

**M/s. LAKSHMANAN CEMENTS PVT LTD,  
Survey Number 69-3, 69-4, Pachanapalli Village,  
Chittoor Mandal and District, Andhra Pradesh**

## **EXECUTIVE SUMMARY**

**SUBMITTED BY**

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**Submitted to**  
**ANDHRA PRADESH POLLUTION CONTROL BOARD,**  
**REGIONAL OFFICE, TIRUPATI**

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**CHAPTER E.0 EXECUTIVE SUMMARY**

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**Introduction (Terms of reference: 1, 2 (i), 2(ii))**

M/s. Lakshmanan Cements Pvt Ltd (LCPL) proposes to establish a greenfield standalone grinding unit for cement manufacturing with a production capacity of 300 TPD at survey number 69-3, 69-4, pachanapalli village, chittoor mandal and district, Andhra Pradesh. The capital cost of the proposed unit is Rs.2.2 crores. The Ministry of Environment, Forest and Climate Change (MoEFCC), Government of India Issued a notification vide S.O. 1533, dt. 14.9.2006 prescribing prior environmental clearance for cement grinding units of less than 1 million ton capacity/year. Accordingly the project proponent obtained the Terms of Reference (ToR) following the due process as mentioned in the said notification vide letter no. J-11011/231/2016-IA-II (I), dt.18.01.2017. The EIA report is based on the prescribed TOR's to obtain environmental clearance.

M/s. Lakshmanan Cements Pvt Ltd (LCPL) is conscious of its responsibility towards the society in minimizing the pollution load due to the proposed project and accordingly decided to carry out the Environmental Impact Assessment to identify the negative and positive impacts and to delineate effective measures to control pollution and to mitigate the environmental pollution. M/s. Lakshmanan Cements Pvt Ltd (LCPL) has appointed M/s. Team Labs and Consultants for the preparation of Environmental Impact Assessment report. The executive summary of the Environmental Impact Assessment Report is presented below.

## Project Location

The project site is located at survey number 69-3, 69-4, pachanapalli village, chittoor mandal and district, Andhra Pradesh spread over an area of 1.41 ha. The plant site is situated at the intersection of 13° 09' 58" (N) Latitude, 79° 11' 39" (E) Longitude. The site elevation above mean sea level (MSL) is 272 m. The site is connected by Chillapalli - Narasingarayanipeta road in east direction, agricultural lands in west and south directions and stand alone cement grinding mill of M/s. Gowtham cements in north direction. The nearest habitation from the site is Pachanapalli village located at a distance of 1.1 km in northwest direction. The nearest town is chittoor at a distance of 9.0 km in northwest direction. The main approach road is Chillapalli - Narasingarayanipeta road passing at a distance of 50 m in east direction. The nearest railway station is Siddampalli at a distance of 6.3 km in northwest direction. Ponnai River is flowing from northeast to southeast at a distance of 2.4 Km in northeast direction. The following six reserve forests are within 10 km radius of the study area; Chilapalli RF at a distance of 3.3 km in southwest direction, Chaseskonda RF is at a distance of 5.6 km in northwest direction, Basavapalli RF is at a distance of 7.2 km in southwest direction, Reddigunta RF is at a distance of 7.8 km in northwest direction, Balakrishanapuram RF is at a distance of 9.2 km in east direction and Chittoor RF is at a distance of 9.3 km in northwest direction. Interstate boundary of Andhra Pradesh - Tamil Nadu states is at a distance of 2.5 km in southeast direction. There is no National Park, wild life Sanctuary, Biosphere Reserves, Migratory corridors, ecologically sensitive area and critically polluted area within the impact area of 10 Km radius.

## Production Capacity

### Plant Capacity

Name of Product	Units	Capacity (TPD)
Cement (OPC/PPC)	TPD	300

### Manufacturing Process

It is proposed to utilize 1 x 20 TPH ball mill with a capacity of 300 TPD. The raw materials - clinker, gypsum and fly ash are stored in silos, and are charged into a dump hopper fitted with table feeders and screw feeders to control feed rate. The material is extracted by means of table feeders in the desired proportion and fed to the ball mill hopper. The mix is fed to the ball mill hopper for intermediate storage where a mill feeder is installed, which controls the feed rate to mill, and desired fineness can be adjusted. The cement produced is stored in the cement Silo and extracted from the cement silo by means of a screw feeder and transported to packer plant where it is first screened to remove any foreign particle and then stored into a hopper for packing with the help of auto packers. Spillage if any during the packing is collected into a spillage hopper and recycled to the system. The packed bags are handled by a belt conveyor and transported for sale.

### Water Requirement

Water requirement is mainly for dust supersession, green belt and domestic purpose. The total water requirement is in the order of 5.0 KLD. The source of water is Ground water /stored storm water runoff. The water balance is presented in the following [table](#).

**Water Balance (KLD)**

<b>Purpose</b>	<b>Input, KLD</b>	<b>Purpose</b>	<b>Output, KLD</b>
Dust Suppression	1.5	Loss	1.5
Domestic Use	1.0	Domestic waste water	0.8
		Loss	0.2
Green belt development	2.5	Loss	2.5
<b>Total</b>	<b>5.0</b>	<b>Total</b>	<b>5.0</b>

**Baseline Environment**

The baseline data for ambient air quality, surface and ground water quality, noise, and soil quality was collected and analyzed for various parameters during December 2, 2016 - March 03, 2017. The analytical results show that the values are within the prescribed limits for air quality. The ground water quality analysis results show that the values are within the Indian Standard Drinking Water Specification of IS: 10500-2012. Noise quality parameters in the study area are within the prescribed limits of Ambient Noise Standards prescribed by Central Pollution Control Board (CPCB) in 1989.

