भारत सरकार

GOVERNMENT OF INDIA

पर्यावरण ,वन एवं जलवायु परिवर्तन मंत्रालय

MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE

Regional Office (South Eastern Zone),

1st & 2nd floor, HEPC Building, No.34, Cathedral Garden Road,

Nungambakkam, Chennai - 600034

सत्यमेव जयते

Date: 09-02-2016 /0355

To

Shri. P.B. Gopalakrishna
President (Manufacturing)
M/s The Ramco Cements Limited
(Formerly M/s. Madras Cements Limited)
Kumarasamy Raja Nagar,
Jaggaiahpet Mandal, Krishna District,
Andhra Pradesh - 521 457

Subject:

1. Expansion of Cement Plant (1.60 MTPA to 2.60 MTPA) with coal based Captive Power Plant (2X18 MW) at Kumarasamy Raja Nagar, Jaggayyapet, District Krishna, Andhra Pradesh by The Ramco Cements Limited. – **Certified copy of compliance report – reg.**
2. Modernization and Expansion of Kumarasamy Raja Nagar Cement Plant (Clinker-2.5 MTPA to 2.80 MTPA & Cement – 2.60 MTPA to 3.65 MTPA) at village Jayanthipuram, Mandal Jaggayyapet, District Krishna, Andhra Pradesh by The Ramco Cements Limited. – **Certified copy of compliance report – reg.**
3. Budawada Limestone (ML area 160 Ha and Production capacity 1.1 MTPA) at Village Budawada, Mandal Jaggayyapet, District Krishna, Andhra Pradesh By Madras Cements Limited – **Certified copy of compliance report – reg.**

Reference:

1. MoEF & CC Lr. No J-11011/403/2006-IA-II (I) dated 7.2.2007
2. MoEF & CC Lr. J-11011/403/2006-IA-II (I) dated 09.06.2009
3. MoEF & CC Lr No: J-11015/150/2008-IA-II (M) dated 10.12.2009
4. Your Letter no. RCL/MoEF &CC/90/2015-16, dtd 31.12.2015

Sir,

With references to the above mentioned subjects, the undersigned visited the project site on 03.02.2016 and certified copies of the compliance reports are herewith enclosed for your further necessary action.

Your's faithfully,

(Dr. C. Kaliyaperumal)
Director (S)

Encl: As above

Dr. C. KALIYAPERUMAL, M.E., PhD
Director (S)
Government of India
Ministry of Environment, Forests & Climate Change
Regional Office (South Eastern Zone)
HEPC Building, No.34, Cathedral Garden Road,
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GOVERNMENT OF INDIA
Ministry of Environment, Forests and Climate Change (MoEF &CC)
Regional Office – South Eastern Zone,
1st & 2nd floor, HEPC Building, No.34, Cathedral Garden Road,
Nungambakkam, Chennai – 600 034.

MONITORING REPORT

PART I

DATA SHEET

F. No. EP/12.1/ 897/AP

1	**Project Type** River valley / Mining / Industry / Thermal / Nuclear / Other Specify		:	Industry - Cement plant
2	**Name of the project**		:	The Ramco Cements Limited (RCL) Kumarasamy Raja Nagar, Village: Jayanthipuram, Mandal Jaggayyapet, District Krishna, Andhra Pradesh - 521 457.
3	**Clearance letter(s) / OM No. and dated**		:	i. Expansion of Cement Plant File no: J-11011/403/2006-IA-II (I) dated 7th February, 2007 for Cement Plant – 2.50 million TPA clinker, 2.60 million TPA cement & 2 x 18 MW Thermal Power Plant. ii. Modernization and Expansion of Kumarasamy Raja Nagar Cement Plant File no: J-11011/403/2006-IA II (I) dated 09th June 2009 for Cement Plant – 2.80 million TPA clinker & 3.65 million TPA cement.
4	**Locations**			
	a.	Taluk(s) District	:	Jaggaiahpet Mandal, Krishna District
	b.	State (s)	:	Andhra Pradesh
	c.	Latitudes / Longitudes		16°52'24.90" - 16°52'41.20" North 80° 7'8.30"E" - 80° 7'29.40" East
5	**Address of correspondence**			
	a.	Address of concerned project Chief Engineer (with Pin Code & telephone / telex / fax numbers	:	Shri. P.B. Gopalakrishna President (Manufacturing) M/s The Ramco Cements Limited (Formerly M/s. Madras Cements Limited) Kumarasamy Raja Nagar, Jaggaiahpet Mandal, Krishna District, Andhra Pradesh - 521 457 Telephone – 08654 – 224400 (10 lines) Fax – 08654 – 222532 Email: mcljpm@ramcocements.co.in
6	**Salient features**			
	a.	of the project	:	Cement Manufacturing through Cement Plant. i. Operating the cement plant with 2.80 million TPA clinker & 3.65 million TPA cement capacity. ii. Operating thermal power plant with 2 x 18 MW capacity.
	b.	of the environmental management plans	:	Air, water and noise pollution has to be managed. Green belt has to be developed.
7	**Breakup of the project area**			
	a	Submergence area (forest & non-forests)	:	Not Applicable
	b	Others	:	Total cement plant area: 812.75 Ac

