

**NCL INDUSTRIES LIMITED**  
**CEMENT DIVISION**



AN ISO 9001 : 2015 COMPANY  
CIN : L33130TG1979PLC002521

// REGISTERED POST A/D//

NCL/QC/ENVT/2022-23/444

Date: 29.08.2022

To

The Member Secretary,  
TSPC Board,  
Paryavaran Bhavan,  
A-3, Industrial Estate,  
Sanathnagar,  
HYDERABAD – 500 018.

Sub: Submission of Environmental Statement Audit Report Form – V for the Year 2021 -22.

Ref: Plant CFO & HWA Order No: - 220823507431, Dated: 06.04.2022.

Dear Sir,

With reference to the above cited subject, we are here with submitting three copies of Environmental Statement Audit Form –V for the financial year ending March 2022.

Kindly acknowledge the receipt of the same.

This is for your kind information.

Thanking you.

Yours faithfully,

For NCL INDUSTRIES LIMITED



*S. Chandra*  
PRESIDENT (WORKS)

Encl: As above.

Copy to: The Environmental Engineer, TSPC Board, Regional Office,  
H.No.8-15,1<sup>st</sup> Floor, Sri Laxmi Complex,Near RTA office,  
Sri Vinayak Nagar, NALGONDA 508 201, TELANGANA.

Factory : Simhapuri, Mattapalli Village, Mattampalli Mandal, Suryapet Dist.,-508 204, T.S.

Tel : 08683-227630, Fax: 08683-227629 E-mail : nclworks@nclind.com

Regd. & Corporate Office: 7th Floor, NCL Pearl, Near Rail Nilayam, S.D. Road, Secunderabad-500 026. Telangana, India,  
T : 91-40-30120000, 2980 7868/69, Fax: 91-40-2980 7871, E-mail: ncl@nclind.com | Website : www.nclind.com

**ENVIRONMENTAL STATEMENT (FORM - V)**  
**For The Financial Year Ending March -2022**



**M/S. NCL INDUSTRIES LTD**

**(CEMENT DIVISION)**

**SIMHAPURI, MATTAPALLI (V),  
MATTAMPALLI (M) SURYAPET (DIST).**

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**FORM – V**

**(See Rule 14)**

**ENVIRONMENTAL STATEMENT (AUDIT) REPORT**

**FOR THE FINANCIAL YEAR ENDING 31<sup>st</sup> MARCH, 2022**

**PART - A**

- i) Name and address of the owner/ Occupier of the industry operation or process. : **M/s. NCL INDUSTRIES LTD.,**  
(Cement Division)  
Simhapuri, Mattapalli (V),  
Mattampalli (M) Suryapet (Dist).
- ii) Date of the last Environmental Audit Report submitted : 17.09.2021
- iii) Production Capacity (Units) : Clinker 7800 TPD (2.6 MTPA)  
Cement 6120 TPD (2.0 MTPA)
- iv) Year of Establishment :
- Line- 1 1984
  - Line -2 2010
  - Line-3 2017
  - WHR Power Plant - 2021 (11MW)

**PART - B**

**WATER AND RAW MATERIAL CONSUMPTION**

**i) Water consumption (m<sup>3</sup> /day) : 1962**

1. Process & Cooling - 1712
2. Domestic - 250

Name of Products	Water consumption per unit of products (KL/MT)	
	During the previous Financial year (2020-2021)	During the current Financial year (2021-2022)
Cement	0.204	0.237

**NCL Industries Ltd., (Cement Division)**

**ii) Raw material consumption:**

Name of raw Materials	Name of product	Consumption of raw material per unit of output (Ton/Ton)	
		During the previous Financial year (2020-2021)	During the current Financial year (2021-2022)
1. Lime Stone	Clinker	1.341	1.338
2. Aluminum Laterite	Clinker	0.101	0.109
3. Iron ore	Clinker	0.007	0.003
4. Coal	Clinker	0.157	0.162
5. Gypsum	Cement	0.029	0.039
6. Fly Ash	Cement	0.116	0.122

**PART – C**

**POLLUTION DISCHARGED TO ENVIRONMENT**

(Parameter's as specified in the consent issued)

