

PRE-FEASIBILITY REPORT

OF

**GREENFIELD CEMENT PLANT
WITH
CAPTIVE POWER PLANT**

**CLINKER PRODUCTION: 3.20 MTPA
CEMENT (OPC/PPC/PSC/COMPOSITE CEMENT)
PRODUCTION: 4.25 MTPA
COAL BASED CAPTIVE POWER PLANT : 30 MW
WASTE HEAT RECOVERY POWER PLANT: 15 MW
And
SYNTHETIC GYPSUM PLANT – 100 TPH**

AT

**TANGEDA VILLAGE, DACHEPALLI TEHSIL,
GUNTUR DISTRICT, ANDHRA PRADESH**

BY

M/s. NU Vista Limited

TABLE OF CONTENTS

Para No	Content	Page No.
1.	Executive Summary	4-5
2.	Introduction of the Project/ Background Information	6
	2.1 Identification of Project and Project Proponent	6
	2.2 Brief Description and Nature of the Project	6
	2.3 Need for the Project and its Importance to the Country and/or Region	7
	2.4 Demands-Supply Gap	8
	2.5 Imports Vs. Indigenous Production	9
	2.6 Export Possibility	9
	2.7 Domestic/ Export Markets	9
	2.8 Employment Generation (Direct and Indirect) due to the Project	9
3	Project Description	10
	3.1 Type of project including Interlinked and Interdependent projects, if any.	10
	3.2 Location (map showing general location, specific location and project boundary and project site layout) with coordinates.	10
	3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.	16
	3.4 Size or Magnitude of Project	17
	3.5 Project Description with Process details (a schematic diagram/ flow chart showing the project layout, components of the project etc.)	17
	3.6 Raw material required along with estimated quantity, likely source, marketing area of final product/s, Mode of transport of raw Material and Finished Product.	27
	3.7 Resource optimization/ recycling and reuse envisaged in the project, if any, should be briefly outlined.	29
	3.8 Availability of water its source, Energy/ Power requirement and source	29
	3.9 Quantity of wastes to be generated (liquid and solid) and scheme for their Management/disposal	30
	3.10 Schematic representations of the feasibility drawing which give information of EIA purpose.	31
4	Site Analysis	32
	4.1 Connectivity	32
	4.2 Land Form, Land use and Land ownership.	32
	4.3 Topography (along with map)	32
	4.4 Existing land use pattern (agriculture, non-agriculture, forest, water bodies (distance from HFL to the river), CRZ. In case of notified industrial area, a copy of Gazette Notification should be given	33
	4.5 Existing Infrastructure	34
	4.6 Soil Classification	38
	4.7 Climatic data from secondary sources	38
	4.8 Social Infrastructure available	38
5.	Planning Brief	40
	5.1 Planning concept (type of industries, facilities transportation Town and Country Planning Development authority Classification.	40
	5.2 Population Projection.	40
	5.3 Land use planning (breakup along with green belt etc.)	41
	5.4 Assessment of Infrastructure Demand (Physical & Social)	41
	5.5 Amenities/Facilities	
6	Proposed Infrastructure	42
	6.1 Industrial Area (Processing Area)	42
	6.2 Residential Area (Non Processing Area)	43

Para No	Content	Page No.
6.3	Green Belt	43
6.4	Social Infrastructure	43
6.5	Connectivity (Traffic and Transportation Road, Rail/Metro/Waterways etc.)	44
6.6	Drinking Water Management (Source & Supply of water)	44
6.7	Sewerage system	45
6.8	Industrial Waste/ Solid Waste Management.	45
6.9	Solid Waste Management	45
6.10	Power Requirement & Supply/source.	46
7.	Environmental management measures incorporated in The project	47-49
8.	Rehabilitation and Resettlement (R & R) Plan	50
8.1	Policy to be adopted (Central/ State) in respect of the project affected persons including home oustees, land oustees and landless laborers (a brief outline to be given)	50
9.	Project Schedule & Cost Estimates	51
9.1	Likely date of start of construction and likely date of completion	51
9.2	Estimated project cost along with analysis in terms of economic viability of the project.	51
10	Analysis Of Proposal (Final Recommendations)	52
10.1	Financial and social benefits with special emphasis on the benefit to the local People Including Tribal Population, if any, in the area.	52

LIST OF TABLES

Table No.	Title	Page No.
Table-1	Proposed Production Capacities	4
Table-2	Salient Features of The Plant Site	15
Table-3	Raw Material and Fuel	27-28
Table-4	Salient Features of the Limestone Mine	28
Table-5	Water Balance (m ³ /day)	29-30
Table-6	Land Breakup	35

LIST OF FIGURES

Fig. No.	Title	Page No.
Fig-1	Location Map of the Plant Site	11
Fig-2	Key plan of the Plant Site	12
Fig-3	10 km Radius of the Study Area	14
Fig-4	Process Flow Diagram Along with EMP	19
Fig-5	Process Map Of Synthetic Gypsum Plant	26
Fig-6	Plant Layout of The Project Site	36

LIST OF ANNEXURES

Annexure No	Title
Annexure-1	Environment Clearance issued by MOEFCC for Captive Limestone Mine
Annexure-2	Terms of Reference issued by MOEFCC in the name of Emami Cement Ltd
Annexure-3	Acknowledgement of water permission application to Ground water resource department, A.P

1.0 EXECUTIVE SUMMARY

M/s. NU Vista Limited (NVL) has proposed to setup a Greenfield Cement Plant based on State-Of-The-Art Technology near Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh.

The proposed cement plant will be capable of producing about 3.20 Million Tons Per Annum (MTPA) of clinker and 4.25 MTPA of cement (OPC/PPC/PSC/Composite Cement). To meet the power requirement of the of cement plant, NVL proposes to install a 30 MW Captive Coal based Thermal Power Plant & 15 MW Waste Heat Recovery Power Plant within the cement plant and 100 TPH Synthetic Gypsum Plant.

TABLE - 1
PROPOSED PRODUCTION CAPACITIES

Units	Proposed Capacity
Clinker (MTPA)	3.2
Cement (OPC/PPC/PSC/Composite Cement) (MTPA)	4.25
Coal Based Captive Power Plant (CPP) (MW)	30
Waste Heat Recovery Based Power Plant (WHRB) (MW)	15
Synthetic Gypsum Plant, TPH	100

The project was earlier accorded Terms of Reference in the name of M/s Emami Cement Limited vide letter no. J-11011/226/2016-IA.II(I) dated 3rd January, 2017. The validity of TOR expired on 02.01.2021. Due to change of Name from M/s Emami Cement Ltd to M/s NU Vista Limited, a fresh application for obtaining TOR is being filed.

The major raw material, Limestone will be met from Captive Limestone Mine i.e Tangeda limestone mine located adjacent with an extent of 521.691 Ha in Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh. The Captive Limestone mine with about 62.35 million tonnes of mineable reserves supply Limestone for more than 17 years. The mine was accorded Environmental Clearance (EC) by MOEFFCC vide Lr. No; J-11015/139/2014.IA.II (M), dated 31st July, 2017 (**Enclosed as Annexure - 1**). Name change of the EC in the name of M/s **NU Vista Limited** is in process.

The Cement Plant along with Captive Power Plants and Colony will be located in an area of about 125 Ha, total land is Private Agricultural land. NVL has purchased about 70.0 Ha. of land under direct purchase and balance land acquisition is in progress. No habitation/housing is existing in the proposed land.

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

Housing Colony with about 200 houses (builtup area of 19000 m²) is proposed within the cement plant complex.

Approx. 41.25 Ha (i.e. 33% of the total project area) will be developed under greenbelt/plantation.

Water requirement of the plant including colony is 3500 m³/day and will be met from Ground Water & Krishna River.

Ash generated from the power plant will be used for cement production in cement plant.

The total power requirement will be met from the proposed 30 MW Coal Based Captive Power Plant & 15 MW Waste Heat Recovery Power Plant.

2325 kVA diesel fired DG sets will be installed as standby power supply units. These DG sets will be operated only when there is power supply failure. HSD will be used for power generation in DG Sets.

The project will create direct employment to 538 People during the operation phase of the project.

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

Plant will be commissioned within 24 months from date of commencement of construction after obtaining all statutory clearances.

Total Project Cost is about Rs. 1950 crores and Rs. 97.5 crores (approx.) will be spent for Environmental Management Plan.

2.0 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

(i) IDENTIFICATION OF PROJECT AND PROJECT PROPONENT

M/s. NU Vista Limited (NVL) (Formerly Emami Cement Ltd), is a leading manufacturer and seller of building materials with a vision to build a safer, smarter and more sustainable world by providing innovative and best-in-class products and services for home building as well as infrastructure projects. The Company originally was incorporated on 13th June 2007 under Companies Act-1956 & was registered at Registrar of Companies, Kolkata. As a part of its business strategy to have new brand and fresh business outlook, name of our company has been changed from “Emami Cement Limited” to “NU Vista Limited” vide Certificate of Incorporation pursuant to change of name issued by the Registrar of Companies (ROC), West Bengal w.e.f 4th June, 2020.

M/s. NU Vista Limited (NVL) (Formerly Emami Cement Limited) is among the leading cement manufacturing companies in Eastern India. NVL cement manufacturing capacity represented ~ 9% of the total installed capacity in Eastern India in Fiscal 2020. NVL currently operate four manufacturing plants.

- 1) Integrated Cement manufacturing plant situated at Risda in Chhattisgarh, which has present capacity of 3.20 MTPA of clinker and 3 MTPA of cement (the “Risda Plant”).
- 2) Cement grinding plant of installed capacity of 2.50 MTPA of cement at Panagarh in West Bengal.
- 3) Cement grinding unit with an installed capacity of 0.8 MTPA in Bhabua, Bihar (the “Bhabua Plant”).
- 4) Cement grinding plant at Kalinganagar, Jajpur, Odisha, which has an installed capacity of 2.50 MTPA of cement (with current approvals for production up to 2.00 MTPA)

(ii) BRIEF DESCRIPTION OF NATURE OF THE PROJECT.

M/s. NU Vista Limited (NVL) proposes to setup a Greenfield Cement Plant based on State of the art technology near Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh. The production capacity of the proposed plant will be as follows:

- 3.20 MTPA Of Clinker
- 4.25 MTPA Of Cement (OPC/PPC/PSC/Composite Cement)
- 30 MW Coal Based Captive Power Plant
- 15 MW Waste Heat Recovery Based Power Plant
- 100 TPH Synthetic Gypsum Plant

BACKGROUND OF THE PROJECT

The project was earlier accorded TOR in the name of M/s Emami Cement Limited vide letter no. J-11011/226/2016-IA.II(I) dated 3rd January, 2017 (Enclosed as **Annexure -2**). The validity of TOR expired on 02.01.2021. Due to change of Name from M/s Emami Cement Ltd to M/s NU Vista Limited, a fresh application for obtaining TOR is being filed.

The major raw material, Limestone will be met from Captive limestone mine i.e Tangeda limestone mine located adjacent with an extent of 521.691 Ha in Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh. The Captive Limestone mine with about 62.35 million tonnes of mineable reserves supplied Limestone for more than 17 years. The mine was accorded Environmental Clearance (EC) by MOEFFCC vide Lr. No; J-11015/139/2014.IA.II (M), dated 31st July, 2017 (**Enclosed as Annexure - 1**). Name change of the EC in the name of M/s **NU Vista Limited** is in process.

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

India is the second largest producer of cement in the world. It accounts for more than 7% of the global installed capacity. India has a lot of potential for development in the infrastructure and construction sector and the cement sector is expected to largely benefit from it. Some of the recent initiatives, such as development of 98 smart cities, is expected to provide a major boost to the sector.

India's overall cement production capacity was nearly 545 million tonnes (MT) in FY20. Of the total capacity, 98% lies with the private sector and the rest with public sector. The top 20 companies account for around 70% of the total cement production in India. As India has a high quantity and quality of limestone deposits through-out the country, the cement industry promises huge potential for growth.

Cement production reached 329 MT in FY20 and is expected to reach 381 MT in FY22.

India's overall cement production accounted for 262 million tonnes (MT) in FY21 (Till February 2021). The cement production is expected to increase by 10% to 12% and the utilization is expected around 65% in FY22.

Growth in Infrastructure and real estate sector, post-COVID-19 pandemic, is likely to augment the demand for cement in 2021. The industry is likely to add an ~8 MTPA capacity in cement production. In the third quarter of FY21, Indian cement companies reported a healthy growth in earnings and demand for the industry increased on the back of resuming construction activities post COVID-19 lockdown imposed by the government.

The Government of India is strongly focused on infrastructure development to boost economic growth and is aiming for 100 smart cities. The Government also intends to expand the capacity of railways and the facilities for handling and storage to ease the transportation of cement and reduce transportation cost. These measures would lead to an increased construction activity, thereby boosting cement demand. The Union Budget allocated Rs. 13,750 crore (US\$ 1.88 billion) and Rs. 12,294 crore (US\$ 1.68 billion) for Urban Rejuvenation Mission: AMRUT and Smart Cities Mission and Swachh Bharat Mission, respectively and Rs. 27,500 crore (US\$ 3.77 billion) has been allotted under Pradhan Mantri Awas Yojana.

Source: <https://www.ibef.org/industry/cement-india.aspx>

(iv) DEMAND- SUPPLY GAP

Cement production reached 329 million tonnes (MT) in FY20 and is projected to reach 381 MT by FY22. However, the consumption stood at 327 MT in FY20 and will reach 379 MT by FY22. The cement production capacity is estimated to touch 550 MT by 2020. As India has a high quantity and quality of limestone deposits through-out the country, the cement industry promises huge potential for growth.

In 2021, working remotely is being adopted at a fast pace and demand for affordable houses with ticket size below Rs. 40-50 lakh is expected to rise in Tier 2 and 3 cities, leading to an increase in demand of cement.

Due to the increasing demand in various sectors such as housing, commercial construction and industrial construction, cement industry is expected to reach 550-600 million tonnes per annum (MTPA) by the year 2025.

Source : <https://www.ibef.org/industry/cement-india.aspx>

(v) IMPORT VS. INDIGENOUS PRODUCTION

The proposed project will utilize locally available raw material. However, some imports will be required for Coal.

(vi) EXPORT POSSIBILITY

The proposed is project Greenfield cement plant 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.

(vii) DOMESTIC / EXPORT MARKETS

The proposed cement production will cater to the cement demands in southern states like Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, Kerala etc.

(viii) EMPLOYMENT GENERATION (DIRECT AND INDIRECT) DUE TO THE PROJECT

The project will create direct employment to 538 People during the operation phase of the project. During the construction phase, 1050 people on daily average will be employed for a period of 24 months. NVL 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.

3.0 PROJECT DESCRIPTION.

i. TYPE OF PROJECT INCLUDING INTERLINKED AND INTERDEPENDENT PROJECTS, IF ANY

The proposed project is a cement plant interlinked with the Captive Tangeda limestone mine located adjacent with an extent of 521.691 Ha in Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh.

The Captive Limestone mine with about 62.35 million tonnes of mineable reserves supplied Limestone for more than 17 years. The mine was accorded Environmental Clearance (EC) by MOEFFCC vide Lr. No; J-11015/139/2014.IA.II (M), dated 31st July, 2017 (**Enclosed as Annexure - 1**). Name change of the EC in the name of M/s **NU Vista Limited** is in process.

The limestone will be transported from mine to the cement plant by closed conveyor.

