

## **EXECUTIVE SUMMARY**

### **1.0 INTRODUCTION**

M/s. UltraTech Cement Limited is a flagship company of Aditya Birla Group. It is the largest Cement producer in India with the production capacity of 52 MTPA. UTCL is spread over 13 States and 4 Countries; it is the 7th Largest Cement producer in Asia and 8th Largest Cement producer in the world.

Aditya Birla Group is committed to provide clean & green environment, all of its units in India and abroad contributes as a global responsibility for environment protection. The group has the pride to have the first ever Cement Plant in India awarded with ISO-14001 Certificate for Environment Management System.

M/s. UltraTech Cement Ltd. has proposed a Cement Grinding unit (2.0 MTPA Cement production) & D. G. Set (2x6 MW) at Villages: Tarsa & Ashti, Tehsil: Mauda, District: Nagpur (Maharashtra).

The project has been considered in front of State Level Expert Appraisal Committee (SEAC) (Industry-1) for its First technical presentation on 13<sup>th</sup> April 2012. The model ToRs has been prescribed by SEAC for carrying out the EIA studies for Cement Plant and Captive Power Plant.

As per EIA Notification dated 14<sup>th</sup> Sep, 2006, as amended on 01<sup>st</sup> Dec., 2009; the project falls under Category "B", Project or Activity 3(b) - 4.

### **1.1 DETAILS OF THE PROJECT**

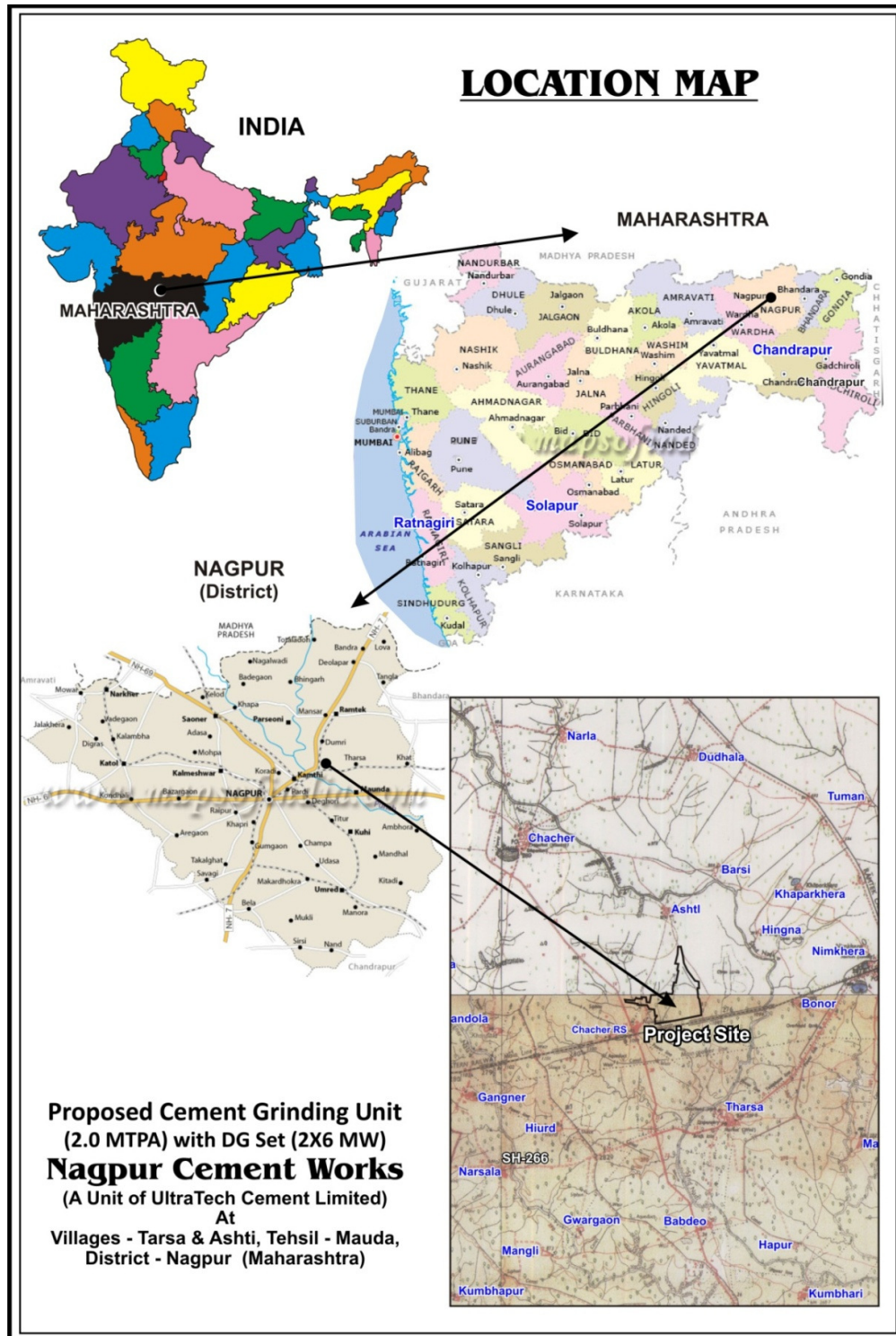
<b>S. No.</b>	<b>Particulars</b>	<b>Details</b>
<b>A.</b>	<b>Nature &amp; size of the Project</b>	Proposed Cement Grinding Unit (2.0 MTPA) along with DG Set (2X6 MW)
<b>B.</b>	<b>Location details</b>	
1.	A. Villages	Tarsa & Ashti
	B. Tehsil/Taluka	Mauda
	C. District	Nagpur
	D. State	Maharashtra
2.	Latitude	21°14'40.45"N to 21°15'36.36"N
3.	Longitude	79°21'30.53"E to 79°22'31.44"E

