Environmental Audit Statement [form-v]

For

CEMENT - 4.6 MTPA CLINKER -4.0 MTPA

Of

PENNA CEMENT INDUSTRIES LIMITED.

Submitted to

ANDHRA PRADESH STATE POLLUTION CONTROL BOARD.

FOR THE FINANCIAL YEAR 2019-2020

By

PENNA CEMENT INDUSTRIES LIMITED.

Boyareddipalli Village, Yadiki Mandal, Anantapur District, Andhra Pradesh. Tel No: 08558-285105, Fax: 08558-285150.

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1.0 INTRODUCTION

Penna Cement Industries Ltd., [PCIL] a public limited company is operating a Cement Plant of 4.6 MTPA Capacity [Cement] at Cement Plant at Boyareddypalli Village, Yadiki Mandal, Anantapur District, Andhra Pradesh.

Penna Cement Industries Ltd., [PCIL] has retained **M/s B.S.Envi-Tech Pvt. Ltd., [BSET]** to carry out the assignment of Environmental Audit Statement for the Financial Year 2019-2020. This report presents details of the same.

1.1 LOCATION

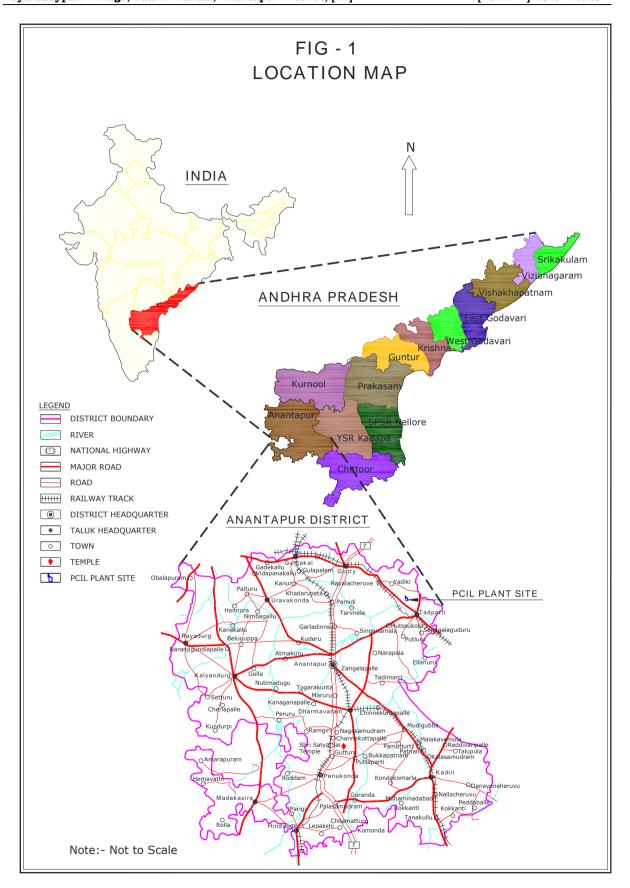
The Cement Plant is located at Boyareddypalli Village, Yadiki Mandal, Anantapur District, Andhra Pradesh. Location map and Key plan of the Plant is shown as **Fig - 1** & **Fig - 2**. Salient Feature of the plant site is given in **Table - 1.0**.

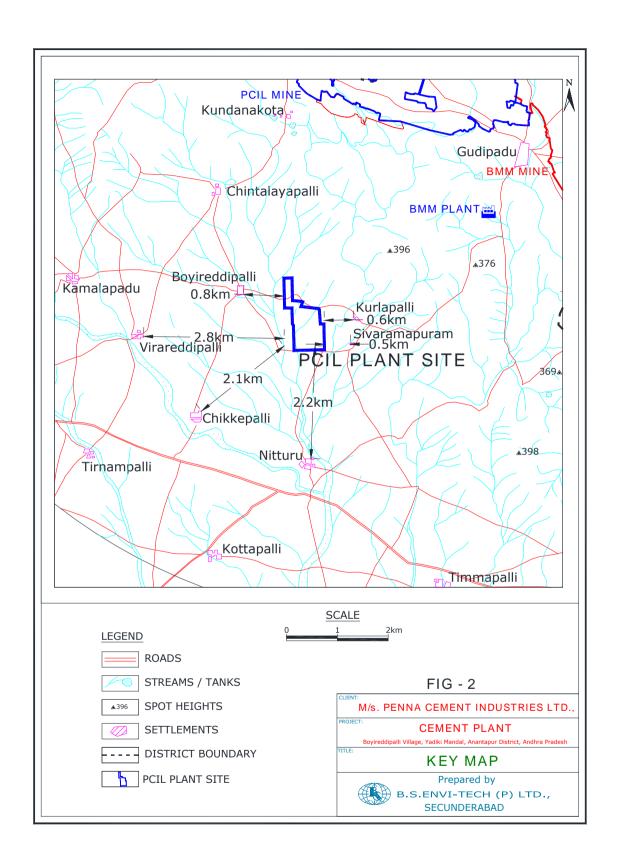
Fig - 3 shows the 10 km radius map of the Plant site

