EXECUTIVE SUMMARY

OF

DRAFT ENVIRONMENT IMPACT ASSESSMENT/ENVIRONMENT MANAGEMENT PLAN

REPORT FOR PUBLIC HEARING

OF

Expansion in cement production capacity of Standalone Grinding Unit from EC granted capacity of 0.9 million TPA to 6.0 million TPA by installation of Roller Press in existing cement mill (Phase-I: 0.9 to 3.0 million TPA) & installation of additional Cement Mill (Phase-II: 3.0 million TPA)

At Village Vallur, Taluk Ponneri, District Thiruvallur (Tamil Nadu)

PROJECT PROPONENT

THE INDIA CEMENTS LIMITED

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

1.1 Name of the project along with applicable schedule and category as per EIA, 2006.

Expansion in cement production capacity of Standalone Grinding Unit from EC granted capacity of 0.9 million TPA to 6.0 million TPA by installation of Roller Press in existing cement mill (Phase-I: 0.9 to 3.0 million TPA) & installation of additional Cement Mill (Phase-II: 3.0 million TPA) at Village Vallur, Taluk Ponneri, District Thiruvallur (Tamil Nadu)

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)'.

Application [CAF, Form-1 (Part- A & B) & Pre-feasibility Report] for obtaining Environmental Clearance for this project was submitted on PARIVESH Portal on 14th Jan., 2025. Thereafter, project was considered for appraisal by SEAC, TN on 6th Feb, 2025 and ToR letter was issued by SEIAA, Tamil Nadu *vide* File No: 11705 dated 5th March., 2025 for the expansion project.

1.2 Location and accessibility

The project site is located at Village Vallur, Taluk Ponneri, District Thiruvallur (Tamil Nadu)with bounded between Latitude 13°14'22.20"N to 13°14'43.54"N and Longitude 80°17'20.43"E to 80°18'1.58"E.

Environmental Setting of the Project site is given as below -

S. No.	PARTICULARS	DETAILS *(With approximate aerial distance from the nearest project boundary & direction from the center)*
1.	Nearest City	Chennai (~17 km in South direction)
2.	Nearest Village	Athipattu Padu Nagar (~0.6 km in North direction from main plant area)
3.	Nearest National / State Highway	SH-56 (~1.8 km in West direction) SH-114 (~6.5 km in SSE direction) SH-234 - Chennai Outer Ring Road (~4 km in NW direction) SH-2 (~6.5 km in SSW direction)
4.	Nearest Railway Station	Athipattu Padu Nagar Railway Station (~0.7 km in NNE direction)
5.	Nearest Airport	Chennai International Airport (~29 km in SSW direction)
6.	National Parks, Wildlife Sanctuaries, Tiger/Elephant Reserve, Biosphere Reserves within 10 km radius.	No National Park, Wildlife Sanctuary, Biosphere Reserve falls within the 10 km radius of the plant site.
7.	Reserve Forest (RF) / Protected Forest (PF) etc. within 10 km radius.	No Reserve Forest (RF)/ Protected Forest present within 10km radius of plant site.
8.	Water Bodies (within 10 km radius)	○ Kosisttalaiyar River (~ 1.4 km in East direction) ○ Korttalaiyar River (~ 1.9 km in West direction) ○ Buckingham Canal (~ 1.5 km, East direction) ○ Ennur Creek (~3.0 km in ESE direction)

S. No.	PARTICULARS	DETAILS *(With approximate aerial distance from the nearest project boundary & direction from the center)*
		○ Bay of bangal (~3.5 km in East direction) ○ Pond near Vellivoyal (~ 4.0 km, WSW direction) ○ Seemapuram Dam (~ 4.5 km, WNW direction) ○ Kodapakkam lake (~ 5.5 km, SW direction) ○ Pond near Thirunilai (~ 6.0 km, West direction) ○ Ariyalur pond (~ 7.0 km in SW direction) ○ Thottakkadu Mettuma nagar lake (~7.5 km in NW direction) ○ Thiruvellaivayal Lake (~7.5 km in North direction) ○ Pond near Arumandai (~8.0 km in West direction)
9.	Critically / Severely Polluted Area	No ESA/ESZ present in 10 km radius of study area. Whereas, nearest CPA is Manali & plant falls outside 5 km.
10.	Seismic Zone	Zone III [as per IS 1893 (Part-I): 2016]

