

PRE-FEASIBILITY REPORT

Of

GREEN FIELD CEMENT PLANT

PRODUCTION CAPACITIES OF

3.15 MILLION TPA CLINKER

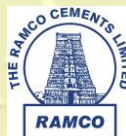
2.0 MILLION TPA CEMENT PLANT

50 MW COAL BASED CAPTIVE THERMAL POWER PLANT

AT

**ITIKYALA AND KOLIMIGUNDLA VILLAGES OF
KOLIMIGUNDLA MANDAL, KURNOOL DISTRICT,
ANDHRA PRADESH**

BY



THE RAMCO CEMENTS LIMITED

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1.0 EXECUTIVE SUMMARY

THE RAMCO CEMENTS LIMITED (RCL) (formerly Madras Cements Ltd.) is the flagship company of **RAMCO** group whose diversified industrial ventures cover wide span of industries, which include manufacture of Cement, Ready Mix concrete, Research & Development, Textiles, Cotton yarns, Information technology, Asbestos sheets, Surgical cotton, Windmill farms, Thermal power plants, Bio-Technology etc.,

The cement production capacity is 18 Million Tonne Per Annum (MTPA). The company is the sixth largest cement producer in the country and the second largest in South India. The company is having cement plants at following locations:

- Ramasamy Raja Nagar (RR Nagar) near Virudhunagar, Tamil Nadu (establishment in Year 1959), now with a production capacity of 2.0 MTPA.
- Jayanthipuram (KSR Nagar) near Jaggaiahpet, Krishna Dist., Andhra Pradesh (established in the Year 1986), now with a production capacity of 3.65 MTPA.
- Alathiyur near Viridhachalam, Tamil Nadu (established in Year 2002), now with a production capacity of 3.0 MTPA.
- Mathodu near Chithradurga, Karnataka: 0.3 MTPA (since Year 2000) and expanded to 0.8 MTPA.
- Ariyalur : 5.0 MTPA capacity Cement Plant established in the year 2008.
- RCL has also set up the Cement Grinding Units near Fly Ash sources viz. Kattuputtur (0.75 MTPA) near Chennai, Valapadi (2.0 MTPA) near Salem in Tamil Nadu, Kolaghat (0.95 MTPA) in West Bengal and Gobburupalem (0.95 MTPA) near Anakapalli, AP.

RCL proposes to setup a Greenfield Cement Project of production 3.15 MTPA Clinker and 2.0 MTPA Cement Plant and 50MW (2 X 25 MW) Coal Based Captive Thermal Power Plant, at Itikyala & Kolimigundla villages of Kolimigundla Mandal of Kurnool district, Andhra Pradesh. The limestone requirement of the plant will be 4.5 Million TPA which will be met from the Captive Limestone Mining Leases located adjacent. The primary markets of interest for **RCL** are AP, Karnataka, Tamilnadu, Odisha, Maharashtra and Kerala.

The cement plant will be located in an area of 202.36 ha.

The principal raw materials are Limestone, iron ore, Coal and Gypsum. The major raw material, limestone will be met from Captive limestone mine.

The Captive Limestone mines spread over an area of 1957.36 Ha with about 386.62 million tonnes of mineable reserves will meet the limestone requirement for more than 86 years.

Indian Coal, Imported Coal and Pet Coke is required for Cement plant Coal. Indian coal is sourced from Singareni Collieries Company Limited (SCCL), and imported coal from South Africa/Australia/Indonesia & USA. Petcoke will be sourced from Indian Refineries.

Water requirement of the plant is 5500 m³/day and will be met from Ground water/canal proposed to be laid by APIIC.

The project is based on Clinkerization factor of 1.5 (Raw meal to clinker) with specific heat consumption of 720 Kcal/ kg clinker.

No solid waste generation from the plant.

Wastewater generation is only from domestic use and the same is treated in Sewage Treatment Plant.

There are no wild life sanctuaries, national parks, elephant/tiger reserves within 10km radius of the study area.

Infrastructure include railway siding, roads, storm water drains with adequate storage space for clinker and flyash and parking area will be developed.

Housing Colony with about 400 houses is proposed.

Greenbelt will be developed in about 66.8 Ha.

The total power requirement of the cement plant including colony is estimated to be about 45 MW which will be met from the proposed 50 MW Coal Based Captive Power Plant.

2 x 1250 KVA DG sets will be installed as standby power supply units. These DG sets will be operated only when there is a normal power supply failure.

Plant expected to be commissioned by November 2019.

Total capital Investment Cost is Rs. 1500 crores in 2 phases and Rs. 120 crores will be spent for Environmental Management Plan.

The project exhibits a good Internal Rate of Return of 17.2% on total Investment. The IRR on equity is calculated to be 13.36 % (after tax).

Various sensitivity analysis indicate reasonable project and cash break- even percentages. In view of the acceptable level of returns, the project is financially feasible.

