EXECUTIVE SUMMARY

FOR

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

&

ENVIRONMENTAL MANAGEMENT PLAN

FOR

PUBLIC HEARING

OF

Proposed Clinker Grinding Unit With Cement Production Capacity of 3.0 MTPA and D.G. Set (2 x 6 MW)

At

Village: Sadhroar, Tehsil: Rajpura, District: Patiala and Village: Haripur, Tehsil & District: Fatehgarh Sahib (Punjab)

APPLICANT

M/s. UltraTech Cement Limited

(Unit: Rajpura Cement Works)

Ahura Centre, 1st Floor, 'A' Wing, Mahakali Caves Road, Andheri (East), Mumbai - 400 093

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EXECUTIVE SUMMARY

i) Project name and location (Village, District, State, Industrial Estate (if applicable))

M/s. UltraTech Cement Ltd. (Unit: Rajpura Cement Works) is proposing Clinker Grinding unit with Cement Production Capacity of 3.0 MTPA and D.G. Set (2 x 6 MW) at Village: Sadhroar, Tehsil: Rajpura, District: Patiala and Village: Haripur, Tehsil & District: Fatehgarh Sahib (Punjab).

As per EIA Notification dated 14th Sept., 2006, as amended from time to time; the project falls under Category "B", Project, or Activity '3(b)' Cement Plants.

Application (Form-1/ToR and Pre-Feasibility Report) for obtaining Environmental Clearance for this proposed project was submitted to SEIAA, Punjab on 22nd June, 2021.

The project was considered in front of State Expert Appraisal Committee (SEAC), Punjab for its First Technical Presentation (for ToR recommendation) on 21st August, 2021. Technical Presentation held before SEIAA, Punjab (for ToR Approval) on 13th September, 2021, ToR Letter was issued by SEIAA, Punjab *vide* letter no. SEIAA/MS/2021/4742 dated 28th September, 2021; amended on 17th February, 2022.

ii) Products and capacities. If expansion proposal, then existing products with capacities and reference to earlier EC.

a) **Proposed products and capacities -** M/s. UltraTech Cement Ltd. (Unit: Rajpura Cement Works) is proposing Clinker Grinding Unit with Cement Production Capacity of 3.0 MTPA and D.G. Set (2 x 6 MW) at Village: Sadhroar, Tehsil: Rajpura, District: Patiala and Village: Haripur, Tehsil & District: Fatehgarh Sahib (Punjab).

Particular	Unit	Proposed Capacity
Cement	MTPA	3.0
D.G. Set	MW	2 x 6

b) **Reference of earlier EC -** Not Applicable as this is a proposed project.

iii) Requirement of land, raw material, water, power, fuel with source of supply (Quantitative)

a) **Land requirement -** Total project area is 21.0 ha. Out of the total project area, approx. 6.93 ha (33 % of the total project area) area will be covered under greenbelt / plantation.

Table - 1
Project Area Breakup

S. No.	Unit	Area
1.	Plant Machinery and Buildings	5.26
2.	Greenbelt / Plantation Area	6.93
3.	Office Buildings	0.89
4.	Road and Cemented Area	3.27
5.	Truck Parking Area	2.02
6.	Open Area	2.63

Total Project Area	**21.0**

Source: Pre-Feasibility Report

b) Raw material Requirement & Fuel requirement

Raw material

S. No.	Raw Material	Quantity (MTPA)	Source	Distance & Mode of Transportation
1.	Clinker	2.80	Baga Cement Works, Kotputli Cement Works, Aditya Cement Works and Other UTCL units	By Road Baga Cement Works - 175 km Kotputli Cement Works– 400 km Aditya Cement Works – 820 km
2.	Gypsum	0.15	Jammu, J & K and local traders	By Road Local Traders - 25 - 50 km Jammu J & K 450 km
3.	Fly ash	1.05	Nabha Power Ltd., Nabha; Talwandi sabo Power Ltd., Talwandi; GVK, Jalandhar; National Fertilizers Ltd., Nangal, Punjab and other nearby TPPs	Adjacent / By Road NPL, Nabha –Adjacent TSPL, Talwandi – 150 km GVK, Jalandhar- 160 km NFL, Nangal – 130 km