Pollutants	Quantity of Pollutants Discharged (kg/day) 2021-2022	Concentrations Of Pollutants in Discharges (mg/L) 2021-2022	Standard Limit mg/nm3	Percentage of variation from prescribed standards with reasons
<b>a) Wastewater:</b> There is no process waste water generation in plant. Domestic sewage Waste only source, It was treated in Colony STP, treated water using for Green belt development				

**NCL Industries Ltd., (Cement Division)**

b) Air					
Stack Attached to	Pollutants	Quantity of Pollutants in Emissions (kg/day) 2021-2022	Concentrations Of Pollutants in Emissions (mg/ N m <sup>3</sup> ) 2021-2022	Standard Limit mg/nm <sup>3</sup>	Percentage of variation from prescribed standards with reasons
Line 1 Kiln	SPM	--	--	30	--
Line 1 Cooler	SPM	--	--	30	--
Line 1 Cement Mills	SPM	13.29	17.58	30	41.39 %
Line 1 Coal Mill	SPM	11.27	22.54	30	24.86 %
Line 1 Packing plant	SPM	3.20	23.35	30	22.15 %
Line 2 L.S. Crusher	SPM	18.65	24.11	30	19.64 %
Line 2 Kiln	SPM	88.99	20.28	30	32.39 %
Line 2 Cooler	SPM	61.29	20.91	30	30.29 %
Line 2 Cement Mill	SPM	8.07	17.53	30	41.58 %
Line 2 Packing Plant	SPM	8.33	21.10	30	29.68 %
Line 2 Coal Mill	SPM	56.06	20.63	30	31.24 %
Line 3 Kiln	SPM	211.26	16.43	30	45.25 %
Line 3 Cooler	SPM	98.46	15.58	30	48.06 %
Line 3 Cement Mill	SPM	14.30	10.79	30	64.03 %
Line 3 Packing Plant	SPM	10.88	23.49	30	21.70 %



PART - D

HAZARDOUS WASTE

(As specified under hazardous wastes/Management and handling rules, 1989)

Hazardous Wastes	Total Quantity per year	
	During the previous Financial year (2020-2021)	During the current Financial year (2021-2022)
a) From Process	-N.A-	-N.A-
b) From Pollution control facilities	-N.A-	-N.A-

PART - E

SOLID WASTES

	Total quantity MT per year	
	During the previous Financial year (2019-2020)	During the current Financial year (2020-2021)
a) From Process	-NA-	-N.A-
b) From Pollution Control Facility	-NA-	-N.A-
c) Quantity recycled or re-utilized	-NA-	-N.A-

**PART - F**

Please specify the characteristics (in terms of concentration and quantum) of Hazardous as well as solid wastes and indicates disposal practice adopted for both these categories of wastes.

There is no hazardous waste generated in process, only used Waste oil was generated from process and it was incinerated in rotary kiln.

**PART - G**

**Impact of the pollution control measures on conservation of natural resources and consequently on the cost of production.**

Pollution control measures for different stacks in cement plant results in saving natural resources and most of dust is either from intermediate stage or final product. By controlling emissions, the management can avoid unnecessary loss.

**PART – H**

**Additional investment proposal for environmental protection including abatement of pollution.**

The Management's objective is to establish complete system for Alternative Fuels and raw material storage, handling, feeding in kilns for suitable to feed Solid, Liquid and RDF with safety and Environment concern in this year and Additional Raw Material storage sheds to the existing cement plant facility and addition to this about 50,000 samplings (including mines/haulage roads) were planted during 2022 -2023. The growth of greenery is visibly aesthetic around the plant, colony and mines. The plant too has the monitoring equipment.

**PART – I**

**Any other particulars in respect of environment protection and abatement of pollution.**

The Management's objective is to achieve the production without affecting the physical, chemical and biological environments of the nearby vicinity.

Industry has taken lot of efforts to raise the plantation in and around the plant premises even though the land is unfavorable for plantation due to rocky nature of the soil. The green canopy in and around the factory stands as an example for efforts made by industry in the barren land.

## **1. INTRODUCTION**

M/s. NCL INDUSTRIES LTD., (Cement Division) has setup a cement plant to manufacture Ordinary Portland Cement and Portland Pozzalona Cement at Simhapuri, Mattampally Mandal of Suryapet (Dist) of Telangana. The Plant is established in the year of 1984 with capacity of 1800 T/day Line-I. Line-II was installed and commissioned on April 2010 with capacity of 3000 T/day. And line -III installed and commissioned on March 2017 with capacity of 3000TPD. Present the total plant producing from three lines clinker capacity is 7800TPD (2.6 MTPA) and Cement manufacturing capacity is 6120 TPD (2.0 MTPA). 11 MW WHR Power Plant by utilizing the hot flue gas from existing cement plant.