2.0 PROJECT DESCRIPTION

2.1 Resource requirements (Land; water; fuel; manpower)

Land - The existing plant area is 14.04 ha (34.69 acres). Additional 12.69 ha (31.31 acres) land will be required for expansion proposal. The total land area after expansion will be 26.73 ha (66 acres).

Raw Material Requirement

Major raw material required for Cement production are clinker, Gypsum & Phospho Gypsum, Fly ash/ Pond Ash, Lime Powder (as PI) and slag.

Details regarding quantity of raw materials required, their source along with distance and mode of transportation are given in Table

Table - 1 (a)

Details of Raw Material Requirement along with source and Mode of Transport

S. No.	Raw Material	Requirement (Million TPA)					Source	Mode of Transportation & Approx. Distance
		Phase I			Phase II	Grand Total		
		Existing	Additional (Phase I)	Sub - Total	Additional (Phase II)			
1.	Clinker	0.59	1.48	2.07	2.07	4.14	Integrated Cement Plant of ICL & UTCL	Railway Wagons/ Road, 550-650 Km
2.	Gypsum & Phospho Gypsum / Chemical Gypsum	0.05	0.08	0.13	0.13	0.26	Coromandel international ltd & local market/ imported	Covered Trucks, 10-20 Km; Imported via Ennore & Adani Port
3.	Fly ash/ Pond ash	0.32	0.74	1.05	1.05	2.10	North Chennai Thermal Power Plant & nearby TPPs	Bulkers; covered truck for pond ash, 10-20 Km

S. No.	Raw Material	Requirement (Million TPA)					Source	Mode of Transportation & Approx. Distance
		Phase I			Phase II	Grand Total		
		Existing	Additional (Phase I)	Sub - Total	Additional (Phase II)			
4.	Lime Powder (as PI)	0.01	0.02	0.03	0.03	0.06	Local market	Covered Trucks, 300-350 Km
5.	Slag	0.77	1.16	1.93	1.93	3.86	Kalahasthi Andra, Salem	Covered Trucks, 100-300 Km

Material Balance

The material balance reflecting quantities of raw materials required for producing per ton of each kind of cement is given in the table below:

Table-2: Material Balance for different kind of cements

S.No.	Raw Material Name	OPC	PPC	PSC	PCC
1	Clinker	0.91	0.65	0.40	0.40
2	Gypsum & Phospho Gypsum / Chemical Gypsum	0.04	0.04	0.04	0.04
3	Fly Ash & Pond ash	0.00	0.31	0.00	0.25
4	Limestone	0.01	0.01	0.01	0.01
5	Slag	0.04	0.00	0.55	0.30
	Total	***1.00***	***1.00***	***1.00***	***1.00***

Table - 3

Fuel Requirement

S. No.	Name of Fuel	Quantity Required (TPD)			Source	Distance & Mode of transportation
		Existing	Additional	Total		
1.	Coal (Imported/ Indigenous)	Nil	70	70	Local Market	By road, 50-100 km

Other Basic requirements of the project are as below –

S. No.	Particular	Existing	Additional	Total	Source
1.	Water (KLD)	55	*Phase I*: 15 *Phase II*: 70	*Phase I*: 70 *Phase II*: 70 ***Total (Phase I + II): 140***	Groundwater
2.	Power (MW)	6.8	*Phase I*: 3.2 *Phase II*: 10.0	*Phase I*: 10.0 *Phase II*: 10.0 ***Total (Phase I + II): 20.0***	For existing plant, 6800 KVA electricity from Tamil Nadu Generation and Distribution corporation limited. Additional power for expansion will be sourced from Grid. D.G. set of 320 KVA exist for standby operations.