8		Break up of project affected population with enumeration of those losing houses / dwelling units only, agricultural land only, both dwelling units and agricultural land and landless labourers / artisans	:	Not Applicable
	a	SC,ST/Adivasis	:	Not Applicable
	b	Others	:	Not Applicable
9	**Financial Details**			
	a	Project cost as originally planned and subsequent revised estimates and the years of price reference	:	• Capital allocation made for cement plant Line – II and thermal power plant (2 x 18 MW) in the year 2007, Rs. 434.0 crores • Capital allocation made for cement plant modernization in the year 2010, Rs. 55.0 crores
	b	Allocations made for environmental management plans, with item wise and year wise breakup	:	• Capital allocation made for cement plant Line – II and thermal power plant (2 x 18 MW) for EMPs in the year 2007, Rs. 16.35 crores • Capital allocation made for cement plant modernization for EMPs in the year 2010, Rs. 2.0 crores • Recurring allocation for environmental protection measures (plant & mines) o Rs. 10.0 crores - Cement plant Line - II o Rs. 2.0 crores - Cement plant modernization. • Allocation for Corporate Social Responsibility expenditures - Rs. 50.0 lakh per annum.
	c	Benefit cost ratio / internal rate of return and the years of assessment	:	--
	d	Whether (c) includes the cost of environmental management as shown in (b) above	:	Yes
	e	Total expenditure on the Project so far	:	Rs. 838.19 crores.
	f	Actual expenditure incurred on the environmental management plans so far	:	• Capital expenditure for air pollution control equipment – Rs. 90 crores so far. • Capital expenditure for STP – Rs. 67.22 lakh • Capital expenditure for online monitoring systems – Rs. 62.3 lakh (Rs. 38.30 lakh earlier + Rs. 24 lakh for 2 Nos. of SO2 & NOx analysers). • Recurring expenditure for environmental protection measures (plant & mines) – Rs. 13.68 crores in the financial year 2014-15. • Corporate Social Responsibility expenditure for the period 2003-14 (11 years) – Rs. 4.058 crores and Rs. 54.17 lakh in financial year 2014-15 @ Rs. 38.33 lakh per annum. • Contributed Rs. 2.35 crores for Hudhud too fan (Rs. 2.0 crores for CM relief fund and 0.35 crores for local too fan relief works) in the month of October 2014. • Contributed Rs. 2 crores for Chennai Floods in the year 2015-16.
10	**Forest land requirement:**			
	a	The status of approval for a diversion of forest land for non-forestry use	:	Not Applicable
	b	The status of compensatory afforestation, if any	:	Not Applicable
	c	The status of clear felling	:	Not Applicable
	d	Comments on the viability and sustainability of compensatory afforestation programme in the light of actual field experience so far	:	Not Applicable

11		The status of clear felling in non-forest area (such as submergence area of reservoir, approach road), if any, with quantitative information	:	Not Applicable
12	**Status of construction:**			
	a	Date of commencement	:	Cement Plant Line I -1984 Cement Plant Line II - 2007 Thermal Power Plant Line I (18 MW) - 2006 Thermal Power Plant Line II (18 MW) - 2007
	b	Date of completion (actual and / or planned)	:	Cement Plant Line I -1986 Cement Plant Line II - 2008 Thermal Power Plant Line I (18 MW) - 2007 Thermal Power Plant Line II (18 MW) - 2008
13		Reasons for the delay if the project is yet to start.	:	Not Applicable
14	**Date of site visit:**			
	a	The dates on which the project was monitored by the Regional Office on previous occasions, if any	:	24th & 25th November 2014
	b	Date of site visit for this monitoring report	:	03.02. 2016
15		Details of correspondence with project authorities for obtaining action plans, information and status of compliance to safeguards	:	Nil

(Dr.C.Kaliyaperumal)
Director(S)

Dr. C. KALIYAPERUMAL, M.E., PhD
Director (S)
Government of India
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Regional Office (South Eastern Zone)
HEPC Building, No.34, Cathedral Garden Road,
Nungambakkam. Chennai-600 034.

CERTIFIED COPY OF THE COMPLIANCE REPORT.

Subject: Expansion of Cement Plant (1.60 MTPA to 2.60 MTPA) with coal based Captive Power Plant (2X18 MW) at Kumarasamy Raja Nagar, Jaggayyapet, District Krishna, Andhra Pradesh by The Ramco Cements Limited.

Reference: MoEF & CC Lr. No J-11011/403/2006-IA-II (I) dated 7.2.2007

Present Status of the project:

The project works has been completed and commissioned. The cement plant is manufacturing cement and the power plant is generating power.

Date of Monitoring: 03.02.2016

A. Specific Conditions:

S. No.	Specific Condition	Detailed 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^3. The emissions from CPP shall be less than 100 mg/Nm^3. 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.	Complied. The gaseous and particulate matter emissions from various units are within the limit of 50 mg/Nm^3. As informed by them at no time, the particulate emission from the cement plant has not been exceeded 50 mg/Nm^3. The emission from Captive Power Plant (CPP) is less than 100 mg/Nm^3. They have installed continuous on-line stack monitoring equipment's for particulate emissions as per the recommendations of the CREP guidelines and the same has been connected to the APPCB and CPCB server. Interlocking facility is provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) will be shutdown automatically.
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.	Complied. Two number of online real time CAAQM stations has been installed and online real time monitoring data is transmitted to APPCB & CPCB servers regularly. In addition to this, three number of AAQM stations has been installed at different locations in consultation with PCB and regular manual monitoring is also being done through an approved external agency. Ambient air qualities, stack emission level monitoring data are regularly submitted every month to APPCB and MoEF&CC, RO once in six months. One ambient air quality monitoring station has been installed in downwind direction. Ambient noise levels are being monitored at 24 locations regularly on Quarterly basis and the noise levels are within the prescribed limits as per the reports.
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	Complied. Dust collection and extraction system (Bag filters) has been installed to control fugitive dust emissions at various transfer points i.e., raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing

	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 50 mg/Nm^3. 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	areas etc. Crusher has been provided with high efficiency bag filters. All raw materials conveyors are covered. 84 number of Air Pollution Control Equipment (APCE) in cement plant and 9 number of APCE in TPP has been installed. ESPs are provided to Cooler – I & II and TPP – I & II AFBC boilers. Bag House is connected to Kiln – I. RABH is connected to Kiln – II. The emission levels are less than 50 mg/Nm^3.The dust collected from all APCE is being totally recycled in the process. Closed sheds are provided for additive stacker and its reclaimer, coal stacker and its reclaimer and also for gypsum. Fly ash is unloaded / conveyed through pneumatic system and stored in silos. Fly ash from Thermal Power Plant (TPP) is being transported through pneumatic system to cement plant directly. Water spraying arrangements are provided around the coal stacker and its reclaimer and on internal roads. Further dust Suppression systems (water fogging) are installed at raw material hopper area, coal handling area and additive handling area also. In addition to these water fogging system is installed at limestone crusher hopper.
iv.	Asphalting / concreting of roads and water spray all around the coal stockpiles shall be carried out to control fugitive emissions	Complied. All roads in the cement plant and power plant area are concreted. Water sprinkling is being done with truck mounted tankers on roads of cement plant including the coal stock pile to control fugitive emissions.
v.	Total water requirement from the ground water source shall not exceed 5,519.60 m^3/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	Complied. They have obtained permission from Ground Water Department, Government of Andhra Pradesh vide Lr. No. 11/Hg/MC/2006 dated 29.03.2007 for drawl of 7000 m^3/day water from the available quantity of water from the mine de-watering only and the water consumption has not exceeded 5519.60 m3/day as informed. Cement manufacturing is not generating any process effluents. TPP effluent (1344 kLD) is being treated in effluent treatment plant. Sewage treatment plant of 650 kLD has been commissioned to treat domestic effluent from office, canteen and colony. Auto garage wash water is being treated separately at Oil & Grease Trap. Water samples from STP, ETP and Oil & Grease are being analysed through external agency regularly and used for greenbelt development as well as for dust suppuration purpose. Similarly water used for cooling towers in TPP is treated and also recycled, reused to maximum levels including for using green development. The little quantity of excess water from the TPP is being stored in the pond which is located within their project area and this is helping to recharge the ground water. By doing this they are following and maintaining 'zero' discharge.
vi.	The company must harvest the rainwater from the roof tops and storm water drains to recharge the ground water. The	Complied. They have developed 47 number of rain water harvesting system(RWH) in their colony and after the last visit of RO in

