EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION

1.1 Introduction

M/s. UltraTech Cement Ltd. is a flagship company of Aditya Birla Group and it is the largest cement manufacturing company in India and the 10th largest in the world ranking with present annual capacity of 52 Million Ton Per Annum (MTPA) including 3 MTPA capacity outside India.

The production units are spread across 11 integrated plants, 11 grinding units besides 4 bulk terminals in India. All the plants have ISO 9001 certification. UltraTech also has own jetty (Captive Berth) at its plant in Gujarat for export market and domestically in Mumbai market.

In the year 2011, the Group was ranked 4th globally and 1st in the Asia-Pacific region as top company for leaders in a study conducted by Aon Hewitt Associates, RBL Group and Fortune magazine. In India, the Group has been adjudged the best employer in India and among the top 20 in Asia by the Hewitt-Economic Times and Wall Street Journal Study 2007.

The Group operates in 25 countries in Cement, Aluminum, Fertilizers, Viscose Staple Fiber, Textiles, Petroleum Refining, Power, Telecommunications, Industrial, Chemicals and Financial Services.

1.2 Type of Project

M/s. UltraTech Cement Ltd (Unit: Hirmi Cement Works) has an existing Cement Plant having Clinker production capacity 2.2 MTPA, Cement 2.75 MTPA, Captive Power Plant (2X25 MW), D.G. Set (3X6 MW) at Villages Hirmi, Tehsil Simga, District Baloda Bazar - Bhatapara (Chhattisgarh).

The company is now proposing for Expansion of Integrated Cement Project with production capacity of Cement (2.75 to 6.75 MTPA), Clinker (2.2 to 6.75 MTPA), CPP (50 MW to 100 MW), D.G Set (18 MW to 30 MW) & WHRB (15 MW) at Hirmi Cement Works, Village – Hirmi, Tehsil – Simga, District- Baloda Bazar - Bhatapara (Chhattisgarh).

As per EIA Notification dated 14th September, 2006, as amended on 1st December, 2009; the project falls under Category “A”, Project or Activity ‘3(b)’.

The project was considered by the Expert Appraisal Committee (EAC) (Industry-1) for its ToR approval on 27th January 2012. The Terms of References (ToR letter) have been issued by MoEF, New Delhi for preparation of the Draft EIA/ EMP Report vide letter no. J-11011/586/2011-IA-II (I) dated 14th February, 2012.

1.3 Need of the project

Industrialization is the better way for growth & employment & also it is a strategic location connecting Indian markets. The industrialization and infrastructure growth have to go hand in hand. Cement is major component in infrastructure growth. Disposal of fly ash is an environmental concern which is faced by state owned and thermal power plants. Cement grinding can consume up to thirty percent of fly ash produced in the nearby power plants and thus reduce environmental concern.

Hirmi Cement Works has an existing Cement Plant in the area and has proven to be an environmental friendly production facility absorbing a major quantity of fly ash from CPP. Thus, looking to the increasing demand of cement, the company is now proposing for Expansion of Integrated Cement Project with production capacity of Cement (2.75 to 6.75 MTPA), Clinker (2.2 to 6.75 MTPA), CPP (50 MW to 100 MW), D.G Set (18 MW to 30 MW) & WHRB (15 MW) at Hirmi Cement Works, Village – Hirmi, Tehsil – Simga, District- Baloda Bazar - Bhatapara (Chhattisgarh).