The plant site is located at 15° 3'51.80"N North latitude and 77°57'12.50"E East longitudes with an average elevation of about 276 m above msl. The plant site is covered in Survey of India toposheet no 57E/16. Maruna Vagu – 8.9 km - WSW flows at a distance of about 8.9 km-WSW direction from the plant site. The terrain around the plant site is flat with an average msl of 275 m.

PCIL is surrounded by mine area in the Northern direction, Boyareddypalli Village – 1.1 km in the WNW direction, open areas in the West and barren lands in the other directions. The Captive Limestone mines are located within 6.0 km in SSW distance of the plant site.

The plant site is well connected with both road and rail. The nearest Railway Line is connecting Guntakal – Kadapa is at a distance of 10.4 km – SW. The nearest railway station to the plant site is Tadipatri RS – is located at a distance of at 17.7 km in SSE direction. National Highway (NH-7) Dhone – Gooty – 29.5 km in WNW direction. State Highway (SH-57) connecting Bellary–Nellore – 3.0 km – Southern direction.





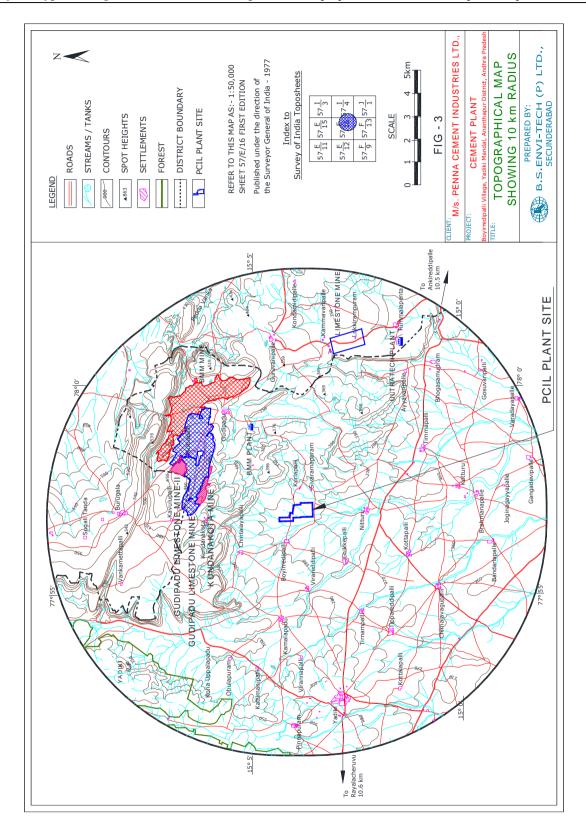


Table 1.0 SAILENT FEATURES OF THE PLANT

Feature	Details
Altitude	276 m above msl
Longitude	A) 15° 3'51.80"N - 77°57'12.50"E
Latitude	B) 15° 3'35.70"N- 77°57'12.90"E
	C) 15° 3'35.10"N- 77°56'52.80"E
	D) 15° 3'51.20"N- 77°56'52.40"E,
Village, Tehsil,	Boyaredypalli Village, Yadiki Mandal, Tadipatri Taluka,
District, State	Ananthapur District of Andhra Pradesh.
IMD STATION	KURNOOL – 85.0 km - N
Max. Temp. ⁰ C	45.6
Min. Temp. °C	6.7
Relative Humidity %	25-77
Annual rainfall	725.9 mm
Topography	Undulating terrain
Nearest water bodies	Maruna Vagu – 8.9 km - WSW
Nearest Highway	National Highway (NH-7) Dhone – Gooty - 29.5 km in WNW
Treatest Highway	direction.
	State Highway (SH-57) connecting Bellary– Nellore – 3.0 km
	– Southern direction.
Nearest Railway	Tadipatri RS - 17.7 km - SSE
station	
Inter State	Andhra Pradesh – Karnataka – 85.5km - W
Boundary	
Nearest Industries	BMM Cements Limited – 3.0 km – ENE
DT / T7'11	Ultratech Cement – 7.5 km - SE
Nearest Village	A Boyareddypalli – 1.1 km – WNW
	★ Kurlapalli – 0.6 km – E★ Sivaramapuram – 0.5 km – E
	→ Sivaramapuram – 0.5 km – E
	↑ Chikkepalli – 2.2 km – SW
	✓ Veerareddypalli – 2.9 km –W
	7-
District Head	Ananthapur – 55.9 km - SW
Quarter	m 1:
Nearest Town	Tadipatri – 18.1km – SSE direction.
Nearest Air port	Kadapa Airport – 106.1 km – SE
Nearest Forest	Tirupati (Renigunta) Airport – 236 .0km - SE Yadiki RF - 8.4 km - WNW
nearest rulest	I AUIKI KI' - O.+ KIII - WINW
Nearest Wild life	None within 10 km Radius