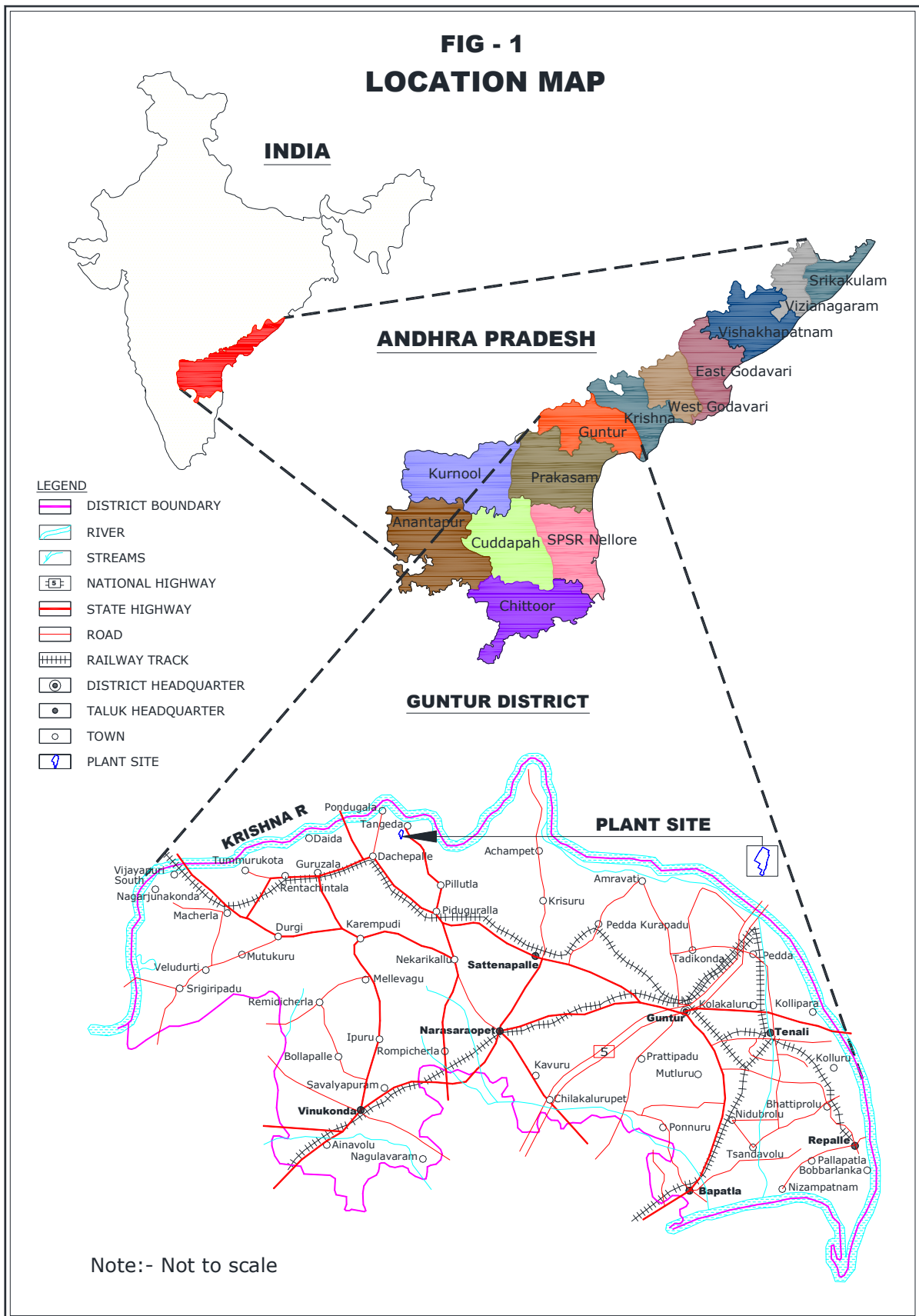
ii LOCATION (MAP SHOWING GENERAL LOCATION, SPECIFIC LOCATION, AND PROJECT BOUNDARY & PROJECT SITE LAYOUT) WITH COORDINATES

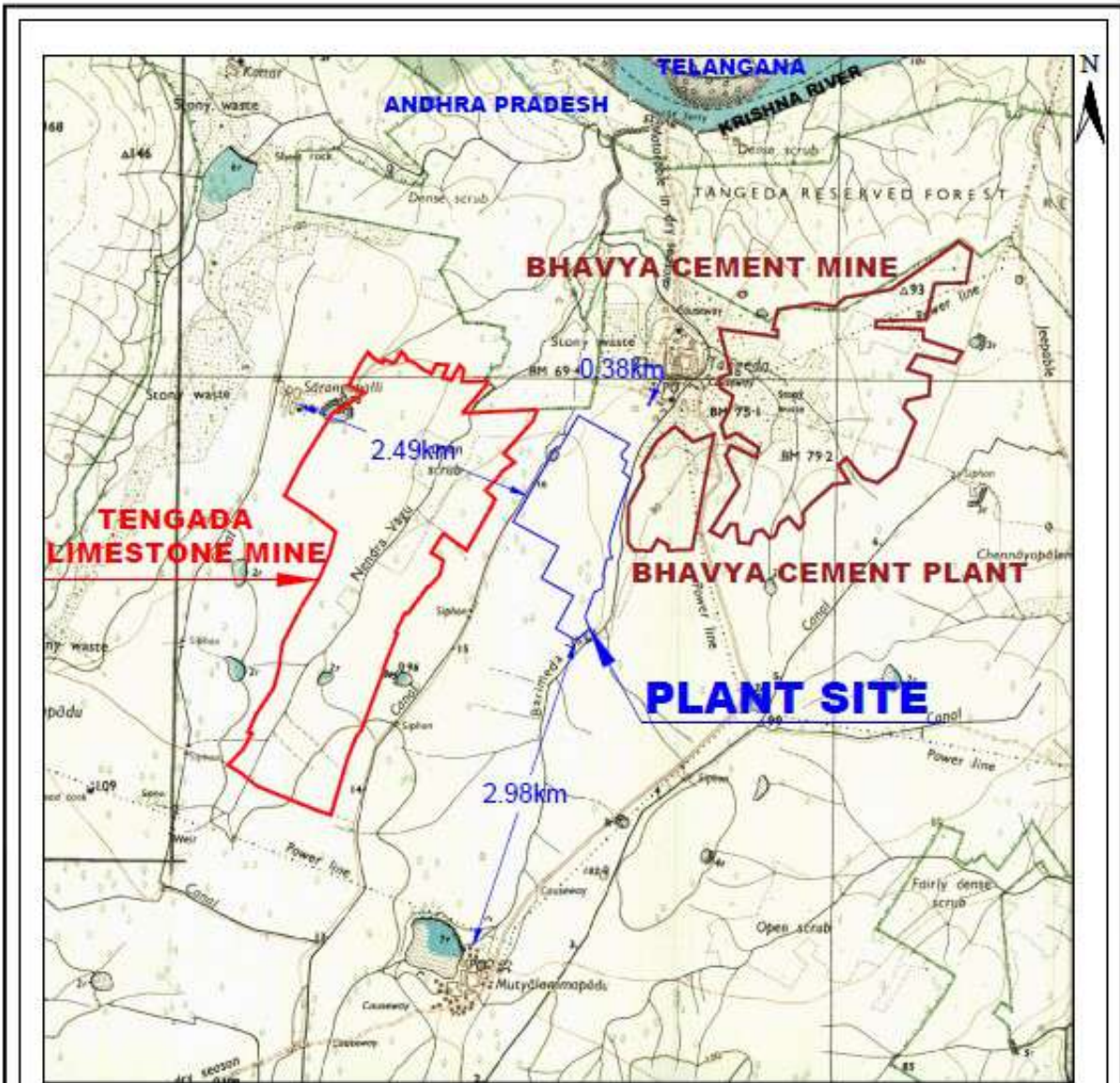
The plant site is located at Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh. The Plant Site a part of the Survey of India Toposheet No. 56/P/14. The site falls between 16°38'41.15"N - 16°39'51.71"N, North latitude and 79°48'11.36"E -79°48'48.26"E East Longitude with an average altitude of 80 m above MSL. **Fig - 1** shows the Location Map of the Proposed Plant site.

Nearest railway line connecting Nalgonda – Guntur of South Central Railway line, at a distance of 8.76 km to SW direction from the Plant Site. Key map showing the location of various features around the Plant Site is shown in **Fig - 2**.

Guntur is major town at a distance of 77.0 km in SE direction.

**FIG - 1
LOCATION MAP**





LEGEND

- OTHER MINES & LANTS
- TENGADA LIMESTONE MINE
- PLANT SITE
- INTER STATE BOUNDARY
TELANGANA - ANDHRA PRADESH

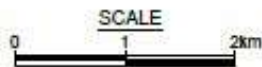


FIG - 2

CLIENT :	M/s. NU VISTA LIMITED
PROJECT :	PROPOSED GREENFIELD CEMENT PLANT CLINKER (3.2 MTPA), CEMENT (4.25 MTPA), CAPTIVE POWER PLANT (30MW), WHRS (15MW) & SYNTHETIC GYPSUM UNIT (100 TPH) Tangeda (V), Dachepally (M), Guntur (Dt.), Andhra Pradesh.
TITLE :	KEY MAP
	PREPARED BY B.S.ENVI-TECH (P) LTD., SECUNDERABAD

The National Highway (NH-9) (CHANGE TO NH - 65) connecting Hyderabad - Vijayawada at a distance of about 40.62 km in NE direction and The National Highway (NH-167A) connecting Miryalaguda - Narasaraopet at a distance of about 8.65 km in SW direction. The State Highway (SH- 268) connecting Dachepalle - Mattapalli at a distance of about 0.48 km in NNE Direction.

The nearest railway station is Nadikudi Junction at 10.75 km in SW direction.

Nearest Settlements from the Plant Site

- Tangeda - 0.38 km - NE
- Sarangapalli - 2.49 km - WNW
- Muthyalamma padu - 2.98 km - SSW

Nearest Reserved Forests from the Plant Site

- Sultanpur RF - 3.8 km - NNE
- Tangeda RF - 0.1 - N
- Regulagadda RF - 4.2 km - ENE
- Govindapuram RF - 7.3 km - ESE
- Vemavaram RF - 3.9 km - SE
- Madinapadu RF - 3.8 km - WNW
- Madinapadu Extension RF - 7.6 km - W
- Gurrambodu RF - 6.2 km - NNW

The following industries/mines are located in 10 km radius of the project site

- Bhavya Plant - 0.03 km - E
- Bhavya Mine - 0.9 km - E
- Nagarjuna Cement Plant (NCL) - 5.4 km - NNE
- NCL Mine Site - 4.54 km - NNE
- NCL Sultanpur Thanda Limestone Mine - 6.32 km - NNE
- NCL Gundapalli Limestone Mine - 7.12 km - NE
- Andhra Cement Mine - 9.37 km - WSW
- Sagar Limestone Mine - 9.71 km - NNE

Salient features of Plant Site are given in **Table - 2** and **Fig - 3** shows the study area of 10 km radius around the Plant Site

Interstate boundary of Telangana State is at 3.2 km in NNE direction

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

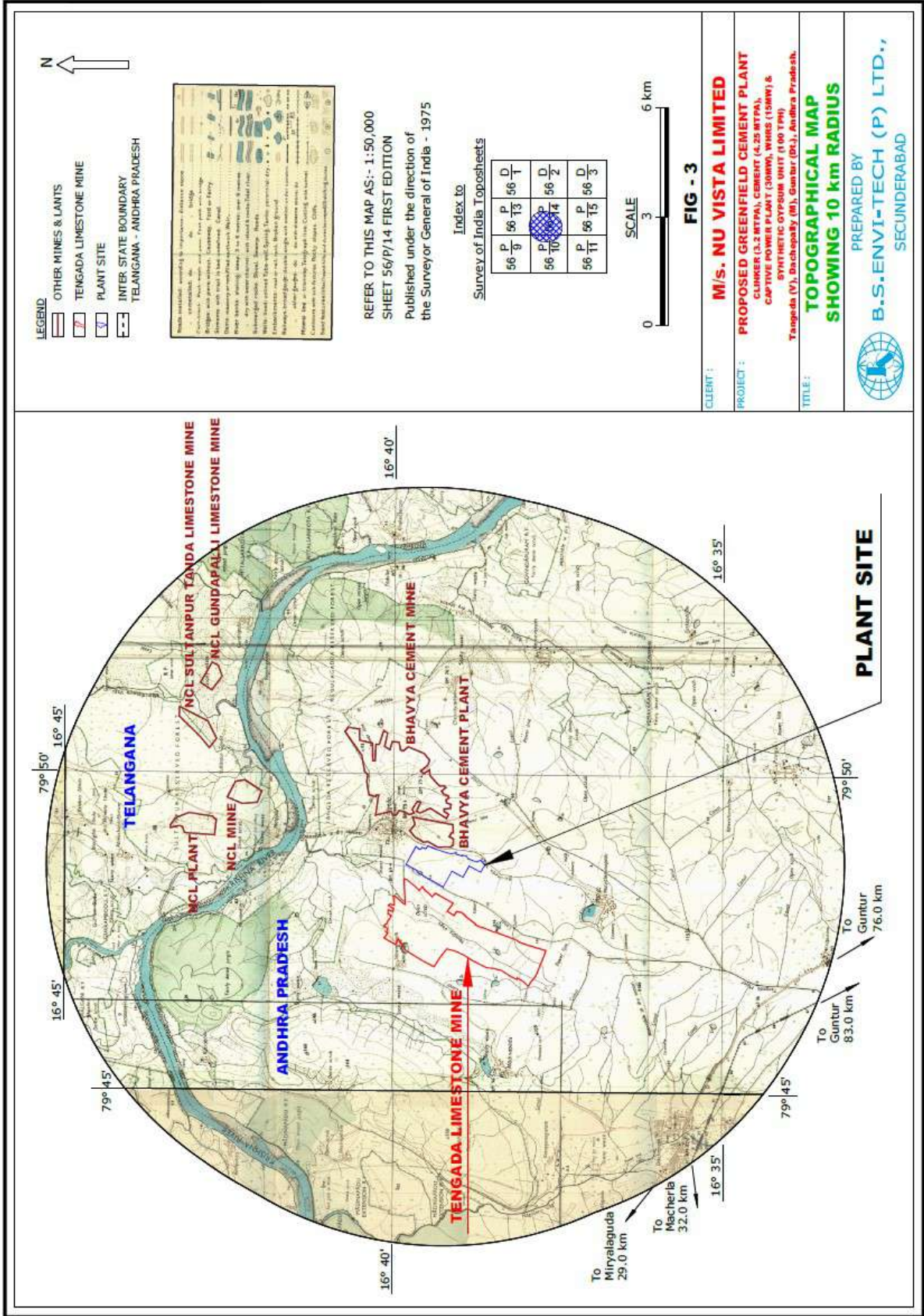


TABLE - 2
SALIENT FEATURES OF THE PLANT SITE

Feature	Details
Altitude	80 m above MSL
Latitude & Longitude	A) 16°38'41.15"N - 16°39'51.71"N, B) 79°48'11.36"E - 79°48'48.26"E.
Village, Tehsil, District, State	Tangeda (V), Dacheppally (M), Guntur (Dt.), Andhra Pradesh.
Temp., °C	5 - 47.2
Annual rainfall,	991.0 mm
Topography	Plain
Soil Type	Black Cotton
Nearest Water Bodies	<ul style="list-style-type: none"> • Vemuleru R – 7.83 km – NNW • Krishna River – 2.93 km - NNE • Mamidimotta Vagu – 6.46 km – NE • Ura Vagu – 7.9 km – ENE • Elaga Vagu – 8.45 km – ENE • Ganneru Vagu – 8.55 km – ESE • Ralla Vagu – 6.20 km – ESE • Tadutla Minor – 7.6 km – SE • Barimeda Vagu – Adjacent – E • Tangeda Major Canal – Adjacent to the plant site in W • Nendra Vagu – 0.67 km – NNW • Naguleru Vagu – 9.17 km - W
Nearest Highway	<ul style="list-style-type: none"> ➤ National Highway (NH-9) (CHANGE TO NH – 65) connecting Hyderabad - Vijayawada - 40.62 km – NE. ➤ National Highway (NH-167A) Miryalaguda-Narasaraopet- 8.65 km – SW. ➤ State Highway (SH- 268) Dachepalle – Mattapalli - 0.48 km – NNE.
Nearest Railway station & Junction	Nadikudi – 10.75 km - SW
Nearest Industries	<ul style="list-style-type: none"> ➤ Bhavya Plant – 0.03km – E ➤ Bhavya Mine – 0.9 km – E ➤ Nagarjuna Cement Plant (NCL) – 5.4 km – NNE ➤ NCL Mine Site – 4.54 km – NNE ➤ NCL Sultanpur Thanda Limestone Mine – 6.32 km – NNE ➤ NCL Gundapalli Limestone Mine – 7.12 km – NE ➤ Andhra Cement Mine – 9.37 km – WSW ➤ Sagar Limestone Mine – 9.71 km – NNE
Nearest Village	➤ Tangeda – 0.38 km – NE
Nearest Town	Guntur - 77.0 km – SE
Birdsanctuarie /National Parks	None within 10 km radius
Inter State Boundary	Telangana - Andhra Pradesh – 3.2 km - NNE
Nearest Air port	Vijayawada (Gannavaram Airport) – 105.0 km – ESE Hyderabad (Shamshabad) – 156.0 km - WNW
Nearest Forest	<ul style="list-style-type: none"> ➤ Sultanpur RF – 3.8 km - NNE ➤ Tangeda RF – 0.1 – N ➤ Regulagadda RF – 4.2 km - ENE ➤ Govindapuram RF – 7.3 km – ESE ➤ Vemavaram RF – 3.9 km – SE ➤ Madinapadu RF – 3.8 km – WNW ➤ Madinapadu Extension RF – 7.6 km – W ➤ Gurrambodu RF – 6.2 km – NNW
Historical places	None within 10 km radius

****all distances mentioned in the above table are aerial distances***

The general topography of the 10 km radius is almost flat. The drainage pattern of this area is dendritic in nature.

The project site is not located in critically polluted areas and does not fall near to polluted stretch of river identified by the CPCB.

iii DETAILS OF ALTERNATE SITES CONSIDERED AND THE BASIS OF SELECTING THE PROPOSED SITE, PARTICULARLY THE ENVIRONMENTAL CONSIDERATIONS GONE INTO SHOULD BE HIGHLIGHTED.

The project site was earlier accorded TOR in the name of M/s Emami Cement Limited vide letter no. J-11011/226/2016-IA.II(I) dated 3rd January, 2017. The validity of TOR expired on 02.01.2021. The project was proposed in an area of 254.34 Ha.

Due to change of Name from M/s Emami Cement Ltd to M/s NU Vista Limited, a fresh application for obtaining TOR is being filed.

The project site granted TOR is adjacent to Captive Limestone Mine Site for which Environmental Clearance was already granted. The subject proposal restricts the plant area to 125 Ha.

In addition to above, the project site has the following locational advantages

- Proximity to source of water – River Krishna – Source of water for project
- Availability of sufficient land – about 50 % land already acquired
- Availability of transport facility – Railway siding is proposed
- Availability of ash from TSGENCO and VTPS for production of PPC which will conserve limestone
- No National Park, Wildlife Sanctuary, Biosphere Reserve falls within 10 km radius of the proposed site.

Considering the above, and proximity to the limestone mine (EC granted) and project site was already granted TOR earlier, no other alternate sites were considered

iv. SIZE OR MAGNITUDE OF OPERATION

The project will be located in an area of 125 Ha. The plant will be designed for the following production capacities

PROPOSED PRODUCTION CAPACITIES

Units	Proposed Capacity
Clinker (MTPA)	3.2
Cement (OPC/PPC/PSC/Composite Cement) (MTPA)	4.25
Coal Based Captive Power Plant (CPP) (MW)	30
Waste Heat Recovery Based Power Plant (WHRB) (MW)	15
Synthetic Gypsum Plant, TPH	100

Railway siding will be developed for major movement of raw material and finished product

Conveyor from limestone mine to the plant will be laid for transportation of major raw material i.e limestone of 4.75 MTPA

A full-fledged colony with 200 houses will be developed for employees

The project will provide employment to 538 persons during operation and 1050 during construction phase.