3.	Manpower (Nos.)	**Construction Phase**				
		Phase – I	Nil	500	500	Regular - Nearby Villages / Area / Outside and Contractual - Nearby Villages / Area
		Phase - II	Nil	1000	1000	
		Total	Nil	**1500**	**1500**	
		Operation Phase				
		Regular	33	Phase I: 5 Phase II: 10	Phase I: 38 Phase II: 10	Regular - Nearby Villages / Area / Outside and Contractual - Nearby Villages / Area.
		Contractual	94	Phase I: 15 Phase II: 50	Phase I: 109 Phase II: 50	
		Total	**127**	**80**	**207**	

2.2 Operational activity

The India Cements Limited is proposing Expansion in cement production capacity of Standalone Grinding Unit from EC granted capacity of 0.9 million TPA to 6.0 million TPA by installation of Roller Press in existing cement mill (Phase-I : 0.9 to 3.0 million TPA) & installation of additional Cement Mill (Phase-II : 3.0 million TPA) at Village Vallur, Taluk Ponneri, District Thiruvallur (Tamil Nadu).

Manufacturing Process of Cement Grinding Unit is given as follows -

The manufacturing of cement will be based on dry process and essentially consist of the following unit operation steps:

- ✓ Clinker storage & handling
- ✓ Fly Ash & Pond Ash, Slag and Gypsum storage & handling
- ✓ Coal storage and other fuel & handling
- ✓ Cement production and storage
- ✓ Cement packing & dispatch

2.3 Key pollution concerns

The proposed standalone Grinding Unit will be based on state of art technology with efficient Air Pollution Control Equipment's and also, the plant will be followed Zero Liquid Discharged policy to avoid water pollution. Noise pollution will be addressed properly as per rules and regulations.

3.0 BASELINE ENVIRONMENT STUDIES

3.1 Ambient air quality

Ambient Air Quality Monitoring reveals that the concentrations of PM2.5 and PM10 for all the 08 AAQM stations were in range of 27.3 to 50.8 µg/m3 and 47.5 to 83.4 µg/m3 respectively and were found to be well within the prescribed limits.

As far as the gaseous pollutants SO_2 and NO_2 are concerned, the prescribed CPCB limit of 80 $\mu g/m^3$ has never surpassed at any station during the monitoring season. The concentrations of NO_2 and SO_2 were found to be in range of 13.4 to 34.8 $\mu g/m^3$ and 6.7 to 17.2 $\mu g/m^3$ respectively. The concentration of the gaseous pollutant for NO2 and SO2 was found minimum at Village Vallur & Ennore respectively and maximum at Wimco nagar and Plant site respectively.

Similarly, the value of PM10 and PM2.5 were found maximum at Athipattu Padunagar and Wimco nagar respectively and minimum at Village Ariyaloor. CO concentration observed maximum of 1.10 mg/m^3 at Village Wimco nagar and minimum of 0.53 mg/m^3 at Village Ariyaloor.

Air Quality Prediction Modelling -

- The maximum predicted incremental GLC for the proposed project for PM10 is found to be 2.21 µg/m^3 at 0.36 km from plant boundary in south direction.
- The maximum predicted incremental GLC for the expansion project for PM2.5 is found to be 0.88 µg/m^3 at 0.36 km from plant boundary in south direction.

3.2 Ambient Noise quality

Ambient noise levels were monitored at 08 locations in and around the project site. Noise level varies from 51.9 Leq dB to 65.2 Leq dB (A) during day time and from 42.7 Leq dB (A) to 56.1 Leq dB (A) during night time.