	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	December 2015 one RWH pit/structure has been made in the cement plant premises for the roof top collection. Water is collected in mine pits during rainy season and it is used for cement plant and thermal power plant's various activities to conserve fresh water.
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	Refer below. The total area of the cement plant is 248 ha. Out of this, an area of 130 ha has been brought under the greenbelt development by planting different species including native species so far. Plantation work and survival rates are good. Project authority informed that a request has been made to the Ministry for an amendment to this condition i.e. to reduce the green belt development area from 172.7 ha (60%) to 130 ha since 33% of the area is brought under green belt, during the EAC meeting held on 09.01.2015 and reportedly it was accepted by the committee and awaiting for the order. Further, the assured that the existing green belt development would not be disturbed at all and be saved.
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	Complied. All the dust collected from pollution control equipment is being recycled in the respective process, totally. The entire fly ash generated from TPP is transported pneumatically and utilized in the manufacturing of PPC. The used automotive batteries are stored in a designated area properly and disposed to authorized recyclers / reprocessor. Waste oil is stored and is used along with fresh diesel in their kiln for firing while light up and also disposed to the authorized recyclers.
ix.	The company shall undertake eco-development measures including community welfare measures in the project area	Complied. As informed that an amount of about Rs. 40 lakh per annum is being spent for various socio-economic activities for the surrounding villages as part of Corporate Social Responsibility (CSR) activities. Further whenever any request is received from the nearby villages, schools and hospitals, the same are considered and services are extended to them. The CSR activities are continuing.
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 16th October, 2002. The limestone required in future shall be sourced from the captive limestone mine for which prior environmental clearance has been accorded by the Ministry	Complied. As informed that lime stone is being sourced from their following captive mines, and for these mines, they have already obtained Environmental Clearances. The details are as given below. 1. Jayanthipuram North Band mine – 2.0 MTPA, 2. Jayanthipuram South Band mine – 0.5 MTPA, 3. Ravirala Mine – 1.2 MTPA, 4. Budawada mine – 1.1 MTPA. And this will be continued in future also.
xi.	All the recommendations of the CREP guidelines shall be strictly followed	Complied. Project authorities informed that all the CREP guidelines are being followed/implemented regularly and further informed that all the pollution control equipment installed in the cement plant are designed as per the recommendations of the CREP guidelines for the emission level of 50 mg/Nm^3.

B. General Conditions:

S. No.	General Condition	Detailed Compliance Status
i.	The project authority must adhere to the stipulations made by AP State Pollution Control Board (APPCB) and State Government	Complied. The project authorities stated that all the conditions stipulated in the consent by the APPCB are being implemented. CFO order is valid up to 31.01.2017.
ii.	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry	Complied. Now they are planning to go for an expansion. The proposed plan is to increase their clinker manufacturing capacity from 2.80 MTPA to 3.185 MTPA and the thermal power generation capacity from 36 MW to 42 MW and for this only they have requested the certified copy of the compliance report.
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_2 and NO_X are anticipated in 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	Complied. Two number of online real time CAAQM stations has been installed and online real time monitoring data is transmitted to APPCB & CPCB servers regularly. In addition to this, three number of AAQM stations has been installed at different locations in consultation with PCB and regular manual monitoring is being done through an approved external agency. Ambient air qualities, stack emission level monitoring data are regularly submitted every month to APPCB & MoEF&CC, RO once in six months. One ambient air quality monitoring station has been installed in downwind direction. Ambient noise levels are being monitored at 24 locations on quarterly basis and the noise levels are within the prescribed limits as per the reports.
iv.	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose	Complied. Cement manufacturing is not generating any process effluents. TPP effluent (1344 kLD) is being treated in effluent treatment plant. Sewage treatment plant of 650 kLD has been commissioned to treat domestic sewage from office, canteen and colony. Auto garage wash water is being treated separately at Oil & Grease Trap. Water samples from STP, ETP and Oil & Grease are being analysed through an approved external agency and the data is submitted to the MoEF&CC regularly. The treated wastewater from STP / ETP and auto garage is being used for greenbelt development as well as water sprinkling purpose after meeting the standards.
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 shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time)	Complied. The overall noise levels in and around the plant area is kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. Further the noise levels are monitored at 24 locations during day and night time through an approved external agency on quarterly basis and the levels are within the limits as per the reports.
vi.	Proper housekeeping and adequate occupational health programmes must be taken up. Occupational Health Surveillance programme shall be done	Complied. Good housekeeping is maintained in the entire cement plant premises and colony areas. For this they have three numbers of Mobile Road Sweepers. A full-fledged

	on a regular basis and records maintained. The programme must include lung function and sputum analysis tests once in six months	occupational health centre (OHC) has been established with a dedicated occupational health specialist doctor with supporting staff in their colony premises. The OHC is equipped with the facilities like X-ray, ECG, lung function, audiometry and blood test, etc. Occupational health survey is being carried for the workers and officers regularly and records are maintained.
vii.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP	Complied. Project authorities are implementing the safeguards recommended in the EIA / EMP report.
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	Complied. A Separate environmental management cell has been set up to look after the environmental management related activities and he is reporting to the Unit Head.
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	Complied. They have allocated an amount of Rs. 16.35 Crores and Rs. 10.00 Crores towards the total cost and recurring cost / annum for implementing environmental pollution control measures as mentioned in the EIA/EMP. And in 2014 -15 they have spent amount of Rs.13.7 Cr and 2015-16 Rs. An amount of 13.3 Cr was allocated towards Environmental Management Activities.
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	Complied. They are submitting six monthly compliance reports in hard and soft copies along with the monitored data and statistical interpretations to the MoEF&CC, RO regularly. The six month compliance reports are being uploaded on the company's website.
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	It was informed by the project proponent that the date of financial closure for this project is not required as total funding for this project is from own funds.
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 http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office	Complied. Advertisements were given in two local newspapers, "Eenadu" Telugu daily and "The Hindu" English daily on 14-02-07 and copies of the same were submitted to RO.
6	The Ministry or any other competent	Agreed to comply.

	authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions will be monitored by the Regional Office of this Ministry located at Bangalore.	
7	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed to comply.
8	Any other conditions (or) alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.	Agreed to comply.
9	The above conditions will be enforced, inter-alia under the provisions of The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981, The Environment (Protection) Act, 1986 and The Public Liability (Insurance) Act, 1991 along with their amendments and rules.	Complied. The CFO order is valid up to 31.01.2017. Project authorities stated that PLI Act, 1991 is not applicable to them.

This has been approved by the competent authority vide diary no183 dtd 09.02.2016

Dr.C. Kaliyaperumal
Director (s)

Dr. C. KALIYAPERUMAL, M.E., PhD
Director (S)
Government of India
Ministry of Environment, Forests & Climate Change
Regional Office (South Eastern Zone)
HEPC Building, No.34, Cathedral Garden Road,
Nungambakkam. Chennai-600 034.

CERTIFIED COPY OF THE COMPLIANCE REPORT.

Subject: Modernization and Expansion of Kumarasamy Raja Nagar Cement Plant (Clinker- 2.5 MTPA to 2.80 MTPA & Cement – 2.60 MTPA to 3.65 MTPA) at village Jayanthipuram, Mandal Jaggayyapet, District Krishna, Andhra Pradesh by The Ramco Cements Limited.

Reference: J-11011/403/2006-IA-II (I) dated 09.06.2009

Present Status of the project:

The project works has been completed and commissioned. The cement plant is manufacturing cement and the power plant is generating power.

Date of Monitoring: 03.02.2016

A. Specific Conditions:

S. No.	Specific Condition	Detailed 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^3 by installing adequate air pollution control system viz. Electrostatic precipitators, bag house, bag filters etc. Data on ambient air, fugitive and stack emissions shall be submitted to the Ministry's Regional Office at Bangalore, AP Pollution Control Board (APPCB) and CPCB regularly	Complied. Continuous on-line stack monitoring equipment/system has been installed to all stacks and the online real time monitoring data is being transmitted to APPCB & CPCB servers regularly. As per the stack emission data, the particulate matter emission levels are within the prescribed standards of 50 mg/Nm^3. They have installed an adequate air pollution control system viz. Electrostatic precipitators, bag house, bag filters etc., Ambient air quality, stack emission levels monitoring data are regularly submitted to APPCB once in a month and MoEF & CC, RO once in six months.
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	The Waste Heat Recovered from Kiln and Cooler are utilized for drying of raw materials in Vertical Roller Mills. They have submitted a feasibility report to the RO Bangalore on 19.07.2010.
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^3. Bag filters shall also be provided at transfer points. Water sprinklers shall be provided to control dust emissions in cement plant and mine area	Complied. Electrostatic precipitators (ESPs) are provided to Kiln – I, Coal Mill – I and Bag Houses are provided to cement mills. Further slag mill bag house has been upgraded. Wet scrubber attached to lime stone crusher has been replaced with bag filters. The emission levels are within 50 mg/Nm^3. Dust suppression systems (water fogging) are installed at raw material hopper area, coal handling area and additive handling area and at limestone crusher hopper areas. All mine haul roads permanent water sprinkling system has been installed. In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant areas and mines internal haul roads.
iv.	Ambient air monitoring shall be carried out in and around the project site and efforts shall	Complied. The above mentioned measures are carried out to control the

S. No.	Specific Condition	Detailed Compliance Status
	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	dust levels. Two number of online real time CAAQM stations has been installed and online real time monitoring data is transmitted to APPCB & CPCB servers regularly. In addition to this, three number of AAQM stations has been installed at different locations in consultation with PCB and regular manual monitoring also is being done through an approved external agency. Ambient air quality parameters are within the limits as per the reports.
v.	The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points, raw mill handling (unloading, conveying, transporting, stacking), vehicular movement, bagging and packing areas etc. Crusher shall be operated with high efficiency bag filters. All conveyers shall be covered with GI sheets. Covered sheds for storage of raw materials and fully covered conveyers for transportation of materials shall be provided besides coal, cement, fly ash and clinker shall be stored in silos. Pneumatic system shall be used for fly ash handling. Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RPM particularly in mine area and other vulnerable areas	Complied. The company has installed 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. As stated 84 number of Air Pollution Control Equipment's (APCE) has been installed in cement plant and 9 number of APCE are operation in TPP. Bag filters are provided for additive crusher machines, truck loading and all packing machines areas. The dust collected from APCE is being totally recycled in the process. All conveyers are covered with GI sheets. Closed sheds are provided for additive stacker and its reclaimer, coal stacker its reclaimer and also for gypsum. Fly ash received from outside and clinker are stored in closed silos and fly ash generated from the TPP is conveyed through pneumatic system. Water fogging arrangements at raw material hopper area, coal handling area, lime stone crusher hopper and additive handling areas are installed. Water spraying system is provided around the coal stacker & reclaimer areas. At mine haul roads permanent water sprinkling system has been installed. In addition to this, water sprinkling is being done with truck mounted sprinklers on roads of cement plant and mines internal haul roads.
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_2 and NO_x shall also be displayed outside the premises at the appropriate place for the general public.	Complied. Ambient air quality and stack monitoring data are regularly submitted to MoEF, RO once in six months and to APPCB every month regularly. Online data on ambient air quality and stack monitoring are linked up with APPCB & CPCB websites also. Data on SPM, SO_2 and NO_x are displayed outside the premises for the general public after the last RO visit.
vii.	Asphalting / concreting of roads and water spray all around the critical areas prone to air pollution and having high levels of SPM and RPM shall be ensured	Complied. All roads of the cement plant and power plant areas are concreted. Water sprinklings, water fogging are regularly done for dust suppression at all around the cement and power plant areas. SPM and RPM are within the limits.