2.0 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

(I) IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

THE RAMCO CEMENTS LIMITED (RCL) (formerly MADRAS CEMENTS LTD.) is the flagship company of RAMCO group whose diversified industrial ventures cover wide span of industries, which include manufacture of Cement, Ready Mix concrete, Research & Development, Textiles, Cotton Yarns, Information Technology, Asbestos Sheets, Surgical Cotton, Windmill Farms, Thermal Power Plants, Bio-Technology etc.,

The cement production capacity is 18 Million Tonne Per Annum (MTPA). The company is the sixth largest cement producer in the country and the second largest in South India. The company is having cement plants at following locations:

- Ramasamy Raja Nagar (RR Nagar) near Virudhunagar, Tamil Nadu (establishment in Year 1959), now with a production capacity of 2.0 MTPA.
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- Alathiyur near Viridhachalam, Tamil Nadu (established in Year 2002), now with a production capacity of 3.0 MTPA.
- Mathodu near Chithradurga, Karnataka: 0.3 MTPA (since Year 2000) and expanded to 0.8 MTPA.
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- RCL has also set up the Cement Grinding Units near Fly Ash sources viz. Kattuputtur (0.75 MTPA) near Chennai, Valapadi (2.0 MTPA) near Salem in Tamil Nadu, Kolaghat (0.95 MTPA) in West Bengal and Gobburupalem (0.95 MTPA) near Anakapalli, AP.

RCL is producing Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Slag Cement (PSC) etc. The cement produced by RCL is marketed in the brand name of 'RAMCO'. The brand name RAMCO SUPER GRADE is very popular PPC and RAMCO SUPER STEEL is the slag cement. RCL, which has always been striving for Total Quality, possesses International Certificates Quality

Management System - IS / ISO 9001:2008, Environment Management System - IS / ISO 14001:2004, Occupational Health & Safety Management System - IS 18001:2007, Energy Management System - ISO 50001:2011 and Work Place Management System - 5-S.

(ii) BRIEF DESCRIPTION OF NATURE OF THE PROJECT.

The Ramco Cements Limited (RCL) is now proposed to setup a green field Integrated Cement Plant with state-of-the-art technology at Itikyala and Kolimigundla Villages of Kolimigundla Mandal, Kurnool District, Andhra Pradesh. The production capacity of the proposed plant will be as follows:

- **3.15 MILLION TPA OF CLINKER (IN 2 PHASES)**
- **2.0 MILLION TPA OF CEMENT**
- **50 MW (2 X 25 MW) COAL BASED CAPTIVE THERMAL POWER**

To meet the power requirement of the cement plant, RCL proposes to install a 50 MW (2 x 25 MW) Coal based Thermal Power Plant within the Cement plant complex.

POWER

The total power requirement of the cement plant including the requirement of the colony is estimated to be about 45 MW. This requirement will be met from the proposed 50 MW Coal Based Captive Power Plant.

2 x 1250 KVA DG sets will be installed as standby power supply units. These DG sets will be operated only when there is a normal power supply failure.

(iii) NEED FOR THE PROJECT AND ITS IMPORTANCE TO THE COUNTRY AND OR REGION

It is expected that, the Cement demand will grow at much higher rate than the national average. The bulk distribution of cement in the region is likely to see a high growth due to a number of new Ready Mix concrete plants and projects. Considering this, RCL proposes to produce Cement with installation of this new plant.

Opportunities for the Industry

Though India ranks second in the world in cement production, its per capita annual consumption is very low. Per capita consumption in India has grown from a low level of 70 Kg to around 110 kg over the last 8 years, which is still way behind the world per capita consumption of 307 Kg (as of 2003). Cement Industry has growth potential not only within the country but also for exports to the neighbouring countries. With Indian growth rate rising, the opportunities for the industry seem to be large.

Cement consumption in the coming years is likely to get a fillip from Government initiatives for housing and infrastructure:

- State highway development projects being undertaken by some states
- 10,000 kms of additional highways (25% concrete)
- Rural roads construction
- Housing finance growing by over 25-30% annually
- IT parks and SEZ zones development in proximity to metros

(iv) DEMAND- SUPPLY GAP.

Market demand and projections

Cement growth is expected to be above the GDP growth of the country, which is expected to be around 8% for the coming years. The Indian cement Industry is poised for a period of significant growth and the demand for cement is expected to match the current availability by the end of the current fiscal. Cement demand has registered a CAGR of about 8.5% over the last decade. In fact, at the current levels of growth, the cement industry may have to add over 90 Million Tons of cement capacity to meet the demand for cement over the next 5 years.

The industry performance during 2009-10 was characterized by volume growth, stable to better cement prices and favorable demand-supply balance in certain regions.

Cement companies were operating at levels below capacity in the past but with the demand and supply reaching equilibrium almost all plants are working at above 90% capacity. This will improve the realizations of the industry in the coming year.

(v) IMPORTS Vs INDIGENOUS PRODUCTION

India is self sufficient to meet the demands of the market with the GDP projected at 10 % in the coming decades and in view of the infrastructure.

The project proposed is the integrated project and the end product being cement, the importance of the project is detailed below with respect to cement demand. No import of limestone is planned

India is self sufficient to meet the demands of the market with the GDP projected at 10% in the coming decades and in view of the infrastructure.

i. Export possibility

The project proposed is the integrated project and the end product being cement, the importance of the project is detailed below with respect to cement demand. No import is planned.

Since the plant is located in the landlocked area and away from the coast and the neighbouring countries, the logistic cost involved for transporting good, it will not be economically viable export of cement.

ii. Domestic / Export markets

The project proposed is the integrated project and the end product being cement, the importance of the project is detailed below with respect to cement demand. The entire production is envisaged for the domestic market.

Employment generation (direct and indirect) due to the project

The project will create the direct employment of 300 People during the operation phase of the project. During the construction phase, 300 people on daily average will be employed for a period of 18 months. RCL will give preference to the local people during construction and operation phase of the project depending upon the skill, job requirement and capability. Several other indirect employment opportunities will be created in the surrounding areas. Transport, business, vehicle drivers and attendants, workshops, grocery and retails, medical, etc.