Water requirement of 3500 KLD will be met from Ground Water and River Krishna (after obtaining necessary permissions)

v. PROJECT DESCRIPTION WITH PROCESS DETAILS (A SCHEMATIC DIAGRAM/ FLOW CHART SHOWING THE PROJECT LAYOUT, COMPONENTS OF THE PROJECT ETC. SHOULD BE GIVEN)

The process description of the following components of the project are given below:

- Clinker Production : 3.20 MTPA
- Cement Production : 4.25 MTPA
- Coal Based Thermal Power Plant : 30 MW
- Waste Heat Recovery Power Plant : 15 MW
- Synthetic Gypsum Plant : 100TPH

CEMENT PLANT

State-of-Art technology for manufacturing of the cement will be adopted.

The cement plant is designed to comply with the new emission norm specified in MoEFCC notification GSR 612(E) dated 25.08.2014 for particulate matter and GSR 496 (E) dated 09.05.2016 for Sulphur dioxide and Oxides of Nitrogen.

Fig - 4 shows the process flow diagram along with EMP

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. Petcoke / 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

The type of cement manufactured will be PPC, OPC & PSC.

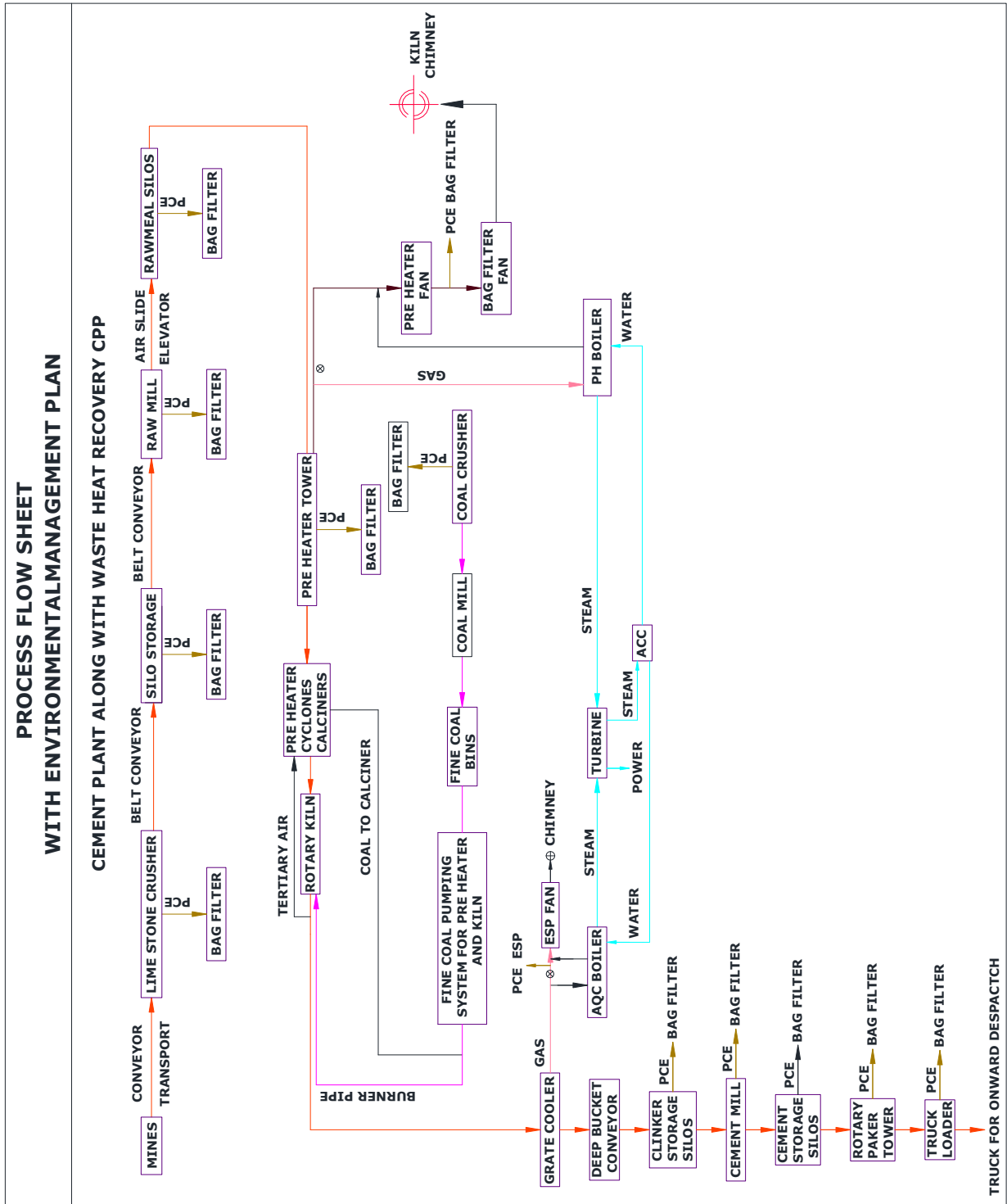
CRUSHER

Crusher reduces the size of limestone from 1.7 Cu. M to (-) 80 mm size. A crusher of 2000 TPH is proposed at Mine Site. The crushed limestone will be transported to cement plant through conveyor. A common crusher of capacity 100 TPH is envisaged for correctives and additives i.e. Iron Ore, Bauxite and Gypsum within the plant.

STACKER & RECLAIMER

The capacity of stacker and reclaimer for limestone stockpile shall be of 1500 TPH

FIG - 4
PROCESS FLOW DIAGRAM ALONG WITH EMP



RAW MILL

A Vertical Roller Mill of 750 TPH capacity will be installed. Material from the respective raw materials hoppers shall be fed into the mill through the weigh feeders provided beneath each hopper.

Hot gases from the kiln shall be used for drying of raw materials in the raw mill. For a situation, when kiln stops but the VRM has to be operated, a hot air generator (HAG) may be provided.

The VRM shall be equipped with a new generation, high efficiency separator. An external reject circulation system will be provided in VRM circuit for energy saving. Mill vent gas shall be dedusted in twin cyclones. Exit gas from cyclones shall be transported to the bag house through raw mill fan. Gas from the raw mill fan along with the gases from PH fan exit shall be dedusted in the bag house.

CONTINUOUS BLENDING SILO

A blending silo of 25,000 t capacity will be provided which is equivalent to the requirement of 2.5 kiln days or approx. 1.0 days active storage. Along with the basic function of storage, the blending of raw meal takes place for homogenization for minimizing the variation in quality. The kiln feed, which shall be extracted from Silo and made to reach a point of preheating initiation by pre-heater of Belt bucket elevator.

PRE-HEATER, KILN, COOLER

A rotary kiln of 10000 TPD capacity in conjunction with a six stage single string pre heater – pre claciner and grate cooler is envisaged. A Bag house will be installed for dedusting of raw mill/kiln system. Water spray in preheater downcomer duct will be installed to reduce the temperature of gases during the direct operation.

Fine coal shall be used in the Kiln for calcination. With the unique and typical formation of different temperature zones in the Rotary Kiln, the raw meal undergoes various physicochemical reactions reaching a stage of sintering. Burning zone promotes the sintering leading to formation of clinker ultimately. Clinker at temperature of 1200-1250 °C. passes through Grate Cooler provided with Fans.

Quenching of air through the clinker bed in the cooler, results in cooling of clinker till 100°C. Deep Pan Conveyor to Clinker Storage Silo shall mechanically convey it.

COAL MILL

The main fuel for the generation of heat and burning operation is Coal. Raw coal from yard shall be crushed to less than 30 mm size. It shall be conveyed through Belt Conveyors to raw coal hoppers and then allowed the same for grinding in Coal Mill to a fineness of 15% residue on 90 Microns sieve and 2% residue on 212 Microns sieve. The fine Coal ground by Coal Mill shall be conveyed to fine coal bin.

The fine Coal shall be fired in to Kiln as well as Pre calciner as per the requirement on the weighing basis on Poldos-SC and pneumatically conveyed to Kiln and Pre calciner. NVL will install a coal mill of 120 TPH capacity. The total coal consumption in the Kiln is estimated to be about 1500 TPD.

CLINKER GRINDING AND CEMENT PACKAGING SECTIONS

Clinker from the stockpile will be transported by means of conveyer belt up to the clinker grinding section. Two No's of Vertical Roller Mill of 335 TPH will be installed. During the clinker grinding, about 5 % of gypsum will be added to the clinker to produce Ordinary Portland Cement.

ASH REQUIREMENT AND STORAGE

The maximum ash requirement in the cement plant is estimated to be about 1.5 MTPA (max) for Cement production.

Flyash will be procured from nearest VTPS/TSGENCO Thermal Power Plants of Andhra Pradesh/Telanagana. Flyash will be transported to the cement plant through bulkers.

Flyash will be handled by pneumatic system and stored in the silos.

Finished product will be packed in the automatic packing unit with minimum generation of dust to the outside environment. Two numbers of packing systems will be installed to bag the cement. Belt conveyers will transport the final product for loading into the trucks/rail wagons.

WASTE HEAT RECOVERY SYSTEM

NVL will install 15 MW WHRB CPP (considering 38 kwhr/t of clinker) connected to Kiln and cooler of cement plant.

The plant will be based on waste heat recovery of the hot gases generated in the pre heater and cooler. Two Waste Heat Recovery Boilers (2 No) will be installed to recover waste heat of flue gases coming out from Kiln/Preheater and Cooler.

The maximum power generated is 15 MW.

30 MW COAL BASED POWER PLANT

Power generation process is based on Rankine Steam cycle. The steam generated in the Circulating Fluidized Bed Combustion Boiler (CFBC) when expanded through a turbine, turns the turbine shaft, which in tandem is coupled to an electric power generator.

The Power plant is aimed at generation of 30 MW of electric power with CFBC boiler of 120 tph capacity. The gross plant heat rate of the plant will be 2600 kcal/kWh. The coal consumption of power plant will be 22.5 tonnes/hour (500 t/day) which is based on the following coal quality

QUALITY OF COAL (Typical)

Parameter	Range
Fixed carbon (%)	45-55
Ash content (%)	30 -40
Volatile matter (%)	28.0-30.5
Calorific value (Kcal/Kg)	3000-4000
Moisture content (%)	8-16
Sulphur content (%)	0.4- 0.5

The steam generator will be provided with a steam drum and the drum will be of fusion-welded type. The steam drum will be with necessary nozzle connections for the steam outlets, safety valves, feed water inlets, down-comers, continuous blow down, level indicators, chemical dosing, sampling connection, drains and vents to assure the required steam purity.

STEAM GENERATOR AND AUXILIARIES

The steam generator would be of coal mix fired, Circulating Fluidized Bed Combustion type boiler and semi outdoor unit. In this process the mixture of coal and primary air is fed into the boiler furnace by pneumatic underfeed system. The major advantage of CFBC system is getting ash with low unburnt carbon on one hand and collecting less bottom ash rather than fly ash.

The rating of steam generators would be 120 TPH at a pressure of 110 ata and temperature of $540 \pm 5^\circ\text{C}$ at the super heater outlet when supplied with feed water at a temperature of 230°C .

The steam generator will be provided with fuel oil system using HSD which would be used during start-up of steam generators.

SPECIFICATIONS OF BOILER

Type	:	Single drum water tube boiler
Type of system	:	Circulated bubbling type fluidized bed combustion Boiler
Type of feeding	:	Under bed feeding system
Type of water circulation	:	Natural circulation
Type of support	:	Top supported
Capacity	:	120 TPH
Working pressure	:	110 kg/cm^2
Temperature	:	$540 \pm 5^\circ \text{C}$
Fuel firing	:	Coal

STEAM TURBINE & GENERATOR

STEAM TURBINE

Steam turbine will be single casing, non-reheat, and regenerative, condensing type. The turbine will be rated for 30 MW with rated steam inlet condition of $540 \pm 5^\circ\text{C}$ and 110 ata, condenser backpressure with associated feed water heaters in service. The turbine would be complete with all the accessories customarily supplied by the manufacturers such as governing and protection system, turbine oil system and its auxiliaries, turbine gland seal system, turning gear, supervisory and operating instruments with all necessary indicating and control devices to permit the unit to be placed on turning gear, rolled, accelerated and synchronized from the central control room.

GENERATOR

The electric generators will be rated for 30 MW.

COAL STORAGE & HANDLING

The Proposed railway siding will be used for transportation of coal to the proposed Captive Power Plant.

Coal crusher, primary and secondary screening system will be installed for the coal fired power plant. Crane will be feeding the coal from the stock pile to the crusher by means of belt conveyor and the crushed coal from the crusher will be fed the power plant bunker by belt conveyor.

FIRING SYSTEM / LIMESTONE DOSING

Coal will be used as fuel in the power plant and for meeting the environmental norms of SO_x, limestone will be injected to sulphur dioxide capture. The limestone will be dosed in the boiler. The dosing will be planned to limit emission level of SO_x to 100 mg/nm³.

It is estimated that sulphur capture will be 90%. The dosing of limestone will work in close loop with SO_x analyser installed on the stack.

The limestone will be sized in the range of 1mm to 500 microns for feeding the CFBC boiler.

The limestone requirement for control of sulphur dioxide emissions is estimated to be about 30 tonnes/day (@ 6 kg of limestone for control of 1 kg of SO₂ emission). The annual limestone requirement for power plant is estimated 10950 t/annum. This requirement will be met from captive limestone mines. Suitable crushing, screening and bunker feeding system will be installed.

ASH HANDLING

The ash generation from the power plant is about 200 t/day. Out of this 20 % is expected to be Bottom Ash and rest 80% will be Fly-ash to be collected from Boiler EP/ Economizer/ Cyclone. The details of quantity are as furnished below:-

- Fly ash will be transported pneumatically with the help of dense phase pneumatic conveying system to the fly ash silo from Economizer, Cyclone and EP. The fly ash from the silo will be transported to group cement plant by tanker.
- Bottom Ash will be collected from overflow spouts into ash cooler hoppers. Ash from the hoppers, after sufficient cooling will be discharged through ash vessel of pneumatic conveying system to bed ash silo. Bottom ash will be recycled for cement manufacturing.

EFFLUENT DISPOSAL SYSTEM

The waste heat produced in the thermal process of the plant will be controlled by using modern air cooled condenser system to save water. It is estimated that there will be saving of 80 – 90% in water consumption

Wastewater generated from the auxiliary cooling tower blow down, Boiler blow down and DM plant contains high turbidity and TSS. The wastewater streams will be mixed with each other and the diluted water will be utilized for greenbelt development and dust suppression

100 TPH SYNTHETIC GYPSUM UNIT:

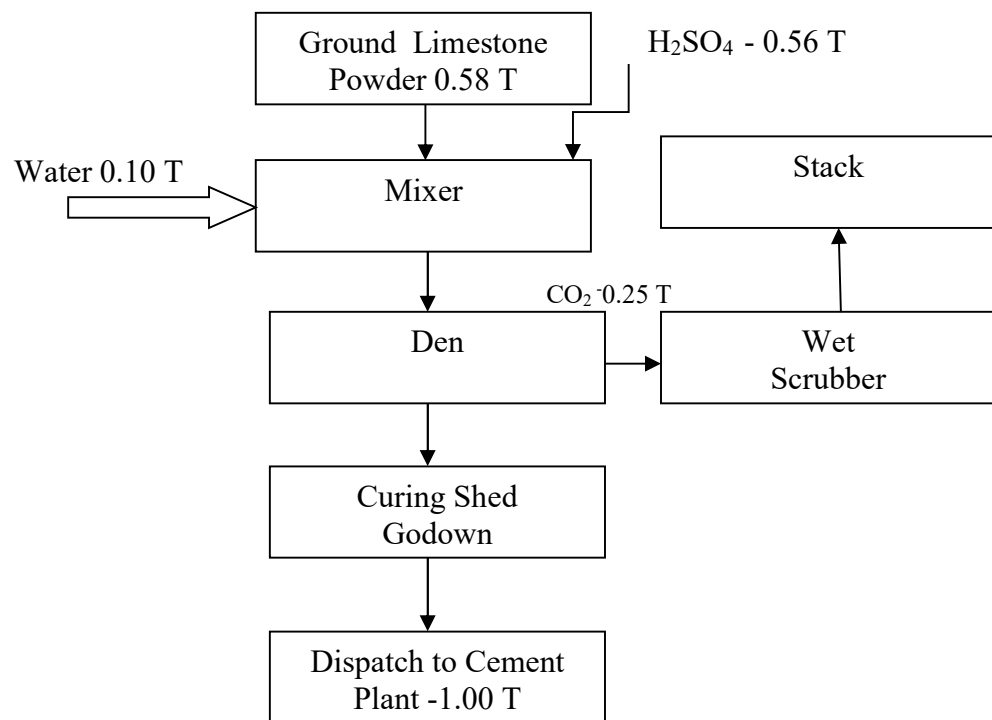
PROCESS DESCRIPTION:

Manufacturing of Synthetic Gypsum is based on the simplest chemical reaction. The major raw materials required are Lime Stone Powder and sulphuric acid. The Lime Stone Powder contains Calcium Carbonate. The Lime Stone Powder is reacted with dilute Sulphuric Acid. The product of reaction is Synthetic Gypsum. Lime Stone Powder is fed into lined & AHR tiles lined mixer, where it is neutralized with dilute sulphuric acid. The reaction is very fast in the beginning and the material is fine slurry which thickens quickly. The material is discharged in the den where the material slowly solidifies. The den discharge is fitted with den cutter which cuts the solid cake to powder. The gases liberated are sucked by ID fan and scrubbed in multi stage conventional scrubbers & venture Scrubbers. The material gets cured in a few days time. The material transfers to cement plant in bulk. Process map of synthetic gypsum plant is shown in **Fig – 5**.