## **2. OBJECTIVE OF THE STUDY**

The objective of the present study is to review the performance of pollution control systems installed by the industry so as to identify efficient pollution prevention and control systems which could be beneficial to both environment and its components.

And also **Inserted by rule 2 of the Environment (Protection) second Amendment & Rules, 1992 vide G.S.R. 329 (E), dated: 13-3-1992.** Every person carrying on an Industry, operation or process requiring consent under section 25 of the water (prevention and control of pollution) Act 1974 (6 of 1974) or under section 21 of the Air (Prevention and Control of Pollution), Act 1981 (14 of 1981) or both or authorization under the Hazardous wastes (Management and Handling) Rules, 1989 issued under the Environmental (Protection) Act 1986 (29 of 1986) shall submit an environmental audit report for the financial year ending 31<sup>st</sup> March in Form - V to the concerned state pollution control board on or before the 30<sup>th</sup> day of September every year beginning 1993.

### **3. Benefits of Environmental Audit**

Environmental audit creates awareness in the conservation of natural resources and helps to improve production safety and health. The benefits of audits are:

1. It helps in reduction of raw material consumption by way of waste minimization and adoption of recovery of waste and recycles the same.
2. Determined the performance of process systems and helps to improve the systems.
3. Efficiency of pollution control systems can be calculated.
4. This gives the awareness of environmental organization in the industry.
5. Data available will help the management for use in the plant modification and adopting pollution control for different types of technology.
6. It helps to identify pollution creating systems and exposure to it by the employees for taking remedial measures.
7. The management will be assisted in complying with local, regional and national laws regulations by adopting standards.
8. It helps to identify hazardous wastes, handling measures taken and exposure to litigation can be reduced.
9. To determine the impact on the surrounding environment due to the disposal of its pollutants and identify suitable preventive measures.
10. Energy saving systems can be adopted by considering fuel consumption data.

#### **4. LOCATION:**

The Industry is located In Simhapuri, Mattapalli Village, Mattampally Mandal of Suryapet District of Telangana, The project site falls under the latitudes of 16° 40' & 16° 45'N and longitudes of 79° 45' & 79° 50'E(Toposheet No. 56 P/14). The unit is located about 1.5 km due NNE of Mattapalli village. The village is located on the northern bank of Krishna River. The project is rocky in nature the site comes under Arid Zone. The Plant Location map of the project is shown in fig 1.

#### **5. RAW MATERIAL AND PRODUCTS**

Raw material and products used/produced in the financial year 2021-2022 are as follows:

##### **5.1 Raw Materials**

1.	Lime Stone	-	2661384.00 MT/Year
2.	Coal	-	327662.75 MT/Year
3.	Aluminum (Laterite)	-	216601.419MT/Year
4.	Gypsum	-	71553.00 MT/Year
5.	Iron Ore	-	5882.581MT/Year
6.	Fly ash	-	225828.71 MT/Year