3.3 Traffic Study

Traffic survey has been conducted for 24 hours at NCTPS Road for type of vehicles, Frequency of vehicles for transportation of materials, Additional traffic due to proposed project. The traffic volume count at NCTPS Road are Motor Cycle /Scooter (41.2%), Passenger Car / Van (41.4%), Bus/Truck (6.4%), Trailer (7.7%), Agriculture Tractors (2.2 %) and Cycles (1.1%).

Due to the proposed project, there will be addition of Heavy and Light motor vehicles [Total No. of increased trucks/trailers per day (inward + outward) = 1040] in the existing traffic. The LOS value is estimated as "Good/Average/Fair" for NCTPS Road after the implementation of the proposed project. Thus, it can be concluded that due to additional traffic the LOS of existing road network will not change.

3.4 Surface water quality

The pH of the surface water samples was observed to vary from minimum (6.90) to maximum (7.94). The water samples have a pH quality slightly alkaline in nature.

The color is found to be BDL (DL-1.0) at all the sampled locations. The turbidity also found to (DL-1.0) at all the sampled locations. The odour was found agreeable at all the sampling locations. The minimum and maximum observed value of the surface water quality indicators varies from total hardness as CaCO3 (110 mg/l to 5891.3 mg/l); alkalinity CaCO3 (70 mg/l to 480 mg/l); Total Dissolved Solids (136.0 mg/l to 29867.0 mg/l); BOD (1.8 mg/l to 39.0 mg/l), COD (9.8 mg/l to 124.0 mg/l)}. The level of DO varies from 6.0 mg/l to 7.1 mg/l.

3.5 Ground water quality

For ground water the sample was taken from Eight Villages within 10 km of study area. The concentration of chloride was found to be (207.4 to 1306.7 mg/l) and sulphate was (79 to 1058.4 mg/l). The concentrations of other micro and macronutrients were also in the range of: calcium (84.6 to 326.4 mg/l), magnesium (43.63 to 119.71 mg/l), and iron (0.008 to 0.22 mg/l). The observed value of the ground water quality indicators varies from total hardness as CaCO3 (390.9 mg/l at to

1308.0 mg/l); Alkalinity $CaCO_3$ (216.87 mg/l to 371.85 mg/l); Total Dissolved Solids (688 mg/l to 3824mg/l).

3.6 Soil quality

Soil monitoring was carried out at 08 locations and the analysis results show that pH ranges from 7.16 to 7.47; where nutrients remain in available form in the soil with organic matter (0.27 to 0.45 %), Nitrogen (112.5 to 243.05 kg/ha), Phosphorous (12.29 to 24.19 kg/ha), Potassium (174.57 to 266.82 kg/ha), Magnesium (243.42 to 654.05 mg/kg), Calcium (809.02 to 1123.24 mg/kg).

3.7 Biological Environment

Flora Diversity: During Field Survey, 6 species i.e. *Ardisia blatteri, Cinnamomum wightii, Drypetes porteri, Tectona grandis, Canarium strictum, Decalepis hamiltonii,* have been reported under Endangered species, *Actinodaphne bourdillonii, Aegle marmelos, Beilschmiedia wightii, Chrysalidocarpus lutescens* , & *Tricalysia apiocarpa,* are categorized as Near Threatened species and *Acacia ferruginea, Actinodaphne bourneae, Bentinckia condapanna, Cinnamomum sulphuratum, Dalbergia latifolia, Dalbergia sissoides,* & *Saraca asoca* is reported under Vulnerable species. All other species are very common to Indian sub-continent and have a very good geographical distribution.

Faunal Diversity: A primary field survey was carried out within 10 km radius impact zone in and around the project area to study the floral and faunal diversity of the terrestrial and aquatic environment of the study area. Among fauna, Total 241 faunal species which includes 64 species of mammals, 13 species of Reptiles, 3 species of Amphibians, 10 species of Arthropods, 11 species of Butterfly and moths, & 9 species of Fishes were recorded from the study area. Among avifauna, 131 species were recorded in the study area.