3 PROJECT DESCRIPTION.

i. Type of project including interlinked and interdependent projects, if any.

The proposed project is a cement plant interlinked with the limestone deposit. RCL has a captive limestone mining leases spread over an area of 1957.36 Ha from the Government of Andhra Pradesh Department of Mines and Geology.

The limestone excavated from the mine will be transported by tippers to the crusher which is situated at plant area. After crushing, the crushed limestone will be transported through belt conveyors.

The total mineable limestone reserves in the mining lease area are estimated to be about 386.62 million tonnes.

Location (map showing general location, specific location, and project boundary & project site layout) with coordinates

Fig – 1 shows the Location map of Plant site

Fig – 2 shows the Key Map of the RCL

Table – 1 gives the salient features of the project site.

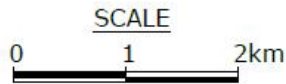
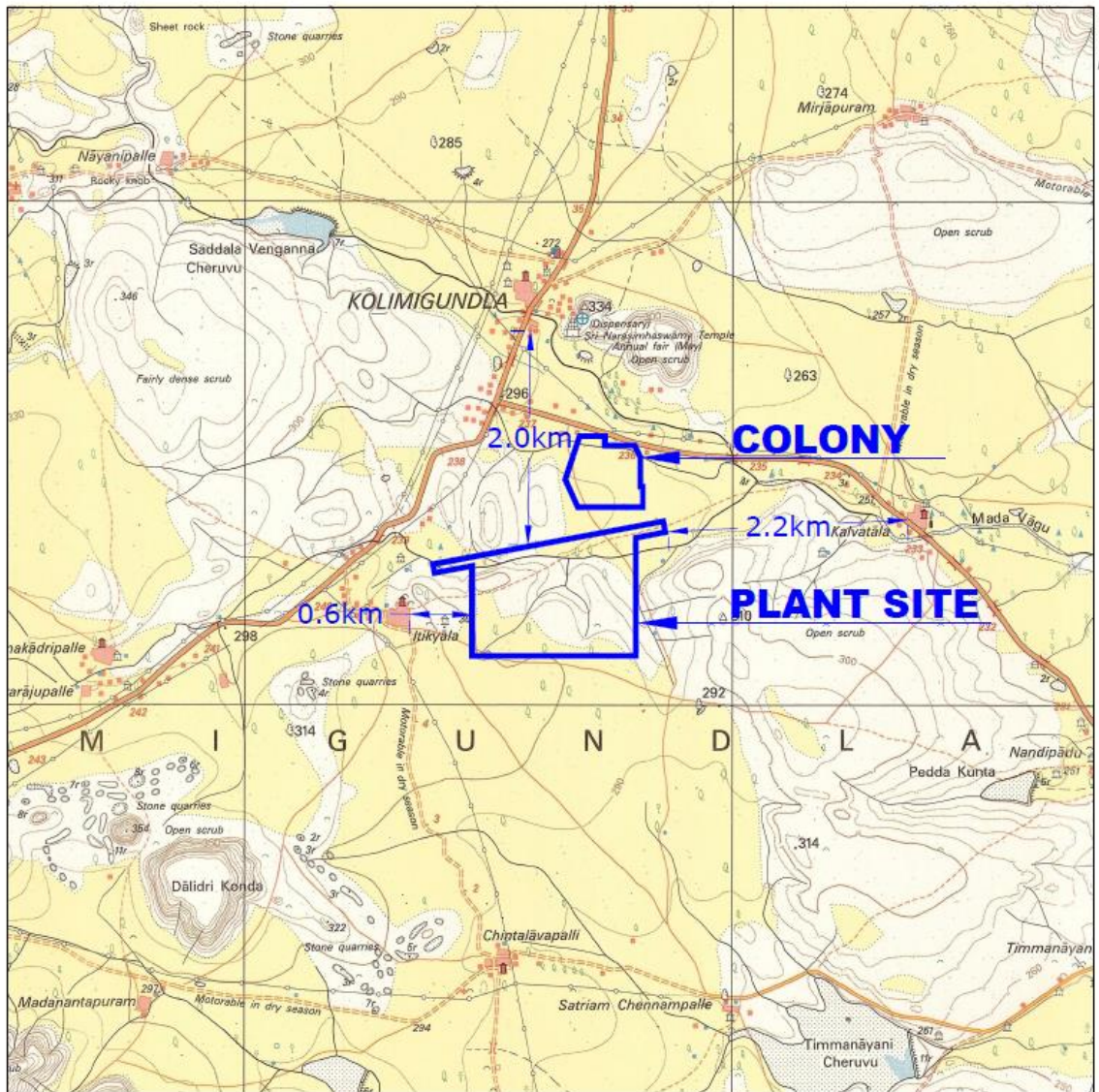
Fig – 3 shows the plant layout of the project site.

ii. Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

Keeping in view of proximity to the Limestone deposit, the subject cement plant site has been selected.

Following are the main criteria, considered for locating an integrated unit/ unit of desired capacity:

The plant is close to limestone deposit.