##### **5.2 Products**

1.	Clinker	-	1997842.00 MT/Year
2.	Cement	-	1849255.25 MT/Year

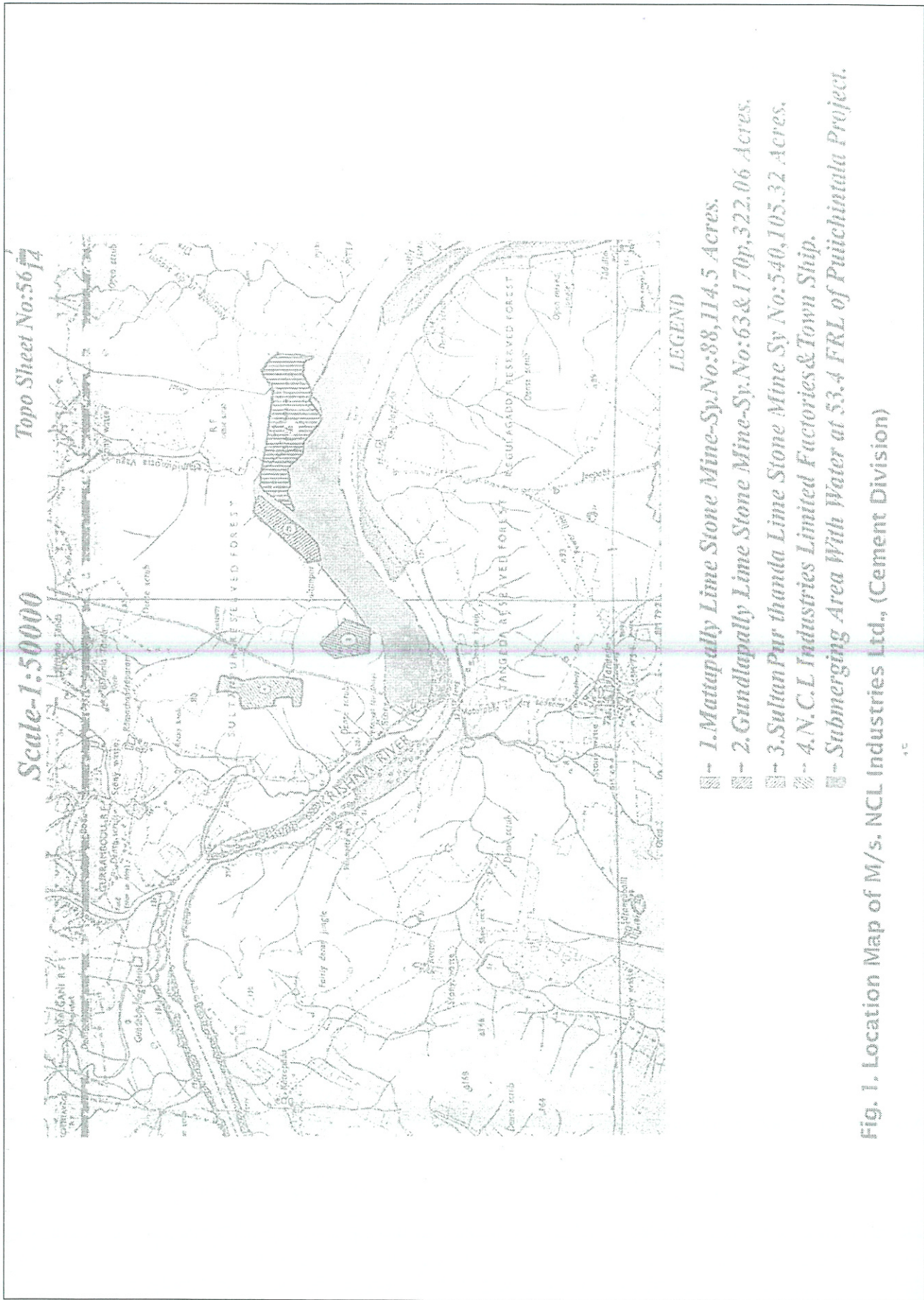


Fig. 1. Location Map of M/s. NCL Industries Ltd., (Cement Division)

## 6. MANUFACTURING PROCESS DESCRIPTION

Ours is a dry process cement plant with a 6 stage Pre-heater and Pre-calciner. Total plant is operated through centralized control system. Limestone is mined from our captive mines which are located at a distance of 2Kms. and 6kms from the plant. The Limestone from the Mines are transported by our vehicles to the crusher where we have Impact crusher to reduce the size of the Limestone. The Crushed Limestone is stored in a covered shed and circular stock pile.

One Vertical Raw Mill grinding the Limestone along with the additives like Aluminum Laterite and Iron Ore. O-Sepa and LNV Classifier has been installed in this section, in which output from the mills are fed. The classifier separates fine and coarse material. The coarse material has been fed back into the mills and fine material is taken as final product. The Raw Meal prepared as above is stored in a Blending Silos and storage silos. The Raw Meal passes through Pre-heater section, consisting of 6 stage cyclones and pre-calciner and enters into Rotary Kiln.

Imported coal (South Africa) and Coal from various collieries of Singareni Collieries in a lump form crushed in Coal Crusher and stored in coal pile before feeding into a Ball Mill and Vertical coal mill for grinding into fine coal. This coal mill is an Air Swept Mill, wherein the powdered coal pass through static grit separator and finally thro' bags type dust collector where the fine coal is collected. This fine coal is used to fire into the Rotary Kiln.