Total 45 species come in Schedule- I fauna according to THE WILD LIFE (PROTECTION) AMENDMENT ACT, 2022 dated 19th December 2022. Out of these 26 mammals, 17 reptile's species and 12 species of Avi-faunal. List of threatened fauna of the project study area was prepared based on the primary field data and referring to the schedule I of THE WILD LIFE (PROTECTION) AMENDMENT ACT, 2022 and the International Union for Conservation of Nature and Natural Resource (IUCN) Red List (IUCN 2016).

Aquatic biodiversity- Aquatic diversity is not observed in the core zone area due to the absence of aquifers. However, the buffer zone of the study area boasts excellent aquatic biodiversity, attributed to the presence of thirteen water bodies and Bay of Bengal which is falling within 5 km of study area. These water bodies support a wide range of organisms, including phytoplankton, zooplankton, macrobenthos, and various fish species. The study area has recorded families of phytoplankton species such as Chlorophyceae, Microcystaceae, Rhizosoleniaceae, as well as species of zooplankton species like Protozoa and Flagellate.

The Kosisttalaiyar River, Korttalaiyar River, Bay of Bengal, Buckingham Canal, Ennur Creek, Pond near Vellivoyal, Kodapakkam lake, Pond near Thirunilai, Ariyalur pond, Thottakkadu Mettuma nagar lake, Thiruvellaivayal Lake, Pond near Arumandai and Seemapuram Dam are home to diverse fish populations, including *Carcharhinus altimus*, *Escualosa thoracata, Lepturacanthus savala, Lutjanus*

fulviflamma, *Oreochromis mossambicus*, *Platycephalus biomacula*, *Rastrelliger kanagurta*, *Salmostoma bacaila*, and *Sardinella fimbriata*. Notable phytoplankton genera in the study area include *Ankistrodesmus falcatus*, *Cyclotella* sp., *Anacystis* sp., *Zygnema* sp., *Volvox* sp., *Achnanthes affinis*, *Ulothrix* sp., *Anabaena* sp., *Chlorella vulgaris*, *Rhizosolenia* sp., *Synedra* sp., *Oocystis* sp., *Pediastrum simplex*, *Diatoma* sp., *Azolla* sp., *Melosira granulate*, *Microcystis* sp., *Navicula gracilis*, *Chlamydomonas* sp. and *Spirodela* sp. Zooplankton genera such as *Aspidisca* sp., *Brachionus* sp., *Alona pulchella*, *Euglena* sp., *Daphnia* sp., *Cerocomonas* sp., *Moina* sp., *Naegleria* sp., *Cyclops* sp., *Diaptomus* sp., *Pleuronenema* sp., *Monostyla* sp., *Philodina* sp., and *Biapertura karua have also been observed. These organisms can serve as potential indicators of organic pollution resulting from anthropogenic activities.*

3.8 Land use

The largest area is covered by vegetation/ plantations (32.21%), followed by marine water (24.69%) indicating a strong coastal influence. Other notable land uses include dense scrub (9.06%), agricultural land (8.85%), and settlements (7.68%), reflecting the area's reliance on agriculture and urbanization. Industrial zones cover 7.53%, while water bodies make up 6.90%, supporting irrigation and local water supply.

Additionally, infrastructure like roads (1.47%) and railways (0.19%) facilitate transportation, while smaller areas are occupied by salt pans, sand beaches, and mud.

Overall, the area is characterized by a combination of natural features, agriculture, urban growth, and industrial development, with significant coastal and riverine influences.

3.9 Socio-economic environment

The population of the study area as per 2011 Census records is 437135 (for 10 km radius buffer zone). The study area of 10 km has been divided into three zones viz. Primary Zone (0-3 km), Secondary Zone (3-7 km) & Tertiary Zone (7-10 km). The total no. of household is 112213. Sex ratio 981, 1000 and 988 (females per 1000 males) observed in primary, secondary and outer zone respectively. SC population distribution is 51%. ST population distribution is 4%.