S. No.	Specific Condition	Detailed Compliance Status
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	Complied. Secondary fugitive emissions are controlled by providing air pollution control equipments, concrete roads, water sprinkling, fogging system, green belt development, regular cleaning of roads by using road sweeping machine etc. The fugitive dust levels also monitored regularly and the levels are within the limit.
ix.	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land. All the raw materials including fly ash shall be transported in the closed containers only and shall not be overloaded. Vehicular emissions shall be regularly monitored	Complied. All raw materials, clinker (intermediate product) and cement (end product) is being transported through closed wagons to control dust on surrounding agricultural lands. Fly ash is being transported in closed containers only. Vehicular emissions are being regularly monitored by the respective transporters.
x.	Total water requirement for cement plant from bore wells / mine pit water shall not exceed 6,630 m^3/day. The wastewater from boiler blow down, DM plant regeneration waste water, UF & RO rejects shall be neutralized in neutralization tank and mixed with cooling tower blow down in a Central Monitoring Basin (CMB) and used for greenbelt development. All the treated wastewater shall be recycled and reused in the process and / or for dust suppression and greenbelt development and other plant related activities etc. No process waste water shall be discharged outside the factory premises and 'zero' discharge shall be adopted	Total water requirement for cement plant, power plant and domestic usages from mine pit water is within 6,260 m^3/day. The actual consumption is about 6260 m^3/day.TPP boiler blow down (1344 kLD) is being treated in effluent treatment plant. DM plant regeneration waste water, UF & RO rejects are neutralized in neutralization tank and used for greenbelt development. The treated wastewater is monitored by approved external lab and is being used for greenbelt development as well as dust suppression purposes. The boiler blow down (1344 kld) is treated in the ETP and the 500 kld of treated water is reused as make-up water.939 kld of the treated cooling water blow down is also used for green belt development and a very little quantity of water is stored in the pond which is located within their project area and this is helping to recharge the ground water. No process waste water is discharged outside the factory premises. By doing this they are following and maintaining 'zero' discharge.
xi.	'Permission' for the drawl of 6,630 m^3/day ground water / mine pit water shall be obtained from the Central Ground Water Authority / State Ground Water Board (GGWA / SGWB) and a copy of the letter shall be submitted to the Ministry's Regional Office at Bangalore within 3 months of issue of the environment clearance	Complied. Project authorities have obtained permission from Ground Water Department, Government of Andhra Pradesh vide Lr. No. 11/Hg/MC/2006 dated 29.03.2007 for drawl of 7000 m^3/day water from the available quantity of water from the mine de-watering only and the present water drawl is 6,630 m^3/day. As informed that a copy of the letter was submitted to RO Bangalore.
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 vermi	Complied. All the bag filter dust, raw meal dust, coal dust, clinker dust and cement dust from air pollution control devices are being recycled totally and reused in the cement manufacturing process. The sludge from sewage treatment plant (STP) is being used as manure for greenbelt development. Organic wastes are

S. No.	Specific Condition	Detailed Compliance Status
	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 / re-processors only	converted in to manure by following vermi composting methods and used for greenbelt development. Inorganic wastes (papers and other wastes) are properly collected and disposed into the calciner of the pre-heater. Waste oil along with fresh diesel is being used for kiln firing while light up and also sold to authorized recyclers. Used lead acid batteries are stored and sold to authorized recyclers.
xiii.	An effort shall be made to use of high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly	Refer below. Necessary feeding arrangements are made to use high calorific value Hazardous Waste in their kiln and for this an Authorization also has been issued by APPCB and valid up to 31.1.2017.
xiv.	Efforts shall be made to use low-grade lime, more fly ash and solid waste in the cement manufacturing	Complied. Efforts are made to use low grade lime stone. About 15% of low grade limestone is being used by blending activity. Fly ash generated from TPP is being totally reused in the production of PPC.
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)	Complied. Entire quantity of fly ash generated from TPP is reused for manufacturing of PPC. Slag cement is manufactured to the maximum (During 2014-15 – 9460 Tons and 20983 Tons produced from April 2015 to Jan 2016).
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	Refer below. The total area of the cement plant is 248 ha. Out of this, an area of 130 ha has been brought under the greenbelt development by planting different species including native species so far. Plantation work and survival rates are good. Project authority informed that a request has been made to the Ministry for an amendment to this condition i.e. to reduce the green belt development area from 172.7 ha (60%) to 130 ha since 33% of the area is brought under green belt, during the EAC meeting held on 09.01.2015 and reportedly it was accepted by the committee and awaiting for the order. Further, the assured that the existing green belt development would not be disturbed at all and be saved.
xvii.	Permission and recommendations of the State Forest Department regarding impact of proposed plant on surrounding reserve forests viz. Jaggayapeta Extension RF (0.2-10.5 km, E-S), Budavada RF (3.2-10.5 km, W), Ballusupadu RF (6-11 km, WNW), Gandrayi RF (8.5-11 km, NNW) and Kuntimaddi RF (8 km, SSE) shall be obtained and implemented. Further, Conservation Plan for the conservation of wild fauna in consultation with the State Forest Department shall be prepared and implemented	Refer below. Project Authorities informed that wild life conservation plan has not been prepared because there is no schedule -1 species in the project area as per the DFO, Krishna Division, Vijayawada through his letter No. Rc. No.712/95-V6 dated 29.08.2008.
xviii.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the	Complied. Project authorities informed that all the CREP guidelines are being followed/implemented regularly and further

S. No.	Specific Condition	Detailed Compliance Status
	Cement plants shall be implemented	informed that all the pollution control equipment installed in the cement plant are designed as per the recommendations of the CREP guidelines for the emission level of 50 mg/Nm^3.
xix.	The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project	Complied. The project authorities informed that housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, toilets with septic tanks and soak pits, safe drinking water and medical etc. The housing were in the form of temporary structures and were removed after the completion of the project works.