Raw Material

- i. Lime Stone - 30% -50% CaO Lime Stone Powder
- ii. Acid - 98% Concentrated acid, 70% Spent acid.
- iii. Water - Recycled Water, Fresh Water

Fig - 5
PROCESS MAP OF SYNTHETIC GYPSUM PLANT
(Material Balance T/T of product)



Pollution Control System of Synthetic Gypsum Plant

The gases evolved from Mixer and Den during the chemical reactions are scrubbed with water in three-stage process.

i. Injector and Ventury Scrubber- The gases are formed during chemical reactions in the Mixer and Den collected through blower is firstly scrubbed with water in Injector. Water circulation is through high volume pump. The un-dissolved gases are further goes to the venture scrubber. The un-dissolved gases comes from Injector are scrubbed in the venture scrubber, Continuous water spray absorbs the gases. The efficiency of the Injector and venture scrubber is 90%.

ii Wet Cyclone Separator - The air containing un-dissolved gases and particles are scrubbed in the wet cyclone. The Spraying Water Contains 1% Solution of NaOH.

iii. Scrubbing Tower - In scrubbing tower the counter current contact between the water and un-dissolved gases. Out of five towers four towers are operated on the wet basis with continuous water spray from high pressure nozzles and have the efficiency about 90%, Tower is operated on the dry basis to protect water carry over to scrubbing fan. These gases are sent to the Chimney via Blower. All re-circulation water is collected in pits with zig jack flow to settle the silica particles. Silica water, Precipitate CaCO₃ or Na₂CO₃ slurry than separated with filter press & silica cake is used in Gypsum as filler.

vi. 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 **Table-3.**

**TABLE - 3
RAW MATERIAL AND FUEL**

S. No.	Name of Raw Material	Quantity (MTPA)	Source	Approx. distance from plant (km)	Mode of Transportation
1.	Limestone	4.80	Captive Mine / Outsource	Adjacent	Covered Conveyor Belt
2.	Bauxite	0.09	East Godavari & Vishakhapatnam (AP) / Local Market	300	Road
3.	Iron Ore	0.09	Cuddaph District (AP) / Local Market	450	Road
4.	Gypsum (Mineral / Synthetic)	0.22	Captive Synthetic Gypsum Unit / Near-by Fertilizer Plants at Vizag / Vishakhapatnam	300	Road
5.	Fly ash	0.7	CPP / Thermal Power Plants at VTPS /TSGENCO and Near-by Power Plants	30-100	Road
6	Slag	0.32	Vishakhapatnam and Steel plants in southern part of country / Local Market	300	Road / Rail
7	Coal for cement plant	0.48	Coal Indian - Preferably SCCL / Open market Imported Coal - Indonesia, South Africa, Australia etc.	220	Rail

S. No.	Name of Raw Material	Quantity (MTPA)	Source	Approx. distance from plant (km)	Mode of Transportation
8	Coal for power plant	0.182	Coal Indian – E-auction	200-250	Rail
100 TPH Synthetic Gypsum Plant					
1	Limestone	0.122	Captive Limestone Mine	Adjacent	Conveyor
2	Sulphuric Acid – 98 %	0.119	Local Market	200	By Road

DETAILS OF LIMESTONE MINE

The limestone will be transported by conveyor belt of 2000 t/hr capacity.

Method of Mining involves advanced opencast mining technology with shovel dumper combination, drilling & deep hole controlled blasting. Salient features of the mine are given below **Table - 4**.

TABLE - 4
SALIENT FEATURES OF THE LIMESTONE MINE

S. No.	Description	Features
1	Location of Limestone Mining Lease area	Tangeda Limestone mine Tangeda Village, Dachepalli Tehsil, Guntur District of Andhra Pradesh
2	Total Area of Mining Lease (ha)	521.691
3	Mineable limestone reserves (in million tonnes) in the mining lease area	62.35
4	Clinker Production capacity (million t/year)	3.2
5	Recovery ratio (Limestone: Overburden [soil])	1: 0.06
6	Average Grade of limestone, %	
6a	SiO ₂ %	Max 14%
6b	CaO %	35% - 43%
7	Method of mining	Opencast mechanized mining
8	Area to be mined for the life of the mine (ha)	392.845
9	Expected mine life (years)	17
10	Operating days/year	300
11	Manpower Requirement	50

The limestone will be conveyed through the closed conveyor to the cement plant.

vii. RESOURCE OPTIMIZATION / RECYCLING AND REUSE ENVISAGED IN THE PROJECT, IF ANY, SHOULD BE BRIEFLY OUTLINED.

Resource optimisation/Recycling and Reuse considerations in the project are given below:

- a. 15 MW WHRB power plant will be installed using hot flue gases of Kiln and Cooler which saves coal of about 250 t/day.
- b. Air cooled condenser system for Power plants for saving of water.
- c. Use of Ash generated from the proposed power plant and from other thermal power plants for PPC production will save equal amount of clinker. Saving of 1 tonne clinker saves 1.56 tonnes of limestone.
- d. Use of flyash in cement production will save clinker and inturn coal required to produce clinker
- e. Recycling of treated wastewater generated from the power plant will save fresh water.

viii. AVAILABILITY OF WATER ITS SOURCE, ENERGY /POWER REQUIREMENT

WATER:

Total water requirement of the Proposed Greenfield cement plant is estimated to be about 3500 m³/day. The requirement will be met from Ground Water & Krishna River. Permission for drawl of water will be obtained from concerned department. Break-up of water requirement is given in table below **Table - 5:**

**TABLE - 5
WATER BALANCE (M³/DAY)**

Description	Require- ment	Loss/ Usage	Waste water
CEMENT PLANT			
Cooling Water Makeup	1700	1700	0
30 MW COAL BASED POWER PLANT			
Cooling Tower	520	420	100
Boiler Makeup	40	5	35
Softner/DM Regeneration	20	0	20
Service Water	10	0	10

Description	Requirement	Loss/Usage	Waste water
15 MW WHRB POWER PLANT			
Cooling Tower Makeup	250	200	50
Boiler Makeup	20	0	20
Softner/DM Regeneration	20	0	20
Service Water	20	0	20
Synthetic Gypsum Plant (Process and Scrubber)	650	650	0
DOMESTIC PLANT AND COLONY	250	50	200
TOTAL	3500	3025	475
Treated wastewater will be used for			
• Greenbelt	475	-	-
• Dust Suppression (Coal handling and ash handling)			

POWER:

The average specific power consumption in the cement plant is estimated to be about 70 kWhr/T of cement. Total power requirement for the proposed project will be 40 MW. The total power requirement of the cement plant including the requirement of the colony will be met from the proposed 30 MW Captive Coal based Thermal Power Plant & 15 MW Waste Heat Recovery Power Plant. In case additional power is required, will be sourced from Grid.

2325 kVA diesel fired 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. HSD will be used for power generation in DG Sets.

ix. QUANTITY OF WASTES TO BE GENERATED (LIQUID AND SOLID) AND SCHEME FOR THEIR MANAGEMENT / DISPOSAL.

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 Cement plant

Refractory bricks are one of the solid wastes generated from the kiln section. Due to wear and tear, NVL 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.

Ash (200 Tons/day) generated from the power plant will be utilised in the cement plant

Solid Waste generated of the colony will be handled in compliance with SWM Rules 2016. Waste will be segregated as wet waste and dry waste to enable recycling of dry waste and composting of wet waste. Awareness will be created among households of the residents of the colony. Two garbage disposal bins will be provided to each house hold, one for dry waste and one for wet waste. Items like aluminum foils, tetra packs, glass, paper, plastics, metals, etc. fall under the dry waste category, whereas kitchen waste such as stale food, fruits and vegetables come under wet waste. The details of solid waste generation are given below

- Solid waste generated from the colony is estimated to be about 400 kg/day.
- Plastic / Glass and Paper will be segregated and disposed to vendors.
- Garbage / Organic food waste will be treated in vermin-compost units and the manure will be utilized for greenbelt development.
- The STP sludge which is estimated to be about 35 kg/day will be used as manure for the greenbelt.

x. SCHEMATIC REPRESENTATIONS OF THE FEASIBILITY DRAWING WHICH GIVE INFORMATION OF EIA PURPOSE

Detailed schematic representations of the feasibility covering the purpose of EIA is given under process description.

4.0 SITE ANALYSIS

i. CONNECTIVITY

National Highway (NH-9) (changed to NH – 65) connecting Hyderabad to Vijayawada at 40.62 km in NE direction and National Highway (NH-167A) connecting Miryalaguda to Narasaraopet at 8.65 km in SW direction.

State Highway (SH- 268) connecting Dachepalle – Mattapalli at 0.48 km in NNE direction.

Nearest railway line connecting Nalgonda – Guntur of South Central Railway line, at a distance of 8.76 km to SW direction from the Plant Site. The nearest railway station is Nadikudi Junction at 10.75 km in SW direction to the plant site and nearest Airport is Vijayawada (Gannavaram Airport) at 106 km in ESE direction from the proposed project site.

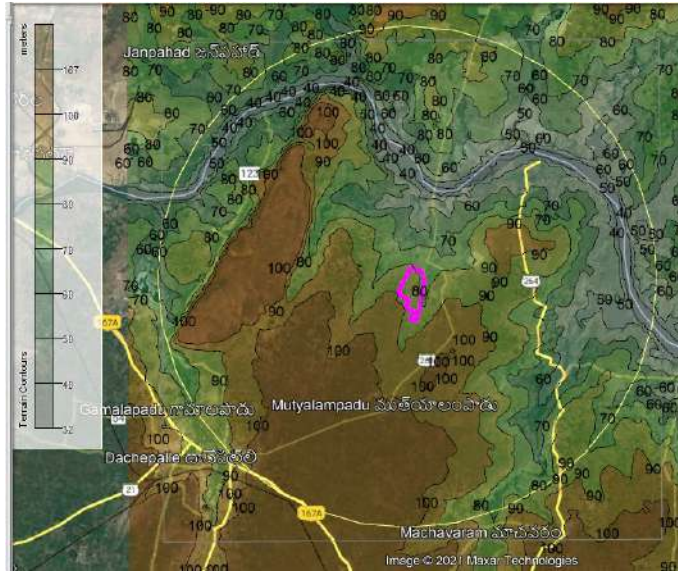
All communication facilities such as telephone, telefax, STD, ISD & internet are available in the vicinity of the project site.

ii. LAND FORM, LAND USE AND LAND OWNERSHIP

The Proposed Greenfield cement plant (including thermal power plant, colony, and other allied facilities) will be located over an area of about 125 Ha, total land is Private Agricultural land. NVL has purchased about 70.0 Ha. of land directly and balance is under process

iii. TOPOGRAPHY (ALONG WITH MAP)

Project site and study area of 10 km radius is a flat land. **Fig – 3** shows Topographical map of the 10 km radius around the plant site. Altitude of the study area ranges from 72 to 86 m amsl



iv. 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.

Nearest Water Bodies

- Vemuleru R – 7.83 km – NNW
- Krishna River – 2.93 km - NNE
- Mamidimotta Vagu – 6.46 km – NE
- Ura Vagu – 7.9 km – ENE
- Elaga Vagu – 8.45 km – ENE
- Ganneru Vagu – 8.55 km – ESE
- Ralla Vagu – 6.20 km – ESE
- Tadutla Minor – 7.6 km – SE
- Barimeda Vagu – Adjacent – E
- Tangeda Major Canal – Adjacent to the plant site in W
- Nendra Vagu – 0.67 km – NNW
- Naguleru Vagu – 9.17 km – W

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

- Tangeda – 0.38 km – NE
- Sarangapalli – 2.49 km – WNW
- Muthyalamma padu – 2.98 km – SSW

The nearest Reserved Forests are

- Sultanpur RF – 3.8 km - NNE
- Tangeda RF – 0.1 - N
- Regulagadda RF – 4.2 km - ENE
- Pittalsarikota RF – 8.2 km – ENE
- Chintalapalem RF – 8.6 km – ENE
- Uranam RF – 9.4 km – E
- Govindapuram RF – 7.3 km – ESE
- Vemavaram RF – 3.9 km – SE
- Madinapadu RF – 3.8 km – WNW
- Madinapadu Extension RF – 7.6 km – W
- Vajralgani RF – 8.5 km – NNW
- Gurrambodu RF – 6.2 km – NNW

The nearest Industries and Mines to the site are:

- Bhavya Plant – 0.03km – E
- Bhavya Mine – 0.9 km – E
- Nagarjuna Cement Plant (NCL) – 5.4 km – NNE
- NCL Mine Site – 4.54 km – NNE
- NCL Sultanpur Thanda Limestone Mine – 6.32 km – NNE
- NCL Gundapalli Limestone Mine – 7.12 km – NE
- Andhra Cement (Jaypee Cements Limited) – 10.12 km – WSW
- Andhra Cement Mine – 9.37 km – WSW
- Sagar Limestone Mine – 9.71 km – NNE

v. EXISTING INFRASTRUCTURE

LAND

Total land requirement for the proposed project will be 125 ha; Total land is Private agricultural land, and about 33% of the area (41.25 Ha) will be developed for Greenbelt. The land use breakup of the total land is given in **Table – 6**

**TABLE - 6
LAND BREAKUP**

S.NO.	Descriptions	Area (Hac.)
1	Cement Plant	13.50
2	Captive Power Plant	10.00
3	Raw material storage Handling (Ramp) area	13.00
4	Parking Area	4.00
5	Colony	10.00
6	Greenbelt area	41.25
7	General store and others utilities Building	2.50
8	Railway siding	8.50
9	Future Provision Cement+CPP	17.25
10	Roads	5.00
	Total area	125.0

Fig - 6 shows the plant layout of the project site.

POWER

Total power requirement for the proposed project will be 45 MW. The total power requirement of the cement plant including the requirement of the colony will be met from the proposed 30 MW Captive Coal based Thermal Power Plant & 15 MW Waste Heat Recovery Power Plant. In case additional power is required, the same will be sourced from Grid.

2325 kVA diesel fired 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. HSD will be used for power generation in DG Sets.

WATER

Manufacturing of clinker and cement is based on dry process technology. The water requirement is mainly for process cooling, AC and for domestic purposes in the Plant and Colony. The total water consumption of the plant including colony is about 3500 m³/day. The above requirement will be met from Ground Water & Krishna River. Permission for drawl of water will be obtained from concerned department.

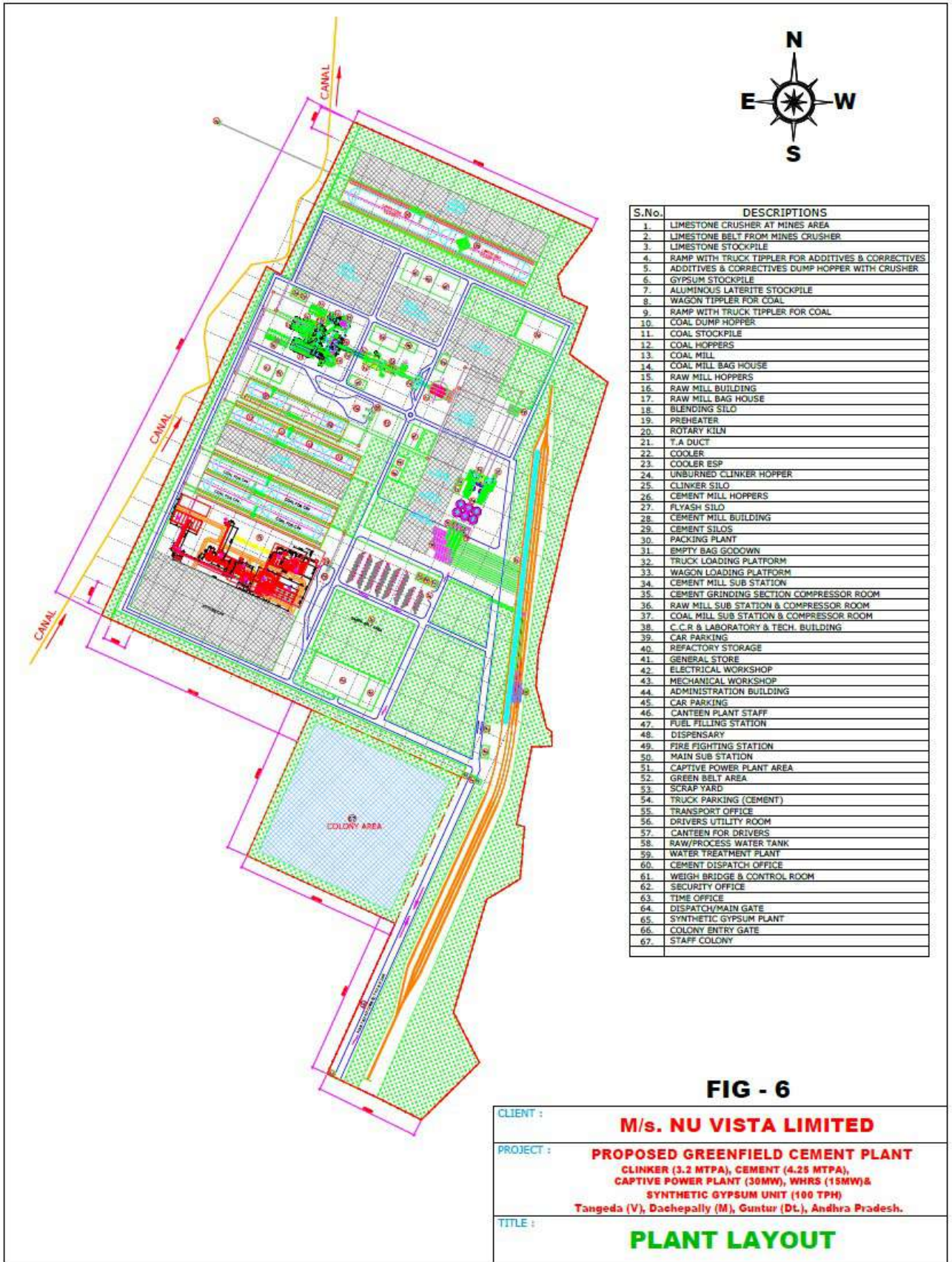


FIG - 6

CLIENT :	M/s. NU VISTA LIMITED
PROJECT :	PROPOSED GREENFIELD CEMENT PLANT CLINKER (3.2 MTPA), CEMENT (4.25 MTPA), CAPTIVE POWER PLANT (30MW), WHRS (15MW)& SYNTHETIC GYPSSUM UNIT (100 TPH) Tangeda (V), Dacheppally (M), Guntur (DL), Andhra Pradesh.
TITLE :	PLANT LAYOUT

FUEL

Coal is Indigenous / Imported. Indian Coal will be sourced from coal fields of South Eastern Coalfields Limited (SECL), and Imported Coal will be sourced from Indonesia, South Africa, Australia etc. Petcoke by Indian / Overseas Suppliers. These collieries are located at a distance of about 250 km from the proposed plant site. The average ash content in the coal received at site is about 24-30%.