Source: Pre-feasibility Report

Fuel Requirement

Details regarding quantity of fuel required, their source along with distance and mode of transportation are given below -

S. No.	Name of Fuel	Quantity Required	Calorific value (Kcal. /kg)	Source	Distance & Mode of transportation
1.	HFO/ Diesel/HSD (KL / day)	20	8000-10,000	Nearby area	20 km / Road

Source: Pre-Feasibility Report

c) Basic requirement for the project

S. No.	Particular			Detail	Source
1.	Water Requirement (KLD)			200	Rajpura Distributary and Ground Water
2.	Power Requirement (MW)			18	Punjab State Electricity Board (PSEB) / Grid and D.G. Set for backup
3.	Manpower Requirement (No. of persons)	A.	Construction phase	**500**	Unskilled / Semi-skilled - local area and Skilled - outside / local
		B.	Operation Phase		
		i.	Regular	50	
		ii.	Contractual	70	
		Total		**120**	

Source: Pre-feasibility Report

iv) Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes. Material balance shall be presented.

Technology that will be used for the manufacturing of cement in the Grinding Unit will be Vertical Roller Mill.

Major steps involved in the process of Clinker Grinding Unit are given as below:

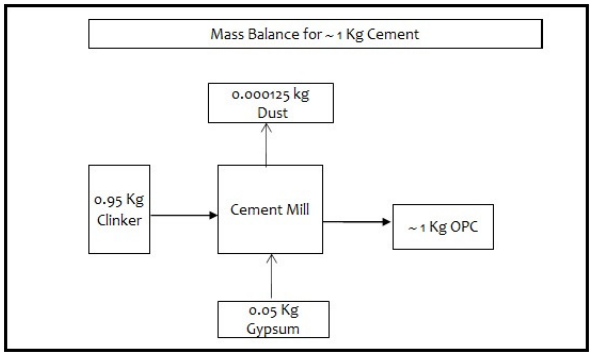
- Clinker storage & handling
- Fly Ash storage & handling
- Gypsum storage & handling
- Cement production and storage
- Cement packing & dispatch.

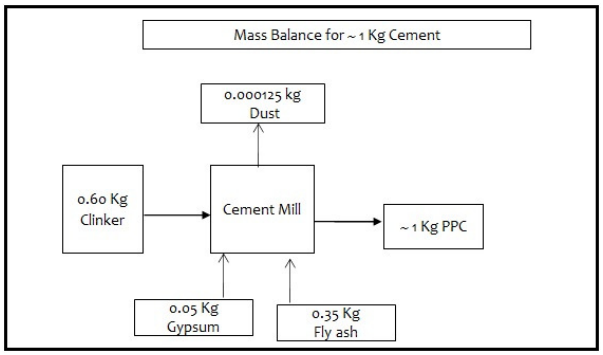
a) Gaseous emission, liquid effluent and solid and hazardous wastes

Particulars	Type	Source	Management
Emissions	PM	Grinding unit	High Efficiency Bag House at Cement Mill Stack
Fugitive Emission	SPM	Grinding unit	o Covered Conveyor belts for transfer of raw materials / finished products. o Bag filters (16 nos.) will be provided at all material transfer points o Fly ash received through closed bulkers & fed into silo through pneumatic system. o Clinker, Fly ash and Cement stored in the silos. o Gypsum stored in the covered sheds. o Water sprinkling done to control dust. o Use of Road sweeping machines o Proper maintenance of vehicles to reduce gaseous emissions o Use of PUC certified vehicles o Greenbelt/ plantation carried out all along the plant boundary to attenuate air pollution.
Process Waste Water	Waste water	Plant Process	o Grinding unit is based on the dry process technology. o Water used for cooling at various stages of cement manufacturing will be partially evaporated and partially recycled; hence, no waste water will be discharged. o Hence, zero liquid discharge will be maintained in Grinding Unit.
Domestic Waste water	Waste Water	Plant & Colony	o Domestic waste water (10 KLD) will be generated from office toilets & Canteen and further it will be treated in STP and treated water (8 KLD) will be used for greenbelt development / plantation.
Solid & Hazardous waste	Cement Dust	Grinding unit	Dust collected from various APCE will be totally recycled into the process.
	STP Sludge	STP	Used as manure for greenbelt development / plantation
	MSW	Plant & Colony	Bio-degradable waste will be composted and non-degradable wastes will be disposed of suitably
	Used or Spent Oil	Plant Maintenance	Will be sold to CPCB authorized recycler