B. General Conditions:

S. No.	General Condition	Detailed Compliance Status
i.	The project authority shall adhere to the stipulations made by Andhra Pradesh Pollution Control Board (APPCB) and State Government	Complied. The project authorities stated that all the conditions stipulated in the consent by the APPCB are being implemented. CFO order is valid up to 31.01.2017.
ii.	No further expansion or modification of the plant shall be carried out without prior approval of this Ministry	Complied. Now they are planning to go for an expansion. The proposed plan is to increase their clinker manufacturing capacity from 2.80 MTPA to 3.185 MTPA and the thermal power generation capacity from 36 MW to 42 MW and for this only they have requested the certified copy of the compliance report.
iii.	The gaseous and particulate matter emissions from various units shall conform to the standards prescribed by the AP Pollution Control Board. At no time, the particulate emissions from the cement plant shall exceed APPCB limit. Interlocking facility shall be provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) is shut down automatically	Complied. The gaseous and particulate matter emissions from various units are within the limit of 50 mg/Nm3. As informed by them at no time, the particulate emission from the cement plant has not been exceeded 50 mg/Nm^3. The emission from CPP is less than 100 mg/Nm^3. Interlocking facility is provided in the pollution control equipment so that in the event of the pollution control equipment not working, the respective unit(s) will be shutdown automatically.
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	Complied. Two number of online real time CAAQM stations has been installed and online real time monitoring data is transmitted to APPCB & CPCB servers regularly. In addition to this, three number of AAQM stations has been installed at different locations in consultation with PCB and regular manual monitoring is also being done through an approved external agency. Ambient noise levels are being monitored at 24 locations on quarterly through external agency and the noise levels are within the prescribed limits as per the reports. Ambient air and noise monitoring data are regularly submitted every month to APPCB and MoEF & CC, RO once in six months.

S. No.	General Condition	Detailed Compliance Status
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	Complied. They have developed 47 number of rain water harvesting system(RWH) in their colony and after the last visit of RO in December 2015 one RWH structure has been made in the cement plant premises for the roof top collection. Water collected in mine pits and it is being used for cement plant and thermal power plan's various activities to conserve fresh water
vi.	The company shall undertake eco-development measures including community welfare measures in the project area	Complied. As informed that an amount of about Rs. 40 lakh per annum is being spent for various socio-economic activities for the surrounding villages as part of Corporate Social Responsibility (CSR) activities. Further whenever any request is received from the nearby villages, schools and hospital, the same are considered and services are extended to them. The CSR activities are continuing.
vii.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time)	Complied. The overall noise levels in and around the plant area is kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. Further the noise levels are monitored at 24 locations during day and night time through an approved external agency on quarterly basis and the levels are within the limits as per the reports.
viii.	All recommendations made in the Corporate Responsibility for Environment Protection (CREP) for cement plants shall be implemented	Complied. Project authorities informed that all the CREP guidelines are being followed/implemented regularly and further informed that all the pollution control equipment installed in the cement plant are designed as per the recommendations of the CREP guidelines for the emission level of 50 mg/Nm^3
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	Complied. Good housekeeping is maintained in the entire cement plant premises and colony areas. For this they have three numbers of Mobile Road Sweeping machines. A full-fledged occupational health centre (OHC) has been established with a dedicated occupational health specialist doctor with supporting staff in their colony premises. The OHC is equipped with the facilities like X-ray, ECG, lung function, audiometry and blood test, etc. Occupational health survey is being carried for the workers and officers and records are maintained.
x.	A separate environmental management cell to carry out various management and monitoring functions shall be set up under the control of Senior Executive	Complied. A Separate environmental management cell has been set up to look after the environmental management related activities and is reporting to the Unit Head.
xi.	Occupational health surveillance programme shall be done on a regular basis and records maintained. The programme must include	Complied. As stated above Occupational health checkup is being carried for all the employees, covering lung function and

S. No.	General Condition	Detailed Compliance Status
	lung function and sputum analysis tests once in six months	sputum analysis tests and records are maintained.
xii.	As proposed, Rs. 2.00 Crores and Rs. 2.50 Crores shall be earmarked towards the total capital cost and recurring cost/annum for environmental pollution control measures and shall be suitably used to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. Rs. 25.00 Lakhs and Rs. 25.00 Lakhs earmarked towards EMP / greenbelt and occupational health per annum and Rs. 50.00 Lakhs earmarked for corporate social responsibility shall be judiciously utilized and regular report shall be submitted to the Regional Office of this Ministry at Bangalore. The funds so provided shall not be diverted for any other purpose	Complied. They have allocated an amount of Rs. 16.35 Crores and Rs. 10.00 Crores towards the total cost and recurring cost / annum for implementing environmental pollution control measures as mentioned in the EIA/EMP. And in 2014 -15 they have spent amount of Rs.13.7 Cr and 2015-16 Rs. An amount of 13.3 Cr was allocated towards Environmental Management Activities.
xiii.	The Regional Office of this Ministry at Bangalore / CPCB / APPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly	Complied. They are submitting six monthly compliance reports in hard and soft copies along with the monitored data and statistical interpretations to the MoEF & CC, RO regularly. The six month compliance reports are being uploaded on the company's website.
xiv.	The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work	Refer below. Date of financial closure for this project is not required as total funding for this project is from own funds.
xv.	The Project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the AP Pollution Control Board and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office at Bangalore	Complied. Advertisements were given in two local newspapers, "Eenadu" Telugu daily and "The Hindu" English daily on 11.06.2009. and copies of the same were submitted to RO.
6	The Ministry or any other competent authority may stipulate any further condition(s) on receiving reports from the project authorities. The above conditions will be monitored by the Regional Office of this Ministry located at Bangalore.	Agreed to comply.
7	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed to comply
8	Any other conditions (or) alteration in the above conditions shall have to be implemented by the project authorities in a time bound manner.	Agreed to comply
9	Any appeal against this environmental	Complied. It was informed by them that no

S. No.	General Condition	Detailed Compliance Status
	clearance shall lie with the National Environmental Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environmental Appellate Act, 1997.	such appeal was made by anybody.
10	The above conditions will be enforced, inter-alia under the provisions of The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981, The Environment (Protection) Act, 1986 and The Public Liability (Insurance) Act, 1991 along with their amendments and rules.	Complied. The CFO order is valid up to 31.01.2017. Project authorities stated that PLI Act, 1991 is not applicable to them.