TYPICAL QUALITY OF COAL

Constituents	Range
Fixed carbon (%)	33-46.00
Ash content (%)	23-33.5
Volatile matter (%)	28.0-30.5
Calorific value (Kcal/Kg)	3500-5300
Moisture content (%)	8-16
Sulphur content (%)	0.4- 0.5

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

AIRPORT

The nearest Airport is at Vijayawada (Gannavaram Airport) – 105.0 km in ESE direction and Hyderabad (Shamshabad) – 159.0 km in WNW direction.

RAIL

Nearest railway line connecting Nalgonda – Guntur of South Central Railway line, at a distance of 8.76 km to SW direction from the Plant Site. The nearest railway station is Nadikudi Junction at 10.75 km in SW direction.

COMMUNICATION

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

vi. SOIL CLASSIFICATION

The top soil of the plant site is Black Cotton Soils, Red Loamy Soils and Sandy Loam. The average thickness of the soil is 2.0 m.

vii. 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 47.2°C and December the coldest with the temperature during the day time falling down to about 9.4°C. 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 annual rainfall is about 1031.6 mm with maximum rainy days of 60.

The year is divided into three main seasons. The summer lasts from late February to mid-June. It is followed by the southwest monsoon, which lasts from late June to late September. This is then followed by dry winter weather until mid-January.

viii. SOCIAL INFRASTRUCTURE AVAILABLE

Tangeda village is the nearest habitation situated at about 0.38 km on north 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.

Govt Primary, Govt Middle and Govt Secondary Schools are available in Tangeda village.

Nearest Govt Disabled School and Govt Medical College are in Guntur at 100 km.

Nearest Private Engineering College and Private MBA college are in Narasaraopet at 70 km.

Nearest Private Pre-primary School, Govt Senior Secondary School, Private Arts and Science Degree College, Private Polytechnic College and Private ITA College are in Dachepalle at 18km.

Nearest rail facility is at Nadikudi Junction at 13 km

Primary Health Sub-Centre is available in Tangeda Village

Hand Pump and Tube Wells/Boreholes are Drinking Water sources.

Most of the villages are with open Drainage System.

Sub Post Office is available Tangeda Village.

Public Bus service available from Tangeda village.

Nearest National Highway is at Dachepalli at 14 km

Pucca road, Kuccha Road, Macadam Road and Foot Path are other Roads and Transportation within 10 km radius.

All Villages have Power supply with 18 hour power supply in summer and 22-24 hour power supply in winter

5.0 PLANNING BRIEF

i. PLANNING CONCEPT (TYPE OF INDUSTRIES, FACILITIES TRANSPORTATION ETC.), TOWN AND COUNTRY PLANNING/ DEVELOPMENT AUTHORITY CLASSIFICATION.

Proposed industry is Cement industry (Red Category).

Railway siding is proposed for transport of raw material and finished products

Transportation of raw material and final product will be done via existing Road network / Rail

A full – fledged colony comprising 200 quarters with necessary amenities will be created.

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 1500 people (538 direct and 950 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.

iii. LAND USE PLANNING (BREAKUP ALONG WITH GREENBELT ETC.)

The Cement Plant (including power plant and colony) will be located in an area of 125 Ha. and about 33% of the area (41.25 Ha) will be developed for Greenbelt.

LAND BREAKUP

S.NO.	Descriptions	Area (Hac.)
1	Cement Plant	13.50
2	Captive Power Plant	10.00
3	Raw material storage Handling (Ramp) area	13.00
4	Parking Area	4.00
5	Colony	10.00
6	Geenbelt area	41.25
7	General store and others utilities Building	2.50
8	Railway siding	8.50
9	Future Provision Cement+CPP	17.25
10	Roads	5.00
	Total area	125.0

iv. ASSESSMENT OF INFRASTRUCTURE DEMAND (PHYSICAL & SOCIAL)

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.

v. 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.

6.0 PROPOSED INFRASTRUCTURE

i. INDUSTRIAL AREA (PROCESSING AREA)

The following are the major equipment proposed

- Stacker
- Reclaimer
- Raw Mill (VRM)
- HAG (Hot Air Generator)
- Pyro-processing
- Coal Crusher
- Coal Mill
- Cement Mill
- Packers
- Synthetic Gypsum Unit

S.NO.	EQUIPMENTS	CAPACITY	NOS.
1.	Raw mill	750	1
2.	Rotary Kiln in conjunction with preheater - precalciner and grate cooler	10000	
3.	Coal Mill	80	
4.	Raw meal blending silo		
5.	Limestone blending stockpile		
	a. Reclaimer- new, Bridge type	800 TPH	1
	b. Stacker-modified to slewing type or twin boom type		
6.	Cement Mill (2 VRM)	335 TPH	2
7.	Packing machine		
	16 spouts, double discharge packing machines	3 x 240 TPH	
	6 spouts, single discharge packing machines	1 x 90 TPH	
8.	Synthetic Gypsum Unit	100 TPH	1

❖ Storage of Raw Material

S. No.	Raw Material / Finished product	Type of Storage	Storage Capacity (Tonnes)
1.	Limestone	Covered Stockpile	1,50,000
2.	Raw Meal	Silo	25,000
3.	Clinker	Silo	1,00,000
4.	Fly Ash	Silo	10000
5.	Slag	Covered Stockpile	15,000
6.	Mineral Gypsum	Covered Stockpile	15,000
7.	Synthetic Gypsum	Covered Stockpile	15,000
8.	Cement	Silo	6 x 10,000 (OPC,

S. No.	Raw Material / Finished product	Type of Storage	Storage Capacity (Tonnes)
			PSC, PPC)
9.	Bauxite	Covered shed	10,000
10.	Iron Ore	Covered shed	10,000
11.	Coal	Covered Stockpile	60,000
12.	Pet Coke	Covered Stockpile	60,000

Captive Power plants : 30 MW Coal based Thermal Power plant and 15 Waste Heat Recovery Based Thermal Power plant will be installed with all necessary infrastructures.

DG Sets: ECL is proposing installation of DG sets of 2325 KVA for use in case of shutdown of Captive Power Plant and in case of emergency.

ii. RESIDENTIAL AREA (NON-PROCESSING AREA)

Residential colony will be located nearer to the plant with about 200 houses. The Waste water from colony and plant will be treated in the Sewage Treatment Plant.

iii. GREENBELT

Adequate green belt will be developed inside the plant as per statutory norms, developing about 33% of the area. Native species will be planted.

Total project area will be 125 ha; out of which, ~41.25 ha (about 33% of the total project area) will be developed under greenbelt / plantation.

iv. SOCIAL INFRASTRUCTURE

NVL has well defined CSR policy to Carryout social development and welfare measures in the surrounding villages. Under CSR activity NVL 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.)

National Highway (NH-9) (changed to NH – 65) connecting Hyderabad to Vijayawada at 40.62 km in NE direction and National Highway (NH-167A) connecting Miryalaguda to Narasaraopet at 8.65 km in SW direction.

State Highway (SH- 268) connecting Dachepalle – Mattapalli at 0.48 km in NNE direction.

Nearest railway line connecting Nalgonda – Guntur of South Central Railway line, at a distance of 8.76 km to SW direction from the Plant Site. The nearest railway station is Nadikudi Junction at 10.75 km in SW direction to the plant site and nearest Airport is Vijayawada (Gannavaram Airport) at 106 km in ESE direction from the proposed project site.

vi. DRINKING WATER MANAGEMENT (SOURCE & SUPPLY OF WATER)

The water requirement is estimated to be about 3500 m³/day which will be sourced from Ground Water & Krishna River. Permission for drawl of water will be obtained from concerned department. The Application was submitted to Ground water resource department, A.P. and acknowledgement is enclosed as **Annexure – 3**.

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 250 kld sewage treatment plant will be installed to treat domestic waste water. Appropriate facilities for the collection will be made. The sludge will be used as manure in greenbelt development/ plantation.

The treated water quality will be reused in plant for process/dust suppression/ Greenbelt development.

viii. INDUSTRIAL WASTE MANAGEMENT

The production of cement will be based on 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 from power plant and domestic waste water from residential township and the same will be treated in ETP and STP respectively.

NVL will store the hazardous waste in a designated area. This area will be isolated from the other utility areas.

Spent Oil & grease from the gear boxes and automobile batteries will be disposed to the authorized vendors as per the Hazardous Wastes (Management and Handling) Amendment Rules, 2016.

ix. SOLID WASTE MANAGEMENT

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

Solid waste generated from Power Plant i.e., Flyash will be totally consumed in cement plant.

STP Sludge will be utilized as manure for green belt development within the plant premises.

Fly ash from Captive Power Plant will be used for making PPC.

x. POWER REQUIREMENT & SUPPLY / SOURCE

Total power requirement for the proposed project will be 40 MW. The total power requirement of the cement plant including the requirement of the colony will be met from the proposed 30 MW Captive Coal based Thermal Power Plant & 15 MW Waste Heat Recovery Power Plant. In case additional power is required, the same will be sourced from Grid.

2325 kVA diesel fired 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. HSD will be used for power generation in DG Sets.

7.0 ENVIRONMENTAL MANAGEMENT MEASURES INCORPORATED IN THE PROJECT

The cement plant will be designed to comply with the following new emission norm specified in MoEFCC notification GSR 612(E) dated 25.08.2014 for particulate matter and GSR 496 (E) dated 09.05.2016 for Sulphur dioxide and Oxides of Nitrogen.

- a. Particulate matter <30 mg/Nm³
- b. Sulphur dioxide < 100 mg/Nm³
- c. Oxides of Nitrogen < 600 mg/Nm³

The proposed air pollution control equipment and systems are:

- Bag house system for cleaning of raw mill/kiln flue gas.
- Bag houses for coal mill and Cement Mill
- ESP for cooler for control of dust.
- Bag filter systems along with ventilation systems to control the fugitive dust generated from the material handling areas.
- Low NOx burner with multichannel burner will be installed for kiln with optimised primary air
- Provision for tap off of TAD air to a higher level in Calciner, including a damper in case NOx exceeds the limits
- Latest Technology pyro system will be installed for better control of emissions

All the flue gas outlets will be provided with state of art air pollution control equipment to maintain the particulate emission level below 30 mg/Nm³.

The cement dust collected in the pollution control devices will be recycled back to the cement manufacturing process.

Air pollution control measures of 30 MW Coal based Captive Power plant will be designed to comply with the following new emission norms of MoEFCC stipulated for Thermal Power Plants as per the Gazette Notification S.O. 3305 (E) dated 07.12.2015.

ESP outlet dust concentration	: 30 mg/Nm ³
SO ₂	: 100 mg/Nm ³
NO ₂	: 100 mg/Nm ³
Mercury	: 0.03 mg/Nm ³

Flue gas treatment system is proposed for:

- Electro Static Precipitator (ESP) with 99.9% efficiency to control particulate matter emissions.
- Lime injection in the CFBC boiler for control of Sulphur dioxide emissions.
- Low NO_x burner for control of Oxides of Nitrogen.

Synthetic Gypsum plant will be provided with water scrubber for scrubbing of flue gases.

Separate railway line will be laid for transport of raw materials, clinker and cement to reduce impact of transport on the surrounding environment.

Truck mounted vacuum cleaner and road sweepers will be deployed and good housekeeping will be maintained.

NVL will make provision for firing of high calorific value Hazardous wastes.

Cement will be manufactured by dry process technology. In the entire process, water is used only at very few stages in the process at kiln, cement mill, coal mill and raw mill for cooling. Cooling include the circulating cooling water for bearings and gear boxes.

The proposed Captive Power plants of 15.0 MW WHRB CPP and 30 MW coal based CPP are based on air cooled condenser system.

The other area of water consumption other than process is for domestic purposes in the plant, canteen, colony and also for greenbelt development.

Cement is manufactured by dry process technology. In the entire process water is used only at very few stages in the process at Cement mill, coal mill and raw mill for cooling. Cooling include the circulating cooling water for bearings and gear boxes. The other areas of water consumption other than process is for domestic purposes in the plant canteen, colony and also for greenbelt development.

The water consumption in the power plant is mainly for cooling and steam generation. NVL will adopt air cooled steam condenser system in the power plant.

Non-cooling water before distribution to the various units will be treated in a clarifier. Water for steam generator make-up would be demineralized.

A full-fledged Sewage treatment plant of 150 m³/day will be provided in colony complex to treat the domestic waste water and treated waste water will be used for greenbelt development.

The treated waste water (neutralized) from power plant will be used in cement plant and dust suppression. The Treated sewage water will be used for greenbelt development

No discharge of waste water either into surface body or onto ground.

The rainwater harvesting potential of project area will be assessed considering Cement Plant area and captive Limestone Mine area and recharge measures will be implemented

Total 41.25 ha (about 33 % of total project area) will be developed under greenbelt in phased manner with local broad leaved species

The following energy conservation measures in the plant:

- Implementation of 15 MW waste heat recovery based power plant
- LED lighting system in the plant to conserve energy.
- Design of Clinker production to achieve Specific heat consumption of 690 kcal/ kg clinker
- Design of Cement Grinding to achieve 80 kWhr/Ton
- Use of alternate fuels to save coal

8.0 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).**

Cement Plant will be located in an area of 125 ha. Total land is Private agricultural land.

The proposed plant site does not involve any displacement of human settlement. No public buildings, places, monuments etc., exist within the proposed plant area or in the vicinity. The plant operations will not disturb / relocate any village or need resettlement.

Company will purchase land directly from the land holders; if needed, then, R&R policy of AP State and Central Government will be followed.

9.0 PROJECT SCHEDULE & COST ESTIMATES

i. LIKELY DATE OF START OF CONSTRUCTION AND LIKELY DATE OF COMPLETION.

The subject Greenfield Cement Plant along with the 30 MW Captive Coal based Thermal Power Plant, 15 MW Waste Heat Recovery Power Plant & 100 TPH Synthetic gypsum plant is expected to be completed in a period of 24 months from the date of receipt of all the approvals from statutory authorities.

ii. ESTIMATED PROJECT COST ALONG WITH ANALYSIS IN TERMS OF ECONOMIC VIABILITY OF THE PROJECT.

Total capital Investment Cost is Rs. 1950 Crores and Environmental Management Plan cost of Rs 97.5 crores.

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).

10.0 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 local people for direct and indirect employment and business opportunities based on their qualifications, capabilities & Company's requirement. As estimated 538 people will be directly employed and another 950 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 as per need basis.

Andhra Pradesh state will get revenues in terms of taxes and local people will get direct & indirect employment. Business opportunities for local community will be available like transport of cement to market, fly ash transport from power plant, maintenance & house-keeping contract work etc.

**Speed Post**

F. No. J-11015/139/2014-IA.II (M)
Government of India
Ministry of Environment, Forest & Climate Change
Impact Assessment Division

3rd Floor, Vayu Wing,
 Indira Paryavaran Bhawan,
 Jorbagh Road, Aliganj,
 New Delhi-110 003
 E-mail: s.kumar1958@gov.in
 Tele: 011-24695304

Dated: 31st July, 2017

To,
 M/s. Emami Cement Ltd.
 II Floor, Emami Tower,
 Near Ruby Hospital, 687,
 Anandpur, EM Bypass,
 Kolkata-700 107, West Bengal.

Email: rajeshdeoliya@gmail.com

Sub.: Limestone Mine of M/s Emami Cement Ltd. located at village: Tengada, Taluka: Dachepalli, District: Guntur, Andhra Pradesh. (521.691 ha)(4.5 MTPA)-Environment Clearance regarding.

Reference: Online Application IA/AP/MIN/24139/2014

Sir,

This has reference to the online application for above mentioned proposal of M/s. Emami Cement Ltd. for proposed Limestone Mining Project (Area 521.691 ha) with production capacity of 4.50 million TPA (ROM). The mine lease is located at Village: Tengada, Mandal: Dachepalli, District-Guntur (Andhra Pradesh). Study area falls within the Survey of India Toposheet No. 56 P/10, 56 P/14. The Project is located in Seismic zone-II. The Latitude and Longitude of the site falls between 16° 37'43.51" N to 16°40'08.35" N and 79°46'58.80" E to 79°48' 16.75" E respectively. The Proposal was considered by the Expert Appraisal Committee in its meeting held on 9th July, 2014 to determine the Terms of Reference (ToR) for undertaking detailed EIA study. ToR was issued by MoEF&CC vide letter No. J-11015/139/2014-IA.II (M) dated 12th August, 2014. The extension of validity of ToR was approved by EAC in its Meeting held during 24th May, 2016.