b) Material balance

Mass Balance Diagram for manufacturing of OPC & PPC Cement is shown below –





v) Measures for mitigating the impact on the environment and mode of discharge or disposal.

Particulars	Details
Air Quality Management	ꕥ Installation of Bag House along with cement mill stack. ꕥ Enclosures will be provided for unloading operations. ꕥ Bag filters will be installed at all transfer points to reduce fugitive dust emissions. ꕥ All the roads inside the plant premises will be concreted. ꕥ Regular sweeping of all the roads & floors will be done. ꕥ Dust collected from air pollution control equipment will be totally recycled in the process. ꕥ Fly ash will be pumped directly from the tankers to silos pneumatically in closed loop such that fugitive emissions do not occur. ꕥ The packing machines will be equipped with dust extraction arrangement.
Water Management	ꕥ Domestic wastewater (10 KLD) will be generated from office toilets & Canteen and further it will be treated in STP and treated water (8 KLD) will be used for greenbelt development / plantation. ꕥ Rainwater Harvesting will be practiced within the plant premises.
Rainwater Harvesting	ꕥ Total Artificial Rainwater harvesting inside the Grinding unit through pond is 94650 cum/year. ꕥ Net groundwater development inside the Grinding unit is 143%.
Noise Management	ꕥ Equipment generating excessive noise will be kept in properly insulated enclosures ꕥ Improved silencers within the equipment generating high noise ꕥ Isolation of continuously vibrating structures / machines by proper and secured mountings ꕥ Proper maintenance, oiling and greasing of machines at regular intervals to reduce generation of noise. ꕥ Personal Protective Equipment (PPEs) like earplugs and earmuffs will be provided to the workers exposed to high noise level. ꕥ Development of greenbelt of appropriate width inside the plant premises and at the plant boundary. ꕥ Regular monitoring of noise level and corrective measures accordingly.

Particulars	Details
Solid & Hazardous Waste Management	ꕥ No solid waste will be generated from the cement manufacturing process. ꕥ Dust collected from various air pollution control equipment will be recycled in the process. ꕥ STP Sludge will be used as manure in Greenbelt / Plantation development. ꕥ Used / Spent Oil will be sold to the CPCB authorized recycler.
Greenbelt Development / Plantation	ꕥ Out of total plant area of 21.0 ha, greenbelt / plantation will be developed in 6.93 ha i.e. 33% of the total plant area. ꕥ Native species i.e., *Mangifera indica* (Mango), *Ficus banghelensis* (Banyan), *Azadirachta indica* (Neem), *Pithecellobium dulce* (Jungle jalebi), *Delonix regia* (Gul mohar), *Cassia fistula* (Amaltas). *etc.* will be planted under proposed greenbelt development.

vi) Capital cost of the project, estimated time of completion.