1.4 Brief Description of the Project

Table – 1

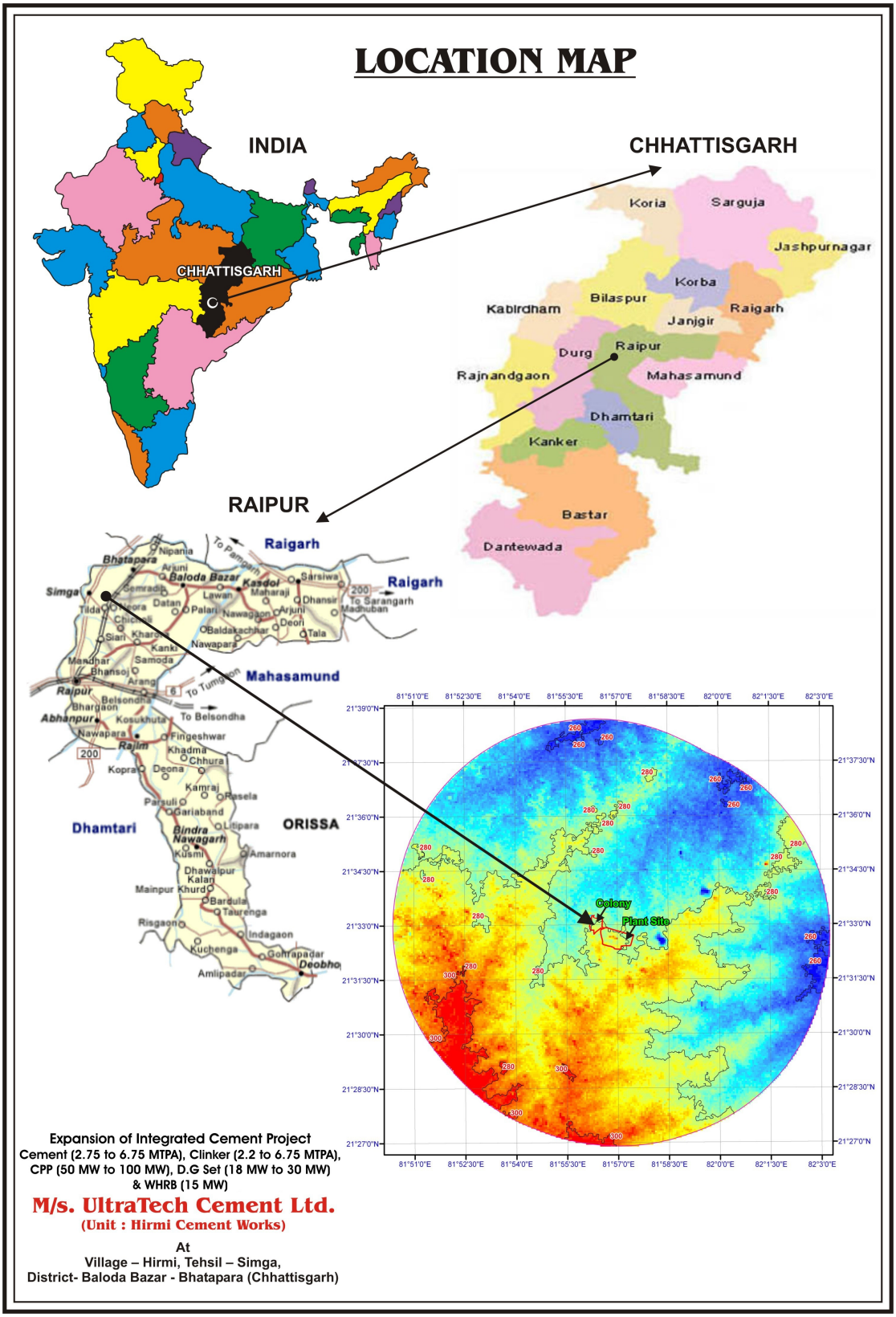
Brief Description of the Project

S. NO.	PARTICULARS	DETAILS
A.	**Nature & Size of the Project**	Expansion of Integrated Cement Project - Cement (2.75 to 6.75 MTPA), Clinker (2.2 to 6.75 MTPA), CPP (50 MW to 100 MW), D.G Set (18 MW to 30 MW) & WHRB (15 MW)
B.	**Location Details**	
1.	Village	Hirmi
2.	Tehsil	Simga
3.	District	Baloda Bazar - Bhatapara
4.	State	Chhattisgarh
5.	Latitude	21°32’21.51”- 21°32’55.07”N
6.	Longitude	81°56'31.14"- 81°57'27.56”E