**Identification and quantification of Impacts**

The major contribution of pollution from the proposed grinding mill are emissions from the ball mill and fugitive emissions anticipated from storages, conveyer and material transfer points. The water pollution is due to wastewater generated from domestic consumption. The domestic wastewater shall be sent to septic tank followed by soak pit. The impact assessment report identified various sources of pollution and quantified the pollution loads and has identified the technologies to be adopted for the mitigation and control of the same.

**Impacts on Air quality**

The impacts on air quality due to the proposed project are from ball mill and fugitive emissions anticipated from storages, conveyer and material transfer points. The impacts are quantified using ISC-AERMOD based on ISCST3 algorithms of USEPA. The results indicate marginal increase in the ambient air quality parameters. The cumulative concentrations of predicted values and baseline data are within the prescribed limits of CPCB. The impacts on air quality are marginal due to fugitive emissions and due to emissions from transport.

**Impacts on Water**

The required water shall be drawn from ground water /stored storm water runoff. The quantity of water required is only 5.0 KLD. The wastewater generated from the domestic source shall be sent to septic tank followed by soak pit. The impact on water source and due to wastewater is not significant.

**Impacts on Noise quality**

Noise will be generated from the ball mill due to grinding activity. Mitigation measures will be adopted to control noise pollution at the source by providing protective cover around the noise generating sources such as shields/mesh. Personal protective equipment for noise like ear muffs and other protective devices will be provided to the staff working near noise generating source. The green belt proposed will also help in the reduction of noise levels outside the plant.

**Impacts on Soil**

The solid waste generated in this plant is mainly dust collected in bag filter, which is reused. The raw materials and cement are stored in silos. Hence the impact on soil shall be negligible.

**Impacts on Ecology**

There are no endangered flora and fauna in the impact area. Hence there is no significant impact on ecology.

**Impacts on Socio Economy**

Employment generation and socio economic development of the back ward area is a major benefit of this project as it provides employment to 22 people and management envisages selection of the same from the local area. The area which has low industrial density and medium agricultural activity will have positive benefits due to this project.

**Environment Management Plan**

The management plan is drawn in consultation with the project proponents, technical consultants after evaluating a number of technologies available for mitigation and control of pollution. The environment management plan is drawn to address the impacts monitored, identified and predicted.

**Construction Phase**

As the unit is located near the bitumen road the potential of pollution during the construction phase will be less when compared to the operational stage. However the industry will ensure to keep the pollution potential level in the construction phase to a minimum.

**Operation Phase****Air Pollution**

Particulate matter is of the only pollution from the proposed grinding unit. The sources of emissions are ball mill and packing plant apart from the raw material transfer. The storage of raw materials shall be in silos and the transfer shall be by closed conveyor. The transfer points of raw materials shall be provided with hood connected to bag filter. The ball mill and the packing plant shall be connected to a bag filter to mitigate air emissions. The emissions from the bag filter are released through a stack of 15 m height.

**Solid Waste**

The main solid waste generated from the cement grinding unit is cement dust collected from pollution control device and road sweeping. The dust collected in the air pollution control equipment in the cement plant will be recycled back to the process. The other wastes are waste oil and used batteries generated from backup DG Set, which are sent to authorized recyclers.

**Liquid Effluents**

There is no major source of water pollution in the plant. Water usage is mainly for domestic purpose and the domestic wastewater of 0.8 KLD is sent to septic tank followed by soak pit.

**Noise Pollution**

The major source of noise in the plant is motors and ball mill. The noise and vibration from the ball mill shall be mitigated by locating it in a closed shed. Personal protective equipment for noise like ear muffs and other protective devices will be provided to the staff working near noise generating source. The green belt proposed will also help in reduction of noise levels outside the plant.

**Occupational Safety and Health**

The most significant occupational hazards in the grinding mill are dust, noise and vibration, and physical hazards. Exposure to dust is anticipated in grinding and packing areas. Housekeeping by vacuum cleaning, and provision of ventilation shall reduce dust raise, and provision of personal protective equipment, mainly masks shall mitigate exposure to dust. The noise and vibration from the ball mill shall be mitigated by locating it in a closed shed.

**Prevention, maintenance and operation of Environment Control System**

The pollution control equipment will be monitored periodically and will be checked for its performance and pro-active maintenance will be adopted. The environmental monitoring results will be evaluated to identify the problems/ under performance of the equipment. Necessary steps will be taken to rectify the identified problems/defects. The management agrees that the evaluation of the performance of pollution control measures and occupational safety measures to arrive at their efficiency and proposes to adopt new measures for efficient pollution control which will be a regular exercise.



**Transport Systems**

The National highway 14 is located at a distance of 8.8 km from the proposed plant site. There will be 40 truck trips/day to the factory. The vehicles are provided with sufficient parking space near the gate, and traffic signs are placed in the battery limit. The traffic density of the adjacent national highway is low consisting mainly of local agro produce transport, and passenger vehicle traffic. There will be marginal increase in the traffic density.

**Green Belt Development**

Green belt is recommended as one of the major components of Environment Management Plan. The proposed site has mango trees and proposes to compensate the trees cut as for the project by 5 times, i.e 125 trees. It is proposed to ensure a green belt of 0.48 ha in the site. The management emphasizes the greening of the site to enhance environmental quality through mitigation of emissions, attenuation of noise levels, balancing eco-environment, prevention of soil erosion, and creation of aesthetic environment. The greenbelt shall be developed based on the CPCB guidelines.

**Environment Management Cell**

The environmental management activity shall be supervised by the factory manager and shall be assisted by technicians.