4.0 ANTICIPATED IMPACTS

Content No.	*Parameters*	*Anticipated Impacts*
4.1	Ambient Air Quality	○ The main sources of dust emission are the movement of equipment at site, leveling, grading, earthwork and foundation works. ○ Dust emission due to movement of equipment at site, leveling, grading, earthwork and foundation works ○ Loading and unloading of construction material and debris will also affect the ambient air quality.
4.2	Ambient Noise Quality	Noise will be generated due to following activities / processes ○ Movement /operation of transport and construction vehicles / equipment ○ Other important activities involved in construction stage such as, earthmoving, compaction, concrete mixing, crane operation, mechanical /electrical installation.

Content No.	*Parameters*	*Anticipated Impacts*
		o Increase in noise levels within the plant area, which will be generated from the machineries and equipment such as Clinker grinding mill, turbines, fans, compressors, motors, and D.G. Sets itself; and from transportation activities
4.3	Road and Traffic	o Increase in the Road traffic density which will result in deteriorating the ambient air quality. o Rapid Movement of heavy - duty vehicles will cause in increase noise level. o Slight impact is envisaged on the flora and fauna of the vicinity area due to noise/ or the vibrations. o Increased traffic volume may increase the probability of accidental incidences in the area
4.4	Surface Water Resources and Quality	o Increase in suspended solids due to soil run-off during heavy precipitation and due to lose soil at construction site o Waste water generated from the project will have an impact on the surface water quality of the nearby area if not managed properly.
4.5	Ground Water Resourced and Quality	o The extraction of groundwater may result in decrease in ground water table and & waste water generated may deteriorate the quality of groundwater. o Waste water generated from the project will have an impact on the ground water of the nearby area if not managed properly
4.6	Terrestrial and aquatic habitat	o Fugitive emissions (dust) generated due to construction activity may impact the terrestrial flora. The settlement of dust on the laminar surface of plants can impede the efficiency of photo-transduction and thereby, affect the productivity of plants o Increased noise level due to running of machinery may scare the wild fauna and force them to migrate to other areas
4.7	Socio-economic Environment	o About 1500 nos. of people will get employment during the construction stage resulting in the ancillary development and growth. o Long term exposure to the pollutants such as PM, Cement dust have a potential to create health impacts such as risk of cardiovascular and respiratory disease, eye irritation, bronchitis, lung damage, increased heart ailments, etc. o Other impacts, associated with the proposed project will create a positive impact as it will result in the overall development of the area in respect to the infrastructure development, educational growth, health facilities etc. as a part of the CSR activity

5.0 ALTERNATIVE ANALYSIS

The proposed expansion by the company will be carried out in the existing plant as well as in additional land adjacent to the existing plant site located at Village Vallur, Taluk Ponneri, District Thiruvallur (Tamil Nadu). Additional land of 12.69 ha which is required for expansion activities is already under possession of the company.

Since, the total land required for the project is already allocated to the company for installation of Grinding Unit, no alternative site has been explored for the project.