2. The proponent submitted that Letter of Intent (LOI) in favour of M/s Emami Cement Ltd over an area of 521.691 ha was issued by the Government of Andhra Pradesh, Industries and Commerce (M-IV) Department vide its Memo No. 15011/M.IV(2)/2013-1 dated 03rd December, 2013. Mining Plan & Progressive Mine Environmental Clearance for M/s Emami Cement Ltd. (MLA 521.691 ha)

Closure Plan for 521.691 ha area was approved by Regional Controller of Mines, Indian Bureau of Mines, Hyderabad vide their letter no. AP/GNR/MP/Lst-75/Hyd dated 22nd October, 2014.

3. The mining technology is Opencast Mechanized. Mineable reserves calculated are 62.35 Million Tonnes. During the first five years of the plan period, it is proposed to produce 8.5 million tonnes and the balance 53.85 million tones of reserves will be mined out in 12 years @ 4.50 million tonnes/annum. Hence the life of mine on the basis of mineable indicated category of reserves is about 17 years.
4. The total area of proposed mine site is 521.691 ha. The proponent has submitted that no forest land is falling in the Mine area. The general ground level in the area is 90 m RL. The proponent submitted that the ground water table is 55 m RL (35 m bgl) whereas the working in the area is proposed up to a maximum depth of 50 m RL (40 m bgl). Mine workings are not likely to disturb the groundwater table during the first five years of mining plan period. The proponent submitted that the water table will be intersected during mining activities at the conceptual stage & necessary permission will be taken from concerned authorities before intersecting ground water table. No overburden dump is proposed outside the mine area.
5. The proponent submitted that the proposed lease area from which the cement company desires to extract lime stone for cement manufacture in Sy. No. 76,77,706 & 708 are outside the limits of Tangeda Extension – II RF and only a small portion of leased area runs border along with south west boundary of Extension –II RF and the Divisional Forest Officer, Guntur has also inspected the said area on 05.03.2015. In the mining operation, the major requirement of water is for the suppression of dust, mostly generated along haul roads, crushing plant and during excavation. Water will also be required for plantation and cleaning and washing of mining machineries i.e. excavators, dumpers and drilling machines (mining involves drilling and blasting operations). Small quantity is required for drinking purpose. Total water requirement is 170 KLD. The source of water supply will be groundwater and surface water drawn initially from Krishna River and later from mine pit (accumulated rainwater). No waste water will be generated. Total Manpower requirement for the proposed project will be 50 persons. The proponent submitted that 20 dumpers will be required to remove the mined out material. The dumpers will be owned by the company. The mineral will be transported to the crusher within the ML area. From crusher the limestone will be transported to the cement plant by covered conveyor belt.
6. Environmental Public hearing was conducted on 21.06.2016 near proposed mine site Tangeda Village Dachepalli Mandal Guntur District, Andhra Pradesh. Shri M. Vanketeswara Rao, Joint Collector-II, ADM, presided over the Public hearing. Public Hearing was advertised on 21st May, 2016 in "Indian Express" (English News daily) & "Eenadu" (Telugu News daily) and Andhra Jyothi (Telugu News daily) Newspapers.

7. The proponent submitted that the Primary Baseline data for site specific micrometeorology data, ambient air quality, water quality, noise level, soil and flora & fauna has been collected during summer Season (October to December, 2014). Greenbelt/Afforestation will be done on 99.346ha (13 ha on soil dump, 11 ha for green belt, 35 ha for afforestation & 40.346 ha area for afforestation on safety barrier). Total project cost is 63 Crores. The proponent submitted that Rs. 2.0 Crores will be spent for CSR activities.

8. The proponent submitted that there is no Forest land involved in the mining lease area. The proponent submitted a letter no 544/2015/TO dated 22.04.2015 from Divisional Forest Officer, Guntur, Department of Forest stating that no forest land is involved in mining lease area. In the same letter, the DFO has also mentioned that there is no flora of Economic value and no schedule -I, II & III fauna exist in the study area and that no wildlife sanctuary/National Park, Biosphere Reserve, Wildlife corridors and Tiger/ Elephant Reserve exist within 10km radius of the mining lease boundary.

9. The proposal was earlier considered by EAC in the meeting held during September 19th – 20th, 2016 & November 23rd – 25th, 2016. During November 23rd – 25th, 2016 meeting, the committee deferred the proposal for want of information.

10. The proponent submitted a letter No.28766/R-3/2011 dated 19.04.2017 from Director of Mines and Geology that mentioned that as per the amended MM(D&R) Amendment Act, 2015 under 10A(2)(b) which states that "where before the commencement of the Mines and Minerals (Development and Regulation) Amendment Act, 2015 a reconnaissance permit or prospecting license has been granted in respect of any land for any mineral, the permit holder or the licensee shall have a right for obtaining a prospecting license followed by a mining lease, or a mining lease, as the case may be, in respect of that mineral in that land, if the State Government is satisfied that the permit holder or then licensee, as the case may be".

11. The proponent submitted the required information online and based on the letter from the Director of Mines and Geology, Government of Andhra Pradesh, the proposal was once again considered in the EAC meeting held during 27-28 April, 2017 for reconsideration of EC.

12. The Committee deliberated at length the information submitted by Proponent and was of the opinion that the following additional conditions should be undertaken by the proponent for which the proponent agreed vide letter dated 27.04.17.

- i) The proponent will provide total land compensation at the cost of Rs. 31.0 Lakh per ha. (rate per hectare=11.0 lakhs; compensation and one time rehabilitation allowance per hectare=20.0 lakhs)

iii) The proponent will provide need based initiatives and implement CSR programme at the cost of Rs. 7.20 crores.

13. After due deliberation the committee noted that the status of the LoI was subjudice in WP NO. 2077/2017 in the Hyderabad High Court. The committee recommended the proposal for grant of EC subject to submission of the final orders of the Hon'ble High Court in WP NO. 2077/2017.

14. The proponent submitted vide letter dated 20.06.2017 that the WP NO. 2077/2017 in the Hyderabad High Court has been withdrawn and provided the copy of the court order.

15. The Ministry of Environment, Forest and Climate Change has examined the proposal in accordance with the Environmental Impact Assessment Notification, 2006 and further amendments thereto and hereby accords the environmental clearance under the provisions thereof to the above mentioned proposal of **M/s Emami Cement Ltd. located at Tengada, Dachepalli, Guntur, Andhra Pradesh in the mine lease area of 521.691 ha., for the production capacity of 4.5 MTPA (ROM) of limestone** subject to compliance of the followings terms and conditions and environmental safeguards mentioned below:

A. Specific conditions

- i. Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court of Andhra Pradesh and any other Court of Law, if any, as may be applicable to this project.
- ii. **The proponent will provide total land compensation at the cost of Rs. 31.0 Lakh per ha. (rate per hectare=11.0 lakhs; compensation and one time rehabilitation allowance per hectare=20.0 lakhs) or as per the norms of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013, whichever is higher.**
- iii. **The proponent will provide need based initiatives and implement CSR programme at the cost of Rs. 7.20 crores.**
- iv. Environmental clearance is subject to obtaining clearance, if any, under the Wildlife (Protection) Act, 1972 from the Competent Authority, as may be applicable to this project.
- v. The Project Proponent shall obtain Consent to Operate from the State Pollution Control Board and effectively implement all the conditions stipulated therein.
- vi. Cumulative impact assessment for air quality shall be carried out and report shall be submitted along with implementation plan of the suggested mitigation measures to Regional Office Chennai of MoEF within one year.

- vii. The project proponent shall carry out scientific investigation in respect of "Blast induced ground vibration, fly rock & air blast". Based on this study, Project Proponent should design an effective blast design to curb blast induced menace & public annoyance.
- viii. Project Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and records maintained; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smokers, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. Recommendations of National Institute for Labour for ensuring good occupational environment for mine workers would also be adopted; All the old age people of the surrounding villages may be provided medical facilities.
- ix. Transport of minerals shall be done either by dedicated road or it should be ensured that the trucks/dumpers carrying the mineral should not be allowed to pass through the villages. The Project Proponent shall ensure that the road may not be damaged due to transportation of the mineral; and transport of minerals will be as per IRC Guidelines with respect to complying with traffic congestion and density.
- x. Implementation of Action Plan on the issues raised during the Public Hearing. The Proponent shall complete all the tasks as per the Action Plan submitted with the budgetary provisions during the Public Hearing.
- xi. The pollution due to transportation load on the environment will be effectively controlled & water sprinkling will also be done regularly. Vehicles with PUC only will be allowed to ply. The mineral transportation shall be carried out through covered trucks only and the vehicles carrying the mineral shall not be overloaded. Project should obtain 'PUC' certificate for all the vehicles from authorized pollution testing centre.
- xii. Project Proponent shall ensure the safeguard and wellbeing of villagers and school, regular health monitoring of all residents in the area and the compliance Report shall be submitted to the Regional office Chennai of the Ministry.

B. Standard conditions

- i. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment, Forest and Climate Change 5 years in advance of final mine closure for approval.
- ii. No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment, Forest and Climate Change.
- iii. No change in the calendar plan including excavation, quantum of mineral and waste should be made.

- iv. The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) for the project.
- v. Mining shall be carried out as per the provisions outlined in mining plan approved by Indian Bureau of Mines (IBM)/State Mines and Geology Department as well as by abiding to the guidelines of Directorate General Mines Safety (DGMS).
- vi. The lands which are not owned by Proponent, mining will be carried out only after obtaining the consents from all the concerned land owners as per the provisions of the Mineral Concession Rules, 1960 and MMDR Act, 1957.
- vii. Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment, Forest and Climate Change its Regional Office.
- viii. The critical parameters as per the Notification 2009 such as PM₁₀, PM_{2.5}, NO_x, and SO_x etc. in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- ix. The Proponent shall install online Ambient Air Quality Monitoring System and there should be system for display of digital AAQ data within 03 months at least at three locations as per wind direction. Online provisions of pH and turbidity meters at discharge points of STP and ETP and also at water storage ponds in the mining area may be made. Project Proponent should display the result digitally in front of the main Gate of the mine site.
- x. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM₁₀ and PM_{2.5} such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all the sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board.
- xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. The monitoring shall be carried out four times in a year pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected

may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board.

- xii. Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table.
- xiii. Regular monitoring of water quality upstream and downstream of water bodies shall be carried out and record of monitoring data should be maintained and submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority, Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board.
- xiv. Transportation of the minerals by road passing through the village shall not be allowed. A 'bypass' road should be constructed (say, leaving a gap of at least 200 meters) for the purpose of transportation of the minerals so that the impact of sound, dust and accidents could be mitigated. The project proponent shall bear the cost towards the widening and strengthening of existing public road network in case the same is proposed to be used for the Project. No road movement should be allowed on existing village road network without appropriately increasing the carrying capacity of such roads.
- xv. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. Proponent must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.
- xvi. Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. Crusher and material transfer points should invariably be provided with Bag filters and or dry fogging system. Belt-conveyors should be fully covered to avoid air borne dust.
- xvii. Main haulage road in the mine should be provided with permanent water sprinklers and other roads should be regularly wetted with water tankers fitted with sprinklers. The material transfer points should invariably be provided with Bag filters and or dry fogging system. In case of Belt-conveyors facilities the system should be fully covered to avoid air borne dust; Use of effective sprinkler system to suppress fugitive dust on haul roads and other transport roads shall be ensured.

- xviii. Sufficient number of Gullies to be provided for better management of water. Regular Monitoring of pH shall be included in the monitoring plan and report shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.
- xix. There shall be planning, developing and implementing facility of rainwater harvesting measures on long term basis and implementation of conservation measures to augment ground water resources in the area in consultation with Central Ground Water Board.
- xx. The Project Proponent has to take care of gullies formed on slopes. Dump mass should be consolidated with proper filling/leveling with the help of dozer/compactors.
- xxi. The reclamation at waste dump sites shall be ecologically sustainable. Scientific reclamation shall be followed. The local species may be encouraged and species are so chosen that the slope, bottom of the dumps and top of the dumps are able to sustain these species. The aspect of the dump is also a factor which regulates some climatic parameters and allows only species adopted to that micro climate.
- xxii. The top soil, if any, shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time. The maximum height of the dumps shall not exceed 8m and width 20 m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled and afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office on six monthly basis.
- xxiii. Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. The drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and over burden dumps to prevent run off of water and flow of sediments directly into the river and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.

- xxiv. Plantation shall be raised in a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around water body, along the roads etc. by planting the native species in consultation with the local DFO/Agriculture Department and as per CPCB Guidelines. The density of the trees should be around 2500 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.
- xxv. Project Proponent shall follow the mitigation measures provided in Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".
- xxvi. The Project Proponent shall make necessary alternative arrangements, where required, in consultation with the State Government to provide alternate areas for livestock grazing, if any. In this context, Project Proponent should implement the directions of the Hon'ble Supreme Court with regard to acquiring grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded against felling and plantation of such trees should be promoted.
- xxvii. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna, in the mine area. A copy of action plan shall be submitted to the Regional Office Chennai of the Ministry.
- xxviii. **At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on local needs and action plan with financial and physical breakup/details shall be prepared and submitted to the Ministry's Regional Office at Chennai. Implementation of such program shall be ensured accordingly in a time bound manner.**
- xxix. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- xxx. Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
- xxxi. Industrial waste water (workshop and waste water from the mine) should 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. Oil and grease trap should be installed before discharge of workshop effluents.

- xxxii. Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.
- xxxiii. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xxxiv. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office.
- xxxv. The project authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- xxxvi. The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment, Forest and Climate Change, its Regional Office, Central Pollution Control Board and State Pollution Control Board.
- xxxvii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xxxviii. A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
- xxxix. State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.
- xl. The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment, Forest and Climate Change at www.environmentclearance.nic.in and a copy of the same should be forwarded to the Regional Office.

16. The Ministry or any other Competent Authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

17. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

18. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Environmental Clearance for M/s Emami Cement Ltd. (MLA 521.691 ha)

Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court of Andhra Pradesh and any other Court of Law relating to the subject matter.


19. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Yours faithfully,


(Surendra Kumar)
Scientist - 'G'

Copy to:

- (i) **The Secretary**, Ministry of Mines, Government of India Shastri Bhawan, New Delhi.
- (ii) **The Secretary**, Department of Environment, Government of Andhra Pradesh, Hyderabad.
- (iii) **The Secretary**, Department of Forests, Government of Andhra Pradesh, Hyderabad.
- (iv) **The Secretary**, Department of Mines and Geology, Government of Andhra Pradesh, Hyderabad.
- (v) **The Secretary**, Department of Industries and Commerce (M-III), Govt of Andhra Pradesh, Hyderabad.
- (vi) **The Additional Principal Chief Conservator of Forests (C)**, Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), Ist and IInd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai - 600034
- (vii) **The Chairman**, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
- (viii) **The Chairman**, Andhra Pradesh State Pollution Control Board, Paryavaran Bhawan, A-3 Industrial Estate, Sanath Nagar, Hyderabad - 500 018
- (ix) **The Member Secretary**, Central Ground Water Authority, A2, W- 3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The Chief Wildlife Warden, Govt. of Andhra Pradesh, Aranya Bhawan , Saifabad, Hyderabad-500004
- (xi) **The Controller General**, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur- 440 001.
- (xii) **The District Collector**, Kurnool District, Government of Andhra Pradesh.
- (xiii) Guard File.
- (xiv) The MoEF&CC website.


(Surendra Kumar)
Scientist - 'G'

F. No. J-11011/226/2016-IA.II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(I.A. Division)

ANNEXURE - 2

Indira Paryavaran Bhawan
Jor Bagh Road, Aliganj,
New Delhi - 110003
E-mail: satish.garkoti@nic.in
Tel: 011-24695316

Dated: 3rd January, 2017

To

M/s. Emami Cement Limited.
Village Tangeda, Tehsil Dachehalli,
District Guntur (Andhra Pradesh)

Subject: Integrated Cement Project [Clinker (3.20 MTPA), Cement (4.25 MTPA), Captive Power Plant (30 MW) and WHRS (15 MW), Synthetic Gypsum Unit (100 TPH) & DG Sets (2325 KVA)] of M/s. Emami Cement Limited located at Village Tangeda, Tehsil Dachehalli, District Guntur, Andhra Pradesh. - prescribing of ToRs regarding.

Sir,

This has reference to your online application No. IA/AP/IND/58993/2016 dated 13th September, 2016 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed TORs for undertaking detailed EIA and EMP study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S.No. 3(b), under category 'A' of the Schedule of EIA Notification, 2006 and appraised at the Central level.

2.0 M/s. Emami Cement Limited is proposing setting up of an Integrated Cement Project [Clinker (3.20 MTPA), Cement (4.25 MTPA), Captive Power Plant (30 MW), WHRS (15 MW), Synthetic Gypsum Unit (100 TPH) & DG Sets (2325 KVA)] at Village Tangeda, Mandal Dachehalli, District Guntur, Andhra Pradesh. The total project area is 254.34 ha, out of which 84 ha (i.e. 33 % of the total project area) will be developed under greenbelt/ plantation. Total cost of the project is Rs. 1950 Crores. It is envisaged that employment generation from the proposed project is 538 persons. Project description is given in the table below:

S. No	Units	Proposed Capacity
1	Clinker (MTPA)	3.2
2	Cement (MTPA)	4.25
3	CPP (MW)	30
4	WHRs (MW)	15
5	Synthetic Gypsum Unit (TPH)	100
6	DG Sets (KVA)	2325

3.0 The power requirement for the project will be 45 MW, which will be sourced from proposed CPP, WHRS, State Grid & DG Sets (in case of emergency). The raw material required *inter alia* includes, limestone which will be sourced from captive mine/outsourced; bauxite from East Godavari & Vishakhapatnam District, Andhra Pradesh/ nearby area; Iron Ore from Cuddaph District, Andhra Pradesh / nearby area; gypsum from captive Synthetic Gypsum Unit/ Fertilizer Plants in Andhra Pradesh; flyash from CPP/ nearby Power Plants of Andhra Pradesh and slag from Vishakhapatnam and Steel Plants in Southern part of country/

nearby area. Total water requirement for the proposed Integrated Cement Project will be 3500 KLD, which will be sourced from Ground Water & Krishna River. The capital cost of the project is Rs. 97.5 Crores.