The Clinker formed in the Rotary Kiln then passes through the Reciprocating Cooler, where is gets cooled from 1400°C to around 140°. The hot air from the Cooler is being fed into Kiln as secondary air and also hot air is fed into Calciner section. Installed PJBH in the Kiln-1&3 Sections and RABH for kiln-2 section, wherein the dust laden hot air from Pre-heater and also the dust laden air from Raw Mill section are fed. The dust is arrested in the ESP,PJBH and RABH and dust free air is vented out.

The clinker thus manufactured is stored in the covered Clinker Storage yard and clinker silo. The clinker from the storage yard is transported to the Cement Mills, which are also Ball Mills. To produce Ordinary Portland Cement and Pozzolona Portland Cement in the Ball Mills Clinker with the required proportion of Gypsum and Fly ash is being ground to get Cement. Installed one O-Sepa for all the Cement Mills and they are closed circuit Mills.



The Cement thus manufactured is stored in the Cement Storage Silos, from where it is extracted and transported through bulkers. Bags are Packed in two Stationary Spout Packers in line-1 and 12 & 16 spout roto packers are available in line-2 &3 respectively. The packed bags are fed into the trucks and dispatched from our factory.

## **7. WATER REQUIREMENT**

The total consumption is 1962 m<sup>3</sup>/ day and the break up details is given below:

1. Process and cooling - 1712 m<sup>3</sup>/day
2. Domestic - 250 m<sup>3</sup>/day

Most of the process and cooling water will be evaporated / consumed. The domestic requirement includes requirements of colony, plantation, drinking as well as sanitation. The water requirement is being met by pumping water from the Krishna River.

## **8. POLLUTION CONTROL IN THE PLANT**

The industry has given top priority for pollution prevention and control. Provided water spray system at lime stone crusher dump hopper to suppress dust emissions. PJBH & RABH Bag filters are attached to Kilns to control air emission. Bag filters are connected to raw mills, coal mills, packing plants and cement mills. Electrostatic Precipitators are connected to coolers. To control the secondary fugitive emissions water sprinkling is adopted. High efficiency bag filters are installed at various transfer points to control the emissions. WHR Power Plant established for Line 2 Cooler & Line 3 Cooler and Line 3 Pre -heater. Stack emissions levels will be controlled with WHR Power Project and further emissions will be controlled in ESP's.

## NCL Industries Ltd., (Cement Division)

Packing Plants reduces the particulate matter emissions to below the prescribed limit. The emissions from the stack attached to the kiln are monitored for the parameters like SPM, NO<sub>x</sub> and SO<sub>x</sub>. The emissions from the stack attached to the Crusher, Raw Mill, cement mill, coal mill, packing plant and cooler are monitored for SPM the data presented in Table 1 shows that the monitored values for different parameters are meeting the T.S. Pollution Control Board Standards.

**TABLE - 1**

NCL INDUSTRIES LIMITED: SIMHAPURI					
Source of Pollution and Details of Air Pollution Control Systems					
Average values of Stack Emissions monitoring data					
S.No	Source of Pollution	Pollution Control Equipment Provided	Stack Height in Mts above GL	Stack Dia (m)	Concentration (mg/Nm <sup>3</sup> ) SPM
1	Attached to Kiln -1 & Raw Mill-1	Pulse Jet Bag Filter	110	2.7	--
2	Attached to Kiln -2 & Raw Mill-2	RABH	140	2.5	20.28
3	Attached to Kiln -3 & Raw Mill-3 / 13.7 TPH Natural circulation KILN Line 3 (PH-3 BOILER)	Pulse Jet Bag Filter	130	7.0	16.43
4	Attached to Cooler-1	ESP	55	1.6	--
5	Attached to Cooler - 2 / 13.9 TPH Natural circulation Cooler Line 2 (AQC - 2 BOILER)	ESP	55	2.6	20.91
6	Attached to Cooler - 3/ 15.6 TPH Natural circulation Cooler Line 3 (AQC - 3 BOILER)	ESP	55	4.3	15.58
7	Attached to Coal Mill-1	Bag Filter	30	0.8	22.54
8	Attached to Coal Mill-2	Bag Filter	50	2.2	20.63
9	Attached to Cement Mill-1	Bag Filter	30	1.2	17.58
10	Attached to Cement Mill-2	Bag Filter	39	0.9	17.53
11	Attached to Cement Mill-3	Bag Filter	55	1.6	10.79
12	Attached to Packer-1	Bag Filter	30	0.5	23.35
13	Attached to Packer-2	Bag Filter	30	0.8	21.10
14	Attached to Packer-3	Bag Filter	30	0.97	23.49
15	Attached to Lime Stone Crusher	Bag Filter	30	1.25	24.11

### 8.2.2 Ambient Air Quality

Ambient air quality monitoring is carried out once in a month at the following locations in the factory premises to know the status of the ambient air quality.