6.0 ENVIRONMENTAL MONITORING PROGRAM

S. No	Attributes / Aspects	Monitoring Parameter	Location	Frequency	Responsibility
Construction Phase					
1.	Ambient Air quality Monitoring	PM_{10}, $PM_{2.5}$, SO_2 and NO_x	Plant Site, location in Upwind and Downwind direction from the plant site, Plant Boundary and as per EC/CTO conditions.	Twice a Week	Environment Site In charge
2.	Water Quality and level	pH, Turbidity, Colour, Odour, Taste, TDS, Total Hardness, Calcium hardness, Magnesium hardness, Chloride, Fluoride, Sulphate, Nitrates, Alkalinity, Iron, Copper, Manganese etc.	Plant Site (Borewells), Nearby Ground water sources and as per CGWA NOC	As per CGWA NOC	Environment Site In charge
3.	Noise Level	Day & Night dB (A)	Project Boundary, High noise generating areas within the Plant Boundary and as per CTO conditions	Monthly & as per EC / CTO	Environment Site In charge
4.	Medical Checkup	Spirometry, Audiometer, Biochemical Parameter (Urine, Blood) / Circulatory and Vision Test etc.	Dispensary / Health Centre	Yearly as per Factories Act	Environment Site In charge, Plant Unit Head and HR Department
Operation Phase					
1.	Ambient Air quality Monitoring	PM_{10}, $PM_{2.5}$, SO_2 and NO_x	Plant Site, location in Upwind and Downwind direction from the plant site, Plant Boundary and as per EC/CTO conditions.	Twice a Week	Environment Site In charge
2.	Fugitive Emission Monitoring	SPM	Cement Mill, Packing Plant, Near Gypsum Feeding Yard & Near Fly Ash Unloading Area	Monthly	Environment Site In charge and team
3.	Stack Monitoring	PM	Cement Mill	Monthly / Continuous Online Monitoring	Environment Site In charge and team
4.	Water Quality and level	pH, Turbidity, Colour, Odour, Taste, TDS, Total Hardness, Calcium hardness, Magnesium hardness, Chloride, Fluoride, Sulphate, Nitrates, Alkalinity, Iron, Copper, Manganese etc.	Plant Site, Nearby Ground water sources and as per CGWA NOC	As per CGWA NOC	Environment Site In charge

S. No	Attributes / Aspects	Monitoring Parameter	Location	Frequency	Responsibility
5.	Sewage Treatment Plant	pH, BOD, COD & Total Coliform	Inlet and Outlet of STP	Monthly & as per CTO	Environment Site In charge and team
6.	Noise Level	Day & Night dB (A)	Project Boundary, High noise generating areas within the Plant Boundary and as per CTO conditions	Monthly & as per EC / CTO	Environment Site In charge
7.	Medical Checkup	Spirometry, Audiometer, Biochemical Parameter (Urine, Blood) / Circulatory and Vision Test etc.	Dispensary / Health Centre	Yearly as per Factories Act	Environment Site In charge, Plant Unit Head and HR Department

7.0 ADDITIONAL STUDIES

7.1 Risk assessment

The India Cements Limited is/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 (PPEs) will help to minimize the health hazards and incidental casualties.

7.2 Public Consultation

Public Hearing is yet to be conducted for the proposed Standalone Grinding Unit from EC granted capacity of 0.9 million TPA to 6.0 million TPA by installation of Roller Press in existing cement mill (Phase-I: 0.9 to 3.0 million TPA) & installation of additional Cement Mill (Phase-II: 3.0 million TPA) at Village Vallur, Taluk Ponneri, District Thiruvallur (Tamil Nadu) by The India Cements Limited.

7.3 Action plan to address the issues raised during public consultation as per MoEF&CC O.M. dated 30/09/2020

Company will prepare the detailed Socio-economic Development Plan based on the issues or need raised during Public Hearing as per the OM of MoEF&CC dated 30th Sept., 2020, & 20th Oct., 2020.

8.0 PROJECT BENEFITS

The Expansion Project is providing indirect employment opportunities, the company is being/will generate a fair amount of direct employment avenues in the area in the form of contractor, shopkeepers, agents, Stockists, transportation, workshop, etc. and other casual employment. The local economy will receive a boost due to employee spending and services generated by the company. The overall effect will improve the buying power of employees and thus a higher standard of living viz. better education, improved health and sanitation facilities, housing etc. This is envisaged as a major positive benefit, which will ultimately lead to the sustainable development of the region.