S. No.	Particular	Details
1.	Total Cost for the Project	Rs. 550 Crores
2.	Cost for Environmental Protection Measures	○ Capital Cost - Rs. 30 Crores ○ Recurring Cost - Rs. 1.25 Crores / annum
3.	Time of completion of the project	12 months

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, within 10 km other industries, forest, eco-sensitive zones, accessibility (Note- in case of industrial estate this information may not be necessary).

a) Nature of land

Total plant area is 21.0 ha. Present land use of the site is agricultural which will be changed to industrial after the establishment of the grinding unit. No Forest land is involved in the plant area.

b) Nearby (in 2-3 km) water body, forest, eco-sensitive zones, accessibility

S. No.	PARTICULARS	DETAILS *(with approximate aerial distance & direction from the nearest project boundary)*
1.	Nearest Village	Haripur (304 m in WNW direction)
2.	Nearest Town	Rajpura (9.5 km in South Direction)
3.	Nearest City	Chandigarh (22.0 km in NE direction)
4.	Inter - District boundary	Fatehgarh Sahib - Patiala Inter district boundary (Passing through the project site)
5.	Nearest National Highway / State Highway	○ NH-44 (6.5 km in SW direction) [Earlier NH - 1] ○ NH- 7 (8.0 km in SSE direction) [Earlier NH - 64]
6.	Nearest Railway station	○ Sarai Banjara Railway Station (7.0 km in WSW direction) ○ Rajpura Railway Station (8.0 km SSE direction)
7.	Nearest Airport	Chandigarh Airport (23.0 km in ENE direction)

S. No.	PARTICULARS	DETAILS *(with approximate aerial distance & direction from the nearest project boundary)*
8.	National Parks, Wildlife Sanctuaries, Biosphere Reserves, Protected Forest (PF), Reserve Forest (RF), etc. within 10 km radius.	There is no National Park, Wildlife Sanctuary, Biosphere Reserve, Protected Forest (PF), Reserve Forest (RF) within 10 km radius of the project site.
9.	Water Bodies (within 10 km radius)	o Rajpura Distributary (1.75 km in West direction) o Patiali Rao Nadi (4.0 km in WNW direction) o Narianwala Choi (3.5 km in NE direction) o Satluj Yamina Link Canal (5.5 in NE direction) o Thangauri Choi (6.5 in ESE direction) o Rajindragarh Minor Canal (8.0 km in NW direction) o Bhakra Main Line Canal (Narwana Branch) (9.5 km in WSW direction)
10.	Seismic Zone	Zone - IV as per IS: 1893 (Part-I): 2002

c) List of industries within 10 km radius study area

The major industries within the 10 km radius area of the plant site are as follows:

S. No.	Name of the industry	Type of the Industry	Approx. Aerial Distance and Direction from Plant Site
1.	Nabha Power Limited	Thermal Power Plant	Adjacent in south direction

Note: Other than above, Brick Kilns are also present in the study area.

viii) Baseline environmental data- air quality, surface and ground water quality, soil characteristic, flora and fauna, socio economic condition of the nearby population.

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

Baseline study of the study area was conducted during Winter Season (Dec., 2020 to Feb., 2021). Ambient air quality monitoring has been carried out at eight locations in the study area on 24 hourly basis. The concentration of PM2.5 varied between 28.5 µg/m^3 to 48.3 µg/m^3 and the concentration of PM10 varied between 57.3 µg/m^3 to 86.8 µg/m^3, SO_2 ranges between 5.8 µg/m^3 to 16.6 µg/m^3 and NO_2 ranges between 13.3 µg/m^3 to 30.3 µg/m^3. CO concentration was found to be maximum at Rajpura Town (1.06 mg/m^3) and BDL at Villages Haripur, Boras, Naulas kalan and project site. Benzo(a)pyrene (BaP) concentration was observed as BDL (DL-0.50) at all locations.

Ambient noise levels were measured at eight locations around the grinding unit. Noise levels vary from 51.2 to 61.2 Leq dB (A) during day time and from 40.7 to 50.2 Leq dB (A) during night time.

There are seven surface water bodies present in the study area. Surface water was collected from 03 locations the rest were found dry during the study period. pH varies from 7.23 to 7.81, Total Hardness varies from 113.88 mg/l to 340.52 mg/l, Alkalinity varies from 73.15 mg/l to 360.73 mg/l, TDS varies from 183 mg/l to 642 mg/l.