7.	Toposheet No.	64 G/14, 64 G/15, 64 K/2, 64 K/3
C.	**Area Details**	➢ Total project area is 170 ha including plant & colony area ➢ Proposed expansion will be done within the existing plant premises ➢ Additional 25 ha land will be acquired for green belt development
D.	**Environmental Setting Details (with approximate distance & direction from plant site)**	
1.	Nearest National Highway	NH-12A (~ 26 Km in WNW direction) NH 200 (~23.6 km in NW direction)
2.	Nearest Railway station	Tilda (~17 km in W direction)
3.	Nearest Airport	Raipur Airport (~ 44 km in SSW direction)
4.	Nearest Town / City	Raipur (~ 47 km in SW direction)
5.	Ecological Sensitive Areas (National Park, Wild Life Sanctuaries, Biosphere Reserves, Tiger Reserves, Wildlife Corridors, etc.) within 10 Km. radius	There is no National Park, Wild Life Sanctuary, Biosphere Reserve, Tiger Reserve, Wildlife Corridor, etc. within 10 km radius
6.	Reserved Forests (RF) / Protected Forests (PF)within 10 Km. radius	None, within 10 km radius area of plant site
7.	River / Water Body (within 10 km radius)	➢ Banjari Nala (~ 1.5 km in NW direction) ➢ Jamuniya River (~ 8.5 km in NW direction) ➢ Kumhari Irrigation Canal (~ 3.5 km in NW direction) ➢ Manpur Reservoir (~ 5.5 km in WNW direction) ➢ Kumhari Reservoir (~ 6.0 km in SW direction) ➢ Mahanadi canal (~ 3.0 km in SE direction)
8.	Seismic Zone	Zone - II as per IS: 1893 (Part-I) : 2002
E.	**Cost details**	
1.	Total Cost for the Expansion Project	Rs. 2000 Crores
2.	Cost for Environmental Protection Measures	Capital Cost- Rs. 90 Crores Recurring Cost- Rs. 3.5 Crores /Annum

Source: *Site Visit & Pre-feasibility Report*

1.5 LOCATION MAP



1.6 REQUIREMENTS FOR THE PROPOSED PROJECT

1.6.1 Raw Material Requirement

Table – 2

Raw Material Requirement, Source & Transportation

S. No.	Raw Material	Quantity (MTPA)			Source	Mode of Transport	No. of Trips / Day	Distance in Km
		Existing Line I	Proposed Line II	Total				
1.	Limestone	4.0	6.0	10.0	Captive Mines (Existing & Proposed Limestone Mines)	Covered Conveyor Belt	-	1.5 to 13
2.	Laterite / Iron Ore / Flue Dust	0.04	0.06	0.1	Open Market	By Road	10	120
3.	Gypsum	0.148	0.22	0.368	Fertilizer Plant/ Gyp. Mines	Rail	4 rakes per month	600
4.	Fly ash	0.62	1.2	1.82	CPP/ TPP from nearby areas	Road	20	100

Source: *Pre-feasibility Report*

Fuel Requirement

S. No.	Name	Quantity (MTPA)		Source	Distance & Mode of Transportation	No. of trips per day & Loading Capacity	Calorific value (Kcal./kg)	% Ash	% Sulphur
		Existing	Proposed						
1.	Coal	0.44	0.66	Open Market / Linkage	320 / 200 km by Rail / Road	8 rakes/month & 740 Trucks /Month	5100 to 5300	29 to 32 %	0.5 -0.6 %

Source: *Pre-feasibility Report*

1.6.2 Other requirements

Table – 3

S. NO.	UTILITY	REQUIREMENT		SOURCE
		Existing	Proposed	
1.	Power	40.1 MW	54 MW	Captive Power Plant and WHRB
2.	Water	3640 m^3/day	3400 m^3/day	Bore well & mine pit water
3.	Man Power	413	160	Unskilled/ semi skilled manpower - local area Skilled manpower- outside area

Source: *Pre-feasibility Report*

1.6.3 Manufacturing Process

The cement plant will be based on Dry Process Technology for Cement manufacturing with Pre-Heating and Pre-Calciner Technology.

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

The process largely comprises of the following steps:

- Transportation of Limestone from Captive Limestone Mine to Cement Plant
- Raw Mix preparation
- Raw Mix homogenization
- Coal preparation
- Calcination & Clinkerisation
- Clinker Grinding
- Cement Packing & Dispatch

2.0 DESCRIPTION OF ENVIRONMENT

2.1 Presentation of Results (Air, Noise, Water & Soil)

Baseline study of the study area was conducted during Summer Season, 2012.