This has been approved by the competent authority vide diary 183 dtd 09.02.2016

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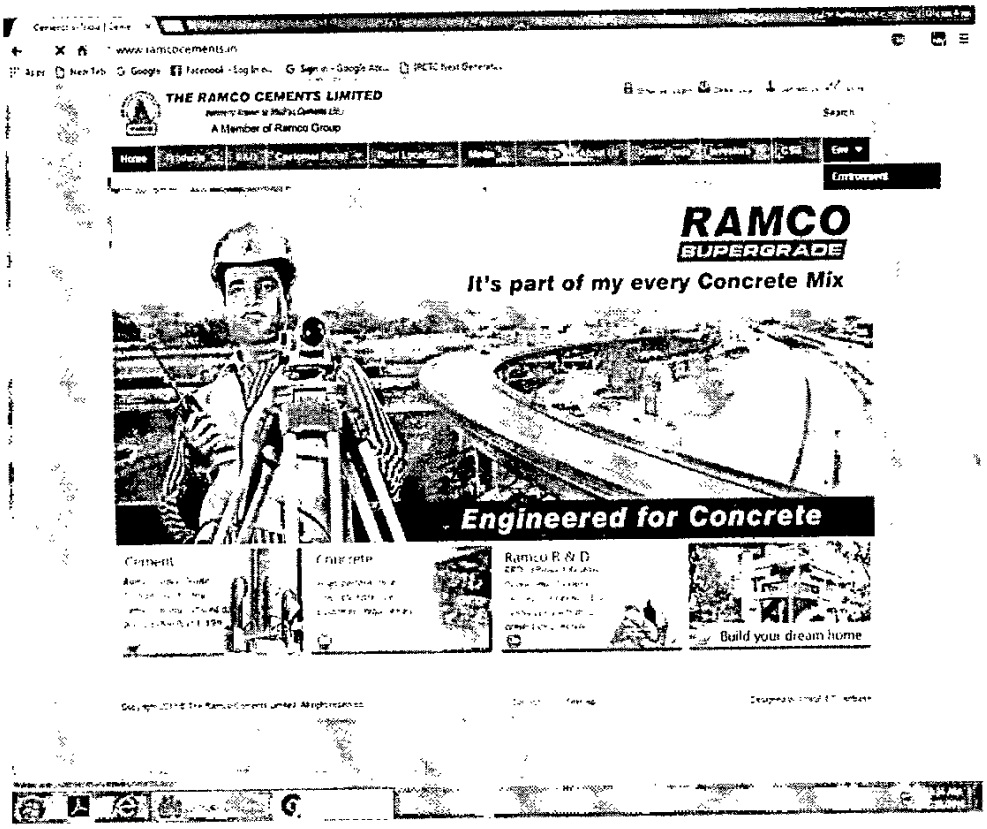
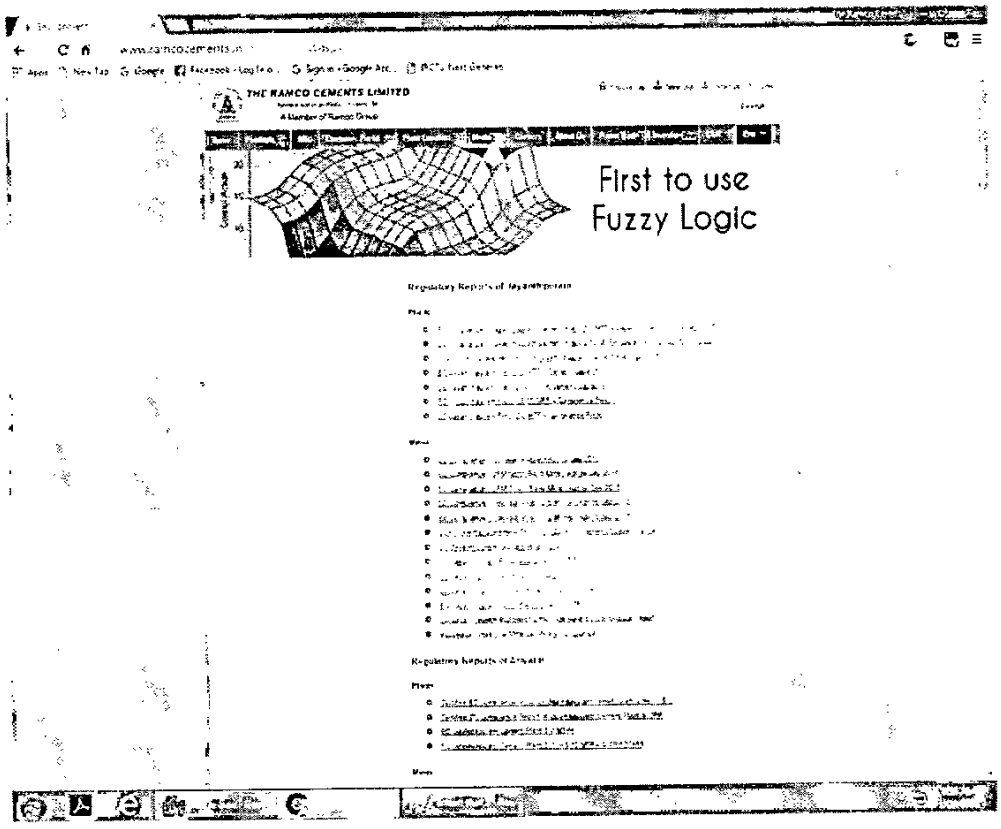
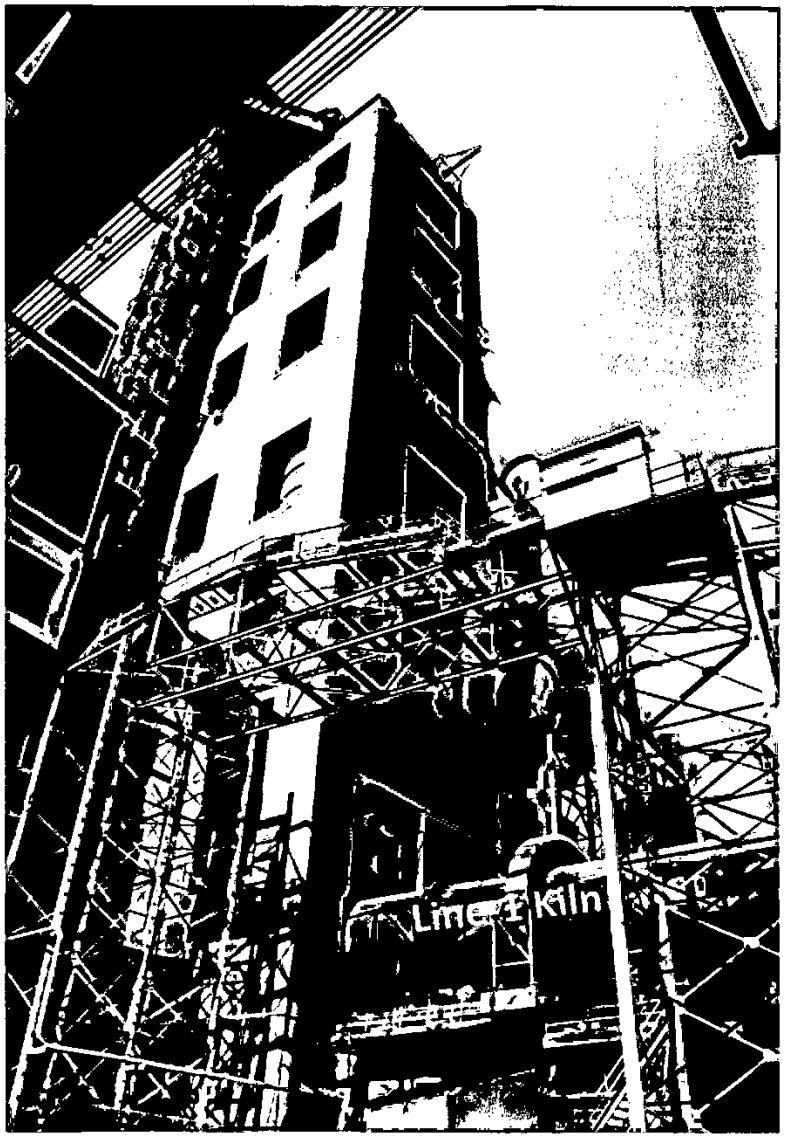
PHOTOGRAPHS OF WEBSITE