LEGEND



-  PLANT SITE
-  COLONY

FIG - 2


CLIENT :	M/s. THE RAMCO CEMENTS LIMITED (FORMERLY MADRAS CEMENTS LTD.,)
PROJECT :	PROPOSED CEMENT PLANT 2X4500 TPD CAPACITY Itikyala Village, Kolimigundla Mandal, Kurnool District, Andhra Pradesh.
TITLE :	KEY MAP
	PREPARED BY  B.S.ENVI-TECH (P) LTD., SECUNDERABAD

TABLE – 1 SALIENT FEATURES OF THE PLANT

Feature	Details
Altitude	290 m above msl
Latitude & Longitude	15° 2'41.81"N - 15° 3'11.37"N Latitude 78° 6'0.66"E - 78° 7'11.78"E Longitude
Village, Tehsil, District, State	Itikyala & Kolimigundla Villages, Kolimigundla Mandal, Kurnool District, Andhra Pradesh.
Temp. °C	6.7 - 45.6
Relative Humidity %	25-77
Annual rainfall	725 mm
IMD Station	Kurnool - 87.9 km - N
Nearest water bodies	Mada Vagu - 2.9 km - NE Pedda Vanka - 4.9 km - NW OWK Reservoir - 12.9 km - NNE
Nearest National Highway	The National Highway (NH-18) connecting Kurnool - Kadapa - 41.7 km - ENE The National Highway (NH-7) connecting Kurnool - Anantapur - 44.6 km - WNW The State Highway (SH-57) connecting Kolimigundla - Tadipatri - 2.2 km - NNE
Nearest Railway station	Tadipatri RS - 20.1 km - SW
Nearest Industries & Plants	Ultratech Cements, Tadipatri - 8.3 km - WSW Ultratech Plant, Pettokota - 5.9 km - WNW Penna cement, Boyireddipalli - 8.4 km - SSW Penna Talaricheruvu Plant - 7.1 km - SSW
Nearest Villages	Itikyala - 0.6 km - W Kolimigundla - 2.0 km - N
Nearest Town	Kurnool - 87 km - N
District Head Quarter	Kurnool - 87 km - N
Nearest Port Area	Krishnapatnam Port - 231 km - SE
Inter State Boundary	Telangana - Andhra Pradesh - 87 km - W
Nearest Air port	Kadapa - 93.1 km - SE
Nearest Forest	Dhodyam RF - 8.3 km - SE Dobbudapalle RF - 8.8 km - SE
Historical places	None within 10 km radius

*** All distances mentioned in the above table are aerial distances.**

The site has sufficient undulating land, having good load bearing capacity to minimize the construction cost, for accommodating plant, railway siding, development of greenbelt and employees' colony with all the amenities prospects for the project capacity plant. Availability of reliable power supply is envisaged with Captive Power Plant.

Proper connectivity of the unit with roads, rail and reliable transport network. Proximity to rail head to optimize transporting costs.

iv. Size or magnitude of operation.

Clinker Production capacity of 3.15 Million Tonnes Per Annum (MTPA) and 2.0 MTPA cement.

v. Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given)

State-of-Art technology for manufacturing of the cement will be adopted. The main features of the process are given hereunder. It is proposed to install bag-filter system for cleaning of the kiln flue gas and hence no gas - conditioning tower is envisaged. Various stages of cement manufacture are given hereunder.

1. Raw material grinding
2. Blending of raw material
3. Coal grinding and handling
4. Preheating of coal in the six stage preheater
5. Pyro processing and calcination in the kiln
6. Clinker cooler and storage
7. Cement grinding & packing

DETAILS OF MAIN EQUIPMENT

Limestone crushing	: 1600 TPH
Raw material grinding (VRM)	: 2 x 500 TPH
Pyro processing	: 2 x 4,500 TPD = 9,000 TPD clinker
Coal Mill (VRM)	: 2 x 80 TPH
Cement grinding (Ball mills / VRPM / Roller Press)	: 250 TPH
Packing machines	: 2 x 250 TPH

i. Raw material required along with estimated quantity, likely source, marketing area of final product/s, mode of transport of raw material and finished product.

The source and requirement of raw material and fuel are given below

S.No	Material	Quantity(MTPA)	Source Locality	Approx. distance from plant (km)	Remarks
1	Limestone	4.50	Captive mines	Less than 5 km	Near to the plant
2.	Laterite & Iron ore	0.27	Veldurthi surroundings, Bellary	300	Laterite is available in various localities of Kurnool District
4	Gypsum	0.08	Visakhapatnam	500	Chemical grade gypsum from Vizag Coramandal Fertilizers
5	Fly Ash	0.30	Rayalaseema Thermal Power Station, (RTPS) Muddanuru	150	Fly ash is being generated as waste at Rayalaseema thermal power plant.
6	Slag	0.50	JSW, Tornagallu	160	Slag is solid waste generated at JSW steel plant.
Coal Mix for cement plant:					
7	100 % Indian Coal	0.47	SCCL	300	
	100% Imported Coal	0.38	Imported	280	
	100 % pet coke	0.30	Reliance Refinery	700	
8	Coal Mix for thermal power plant	0.42	-	-	

ii. Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

The dust collected in the air pollution control equipment in the cement plant will be recycled back to the process. No solid waste which requires disposal is generated from the plant.

Refractory bricks are one of the solid wastes generated from the kiln section. Due to wear and tear, RCL will replace the refractory bricks

twice in a year. These bricks will be disposed to outside agencies due to high recycling value will be disposed to outside agencies.