4.0 The proposal was considered by the Expert Appraisal Committee (Industry-I) during its 11th meeting held on 26th to 27th September, 2016 for prescribing TORs for undertaking detailed EIA/EMP study and recommended the project for prescribing following specific TORs for undertaking detailed EIA and EMP study in addition to the generic TOR enclosed at Annexure I read with additional TORs at Annexure-2.

- i. Public Hearing to be conducted by the Andhra Pradesh Pollution Control Board.
- ii. The issues raised during public hearing and commitment of the project proponent on the same along with time bound action plan to implement the commitment and financial allocation thereto should be clearly provided.
- iii. The project proponent should carry out social impact assessment of the project as per the Office Memorandum No. J-11013/25/2014-IA.I dated 11.08.2014 issued by the Ministry regarding guidelines on Environment Sustainability and CSR related issues. The social impact assessment study so carried out should form part of EIA and EMP report.
- iv. If the land is not purchased for the project, the requisite documents according to the OM dated 07.10.2013 should be submitted to the Ministry in support of land acquisition.
- v. Post process control system for SOx emissions.

5.0 The undersigned is directed to inform that the Ministry of Environment, Forest and Climate Change (MoEFCC) after accepting the recommendation of the EAC (Industry-I), hereby decided to accord ToRs for the above project.


6.0 It is requested that the draft EIA and EMP Report may be prepared in accordance with the above mentioned specific TORs and enclosed generic TORs and additional TORs and thereafter further necessary action including conduct of public consultation may be taken for obtaining Environment Clearance in accordance with the procedure prescribed under the EIA Notification, 2006 as amended.

7.0 The TORs are valid for a period of three years from today i.e 03.01.2017 and will expire on 02.01.2020 However, this period could be further extended by a maximum period of one year provided an application is made by the project proponent at least three months before the expiry of the validity period, together with updated Form-I, based on proper justification.


(Dr. Satish C. Garkoti)
Scientist 'F'
03/01/2017

Copy to:-

1. The Secretary, Department of Environment, Government of Andhra Pradesh.
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), Ist and IInd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai - 600034.


(Dr. Satish C. Garkoti)
Scientist 'F'
03/01/2017

GENERIC TERMS OF REFERENCE (TOR) IN RESPECT OF INDUSTRY SECTOR

1. Executive Summary
2. Introduction
 - i. Details of the EIA Consultant including NABET accreditation
 - ii. Information about the project proponent
 - iii. Importance and benefits of the project
3. Project Description
 - i. Cost of project and time of completion.
 - ii. Products with capacities for the proposed project.
 - iii. If expansion project, details of existing products with capacities and whether adequate land is available for expansion, reference of earlier EC if any.
 - iv. List of raw materials required and their source along with mode of transportation.
 - v. Other chemicals and materials required with quantities and storage capacities
 - vi. Details of Emission, effluents, hazardous waste generation and their management.
 - vii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract)
 - viii. Process description along with major equipments and machineries, process flow sheet (Quantative) from raw material to products to be provided
 - ix. Hazard identification and details of proposed safety systems.
 - x. Expansion/modernization proposals:
 - a. Copy of all the Environmental Clearance(s) including Amendments thereto obtained for the project from MOEF/SEIAA shall be attached as an Annexure. A certified copy of the latest Monitoring Report of the Regional Office of the Ministry of Environment and Forests as per circular dated 30th May, 2012 on the status of compliance of conditions stipulated in all the existing environmental clearances including Amendments shall be provided. In addition, status of compliance of Consent to Operate for the ongoing /existing operation of the project from SPCB shall be attached with the EIA-EMP report.
 - b. In case the existing project has not obtained environmental clearance, reasons for not taking EC under the provisions of the EIA Notification 1994 and/or EIA Notification 2006 shall be provided. Copies of Consent to Establish/No Objection Certificate and Consent to Operate (in case of units operating prior to EIA Notification 2006, CTE and CTO of FY 2005-2006) obtained from the SPCB shall be submitted. Further, compliance report to the conditions of consents from the SPCB shall be submitted.
4. Site Details
 - i. Location of the project site covering village, Taluka/Tehsil, District and State, Justification for selecting the site, whether other sites were considered.
 - ii. A toposheet of the study area of radius of 10km and site location on 1:50,000/1:25,000 scale on an A3/A2 sheet. (including all eco-sensitive areas and environmentally sensitive places)
 - iii. Co-ordinates (lat-long) of all four corners of the site.
 - iv. Google map-Earth downloaded of the project site.

- v. Layout maps indicating existing unit as well as proposed unit indicating storage area, plant area, greenbelt area, utilities etc. If located within an Industrial area/Estate/Complex, layout of Industrial Area indicating location of unit within the Industrial area/Estate.
- vi. Photographs of the proposed and existing (if applicable) plant site. If existing, show photographs of plantation/greenbelt, in particular.
- vii. Landuse break-up of total land of the project site (identified and acquired), government/private - agricultural, forest, wasteland, water bodies, settlements, etc shall be included. (not required for industrial area)
- viii. A list of major industries with name and type within study area (10km radius) shall be incorporated. Land use details of the study area
- ix. Geological features and Geo-hydrological status of the study area shall be included.
- x. Details of Drainage of the project upto 5km radius of study area. If the site is within 1 km radius of any major river, peak and lean season river discharge as well as flood occurrence frequency based on peak rainfall data of the past 30 years. Details of Flood Level of the project site and maximum Flood Level of the river shall also be provided. (mega green field projects)
- xi. Status of acquisition of land. If acquisition is not complete, stage of the acquisition process and expected time of complete possession of the land.
- xii. R&R details in respect of land in line with state Government policy

5. Forest and wildlife related issues (if applicable):

- i. Permission and approval for the use of forest land (forestry clearance), if any, and recommendations of the State Forest Department. (if applicable).
- ii. Land use map based on High resolution satellite imagery (GPS) of the proposed site delineating the forestland (*in case of projects involving forest land more than 40 ha*).
- iii. Status of Application submitted for obtaining the stage I forestry clearance along with latest status shall be submitted.
- iv. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden-thereon.
- v. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna, if any exists in the study area.
- vi. Copy of application submitted for clearance under the Wildlife (Protection) Act, 1972, to the Standing Committee of the National Board for Wildlife

6. Environmental Status

- i. Determination of atmospheric inversion level at the project site and site-specific micro-meteorological data using temperature, relative humidity, hourly wind speed and direction and rainfall.
- ii. AAQ data (except monsoon) at 8 locations for PM10, PM2.5, SO2, NOX, CO and other parameters relevant to the project shall be collected. The monitoring stations shall be based CPCB guidelines and take into account the pre-dominant wind direction, population zone and sensitive receptors including reserved forests.
- iii. Raw data of all AAQ measurement for 12 weeks of all stations as per frequency given in the NAQQM Notification of Nov. 2009 along with – min., max., average and 98% values for each of the AAQ parameters from data of all AAQ stations should be provided as an annexure to the EIA Report.
- iv. Surface water quality of nearby River (60m upstream and downstream) and other surface drains at eight locations as per CPCB/MoEF&CC guidelines.

- v. Whether the site falls near to polluted stretch of river identified by the CPCB/MoEF&CC.
- vi. Ground water monitoring at minimum at 8 locations shall be included.
- vii. Noise levels monitoring at 8 locations within the study area.
- viii. Soil Characteristic as per CPCB guidelines.
- ix. Traffic study of the area, type of vehicles, frequency of vehicles for transportation of materials, additional traffic due to proposed project, parking arrangement etc.
- x. Detailed description of flora and fauna (terrestrial and aquatic) existing in the study area shall be given with special reference to rare, endemic and endangered species. If Schedule-I fauna are found within the study area, a Wildlife Conservation Plan shall be prepared and furnished.
- xi. Socio-economic status of the study area.

7. Impact Assessment and Environment Management Plan

- i. Assessment of ground level concentration of pollutants from the stack emission based on site-specific meteorological features. In case the project is located on a hilly terrain, the AQIP Modelling shall be done using inputs of the specific terrain characteristics for determining the potential impacts of the project on the AAQ. Cumulative impact of all sources of emissions (including transportation) on the AAQ of the area shall be well assessed. Details of the model used and the input data used for modelling shall also be provided. The air quality contours shall be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any.
- ii. Water Quality modelling – in case, if the effluent is proposed to be discharged in to the local drain, then Water Quality Modelling study should be conducted for the drain water taking into consideration the upstream and downstream quality of water of the drain.
- iii. Impact of the transport of the raw materials and end products on the surrounding environment shall be assessed and provided. In this regard, options for transport of raw materials and finished products and wastes (large quantities) by rail or rail-cum road transport or conveyor-cum-rail transport shall be examined.
- iv. A note on treatment of wastewater from different plant operations, extent recycled and reused for different purposes shall be included. Complete scheme of effluent treatment. Characteristics of untreated and treated effluent to meet the prescribed standards of discharge under E(P) Rules.
- v. Details of stack emission and action plan for control of emissions to meet standards.
- vi. Measures for fugitive emission control
- vii. Details of hazardous waste generation and their storage, utilization and disposal. Copies of MOU regarding utilization of solid and hazardous waste shall also be included. EMP shall include the concept of waste-minimization, recycle/reuse/recover techniques, Energy conservation, and natural resource conservation.
- viii. Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 2009. A detailed plan of action shall be provided.
- ix. Action plan for the green belt development plan in 33 % area i.e. land with not less than 1,500 trees per ha. Giving details of species, width of plantation, planning schedule etc. shall be included. The green belt shall be around the project boundary and a scheme for greening of the roads used for the project shall also be incorporated.
- x. Action plan for rainwater harvesting measures at plant site shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.
- xi. Total capital cost and recurring cost/annum for environmental pollution control measures shall be included.

- xii. Action plan for post-project environmental monitoring shall be submitted.
- xiii. Onsite and Offsite Disaster (natural and Man-made) Preparedness and Emergency Management Plan including Risk Assessment and damage control. Disaster management plan should be linked with District Disaster Management Plan.

8. Occupational health

- i. Details of existing Occupational & Safety Hazards. What are the exposure levels of above mentioned hazards and whether they are within Permissible Exposure level (PEL). If these are not within PEL, what measures the company has adopted to keep them within PEL so that health of the workers can be preserved,
- ii. Details of exposure specific health status evaluation of worker. If the workers' health is being evaluated by pre designed format, chest x rays, Audiometry, Spirometry, Vision testing (Far & Near vision, colour vision and any other ocular defect) ECG, during pre placement and periodical examinations give the details of the same. Details regarding last month analyzed data of abovementioned parameters as per age, sex, duration of exposure and department wise.
- iii. Annual report of health status of workers with special reference to Occupational Health and Safety.
- iv. Plan and fund allocation to ensure the occupational health & safety of all contract and casual workers.

9. Corporate Environment Policy

- i. Does the company have a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
- ii. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
- iii. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions? Details of this system may be given.
- iv. Does the company have system of reporting of non compliances / violations of environmental norms to the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism shall be detailed in the EIA report

10. Details regarding infrastructure facilities such as sanitation, fuel, restroom etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase.

11. Enterprise Social Commitment (ESC)

- i. Adequate funds (Atleast 2.5 % of the project cost) shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues and item-wise details along with time bound action plan shall be included. Socio-economic development activities need to be elaborated upon.

12. Any litigation pending against the project and/or any direction/order passed by any Court of Law against the project, if so, details thereof shall also be included. Has the unit received any notice under the Section 5 of Environment (Protection) Act, 1986 or relevant Sections of Air and Water Acts? If so, details thereof and compliance/ATR to the notice(s) and present status of the case.

13. 'A tabular chart with index for point wise compliance of above TORs.

14. The TORs prescribed shall be valid for a period of three years for submission of the EIA-EMP reports along with Public Hearing Proceedings (wherever stipulated).

The following general points shall be noted:

- i. All documents shall be properly indexed, page numbered.
- ii. Period/date of data collection shall be clearly indicated.
- iii. Authenticated English translation of all material in Regional languages shall be provided.
- iv. The letter/application for environmental clearance shall quote the MOEF file No. and also attach a copy of the letter.
- v. The copy of the letter received from the Ministry shall be also attached as an annexure to the final EIA-EMP Report.
- vi. The index of the final EIA-EMP report must indicate the specific chapter and page no. of the EIA-EMP Report
- vii. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MOEF vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry shall also be followed.
- viii. The consultants involved in the preparation of EIA-EMP report after accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA-EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. Name of the Consultant and the Accreditation details shall be posted on the EIA-EMP Report as well as on the cover of the Hard Copy of the Presentation material for EC presentation.
- ix. TORs' prescribed by the Expert Appraisal Committee (Industry) shall be considered for preparation of EIA-EMP report for the project in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006. Where the documents provided are in a language other than English, an English translation shall be provided. The draft EIA-EMP report shall be submitted to the State Pollution Control Board of the concerned State for conduct of Public Hearing. The SPCB shall conduct the Public Hearing/public consultation, district-wise, as per the provisions of EIA notification, 2006. The Public Hearing shall be chaired by an Officer not below the rank of Additional District Magistrate. The issues raised in the Public Hearing and during the consultation process and the commitments made by the project proponent on the same shall be included separately in EIA-EMP Report in a separate chapter and summarised in a tabular chart with financial budget (capital and revenue) along with time-schedule of implementation for complying with the commitments made. The final EIA report shall be submitted to the Ministry for obtaining environmental clearance.

ADDITIONAL TORs FOR CEMENT INDUSTRY

1. Limestone and coal linkage documents along with the status of environmental clearance of limestone and coal mines
2. Quantum of production of coal and limestone from coal & limestone mines and the projects they cater to;
3. Present land use shall be prepared based on satellite imagery. High-resolution satellite image data having 1m-5m spatial resolution like quickbird, Ikonos, IRS P-6 pan sharpened etc. for the 10 Km radius area from proposed site. The same shall be used for land used/land-cover mapping of the area.
4. If the raw materials used have trace elements, an environment management plan shall also be included.
5. Plan for the implementation of the recommendations made for the cement plants in the CREP guidelines must be prepared.
6. Energy consumption per ton of clinker and cement grinding
7. Provision of waste heat recovery boiler
8. Arrangement for co-processing of hazardous waste in cement plant.
9. Trace metals in waste material especially slag.

h

Executive Summary

Executive summary of the report in about 8-10 pages incorporating the following:

- i. Project name and location (Village, Dist, State, Industrial Estate (if applicable))
- ii. Products and capacities. If expansion proposal then existing products with capacities and reference to earlier EC.
- iii. Requirement of land, raw material, water, power, fuel, with source of supply (Quantitative)
- iv. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
- v. Measures for mitigating the impact on the environment and mode of discharge or disposal.
- vi. Capital cost of the project, estimated time of completion
- vii. Site selected for the project – Nature of land – Agricultural (single/double crop), barren, Govt/private land, status of its acquisition, nearby (in 2-3 km.) water body, population, with in 10km other industries, forest, eco-sensitive zones, accessibility, (note – in case of industrial estate this information may not be necessary)
- viii. Baseline environmental data – air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
- ix. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
- x. Likely impact of the project on air, water, land, flora-fauna and nearby population
- xi. Emergency preparedness plan in case of natural or in plant emergencies
- xii. Issues raised during public hearing (if applicable) and response given
- xiii. CSR plan with proposed expenditure.
- xiv. Occupational Health Measures
- xv. Post project monitoring plan

16

No.

--	--	--	--	--

**COMMON APPLICATION FORM I
PART A
FOR ESTABLISHMENT**

This format is to be filed with the Nodal Agency for the purpose of arranging site clearance, statutory approvals from Gram Panchayat, Municipality, TC & P, Urban Development Authority, Factories, Alienation of land / Acquisition of land, Power feasibility and Power connection from DISCOM, sanction of water supply from local bodies / HMWS & SB / Ground water for setting up of industrial units in A.P.

(Please go through instructions carefully to fill in this form given separately)

(Please submit required number of copies as per check slip including one for your record)

1.1 NAME & ADDRESS OF THE PROMOTER/INDUSTRIAL UNDERTAKING IN FULL (BLOCK LETTERS)

Name of the Industrial Undertaking:

E	M	A	M	I	C	E	M	E	N	T	L	I	M	I	T	E	D		

Name of the Promoter/M.D./Mg. Partner with surname first

Shri/Smt./Kum. (Please strike off those not applicable)

S	H	A	R	M	A	S	S											
---	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--

Sp./D/o./W/o.