Sanctuaries	
Historical places	Belum Caves, Kurnool – 17.5 km - ENE

FORM -V (See rule-14)

As per Rule-14 of Environmental [Protection] Rules, 1986 and amendments thereof

Environmental Audit report for the financial year ending the 31st March 2020

PART - A

i) owner/occupier of

Name and address of the M/s Penna Cements Industries Ltd., the Plot No. 703, Sriniketan Colony,

industry, operation or process Road No - 3, Banjara Hills,

Hyderabad - 500 034

Phones: 23353945,23353950,23353952

Fax No: 040-23353951

Factory:

Boyareddipalli Village, Kamalapadu Post Yadiki

Mandal, Ananthapur District, Andhra Pradesh. PIN-515408

Phone: 08558-285105 Fax: 08558-285150

ii) Industry category

> Primary: (STC Code) Primary

Secondary: (STC Code)

CEMENT - 4.6 MTPA **Production Capacity** iii)

CLINKER - 4.0 MTPA

iv) Year of Establishment February 2008

of v) Date the last September 2019

environmental audit report

submitted

PART - B

i)	Water Consumption	During previous	During current
		Year 2018-2019	Year 2019-2020
	Cooling (Process)	369.95 m ³ /day	288.97 m ³ /day
	Domestic	211.34 m ³ /day	225.63 m ³ /day

			Water consumption per unit of product						
S.No	Name of	Product	During the previous financial year 2018-2019	During the current financial year 2019-2020					
1.	Cement		0.086 M ³ /Tonne	0.0876 M ³ /Tonne					
ii)	Raw material co	nsumption							
			-	material per unit of					
	Name of raw	Name of	output	(Tonnes)					
S.No	material	products	During the financial year 2018-2019	During the financial year 2019-2020					
1	Limestone		1.386	1.3998					
2	Laterite		0.067	0.076					
3	Iron ore		0.027	0.036					
4	SCCL	Clinker	0.025	0.015					
5	Pet Coke	CIIIKEI	0.001	0.070					
6	Coal Imported		0.090	0.029					
7	Dolamite		0.006	0.004					
8	Red Mud		0.014	0.00001					
9	Gypsum		0.031	0.0303					
10	Slag	Cement	0.0579	0.0284					
11	Fly Ash		0.1692	0.1480					

Note: Month wise raw material Consumption is given in ANNEXURE –I.

	PART - C Pollution Generated												
	(Parameters as specified in the consent issued)												
i)	Pollutants	Quantity of pollutant discharged (mass/day) (Avg.)	Concentration of pollutant discharges (mass/volume) (Avg.)	Percentage of variation from prescribed standards with reasons									
a) Wa	ater												
b) Ai	r (Stack Quality)	Tons/ day	mg/Nm³										
1	Kiln/Raw mill, Bag House	0.153	11.17	All the values are well									
2	Cement mill, Bag House	1 (1)(1)33 12		within the limits stipulated by APPCB									
3	Coal mill, Bag House	0.025	13.76										
4	Cooler, ESP	0.129	20.43										