S. No.	Particulars	Details
4.	Toposheet No.	55 0-7 & 55 0-8
<b>C.</b>	<b>Project Area</b>	
5.	Area (in hectares)	Plant Area: 68.4 ha Green Belt Area: 30.70 ha <b>Total Project Area: 99.1 ha</b>
<b>D.</b>	<b>Production Capacity</b>	Cement Grinding Unit – 2.0 MTPA Cement production D. G. Set – 2X6 MW
<b>E.</b>	<b>Environmental settings</b>	
6.	Nearest Town / City	➤ Mauda Town, ~11.0 km towards South direction ➤ Nagpur City, 22 km in SW direction
7.	Nearest Railway Station	➤ Chacher Railway Station, ~1.0 km towards SW direction.
8.	Nearest National Highway / State Highway	➤ SH-253, ~500 m towards West direction from the proposed project site. ➤ SH-266, ~2.5 km towards South direction from the proposed project site. ➤ NH-6, ~11.5 km towards South direction from the proposed project site. ➤ NH-7, ~12.2 km towards West direction from the proposed project site.
9.	Nearest Airport	Nagpur Airport, ~37 km towards SW direction from the proposed project site.
10.	Nearest Water Body	➤ Kanhan River ~ 8 km towards SW direction from the proposed project

S. No.	Particulars	Details
		site. ➤ Sand River ~ 1.2 km towards ESE direction from the proposed project site. ➤ Gangner Nala ~ 3.2 km towards WSW direction from the proposed project site. ➤ Ramtek Canal ~ 4.5 km towards ESE direction from the proposed project site.
11.	Archaeological site	None, within 10 km radius area of Project site.
12.	Ecological Sensitive Areas (Wild Life Sanctuaries)	None, within 10 km radius area of Project site.
13.	Reserved / Protected Forest within 10km radius (Boundary to boundary distance)	None, within 10 km radius area of Project site.
<b>F.</b>	<b>Cost details</b>	
14.	Capital Cost of the project	Rs. 327.00 Crores/-
15.	Environmental Protection cost	Capital cost: Rs. 4.0 Crores/- Recurring cost: Rs.25 Lacs /annum

**Source:** Pre-feasibility Report

**1.2 LOCATION MAP**



**Figure no. 1.1 (Location Map)**

### 1.3 MAJOR REQUIREMENTS FOR DIFFERENT UNITS OF THE PROPOSED EXPANSION PROJECT

#### 1.3.1 Raw Material Requirement

Main raw materials required for the enhancement project are clinker, fly ash and gypsum. Details related to the source of raw material, quantity & mode of transportation is as under:

**Table - 2**

S. No.	Name of Raw Material	Quantity (TPD)	Source	Mode of Transportation	Distance (Km)
1.	Clinker	4000 - 4450	Railway Rakes/road from Awarpur Cement Works, Maharashtra	Rail/Road	238
2.	Gypsum	300 - 500	Bharuch District of Gujarat. Coromandal Fertilisers, Vaizag	Rail/Road	850 755
3.	Fly ash	1350 - 1850	NTPC Power Plant installed at Mauda	Road	10