The concentration for all the 8 AAQM stations for PM_{10} ranges between 43.62 to 78.20 µg/m^3, $PM_{2.5}$ ranges between 15.24 to 34.90 µg/m^3, SO_2 ranges between 6.21 to 12.45 µg/m^3 and NO_2 ranges between 10.23 to 22.42 µg/m^3.

Ambient noise levels were measured at 8 locations around the plant site. Noise levels varies from 46.96 to 66.34 Leq dB(A) during day time and during night time noise levels ranges from 37.58 to 53.14 Leq dB(A).

The ground water analysis for all the 8 sampling stations shows that pH varies from 7.48 to 8.42, total hardness varies from 72.05 to 288.00 mg/l & total dissolved solids varies from 260.00 to 473.00 mg/l.

The analysis results for soil shows that soil is slightly acidic to neutral in nature as pH value ranges from 6.24 to 7.08 & is Silty clay in texture. The concentration of Nitrogen has been found to be in sufficient amount while Phosphorous & Potassium is found to be in fewer amounts in the soil samples.

2.2 Biological Environment

Flora: Tree species which are most commonly found in the area are Neem *(Azadirachta indica),* Shishum (*Dalbergia latifolia*), Sal (*Shorea robusta*), Jamun (*Syzygium cumini*), Arjun (*Terminalia arjuna*), Chota Khajur (*Phoenix acaulis*), Aak (*Calotropis procera*), Neel (*Indigofera pulchella*), Ber (*Ziziphus mauritiana*), Pipal (*Ficus religiosa*), Khair (*Acaia catechu*), Aam (*Mangifera indica*)

Fauna: Commonly found animal in the study area are Blue Rock Pigeon (*Columba livia*), House Sparrow (*Passer domesticus*), Common Crow (*Corvus splendens*), Asian Koel (*Eudynamys scolopacea*) House Rat (*Rattus rattus*), Jungle Cat (*Felis chaus*), Five striped Palm Squirrel (*Funambulus pennanti*), Monitor Lizard (*Varanus benghalensis*), House Gecko (*Hemidactylus frenatus*), Indian Bull Frog (*Hoplobatrachus tigerinus*)

2.3 Socio-Economic Environment

The population as per 2001 Census records is 65026 (for 10 km radius buffer zone). Scheduled Caste fraction of the population of the study area (10 km) is 16.90% and Scheduled Tribe 5.06%, Literacy rate is 70.75%.Total no. of household's is 13189.

3.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

- The key emissions generated from Plant process are particulate matter, Oxides of Nitrogen (NO_2) and Sulphur dioxide (SO_2). High efficiency ESP/bag House & bag filters will be installed with Kiln, cooler, raw mill, coal mill and cement mill to meet the PM (Particulate Matter) emission level of less than the prescribed limit.

- Fugitive emission will be generated from crushing & other plant activities which are being/will be controlled by proper covered storage facilities for raw material & product.
- Installation of bag filters and proper water sprinkling is being/will be carried out at the material transfer points.
- No industrial waste water is being/will be generated from cement manufacturing process.
- Effluent generated from CPP is being/will be used for dust suppression after proper neutralization.
- Domestic waste water generated from the office toilets and township is being/will be treated in the STP and treated water will be used for green belt development.
- Sludge generated from Sewage Treatment Plant is being/will be used as manure for green belt development.
- During operational phase noise will be generated from Process fans, compressors, motors, grinding mills in the cement plant. Ear plugs is being/will be provided to persons working in high noise zone.
- Silencers/ enclosures at pollution sources & personal protective equipments like earplugs and earmuffs is being/will be provided to the workers exposed to high noise level.

4.0 POST PROJECT ENVIRONMENTAL MONITORING PROGRAMME

Environmental Monitoring Programme is being/will be conducted for various environmental components as per conditions stipulated in Environmental Clearance Letter issued by MOEF & Consent to Operate issued by SPCB. Six monthly compliance reports is being/will be submitted on regular basis, to MoEF, New Delhi on 1st of June & 1st of December. Quarterly compliance Report for conditions stipulated in Consent to Operate is being/will be submitted to SPCB on regular basis. Details of the Environmental Monitoring schedule, which will be undertaken for various environmental components, are detailed below:

Table - 4

S. No.	DESCRIPTION	FREQUENCY OF MONITORING
1.	Meteorological Data	Daily
2.	Ambient Air Quality at project site	Twice a week
3.	Stack Emissions	(Twice in a month)
4.	Water Quality	Quarterly
5.	Noise Level Monitoring	Quarterly
6.	Soil Quality	Quarterly
7.	Health Check-up	As per the Factory Act

5.0 ADDITIONAL STUDIES

The Additional Studies conducted as per the additional Terms of References vide MoEF letter no. J-11011/586/2011-IA-II (I) dated 14th February, 2012 are Hydro-geological Study & Rain water Harvesting Plan, Disaster Management Plan.