Pollutant	Tons/Year	T/Y of clinker	T/Y of cement							
Particulate matter emission From all pollution control systems										
SO ₂ from Kiln	37	0.0000248	0.0000338							
NO _X from Kiln	1813	0.00122	0.00166							

c) Ami	c) Ambient Air quality for the period April 2019-March-2020												
S No	LOCATIONS	PM ₁₀ [μg/m³]	PM _{2.5} [μg/m ³]	SO ₂ [μg/m³]	NO ₂ [μg/m ³]								
1	Near Main Gate	81.2	42.9	12.3	14.3	Well within							
2	Colony Area	64.4	36.1	10.9	12.1	the limits							
3	Old Canteen-South west of the plant	74.9	41.4	12.4	14.6	asper APPCB							
4	AP TRANSCO point- South side of the plant	60.7	32.4	10.9	12.3								

Note: Month wise data report of Stack emissions is given in Annexure-II

Month wise data report of Ambient Air quality is given in Annexure-III

Note: Month wise Electricity generation/ Fuel consumption by DG Set is given in ANNEXURE-IV

<u>PART – E</u> Solid Wastes

	Total Quantity (kg)					
	During the current financial year 2018-2019	During the current financial year 2019-2020				
a) From process						
b) From Pollution control Facilities						
c) Quantity recycled or Reutilized						

Note: 1. No solid waste will be generated from the process

2. The intermediate products, raw material and finished product collected in various pollution control systems are being recycled

<u>PART – D</u> Hazardous Wastes

[As specified under Hazardous Wastes (Management and Handling) rules, 1998

Hazardous	Total Quantity (kg)	During the arrange financial
Wastes	During the current financial year 2018-2019	During the current financial year 2019-2020
	Nil	Nil
a) From process	Nil	Nil
b) From Pollution control facilities	About 6710 Ltrs/Annum of Oil & grease are generated from the plant. This has been consumed in the kiln as supporting fuel for kiln lighting and grease is used for the conveyors wheels and drive chains for smooth movement and the balance quantity is fired in the kiln because of rich calorific value. Hi chrome grinding media disposed to authorized recyclers.	About 2500 Ltrs/Annum of Oil & grease are generated from the plant. This has been consumed in the kiln as supporting fuel for kiln lighting and grease is used for the conveyors wheels and drive chains for smooth movement and the balance quantity is fired in the kiln because of rich calorific value. Hi chrome grinding media disposed to authorized recyclers.
	And also about 1500 kgs/ Annum / Annum of lead acid batteries are generated in the plant, which are returned to the dealers on buy back basis.	There is no lead acid batteries are generated in the plant in the financial year of 2019-20.
	The lube oil is stored in the closed barrels located in the protected area as per the Hazardous waste handling and Management rules 1989.	The lube oil is stored in the closed barrels located in the protected area as per the Hazardous waste handling and Management rules 1989.

FORM - F

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

About 2500 Ltrs/Annum of Oil & grease and There is no Hi chrome grinding media are generated from the plant. Oil and Grease has been consumed in the kiln as supporting fuel for kiln lighting and grease is used for the conveyors wheels and drive chains for smooth movement and the balance quantity is fired in the kiln because of rich calorific value. Hi chrome grinding media disposed to authorized recyclers.

There is no lead acid batteries are generated in the plant in the financial year of 2019-20.

The lube oil is stored in the closed barrels located in the protected area as per the Hazardous waste handling and Management rules 1989.

There is no E- waste generated from the plant in the year of 2019-20.

No solid waste is generated from the plant as it is a dry process. The intermediate products, raw material and finished product collected in various pollution control systems is being recycled in to the process.

PART - G

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

Nil

PART - H

Additional investment proposal for environmental protection including abatement of pollution.

- ◆ An amount of **Rs:** 3,20,475.00/- is spent on Regular monthly monitoring.
- ◆ Total investment for the online monitors for the year 2019-2020 is *Rs:* 3,30,400.00/-.

- ◆ Total investment on the green belt development for the year 2019-2020 is *Rs:* 23,74,706.00/-.
- ◆ Total Investment spent on pollution control equipment's bags replacement for the year 2019-2020 is *Rs: 2,95645/-*
- ♦ The details of sapling for greenbelt development is given in **ANNEXURE-V**

PART – I

Any other particulars for improving the quality of the Environment.

- PCIL is conducting regular meeting for reviewing and taking up various improvements in the quality of the Safety and Environment.
- ◆ PCIL is conducting regular environmental monitoring to compile the conditions of APPCB.