The ground water analysis for all the eight sampling stations shows that pH varies from 7.54 to 7.89, Total hardness varies from 460.1 to 187.73 mg/l, Total dissolved solids vary from 462.0 to 796.0 mg/l.

Soil monitoring was carried out at eight locations and the analysis results show that soil is slightly alkaline to moderately alkaline in nature in nature, pH value ranging from 7.18 to 7.85 with organic matter from 0.78 % to 1.12 %. Soil texture is Clay loam to silt loam. Total nitrogen ranges from 256.56 to 364.25 kg/ha, indicates that nitrogen is in good amount in this soil; Phosphorous is present in the range of 65.17 to 109.79 kg/ha which is in less amount, whereas the Potassium is found to be ranging from 248.57 to 352.86 Kg/ha which is present in very less to medium amount in soil.

b) Biological Environment

Flora: A total of 26 species of trees, 27 species of shrubs and 20 species of herbs and 5 types of grasses were recorded based on primary observations and secondary data collection. Most common species found in the area are Neem (*Azadirachta indica*), Pipal *(Ficus religiosa)*, Shisham *(Dalbergia sissoo)*, Black mustard *(Brassica nigra)*, Arandi *(Ricinus communis)*, Bathua *(Chenopodium album)*, Nimboo *(Citrus limon)*, Dhaman *(Cenchrus setigerus)*, Aam *(Mangifera indica)*, Khajoor *(Phoenix sylvestris) etc.*

Fauna: 14 species of mammals, 08 species of reptiles, 03 species of amphibians, 12 species of butterflies & arthropods and 44 species of avifauna were recorded based on primary observations and secondary data collection. Commonly found species in the study area are Nilgai *(Boselaphus tragocamelus)*, Jackal *(Canis aureus)*, Indian Hare *(Lepus nigricollis)*, Common Langur *(Prebytis entellus), etc.*

As per Indian Wildlife Protection Act, 1972, no species were recorded as Schedule-I species within 10 Km study area.

c) Socio-Economic Environment

The population as per 2011 Census records is 194005 (for 10 km radius). Scheduled Caste population of the study area is 39931 and Scheduled Tribe is 0 . Literacy rate of the area is 77.8 % & sex ratio of the area is 898. Population of the workers engaged in occupation is 36,242. Out of the total population 57413 persons are main workers, 7994 persons are marginal workers and remaining 128598 persons are considered as non-workers.

The study area has 248 primary schools, 93 middle schools, 79 secondary schools and 40 senior secondary schools but no proper facilities for higher studies are available in the area. Health care facility in the study area is having 03 PHC, 06 PHSC, 06 Maternity and child care welfare center, 09 Dispensaries and 10 Veterinary Hospitals, etc. People of the villages are availing drinking water facilities generally from the Hand pump, Tap Water, Well Water, Tube wells and bore wells. However, covered wells are not present in most of the villages. The area consists of water Bodies such as rivers, canals and chois through which water is available for domestic purpose and agriculture the water supply is continuous with the regions. Most of the villages have storage facilities for drinking water supply. All the villages in the study area were electrified. Electricity is available for the various domestic, non-domestic, industrial, agricultural and public lighting purposes. But being a rural area, the electric supply is discontinuous

most of the times and is supplied in shifts. The study area is served by road transport. Villages have fare road connectivity and Private bus operators operate transport service in the villages. Road condition of the villages is good and the area is well connected with two National highways; NH-1 (6.5 km in SW direction) and NH- 64 (8.0 km in SSE direction).

ix) Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.