1. Security
2. Guest house
3. Colony
4. Time office

**Note:** The Ministry of Environment and Forest (MOEF) New Delhi, has given amendment on 16<sup>th</sup> November 2009 for revised standards for Ambient Air Quality Standards. M/s. NCL Industries Ltd., has following the same Standards.

Ambient air quality is monitored for 8 hours at each station for the estimation of particulate matter - PM<sub>10</sub>, particulate matter - PM<sub>2.5</sub>, sulphur dioxide and Nitrogen dioxide. Average values for the parameters monitored are presented in the table 9.3. The analyzed values for PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>2</sub> are within the limits prescribed by T.S.P.C.B.

TABLE - 2

AVERAGE VALUES OF AMBIENT AIR QUALITY DATA

	Near Security	Near Guest House	Near Colony	Time Office
Particulate Matter - PM <sub>10</sub>	71	55	70	67
Particulate matter - PM <sub>2.5</sub>	27	19	27	25
Sulfur dioxide	11	7	10	9
Oxides of Nitrogen	23	18	22	20

Note: All the values are expressed as ( $\mu\text{g}/\text{m}^3$ )

## 9. GREENBELT DEVELOPMENT

Greenery / plantation recharge oxygen into environment. Greenbelt development may have the following benefits.

- a. Mitigation of fugitive emissions including odour
- b. Noise pollution control
- c. Improving the local eco-system
- d. Arresting the soil erosion
- e. Improving the landscape of the area
- f. Aesthetics

The greenbelt development programme in this rocky strata area is as follows:

Every year **Rs. 25.0 Lakhs (Rupees Twenty Five Lakhs only)** is ear marked for greenbelt development programme. For this year 50,000 saplings, separate manpower is engaged to take care of these saplings. Presently 50m<sup>3</sup>/day of water is used for greenbelt development programme.

## 10. PROPOSED BUDGET FOR POLLUTION CONTROL & ENVIRONMENT PROTECTION.

The budgetary allocation for the financial year 2022-23 is **Rs. 3.6 Crore (Rupees three crore sixty lakhs only)** which includes **Rs. 25.0 Lakhs (Rupees twenty five lakhs only)** for greenbelt development programs. **Rs. 3.35 Crore (Rupees three crore and thirty five lakhs only)** for rural welfare and maintenance of pollution control equipment.

### 11. House Keeping

Roads and open area in the plant are concreted, Road sweeping machine is engaged to keep the plant and colony premises neat tidy.

### 12. CONCLUSIONS

The NCL Industries Ltd., (Cement Division) is manufacturing Clinker 7800 TPD and Cement 6120 TPD. PJBH and RABH attached to Raw Mill and Kilns Line-I, II, III are effectively arresting the particulate matter. Bag filters are attached to the Cement Mills, Coal Mills and Packing Plants are effectively arresting the emissions. Electro Static Precipitator attached to the Coolers Line I, II & III effectively working, to conclude the industry is abating the pollution effectively. Waste Heat Recovery Power Plant (WHR) established in Line 2 cooler and Line 3 Pre heater and Cooler.

### 13. AUDITOR'S COMMENTS

1. The audited figures show that the consumption of water is increased by 0.033 KL/MT of product due to WHR Power plant comes in to operation and it producing 8.25MW power.
2. The fugitive emissions in Plant & Colony areas are within the prescribed limits of TSPCB.
3. The audit activities have enabled the authorities to control fugitive emissions and water consumption efficiently.
4. HW high colorific values materials started using as co processing in kilns.
5. **During the financial year 2021-22 Rs. 4.11 Crore (Rupees four crore eleven lakhs spent on Environmental Protection and Social Welfare and CSR Activities by the management of NCL.**

Auditors Signature