ANNEXURE -I

RAW MATERIALS CONSUMPTION & CLINKER/CEMENT PRODUCTION FOR 2019-20

MONTH	LIME STONE	AL. LATERITE	SLAG	IRON ORE (TONNES)	GYPSU M	DOLOMIT E	FLY ASH	RED MUD		COAL (TONNES)	CLINKER (TONNES)	CEMENT (TONNES)				
	(TONNES)	(TONNES)	(DRY)	, ,	(TONN				SCCL	IMPOR	PET	Productio		Product	tion		
			(TONNES)		ES)					TED	COKE	n	43 GRADE	53 GRADE	PPC	PSC	
April 2019	188765	11456	1471	4921	3342	960	17620	0	5311	0.00	10541	136625	9400	25365	50352	4729	
May 2019	150732	7032	1504	3957	3699	727	16761	0	3254	1180	7621	108654	9552	39099	47890	3270	
June 2019	152572	7038	3102	4231	3659	716	14776	0	3814	58	7831	106834	13994	40335	43063	1624	
July 2019	201981	9183.36	3571	5310.5	3581.1	878	17583	1.14	5396	770	10697	144217	14105	38314	50248	1984	
Aug 2019	187724	9550	4036	4275	3316	819	14463	0	3075	0	10655	131662	11976	34732	41324	3054	
Sep 2019	132652	6828	2682	3384	1783	312	12668	0	1818	211	7948	96451	10216	33941	37309	1164	
Oct 2019	85450	4606	2327	1962	1480	415	9965	0	0	891	6109	57980	7503	27043	33346	1245	
Nov 2019	168814	9301	2962	3910	2510	517	9787	0	0	2003	10602	121438	8220	35322	39507	1627	
Dec 2019	30096	1512	2205	595	2952	139	11873	0	0	360	1836	23032	14202	43334	40597	380	
Jan 2020	37314	1958	2366	1402.885	2723	446.115	15032	0	0	124	2636	25577	10977	35926	42941	1394	
Feb 2020	178376	12862	0	3758	1957	0	9276	0	0	2119	10786	128130	10250	38468	32087	0	
Mar 2020	156923	9526	296	3828	1724	0	11246	0	0.90	2082.2 32	8983.787	115483	16800	44119	34518	1185	
Total	1671399	90862.36	26522	41234.385	33015	5929.115	161050	1.14	22668. 9	9798.2 32	96245.7 87	1196083	137195	435998	49318 2	2165 6	

MONTH	LIME STONE (TONN ES)	AL. LATER ITE (TONN	SLAG (DRY) (TONNE	IRON ORE (TONNE S)	GYPSU M (TONN ES)	DOLO MITE	FL Y AS H	RE D MU D		COAL (TONNES)	CLINKE R (TONNE S)	CEMENT (TONNES)				
		ES)	S)						SCC	IMPORT	PET	Producti	Production			
									L	ED	COK E	on	43 GRA DE	53 GRA DE	PP C	PS C
April 2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May 2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
June 2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
July 2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug 2019	5978	292	0	157	0	0	0	0	0	884	0	3434	0	0	0	0
Sep 2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oct 2019	19522	1048	0	554	0	0	0	0	0	2390	0	6946	0	0	0	0
Nov 2019	10631	655	0	295	0	0	0	0	0	1416	0	4966	0	0	0	0
Dec 2019	109611	6024	0	3016	0	0	0	0	0	12481	0	85443	0	0	0	0
Jan 2020	166584	9000.1	0	5475.9	0	0	0	0	0	11477	287 2	113167	0	0	0	0
Feb 2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar 2020	89432	5389	0	1973	0	0	0	0	0	3991	442 8	71000	0	0	0	0
Total	40175 8	22408. 1	0	11470.9	0	0	0	0	0	32639	730 0	284956	0	0	0	0

Note: ** LINE - 2 CLINKER AND RAWMATERIAL CONSUMPTIONS

	APR-	MAY-	JUN-	JUL-	AUG-	SEP-	ост-	NOV-	DEC-	JAN-	FEB-	MAR-	
UNIT	'19	'20	'20	'20	AVG.								
Kiln/Raw mill , RABH	4.66		9.11	26.0	6.55	12.81	9.38	9.46			11.39		11.17
Cement Mill, Bag filter	13.50		21.26	18.0	18.28	17.13	19.23	18.03	-	25	19.81		18.92
Limestone crusher, BF	12.39		14.8		15.06	10.43	12.64	15.34	I		10.71		13.05
Coal Mill, BF	14.91		12.27	24.0	8.14	11.94	14.23	11.69			12.93		13.76
Clinker Cooler, ESP	18.56		15.21	28.0	14.05	18.04	21.83	22.32			25.44		20.43
VRM slag Mill, BF													
Packer-1	10.13		9.61		8.68	7.76	12.51	10.88			10.26		9.98
Packer-2	11.06		12.55		12.58	15.81	15.10	14.78			15.03		13.84
Packer-3	9.17		10.30		9.41	8.88	14.84	13.62			14.12		11.48
Packer-4	8.70		8.68		12.04	13.68	10.98	9.68			12.57		10.90
Cement Silo- 1			7.71		7.95	8.19	7.65	10.43			9.01		8.49
Cement Silo- 2			13.06		15.98	14.95	16.97	15.71			14.47		15.19