*Source: Prefeasibility Report*

#### 1.3.2 Fuel Requirement for D.G. Set

S. NO.	TYPE OF FUEL	PROPOSED DAILY CONSUMPTION (KLD)	Calorific value (Kcal./kg)	% Ash	% Sulphur
1.	Heavy Furnace Oil (HFO)	50	9660	0.020	2.29

#### 1.3.3 Other requirements

**Table - 3**

S. No.	Particulars	Requirement	Source
1.	Water	400 KLD	Bore well
2.	Power	12 MW	Proposed 2 x 6 MW DG Set / State Grid.

S. No.	Particulars	Requirement	Source
3.	Manpower	90	Local people, depending on the availability of skill

*Source: Prefeasibility Report*

## **2.0 PROCESS DESCRIPTION**

### **2.1 Clinker Grinding Unit**

The type of cement which will be manufactured is Ordinary Portland Cement (OPC), Portland Pozzolona Cement (PPC).

The process largely comprises of the following steps:

- Clinker Handling
- Fly Ash Handling
- Gypsum storage, handling and crushing
- Cement Production
- Cement Packing and Dispatch

### **2.2 D.G. SETS**

UltraTech Cement Ltd. has proposed D.G. Set of capacity 12 MW.

#### **Process of Power Generation:**

- The fuel oil is heated for free flow to D.G. Set.
- It is transferred for settling to settling tank to remove unwanted material. Fuel oil is further centrifuged.
- After centrifuging, the fuel oil is transferred to another service tank, heated, filtered and injected into engine for combustion.
- The engine generates power and produces electricity.

## **3.0 DESCRIPTION OF ENVIRONMENT**

Baseline study of the study area was conducted during Winter Season (December, 2011 to February, 2012).

The concentration for all the 8 AAQM stations for PM<sub>2.5</sub> ranges between 17.24 to 28.87 µg/m<sup>3</sup>, PM<sub>10</sub> ranges between 38.28 to 68.67 µg/m<sup>3</sup>, SO<sub>2</sub> ranges between 7.0 to 11.8 µg/m<sup>3</sup> and NO<sub>2</sub> ranges between 8.44 to 17.44 µg/m<sup>3</sup>.

The ground water analysis for all the 8 sampling stations shows that pH varies from 7.07 to 7.79, total hardness varies from 366.12 mg/l to 498.55 mg/l & total dissolved solids varies from 566.00 mg/l to 812.00 mg/l.

The analysis results show that soil is neutral to slightly alkaline, pH value ranging from 7.04 to 7.60, with organic matter from 0.78% to 0.99%. Soil texture is Silty Loam. The concentration of Nitrogen has been found to be in good amount in the soil samples but Phosphorus & Potassium are present in less amount.

### **3.1 Biological Environment**

**Flora:** Species which are most commonly found in the area are Shishum (*Dalbergia sissoo*), Awla (*Phyllanthus emblica*), Bamboo (*Dendrocalmus strictus*), Bel (*Aegle marmelous*), Kadu Neem (*Azadirachta indica*), Babul (*Acacia nilotica*), Khair (*Acacia catechu*), Sagwan (*Tectona grandis*), Tendu (*Diospyros melanoxylon*) etc.

**Fauna:** Commonly found animal in the study area are Rock (Blue) Pigeon (*Columba livia*), Spotted deer (*Axis axis*), Neelgai (*Boselaphus tragocamelus*), Wild hen (*Gallus sonnerali*), Spot-billed Duck (*Anas poecilorhyncha*), Hyaena (*Hyaena hyaena*) etc.

#### **3.2.1 Socio-Economic Environment**

The population as per 2001 Census records is 57,611 (for 10 km radius buffer zone). Scheduled Caste fraction of the population of the study area (10 km) is 15.54% and Scheduled Tribe 9.66%. Total no. of households is 12,242

### **4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

- The key emissions from the clinker grinding unit are emissions due to Particulate Matter. Better maintenance and installation of proper pollution control equipment like Bag Houses, Bag Filters and ESPs and other control systems help in reducing such emissions.
- Fugitive emission shall be controlled by proper covered storage facilities for raw material & product.
- Installation of bag filters and proper water sprinkling shall be carried out at the material transfer points.
- No industrial waste water will be generated from cement manufacturing process.