9.0 ENVIRONMENT MANAGEMENT PLAN

Particulars	Details
Air Quality Management	o For expansion in Phase I: 10 additional Bag Filters will be installed in the Roller Press circuit o For expansion in Phase II: 1 Bag House with Cement Mill with 25 bag filters in the new line circuit. o Covered Conveyor belts for transfer of raw materials/finished products. 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 to control fugitive 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 done along the plant boundary to attenuate air pollution
Noise Management	o Machine operators and Persons working just close to machine are will be provided with personal protective equipment viz. Ear plugs / Ear muffs etc. o Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise. o Green belt will be developed all around the plant boundary & thick towards village (Nearest Habitation). o Regular monitoring of noise level will be carried out and corrective measures in concerned machinery will be adopted accordingly. o However, noise level at the plant boundary will be maintained below 75 dB (A) in day time and below 70 dB (A) in night time.
Solid & Hazardous Waste Management	o No solid waste will be generated from the plant. However, dust collected from the air pollution control equipment (Bag house & Bag filters) will be 100% recycled back to the process. o Sewage sludge (0.1 kg/day) will be generated from STP's & will be used as manure in horticulture & green belt development. o After expansion - Used oil / Spent oil (10 TPA), will be generated as per Schedule- I of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016; which will be sold to CPCB/ SPCB authorized recycler. Used Oil/ Spent oil will be filled in Empty barrels and further sold to CPCB/ SPCB authorized recycler. o Used Lead acid batteries (4 TPA) will be generated and which will be stored in the designated storage area and will be disposed-off/ sold to registered vendors as per Battery Waste Management Rules 2020. o E- Waste (~5 Tonnes/annum) will be generated in the form of used electrical equipment, Cables, CFL/ LED Lights, which will be sold to registered vendors as per E- Waste Management Rules, 2016.
Effluent Management Plan	o Grinding unit will be based on the dry process technology. o Domestic waste water from Plant after expansion (8 KLD) will be treated in STP (10 KLD Capacity) and treated water (5.4 KLD) will be used in greenbelt development / plantation. o Water will be used for dust suppression and cooling only. Hence, zero liquid discharge will be maintained in Grinding Unit.
Rainwater Harvesting Plan	o Rainfall runoff inside Plant is calculated to 85236 cum/yr o There are existing 6 recharge pits to cater to the runoff generated.

Particulars	Details
Occupational health and safety management plan	o The occupational health surveillance of the employee will be done on a regular basis and records of the same will be maintained as per the Factories Act. o The occupational health surveillance Programme will include lung function; sputum analysis and audiometric analysis on regular basis to observe any contraction due to exposure to dust and noise and corrective measures will be taken accordingly o Vocational training programmes will also be conducted.
Greenbelt Development / Plantation	o The total project area is 26.43 ha, out of which, 33.0% area (8.9 ha.) has been earmarked to be developed as greenbelt development & plantation. o 3777 of trees have already been planted and 7723 saplings will be planted as gap filling to maintain the density of 2500/ha. The proposed greenbelt development & plantation area will be developed in upcoming years with 18473 numbers of trees and density will be maintained.
Socio-economic Management Plan	o Project will be implemented based on issues raised during the public hearing, community priorities and with significant local contributions. Important areas identified through Socio-economic study. This approach will strengthen the group & empower the members. o As per OM dated 30th September, 2020, company will propose a detailed action plan along with budgetary allocation after conducting Public Hearing, considering issues raised during the public hearing. o 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.
Project cost and EMP implementation budget.	Total Cost of the Project - o Phase-I: Rs. 150 Crores o Phase-II: Rs. 400 Crores Cost for Environmental Protection Measures: o Capital Cost: Rs. 55 Crores [Phase I- Rs 15 crores, Phase II- Rs 40 crores] o Recurring Cost: Rs. 5.5 Crores / annum [Phase I- Rs 1.5 crores/annum, Phase II- Rs 4 crores/ annum]