6.0 PROJECT BENEFITS

The proposed expansion project 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 is active in overall socio economic development of the area and will undertake socio-economic developmental activities for the benefit of the locals. Infrastructure development in the nearby villages, creating educational facilities, employment for rural, health awareness programmes & surgical camps, assistance in social forestry programmes in the area, are some of the activities which shall be undertaken under CSR plan for the development of the society.

7.0 ENVIRONMENT MANAGEMENT PLAN

The major sources of pollution in a cement plant are Particulate Matter. 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 plant site & nearby villages.

7.1 Air Environment

- All major sources of air pollution (Kiln, Raw mill, Coal mill, Cement Grinding and transportation) of proposed Line II will be provided with Bag Houses, Bag filters, ESPs to maintain the PM emission level within the prescribed limits.
- Bag filters are being / will be provided at all loading /unloading and belt transfer points.
- Coal is being / will be transported in covered trucks.
- Clinker is being / will be stored in closed clinker silo and Gypsum is stored in covered shed.
- Fly ash is being / will be stored in silos.
- Water sprinkler is being / will be provided on the haul roads for dust suppression.
- Proper maintenance of vehicles is being / will be done regularly.
- Green belt is being / will be developed along the roads and around the plant premises as dust preventive barrier.
- Periodic air quality monitoring is being / will be carried out as per CPCB / SPCB norms.

7.2 Water Environment

- No industrial waste water is being / will be generated from the Cement Plant.
- Domestic waste water generated from Cement plant / Colony is being / will be treated in STP and treated water is being / will be used for green belt development / Horticulture activities.
- Rain water harvesting will be practiced at plant and colony area.

7.3 Noise Environment

- Walls and ceilings of the concerned buildings are being / will be lined with sound absorbing materials.
- Silencers are being / will be provided in the D.G. Sets.
- Personal Protective Equipments like earplugs and earmuffs are being / will be provided to the workers exposed to high noise level.
- Acoustic Sound Proof system is being / will be available in Thermal Power Plant for Turbine & Generator building.
- Sufficient green belt within the plant and colony area has already been developed and same will be practiced for proposed expansion.
- Regular monitoring of noise level is being / will be carried out and corrective measures in concerned machinery will be adopted accordingly to the possible extent.

7.4 Solid Waste Management

- No solid waste is being / will be generated from the cement manufacturing process.
- Dust collected from various pollution control equipments is being / will be recycled back to the process.
- STP Sludge is being / will be utilized as manure for green belt development within the plant premises.
- Fly ash generated from Captive Power Plant is being / will be utilized in the manufacturing of Cement.

7.5 Greenbelt Development/Plantation

- Out of the total project area i.e. 170 ha including plant & colony area, 46 ha land has already been covered under greenbelt area & plantation in order to reduce dust & noise pollution levels & to increase aesthetic beauty of the area.
- Plantation will be raised in additional 25 ha land.
- A thick greenbelt all along the roads, colony & plant has been developed under Afforestation programme.
- Plantation has been done in and around the plant premises.
- 80% survival rate has been maintained with all possible efforts.
- The trees have been planted at suitable grid spacing to encourage proper growth.
- Local plant species have been preferred.
- Same practices will be maintained & further enhanced for proposed expansion project.

7.6 Socio-Economic Environment

M/s. UltraTech Cement Ltd. (Unit: Hirmi Cement Works) will generate a fair amount of direct and indirect employment in the study region. The local economy will receive a boost due to employee spending and services generated by UltraTech Cement Ltd. The overall effect will improve buying power of employees and thus a higher standard of living viz. better education, improved health and sanitation facilities, housing and acquisition of consumer durable. This is envisaged as a major positive benefit.