Risk Assessment table along with mitigation measures

S. No.	Activity	Associated hazards	Associated risk/ health impact	Mitigation Measures
1.	Storage & handling of raw material & chemicals	Heat, Fire & dust	Exposure, physical injuries, burning, air pollution due to fugitive emissions	• Use of PPEs. • Continuous water sprinkling • Training to workers for proper handling • Proper system for loading & unloading operations • Firefighting & first aid facility. • Storage should be away from ignition source • Proper housekeeping facilities
2.	Working in Grinding Unit	Heat, Fire, Dust, Smoke & Explosion	Physical injuries, burning, air pollution, CO poisoning	• Firefighting & first aid facility • Use of PPEs. • Use of proper APCDs. • Inspection & regular monitoring • Training to workers for proper handling of raw materials
3.	APCD failure	Release of PM in ambient air	Air pollution	• Regular monitoring & inspection will be done. • The plant shall immediately shut down on APCD failure
4.	Working at height	Slip, trips & falls of operators	Physical injuries	• Individual alertness of the workers. • First aid boxes shall be provided
5.	Electrical maintenance work	Electric shock, short circuits in power room	Electrical shocks, Injury or burn	• Regular checking and maintenance of electrical units • Use of PPEs • Provision of First aid box
6.	Working near D.G. set during emergency	High noise	Noise induced hearing losses	• Provision of PPEs to the workers.

x) Likely impact of the project on air, water, land, flora-fauna and nearby population.

S. No.	Project Activity	Aspect	Impact	Mitigation Measures
1.	Transportation of Clinker and	Fugitive Dust Emission &	▪ Increase in the fugitive dust concentration in the	• Use of PUC Certified vehicles • Vehicles to be covered with tarpaulin and

S. No.	Project Activity	Aspect	Impact	Mitigation Measures
	other raw materials by road	Gaseous Pollutants	ambient air which will affect the biotic environment	not over loaded • Speed limit to be maintained • Paved road in plant premises
2.	Material storage and handling		▪ Increase in the fugitive dust concentration in the ambient air ▪ Workers affected by respiratory diseases due to working in the high dust-zone area	• Clinker, Cement and Fly Ash stored in silos. • Covered yard for storage of Gypsum. • Fly ash received through closed bulkers & fed into Silo through pneumatic system. • Personal Protective Equipment to the workers
3.	Cement Mill	Particulate Matter Emission & Fugitive Dust Emission	Increase in Particulate Matter and fugitive dust concentration in air environment	• Installation of Bag House with cement mill stack. • Better maintenance of pollution control equipment like Bag Filters and Bag House etc. • Development of greenbelt / plantation all along the plant boundary.
		Noise generation due to Exhaust fans and Cement grinding	▪ Increase in noise levels near source generation ▪ Hearing impairments ▪ Other health effects	• Earmuffs/ Earplugs to persons working in high noise zone. • Proper lubrication & maintenance of machinery • Development of greenbelt / plantation within the plant premises • Periodic Occupational Health Surveillance of worker
4.	Cement Packing & Dispatch	Fugitive Dust Emission	▪ Area source - Increase in fugitive dust concentration in air environment ▪ Respiratory Diseases	• Dust extraction arrangement • Spilled cement collected and recycled • Installation of Bag Filters at transfer points • Development of greenbelt • Personal Protective Equipment (Goggles, Mask etc.) to worker. • Periodic Occupational Health Surveillance

xi) Emergency preparedness plan in case of natural or in plant emergencies.

M/s. UltraTech Cement Ltd. (Unit: Rajpura Cement Works) will have an Emergency Plan (Onsite & offsite) at the plant site. Suitable Risk Control Measures with respect to Risk Assessment will be implemented to minimize the risk to an acceptable level. Regular Training, Implementation of SOPs and compliance of relevant Personal Protective Equipment's (PPEs) will help to minimize the health hazards and incidental casualties.

xii) Issues raised during public hearing (if applicable) and response given.

Public Hearing is yet to be conducted for the proposed project.

xiii) Socio-economic Development Plant with proposed expenditure

As per OM dated 30th Sept., 2020 & OM dated 20th Oct., 2020; company will propose a detailed Socio-economic development plan along with the budgetary allocation after conduction of Public hearing considering issues raised during Public hearing.