S	H	A	R	M	A	M	A	D	A	N	L	A	L					
---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--	--	--	--

Age

Occupation

1.2 ADDRESS FOR COMMUNICATION

Door No.	Street Name	Village/Town
<input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="7"/>	<input type="text" value="A"/> <input type="text" value="N"/> <input type="text" value="A"/> <input type="text" value="N"/> <input type="text" value="D"/> <input type="text" value="P"/> <input type="text" value="U"/> <input type="text" value="R"/>	<input type="text" value="E"/> <input type="text" value="M"/> <input type="text" value="B"/> <input type="text" value="Y"/> <input type="text" value="P"/> <input type="text" value="A"/> <input type="text" value="S"/> <input type="text" value="S"/>

Mandal	District	Pin Code
<input type="text" value="-"/> <input type="text" value="-"/>	<input type="text" value="K"/> <input type="text" value="O"/> <input type="text" value="L"/> <input type="text" value="K"/> <input type="text" value="A"/> <input type="text" value="T"/> <input type="text" value="A"/>	<input type="text" value="7"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="1"/> <input type="text" value="0"/> <input type="text" value="7"/>

E-mail	Fax	Telephone (incl. STD code)
<input type="text" value="mjeshdeolitya@emamicement.com"/>	<input type="text" value="6"/> <input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text" value="3"/>	<input type="text" value="03"/> <input type="text" value="3"/> <input type="text" value="6"/> <input type="text" value="6"/> <input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="4"/> <input type="text" value="3"/>

2. Nature of Organization: (Please Tick)

Proprietary	<input type="checkbox"/>	Partnership	<input type="checkbox"/>	Private Limited	<input type="checkbox"/>
Public Ltd.	<input checked="" type="checkbox"/>	Co-Operative	<input type="checkbox"/>	Others	<input type="checkbox"/>

3. For Proprietary Units Only: Do you belong to: (Please Tick)

SC	<input type="checkbox"/>	ST	<input type="checkbox"/>	OBC	<input type="checkbox"/>	Women	<input type="checkbox"/>
----	--------------------------	----	--------------------------	-----	--------------------------	-------	--------------------------



4.0 Registration Particulars

4.1 Category of Registration (Pl tick whichever is applicable) Prov.SSI IEM EOU LOI

4.2 Registration No. and Date 203/SIA/IMO/2013

D M Y
2 2 0 2 1 3

4.3 Expiry Date Not Applicable

D M Y
[] [] []

5.1 Line of manufacture:

Sl. No	Item Description	Annual Installed Capacity	
		Units	Quantity
1	L I M E S T O N E M I N E S	M T P A	4 . 5 0
2	C E M E N T	M T P A	4 . 2 5
3	C L I N K E R	M T P A	3 . 2
4	P O W E R G E N E R A T I O N	M W	3 0
5	W H R S	M W	1 5

5.2 Raw - materials used in process

Sl No	Name of the Raw Material	Annual Requirement	
		Units	Quantity
1	L I M E S T O N E	M T P A	4 . 5 0
2	I R O N O R E	M T P A	0 . 0 6
3	B A U X I T E	M T P A	0 . 0 7
4	A G R O W A S T E	M T P A	0 . 2 5
5	C O A L	M T P A	0 . 9 8
6	P E T C O K E	M T P A	0 . 3 1
7	G Y P S U M	M T P A	0 . 2 1 2 5
8	F L Y A S H	M T P A	1 . 4 8 7
9	S L A G	M T P A	2 . 1 2 5

5.3 Details of Plant & Machinery (Enclosed as Annexure 1)

5.4 Brief description of manufacturing process : (Enclosed as Annexure 2)

5.5 Does your unit fall under the category of 65 polluting industries Yes No



[Handwritten Signature]

5.6. Type and Nature of wastes and effluents their Quantities and the methods of their disposal (Enclosed as Annexure-3)

contd ...



6.0. Estimated Project Cost	New Unit	<input checked="" type="checkbox"/>	Substantial Expansion	<input type="checkbox"/>
6.1. Land (In Rs.)				
6.2. Building (In Rs.)				
6.3. Plant and Machinery (In Rs.)				
6.4. Total cost of (6.1 + 6.2+6.3) (In Rs.)				

7.0. Probable Employment Potential: (In No. of persons to be employed)	Male	Female	
7.1. Direct (On unit's payroll): 360	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
7.2. Indirect (On factory premises): 690	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
8.0. Details of existing Approvals of Factories dept Gram Panchayat / Municipality / Electricity / Water, if any	D	M	Y
Reference No. <input type="text"/>	Date	<input type="text"/>	<input type="text"/>

9.0 Proposed location of the factory : IE IDA EZ PE others

9.1 Location/Name of IE/IDA/EZ/PE T E N G A D A V I L L A G E

9.2 Survey No V A R I O U S Extent 5 2 1 6 9 1 Sq. Mts

Street Name

Mandal
 D A C H E P A L L I

Pin code

Village/Town
 T E N G A D A

District
 G U N T U R

Tele Phone No
 9 9 2 6 2 0 0 1 9

Nearest Tele Phone No.
 9 9 2 6 2 0 0 1 1 9

10. Power required for the unit 55.73 MW

10.1. Contracted Maximum demand in KVA 5 0 0 0

10.2. Connected load in KW 4 0 0 0

10.3. Aggregate installed capacity of the transformer to be installed by the entrepreneur in case of H.T. (H.T. means above 150 H.P.)

10.4. Proposed maximum working hours

Per day	<input type="text"/> 2 <input type="text"/> 4	per month	<input type="text"/> 7 <input type="text"/> 4 <input type="text"/> 4
---------	---	-----------	--



10.5. Expected month and year of trial production

M		Y	
0	1	1	8

10.6. Probable date of requirement of power supply.

D		M		Y	
0	1	0	1	8	

11.1. Water Supply from Gram Panchayat Municipality HMWS & SB APIIC

11.2. Water requirement

i) Drinking Water (Domestic)

Quantity (in KL / Day)

0	0	0	5	0	0
---	---	---	---	---	---

ii) Water for Processing (Industrial Use)

0	0	3	5	0	0
---	---	---	---	---	---

11.3. Size of Water Supply connection applied for

15mm (1/2") 20mm (3/4") 25mm (1") 40mm (1 1/2") 50mm (2")

If the size is not covered in the above mentioned sizes, indicate the size of connection required

11.4. Size of sewer connection applied for

100mm (4") 150mm (6") 200mm (8")

12.0. Permission to draw water

12.1. Agency Ground Water Irrigation

12.2. Requirement of Water

Quantity (in KL / Day)

0	0	4	0	0	0
---	---	---	---	---	---

I declare that the particulars given above are true to the best of my knowledge and belief. I shall obey the rules and regulations in force. If any deviation is found, suitable action may be initiated.

Place:

Date: 7.9.2016.



Signature of Promoter or authorized person only in Ink

NAME (RAJESH DEOLIYA)

(VICE PRESIDENT- PROJ. & MINES DEVELOPMENT)

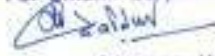
Annexure - 01

Plant & Machinery Details

S. No.	Machinery	Capacity	Quantity
1	Lime Stone Crusher	1500 TPH	1
2	Crushed Limestone Storage Shed	80000 MT	2
3	Raw Mill	610 TPH	2
4	Raw Mix Blending Storage Silo	18000 MT	2
5	Rotary Kiln	9700 TPD	1
6	Coal Mill	100 TPH	2
7	Clinker Storage Silo	80000 MT	2
8	Cement Mill	335 TPH	2
9	Fly ash Storage Silo	7000 MT	2
10	Cement Storage Silo	6000 MT	6
11	Cement Packing Machine	240 TPH	6
12	Hot Air Generator (HAG) For Raw Mill, Cement Mill	150 GJ/hr.	4
13	Boiler (CFBC) for CPP	150 Ton	1
14	Boiler For WHRB	60 Ton	2
15	DG Sets	2000 KVA, 850 KVA, 350 KVA	3

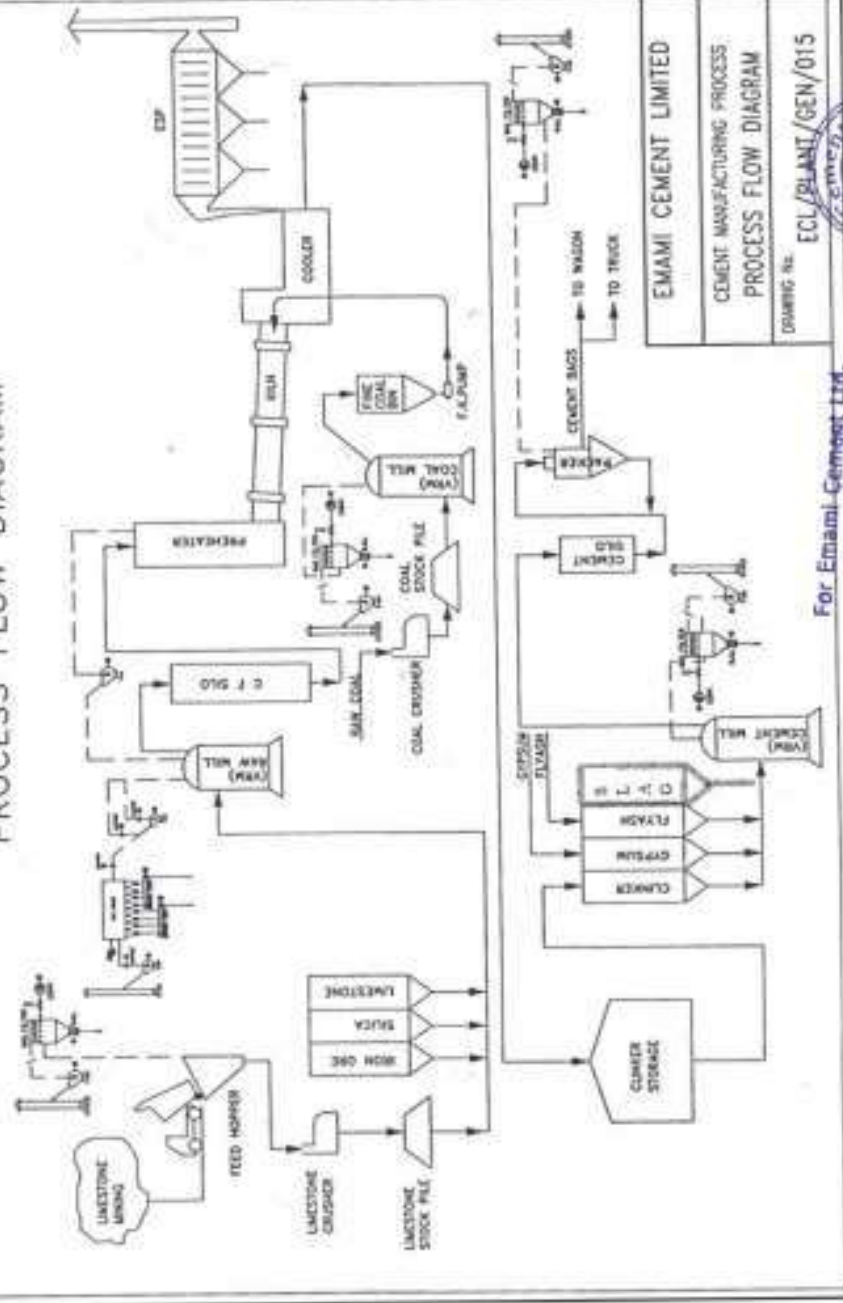


For Emami Cement Ltd.



Power of Attorney Holder

PROCESS FLOW DIAGRAM

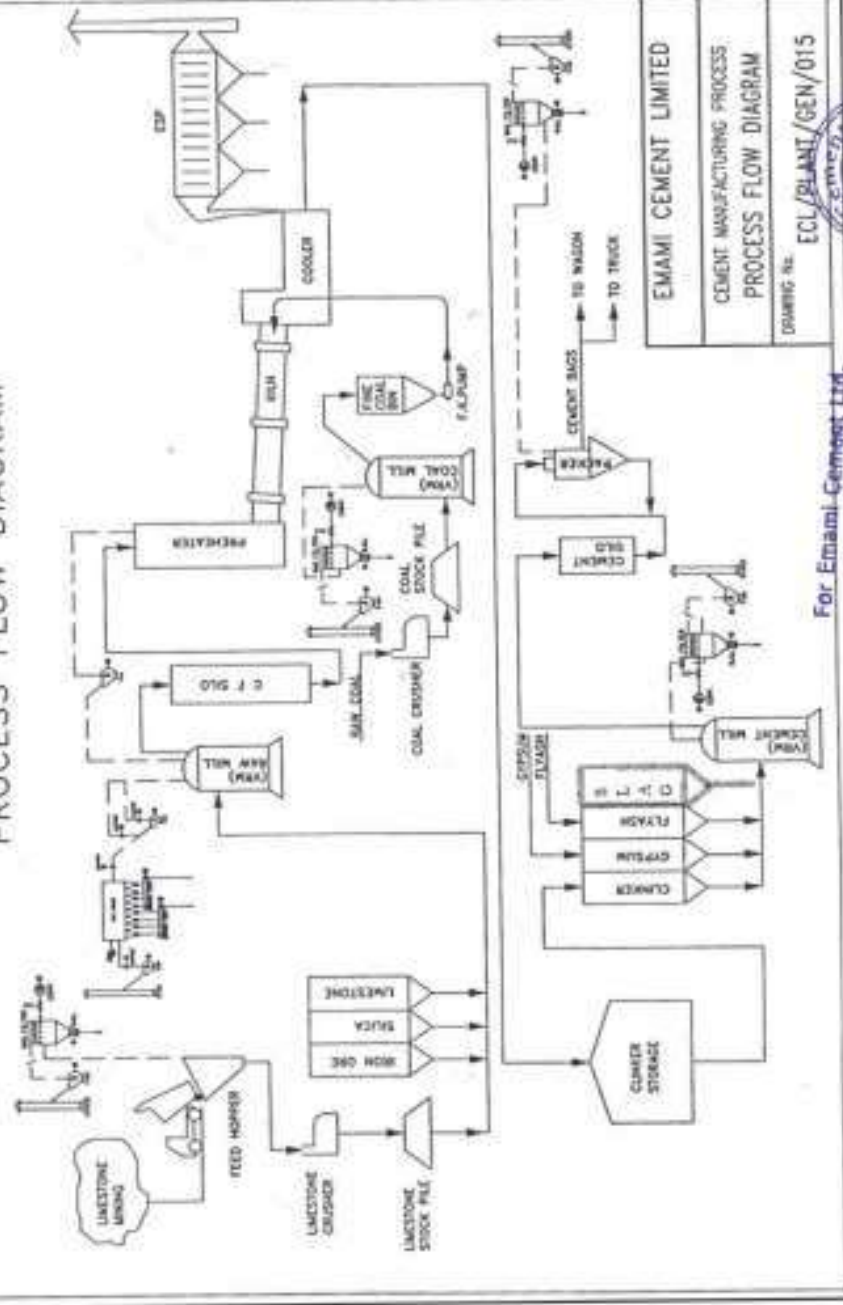


EMAMI CEMENT LIMITED
CEMENT MANUFACTURING PROCESS
PROCESS FLOW DIAGRAM
DRAWING No. ECL/PLANT/GEN/015



For Emami Cement Ltd.
[Signature]
Power of Attorney Holder

PROCESS FLOW DIAGRAM



For Emami Cement Ltd.



Power of Attorney Holder

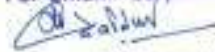
Annexure - 01

Plant & Machinery Details

S. No.	Machinery	Capacity	Quantity
1	Lime Stone Crusher	1500 TPH	1
2	Crushed Limestone Storage Shed	60000 MT	2
3	Raw Mill	610 TPH	2
4	Raw Mix Blanding Storage Silo	18000 MT	2
5	Rotary Kiln	9700 TPD	1
6	Coal Mill	100 TPH	2
7	Clinker Storage Silo	60000 MT	2
8	Cement Mill	335 TPH	2
9	Fly ash Storage Silo	7000 MT	2
10	Cement Storage Silo	6000 MT	6
11	Cement Packing Machine	240 TPH	6
12	Hot Air Generator (HAG) For Raw Mill, Cement Mill	150 G.J/hr.	4
13	Boiler (CFBC) for CPP	150 Ton	1
14	Boiler For WHRB	60 Ton	2
15	DG Sets	2000 KVA, 850 KVA, 350 KVA	3



For Emami Cement Ltd.



Power of Attorney Holder

Type of Waste and Method of Disposal

S. No.	Source	Type Sludge/Dry/Slurry	Quantity (Tons/Month)	Method of Disposal
1.	Raw water treatment Plant	Slurry	5.0	Green belt Development
2.	Mines Auto Workshop	Oil Slurry	0.001	Deep Barrel / Sold to Authorized vender
3.	STP	Slurry	2.0	Green belt Development
4.	Fly Ash from Captive Power Plant	Dry Powder	12000	Used for Cement Manufacturing



For Emami Cement Ltd.

Power of Attorney Holder

Date 19.09.2016

To

The Irrigation Department

Guntur

Subject: Permission to withdraw water from Krishna River from Tangada village, Dachepalli Mandal, Guntur (AP) for our proposed 3.20 mtpa cement plant, 4.50 mtpa limestone mine and 40 MW Power Plant in village Tangada, Dachepalli Mandal, Guntur.- 4000 KLD for Plant including 170 KLD water for limestone Mine Reg.

Sir

In the captioned subject to mention that Emami Cement Ltd is proposing a Cement Plant in the Tangada village of Dachepalli Mandal, of Guntur district for which Mining Lease is granted by Government of AP over 521.691 ha land. Company has purchased most of the land in the mining lease area. The cement plant is proposed close to the mining lease and for this 254 ha area is identified of which about 200 Acre (80 Ha) is purchased by us.

The requirement of water for cement plant is 4000 KLD which includes 170 KLD water for limestone mine also.

We request you to grant permission for withdrawal of water from River Krishna at point towards Tangada village, Dachepalli Mandal, Guntur. The distance from the mining lease to the bank of river is 3.5 Km appx.

The permission will help us to commence cement plant activities at the earliest.

Thanking You

For Emami Cement Ltd



(Rajesh Deoliya)

Contact No- 09926200119