Solid waste generated from colony and sewage treatment plant will be disposed after segregating the waste into bio-degradable and non – degradable. Bio degradable waste will composted and non-degradable wastes will be land filled at identified areas.

iii. Availability of water its source, energy /power requirement

Total water requirement of the integrated plant is estimated to be about 5500 m³/day. Water demand will be met from Ground water/Canal proposed to be laid by APIIC.

The total power requirement of the cement plant including the requirement of the colony is estimated to be about 45 MW. This requirement will be met from the proposed 50 MW Coal Based Captive Power Plant.

2 x 1250 KVA DG sets will be installed as standby power supply units. These DG sets will be operated only when there is a normal power supply failure.

iv. Quantity of wastes to be generated (liquid and solid) and scheme for their management / disposal.

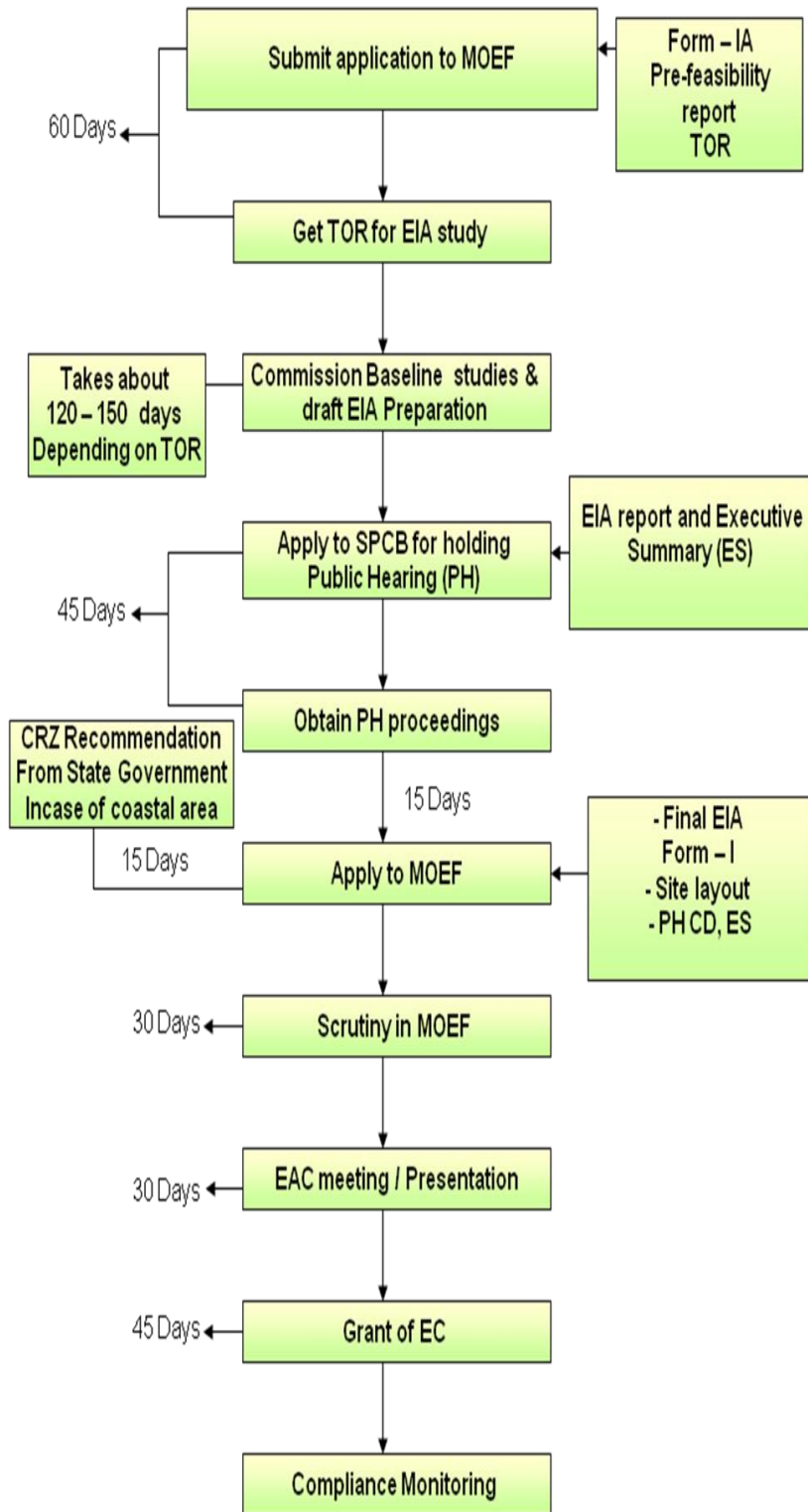
The production of cement will be based on completely dry process; hence no process waste water will be generated from the plant. Also the cooling water will be through a closed circuit system. The wastewater generated from the power plant will be recycled for reuse. The only waste water generated will be domestic waste water from residential township and the same will be treated in STP and will be re-circulated for industrial use and gardening purpose.

v. Schematic representations of the feasibility drawing which give information of EIA purpose.

Detailed schematic representations of the feasibility covering the purpose of EIA will be given in the Environmental Impact Assessment report.

EC PROCESS

As per EIA notification - 2006



Total EC process is expected to take about 11 - 12 months

4. SITE ANALYSIS

i. Connectivity

Nearest railway line connecting Nandyal – Proddutur (Yerraguntla) of South Central Railway line is located at a distance of 24.3 km to ENE direction from the site.

Nearest railway line connecting Gooty Junction– Kadapa of South Central Railway line is located at a distance of 20.3 km to SW direction from the site.