The funds allocated will be spent for various socio-economic development activities proposed to be undertaken in the study area with a priority to villages falling in the impact zone, which may be further extended to other villages depending upon the budget and requirement.

xiv) Occupational Health Measures

Dust	▪ Implementation of adequate dust control systems and good housekeeping. ▪ Water sprinkling in the places where dust dispersion can occur. ▪ Regular sweeping of roads within plant premises ▪ Providing dust masks to employees working in handling and storage yards. ▪ Periodic work zone monitoring
Noise	▪ Proper maintenance of machineries ▪ Installation of compressors in closed buildings ▪ Regular monitoring of noise level ▪ Display of noise level with permission level ▪ Display instructions for using PPEs at high noise level area ▪ Periodic health checkup for Audiometry for the individuals working in high noise area
Heat stress	▪ Scheduling hot jobs in cooler part of the day ▪ Monitor those workers who are at risk of heat stress ▪ Provide rest periods with water breaks ▪ Use of personal protective equipment
Electrical Hazards	▪ Proper Earthing as per IS 3043 will be done ▪ Low Voltage Supply will be ensured ▪ Isolating Transformers ▪ Double Insulated Tools ▪ Over Load Protection ▪ Protection Against Leakages (G.F.C.I.) ▪ Flame- Proof Equipment ▪ Lightning Protection ▪ Protection against Static Electricity and safely using ladders and scaffolds
Fire and Explosion	▪ Suitable fire extinguisher, fire buckets and fire hydrant system. Dry power type in oil and fire buckets will be kept near transformer, cable, general store and office area. Hydrant line at all location in plant area along with coal, clinker storage area. Fire tender is to be kept ready at plant main gate. ▪ Oil and Flammable Gases storage area will be fenced and declared as Fire Hazardous Area-No Smoking Area" ▪ Permit and safety instruction will be given to use welding / gas cutting in the area of oil, gas, coal and bag go down.

	▪ Predictive interlock in transformers so as to give alarm and trip the system. ▪ Adequate height of brick walls for separation of all transformers, soak pits for storage of oil leakages from transformers will be done.
Other Hazards	▪ Structural soundness of silos and buildings. ▪ Installing light arrestors at all tall buildings. ▪ Permit to be taken to work at height with work instruction to use safety belts etc. ▪ Testing of all lifting tools, tackles and pressure vessel to avoid failure. ▪ Safe working pressure maintained in air receiver. ▪ Safe working load on cranes and ropes etc. ▪ Good housekeeping & Speed limit of vehicles will be 20 km/hr. inside the plant area. ▪ Display of emergency number at all suitable location. ▪ Fire tender, ambulance and emergency staff ready at the plant main gate at all the time ▪ First aid kits are kept at the sites and training provided ▪ Use of mobile while driving, alcohol, smoking etc. are ban inside the plant area. ▪ Proper illumination in plant area (100 to 150 LUX), office (250 to 300 LUX) and road area (20 to 30 LUX)

xv) Post project monitoring plan

Frequency and location for post-project monitoring

S. No.	Description	Frequency of Monitoring	Location
1.	Ambient Air Quality	Twice a Week	At Plant Boundary, in upwind & downwind direction and as per EC / CTO conditions
2.	Fugitive Emission	Quarterly	Cement Mill, Packing Plant, Raw Materials Handling Area
3.	Stack Monitoring	Monthly & Continuous Online Monitoring	Cement Mill Stack
4.	Water Quality	As per CGWA NOC	Nearby Ground water sources and as per CTO conditions
5.	Water Level	Monthly as per CGWA NOC	
6.	Waste water Monitoring	Monthly & as per CTO	Inlet and outlet of STP
7.	Noise Level Monitoring	Monthly & as per EC / CTO	Plant Boundary, High noise generating areas within the Plant Boundary and as per CTO conditions.
8.	Medical Checkup of Employee	Annually	Dispensary/ Health Centre
9.	Performance evaluation of APCE's / Adequacy Study	Yearly	Cement Mill Bag House

*****_Water Level monitoring will also be done to monitor recharge in the area proposed by the company_