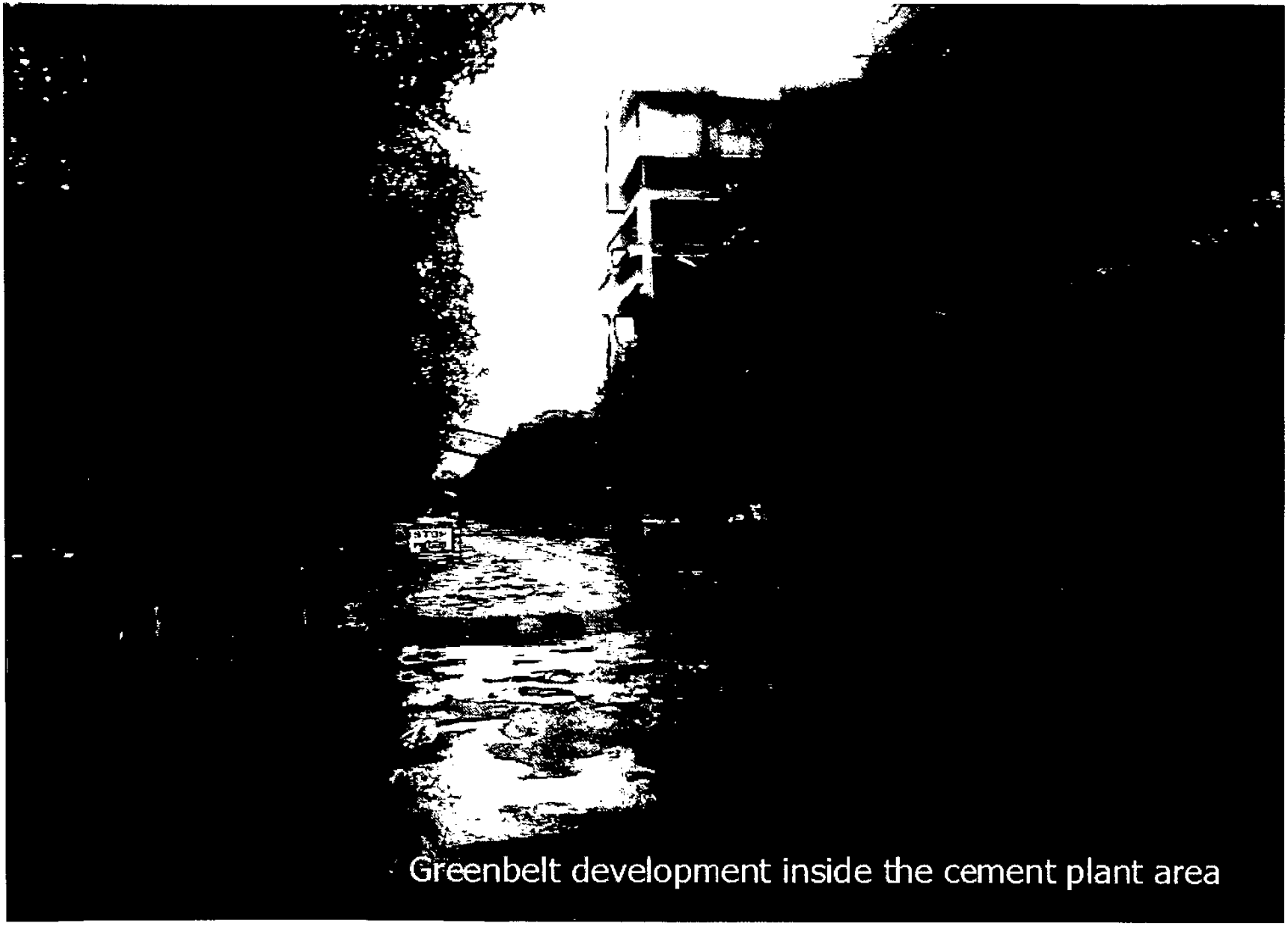




Photograph of Existing Line-1 Preheater Tower Elevation with the Proposed Additional Preheater Tower

Photographs of existing Line-1 Preheater Tower and surroundings (present Elevation)





Greenbelt development inside the cement plant area