The National Highway (NH-18) connecting Kurnool – Kadapa is located at a distance of about 41.7 km in ENE direction,

The National Highway (NH-7) connecting Kurnool – Anantapur is located at a distance of about 44.6 km in WNW direction,

The State Highway (SH-57) connecting Kolimigundla – Tadipatri is located at a distance of 2.2 km – NNE direction, The nearest railway station is located at Tadiptri RS which 20.1 km in SW direction.

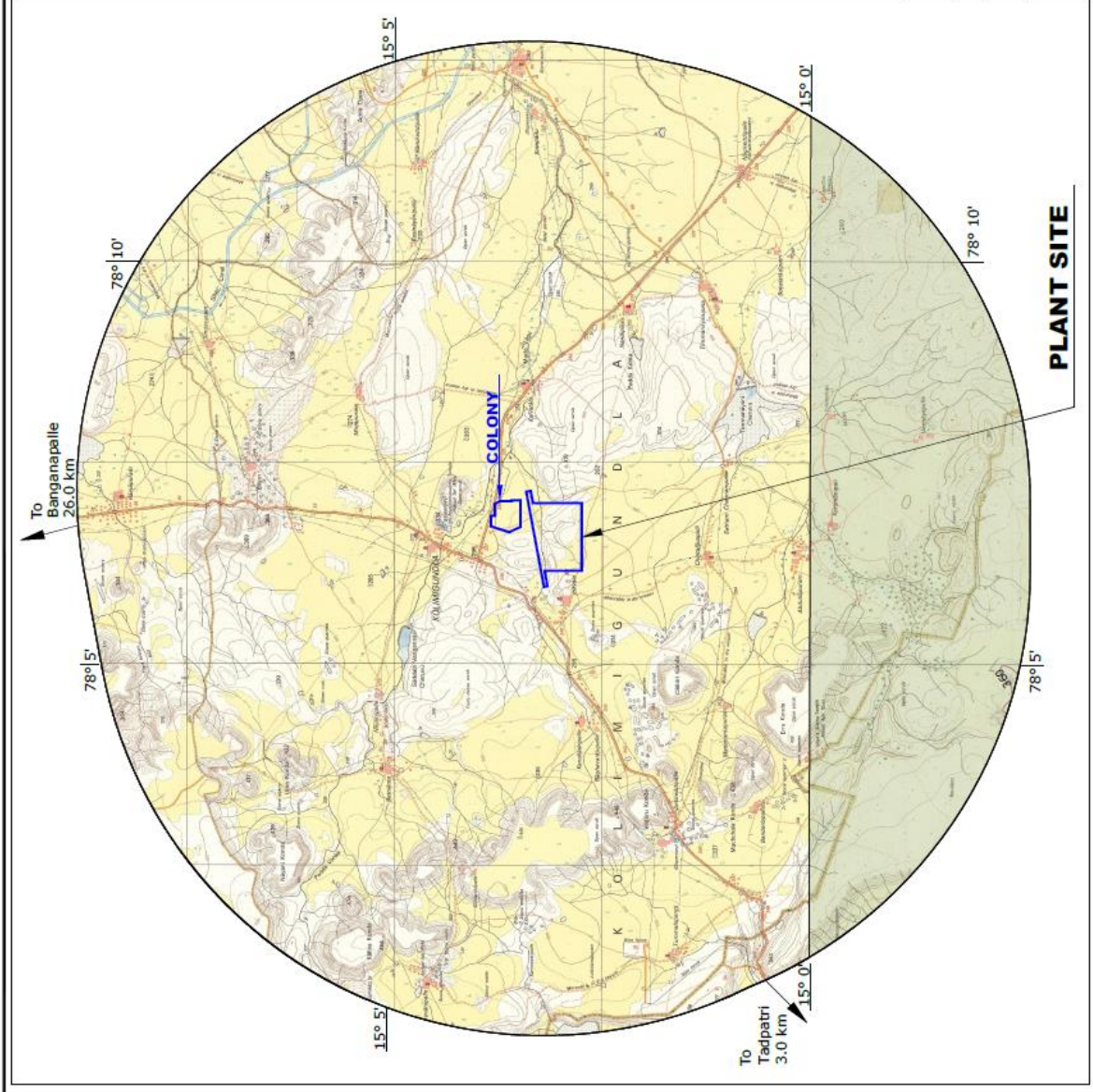
The nearest railway station is Sanjamala Railway Station (on Nandyal – Yerraguntla New BG Line) located at 19 km from the plant site. A loop line is proposed to be laid from this BG Line. An independent yard will be constructed within the plant premises for handling full rake load of the material.

ii. Land form, land use and land ownership



The land for setting up the cement plant including railway siding of RCL works out to about 26.3 Ha.

TOPOGRAPHY (ALONG WITH MAP)

It is an undulating land. **Fig – 4** shows the 10 km radius around the plant site



LEGEND

-  PLANT SITE
-  COLONY

REFER TO THIS MAP AS:- 1:50,000
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the Surveyor General of India - 2009

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FIG - 4

CLIENT: **M/S. THE RAMCO CEMENTS LIMITED
(FORMERLY MADRAS CEMENTS LTD.,)**

PROJECT: **PROPOSED CEMENT PLANT 2X400 TPD CAPACITY**
Bijjala Village, Kollegal, Mandya, Karnataka District, Andhra Pradesh.