- The domestic waste water which will be generated from the office toilets in the unit will be discharged into the soak pit via septic tank.
- During operational phase noise will be generated from compressors, motors, grinding mills in the clinker grinding unit. Ear plugs will be provided to persons working in high noise zone.
- The study area (10 km radius from the project site) is not having any National Park, Wild Life Sanctuary or Biosphere Reserve etc.

## 5.0 ENVIRONMENTAL MONITORING PROGRAMME

**Table - 4**

<b>S. No.</b>	<b>DESCRIPTION</b>	<b>FREQUENCY OF MONITORING</b>
1.	Meteorological Data	Daily
2.	Ambient Air Quality in Core Zone	Quarterly/ Half Yearly
3.	Water Quality	Quarterly/ Half Yearly
4.	Noise Level Monitoring	Quarterly/ Half Yearly
5.	Soil Quality	Half Yearly/yearly
6.	Monitoring of Agricultural Crops	Yearly
7.	Socio – Economic Status Of Nearby Area	Yearly

## 6.0 ADDITIONAL STUDIES

The Additional Studies conducted are Biological Study, Hydro-geological Study & Rain water Harvesting Plan, Risk Assessment and Disaster Management Plan.

## 7.0 PROJECT BENEFITS

The proposed expansion will help in combating the growing demand of cement in the market & hence will help in the economic growth of the country. UltraTech Cement Ltd. will be actively involved in the CSR activities in the nearby villages of the project site. Infrastructure development in the nearby villages, creating educational facilities, empowering women through self help groups, gainful employment for rural, health awareness programmes & surgical camps, assistance in social forestry programmes in the area, are some of the activities further to be undertaken under CSR plan for the development of the society.



## **8.0 ENVIRONMENT MANAGEMENT PLAN**

The major sources of pollution in a clinker grinding unit are Particulate Matter and fugitive emissions due to material handling. Air pollution is the major concern to be looked upon for the project activity. No major water, noise & soil pollution is envisaged from the project activity. Various mitigation measures have been proposed to take care of the environment in respect of air, water, noise, soil & the green cover of the project site & nearby villages.

### **8.1 Air Environment**

- Installation of proper pollution control equipment like Bag House / Bag filters and better maintenance will help in reducing such emissions.
- Clinker, Fly ash will be stored in silos and gypsum will be stored in covered shed.
- To control fugitive dust emissions due to transportation activities, roads within the plant premises with significant traffic density will be concreted and the fugitive emission guidelines will be followed.
- Ambient air quality and stack emission will be regularly monitored to ensure that ambient air quality standards are being met all the time.
- Dust collected from air pollution control equipment will be totally recycled in the process.
- Green belt will be developed as dust preventive barrier all along the road and plant boundary.
- CREP guidelines will be followed.

### **8.2 Water Management**

- There will be no waste water generated from the grinding unit.
- The domestic waste water which will be generated from the office toilets in the unit will be discharged into the soak pit via septic tank.
- Rain Water Harvesting will be practiced.

### **8.3 NOISE ENVIRONMENT**

- Silencers will be provided in the D. G. Sets.
- Properly insulated screens will be provided to staff working close to the high noise sources.
- Walls and ceilings of the concerned buildings will be lined with sound absorbing materials.

- Personal Protective Equipments like earplugs and earmuffs will be provided to the workers exposed to high noise level.
- Sufficient green belt within the plant area will be developed and maintained.
- Regular monitoring of noise level will be carried out and corrective measures in concerned machinery will be adapted accordingly to the possible extent.

#### **8.4 Solid Waste Management**

- No solid waste will be generated from the cement manufacturing process.
- Dust collected from various pollution control equipments will be recycled back to the process.

#### **8.5 Green Belt Development**

- Plantation will be done in and around the plant premises.
- About 30.07 ha i.e 33% of the total plant area will be developed under Greenbelt/plantation area.
- The trees will be planted at suitable grid spacing to encourage proper growth.
- Local plant species will be preferred as per CPCB guidelines in consultation with Local Forest Department.

#### **9.0 CONCLUSION**

As discussed, it is safe to say that the project is not likely to cause any significant impact on the ecology of the area, as adequate preventive measures will be adopted to contain the various pollutants within permissible limits. Green belt development around the area would also be taken up as an effective pollution mitigative technique, as well as to control the pollutants released from the premises of UltraTech Cement Ltd.

