Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
9	Iron (as Fe)	mg/L	0.57	0.55	0.57	0.47	0.49	0.52	3.0
10	Fluoride (as F)	mg/L	0.61	0.59	0.62	0.52	0.55	0.57	2.0

**THE RAMCO CEMENTS LTD., KSR NAGAR**  
**DETAILS OF RAIN WATER HARVESTING PITS**

S. No.	LOCATION	TO ACCOMMODATE	PIT NUMBERING	No. OF PITS	ROOF TOP AREAS (m <sup>2</sup> )	PAVED AREA (m <sup>2</sup> )	UNPAVED AREA (m <sup>2</sup> )
I.	<b>COLONY AREA</b>						
1	C+ Qtrs buildings(C+1 -C+8)	Building roof top & Open yard	10, 11, 12, 13	4	1200		
2	New school building	Building roof top & Open yard	1, 2, 3, 4	4	3075		
3	Occupational Health Centre	Building roof water	6, 7	2	200		
4	New Administration building	Building roof top & Open yard	9	1	540		
5	Reading room	Building roof top water	8	1	120		
6	D40 area	D40 quarter open yard	23	1			500
7	B Type quarter area (near B2 1 No. and B4 backside 1 No.)	School ground	21, 22	2			1000
8	C30	Open yard	15	1			200
9	Near Volley Ball ground	East of play ground	16	1		200	
10	Near culvert @ Cricket ground	Open land near C ground	5	1			3000
11	Bachelor hostel area	Rain water collection pit through natural ground	14, 20	2		550	
12	CMD guest house area	Building roof top & Open yard	17, 18, 19	3	1000		
13	D - 1 block Apartment	D41 - D44 block roof top and open land	39	1	200		
14	D - 2 block Apartment	D45 - D48 block roof top and open land	40	1	200		
15	D - 3 block Apartment	D49 - D52 block roof top and open land	41	1	200		
16	D - 4 block Apartment	D53 - D56 block roof top and open land	42	1	200		
17	D - 5 block Apartment	D57 - D60 block roof top and open land	43	1	200		
18	D - 6 block Apartment	D61 - D64 block roof top and open land	44	1	200		
19	D - 7 block Apartment	D64 - D68 block roof top and open land	45	1	200		
20	E - 1 Block Apartment	E41 - E52 block roof top and open land	27, 28	2	295		
21	E - 2 Block Apartment	E53 - E64 block roof top and open land	25, 26	2	295		
22	F - 1 Block Apartment	F75 - F86 block roof top and open land	29, 30	2	293		
23	F - 2 Block Apartment	F87 - F98 block roof top and open land	31, 32	2	293		
24	F - 3 Block Apartment	F99 - F110 block roof top and open land	33, 34	2	293		
25	F - 4 Block Apartment	F111 - F122 block roof top and open land	35, 36	2	293		
26	F - 5 Block Apartment	F123 - F134 block roof top and open land	37, 38	2	293		
27	STP Area	Rain water collection pit through natural ground	46	1		400	1000
28	C-Type quarters area	Rain water collection pit through natural ground	47	1			500
29	C-18 Quarter backside	Rain water collection pit through natural ground	48	1			1000
30	E3& E4 Block Apartments	Roof top and open land	49	1	305		
	<b>COLONY TOTAL</b>			<b>48</b>			
II.	<b>PLANT AREA</b>						
31	CCR	Roof top and open land	1	1	1100		
32	Mines office	Roof top and open land	2, 3	2	350		
33	Thermal Power Plant area	Cooling tower building surrounding surface water	4	1			
	<b>PLANT TOTAL</b>			<b>4</b>			
	<b>Total</b>			<b>52</b>	<b>11345</b>	<b>1150</b>	<b>7200</b>