TITLE: **TOPOGRAPHICAL MAP
SHOWING 10 km RADIUS**

PREPARED BY:
B.S. ENVI-TECH (P) LTD.,
SECUNDERABAD

iii. Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forests, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ, in case of notified industrial area, a copy of the Gazette notification should be given.

Mada vagu is at 2.9 km in NE, Pedda Vanka is at 4.9 km in NW and Owk Reservoir is at 12.9 km in NNE direction from the plant site.

There are no wild life sanctuaries, national parks, elephant/tiger reserves within 10 km radius of the study area.

Nearest Settlements from the Plant site

- Itikyala – 0.6 km – W
- Kalvatala – 2.2 km - E
- Kolimigundla – 2.0 km – N

Nearest Reserved Forests from the site

- Dhodiyam RF – 8.3 km – SE
- Dobbudapalle RF – 8.8 km - SE

The nearest industries to the site are

- Ultratech cements - 8.3 km – WSW
- Ultratech Plant - 5.9 km – WNW
- Penna cement - 8.4 km - SSW
- Penna talaricheruvu Plant - 7.1 km – SSW

iv. Existing infrastructure

Land

The land for setting up the cement plant including railway siding works out to about 163.91 hectares. Residential colony will be setup in an area of 38.45 ha.

Power

The total power requirement of the cement plant including the requirement of the colony is estimated to be about 45 MW. This requirement will be met from the proposed 50 MW Coal Based Captive Power Plant.

2 x 1250 KVA DG sets will be installed as standby power supply units. These DG sets will be operated only when there is a normal power supply failure.

Water

The water requirement for the integrated unit and colony has been estimated as about 5,500 m³/day. Water is required for equipment cooling, drinking, sanitation, horticulture, etc.

Water demand will be met from Ground water/Canal proposed to be laid by APIIC.

Depending upon the quality, water will be treated to remove impurities and minerals to make it suitable for plant use. A suitably designed water treatment and chlorination plant will be installed.

Water will be stored in a tank for plant and/or an overhead tank for drinking purpose. Overhead tanks for process water will be provided on respective plant buildings. For plant equipment, water will be recirculated after cooling to avoid any wastage and only losses will be made up from fresh water. Roof tanks of smaller capacity will be utilized for storing and supplying water to the non-plant buildings.

Fuel

Coal will be sourced from coal fields of Singareni Collieries Company Limited (SCCL), a subsidiary company of Coal India Limited. These collieries are located at a distance of about 300-350 km from the proposed plant site.

The coal transport to the proposed plant site has been considered by rail/road.

Airport

The nearest Air Port is at Kadapa in SE at a distance of 93.1 km.

Rail

Nearest railway line connecting Nandyal – Proddutur (Yerraguntla) of South Central Railway line is located at a distance of 24.3 km to ENE direction from the site.

Nearest railway line connecting Gooty Junction– Kadapa of South Central Railway line is located at a distance of 20.3 km to SW direction from the site.

Rail siding will be laid for transportation of Coal and cement /clinker out.

Communication

Communication facilities such as telephone, tel-fax and internet are available in vicinity of the proposed plant site location.

v. Soil Classification

The top soil (1- 6 m thickness) is black in colour, fine to medium grained.

vi. Climatic data from secondary sources

The tropical climate of the region is manifested in hot and humid summer, moderately monsoon and mild winter seasons. May is the hottest month in the year. The maximum temperature during the day time was recorded as 45.6⁰C and December the coldest with the temperature during the day time falling down to about 6.7⁰C. The months of December, January & February are considered to have pleasant climate.

The rainy season is generally from June to September represented by South West Monsoon. The rainfall during last year in the subject area is around 726 mm.

vii. Social infrastructure available

Itikyala is the nearest habitation situated at about 0.6 km on western side of plant site and is well connected to all major cities by road. All basic amenities such as school, hospital, market, etc. are available here. Kurnool is major city and administrative headquarters around 87.9 km from plant site.

A residential colony to provide accommodation for about 400 personnel is proposed in proximity to the plant site. The colony will have facilities like dispensary, shopping complex, guesthouse etc.

5. Planning Brief

i. Planning concept (type of industries, facilities transportation etc.) town and country planning/ development authority classification.

ii. Population projection

The establishment of the Cement Plant would aid in the overall social and economic development of the region. The plant and mine will give employment to about 1300 people (300 direct and 1000 indirect), in addition there will be indirect employment to many more people, in the form of contractual jobs, business opportunities, service facilities etc. This will enhance the economic status.

Apart from the jobs, the company will provide medical and educational facilities to the employees which can also be availed by the people around the plant. The company also proposes to construct a full – fledged colony comprising 400 quarters. Adequate recreational facilities for the staff of the company and the local people will be created.

iii. Land use planning (breakup along with greenbelt etc.,)

The plant will come up in about 202.36 Ha and 33% of the area (68.8 Ha) will be developed for Greenbelt. The areas which can be developed under greenbelt will be finalized while preparing the EIA Report.

Assessment of infrastructure demand (physical & social)

iv. Amenities / Facilities

All infrastructure facilities such as education, health facilities and other social facilities are adequate at district headquarter which site makes the region adequate in amenities.

6. Proposed infrastructure

i. Industrial area (processing area)

The following are the major equipment proposed

- Raw mill
- Rotary Kiln in conjunction with preheater - precalciner and grate cooler
- Coal Mill
- Raw meal blending silo- continuous flow
- Clinker silo
- Coal crusher
- Limestone blending stockpile
- Reclaimer
- Stacker
- Gypsum storage- Covered Shed

ii. Residential area (non-processing area)

Residential colony will be located nearer to the plant with about 400 houses. The Waste water from colony and plant will be treated in the Sewage Treatment Plants.

iii. Green belt.

Adequate green belt will be developed inside the plant as per statutory norms, developing 33% of the area. Native species will be planted. The areas which can be developed under greenbelt will be finalized in the EIA Report.

iv. Social infrastructure

RCL has well defined CSR policy to Carryout social development and welfare measures in the surrounding villages. Under CSR activity RCL will initiate community development projects, in the fields of health, education and environmental preservation, in the study area around the plant as is done in their existing other units.

v. Connectivity (traffic and transportation road / rail/ metro/ water ways etc.,)

Nearest railway line connecting Nandyal – Proddutur (Yerraguntla) of South Central Railway line is located at a distance of 24.3 km to ENE direction from the site.

Nearest railway line connecting Gooty Junction– Kadapa of South Central Railway line is located at a distance of 20.3 km to SW direction from the site.

The National Highway (NH-18) connecting Kurnool – Kadapa is located at a distance of about 41.7 km in ENE direction,

The National Highway (NH-7) connecting Kurnool – Anantapur is located at a distance of about 44.6 km in WNW direction,

The State Highway (SH-57) connecting Kolimigundla – Tadipatri is located at a distance of 2.2 km – NNE direction, The nearest railway station is located at Tadipatri RS which 20.1 km in SW direction.

The nearest railway station is Sanjamala Railway Station (on Nandyal – Yerraguntla New BG Line) located at 19 km from the plant site. A loop line is proposed to be laid from this BG Line. An independent yard will be constructed within the plant premises for handling full rake load of the material.

vi. Drinking water management (source & supply of water)

The water requirement for the integrated unit and colony has been estimated as about 5,500 m³/day. Water is required for equipment cooling, drinking, sanitation, horticulture, etc.

Water demand will be met from Ground water/Canal proposed to be laid by APIIC.

Depending upon the quality, water will be treated to remove impurities and minerals to make it suitable for plant use. A suitably designed water treatment and chlorination plant will be installed.

Water will be stored in a tank for plant and/or an overhead tank for drinking purpose. Overhead tanks for process water will be provided on respective plant buildings. For plant equipment, water will be recirculated after cooling to avoid any wastage and only losses will be made up from fresh water. Roof tanks of smaller capacity will be utilized for storing and supplying water to the non-plant buildings.

vii. Sewerage system

A sewage treatment plant will be installed to treat domestic waste water. Appropriate facilities for the collection will be made.

The treated water quality will be such to allow for its re-use in the clinker production process (water injection)/Greenbelt development.

viii. Industrial waste management

Cement Plant

The production of cement will be based on completely dry process; hence no process waste water will be generated from the plant. Also the cooling water will be through a closed circuit system. The only waste water generated will be domestic waste water from residential township and the same will be treated in STP and used for green belt development.

Hazardous wastes like spent oil from construction equipment, DG sets etc., generated in small quantities during construction and operational phase would be appropriately stored & handled and properly disposed off in accordance with the provisions of the Hazardous Waste Management Rules, 2010.

ix. Solid waste management

The dust collected in the pollution control equipment will be recycled. Refractory bricks will be disposed to licensed vendors.

x. Power requirement & supply / source

The total power requirement of the cement plant including the requirement of the colony is estimated to be about 45 MW. This

requirement will be met from the proposed 50 MW Coal Based Captive Power Plant.

2 x 1250 KVA DG sets will be installed as standby power supply units. These DG sets will be operated only when there is a normal power supply failure.

7. Rehabilitation and resettlement (R & R) Plan

- i. Policy to be adopted (central / state) in respect of the project affected persons including home oustees, land oustees and landless labourers (a brief out line to be given).**

There will not be any home stead. For land oustees, Andhra Pradesh State R&R policy will be honoured. However with a direct dialogue with land owners and the consent of State government, the compensation will be better than any other policy.

8. Project schedule & Cost Estimates

- i. Likely date of start of construction and likely date of completion.**

The plant is scheduled to be on stream by November 2019.

- ii. Estimated project cost along with analysis in terms of economic viability of the project.**

Total capital Investment Cost is Rs. 1500 Crores in 2 phases and Rs 120 crores will be spent for Environmental Management Plan.

The estimated investment Cost for the project has been based on the requirement of fixed and non-fixed assets for both cement plant and thermal power plant.

The financing of the project has been considered on the basis of Equity and Term Loans from Financial Institutions. The debt: equity ratio has been considered as 1: 0.2.

The project exhibits a good Internal Rate of Return of 17.2% on total Investment. The IRR on equity is calculated to be 13.36 % (after tax).

9. Analysis of proposal (Final Recommendations)

i. Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.

No tribals are residing or have lands at the proposed location.

Employment: Preference will be given for locals for employment based on qualifications & requirement. 300 people will be directly employed and another 1000 will be indirectly employed.

Medical facilities: Medical facilities will be provided for employees as well as people of nearby villages through medical camps.

Educational facilities: Basic educational and vocational facilities will be provided for the children of employees as well as nearby villages.

Infrastructure facilities: Approach roads will be developed at par with plants roads.

Additional: The establishment of factory will facilitate additional auxiliary facilities like banking post office & recreation facilities.