STACK MONITORING RESULTS [Gases] (Average monthly values mg/Nm³)

UNIT	APR- '19	MAY- '19	JUN- '19	JUL- '19	AUG- '19	SEP- '19	OCT- '19	NOV- '19	DEC- '19	JAN- '20	FEB- '20	MAR- '20	AVG.
Kiln, SO ₂	6.00	-	12		8.5	4.2	5.2	3.5			12		7.34
Kiln, NO _x	268		275		315	410	464	486			312		361.43

SUMMARY OF MONTHLY AMBIENT AIR QUALITY MONITORING (Average monthly values $\mu g/m^3$)

MONTH	MONTH Near Main Gate				Colon	y Area						Transco Point-South side of the plant				
	PM ₁₀	$PM_{2.5}$	SO ₂	NOx	PM ₁₀	PM _{2.5}	SO ₂	NOx	PM ₁₀	PM _{2.5}	SO ₂	NOx	PM ₁₀	PM _{2.5}	SO ₂	NOx
April 2019	88	45	10.8	12.8	78	42	10.6	11.6	85	44	11.5	13.4	66	38	10.2	11.6
May 2019								1			I	I	1			
June 2019	75	37	10.2	12.4	62	32	10.6	11.8	72	38	11.4	13.5	58	24	10.8	11.7
July 2019	84															
Aug 2019	72	36	10.6	12.8	58	34	10.4	11.6	65	32	11.8	13.2	54	26	10.2	11.4
Sep 2019	78	42	11.6	13.5	62	38	10.8	12.4	72	45	11.4	14.8	57	29	10.3	11.6
Oct 2019	84	46	12.8	15.4	65	40	11.6	13.2	78	47	13.8	16.90	62	38	11.3	12.7
Nov 2019	86	48	13.5	14.6	62	35	10.4	11.8	74	42	12.6	14.2	66	38	11.3	12.4
Dec 2019																
Jan 2020	82							-			Ī	1	-			
Feb 2020	82	46	16.8	18.4	64	32	11.6	12.5	78	42	14.2	16.2	62	34	12.4	14.7
March 2020								1			I	1	1			
Average	81.2	42.8	12.3	14.27	64.4	36.1	10.8	12.1	74.8	41.4	12.3	14.6	60.7	32.4	10.9	12.3
	2	6	3		3	4	6	3	6	3	9	0	1	3	3	0
NAAQ Standards for	100		80	80	100		80	80	100		80	80	100		80	80
Industrial, Residential, Rural and Other Areas																

ANNEXURE -IV

MONTHWISE CONSUMPTION OF ELECTRICAL ENERGY FROM AP TRANSCO/GENERATION OF ELECTRICAL ENERGY FROM D.G.SET/ DIESEL CONSUMPTION

Month &Year	Electrical Energy From AP Transco (kwhr)	WASTE HEAT RECOVERY PLANT	Electrical Energy From D.G.Set (kwhr)	Diesel Consumption Liters
April 2019	5233140	5996100	1350	0
May 2019	5421440	4549700	00	300
June 2019	5391440	3526700	00	0
July 2019	6389400	5800500	00	0
Aug 2019	5801910	5838300	00	300
Sep 2019	4938640	4173100	00	0
Oct 2019	5244970	2567800	00	0
Nov 2019	5217060	5920500	00	0
Dec 2019	8861970	1094700	00	0
Jan 2020	10060880	1022500	00	0
Feb 2020	4797910	5537500	00	0
March 2020	8959290	5233400	00	0
Total	76318050	51260800	1350	600

Plantation Details/Samplings/Name of species from the year 2019-2020

NAME OF THE	NO. OF PLANTS PLANTED
PLANTS	
Juava	312
Coconut	127
Mosambi	363
Pomogranate	640
Red Sandal	94
Dhorantha	1190
Dubai trees	1952
Almonds	16
Gulmohar	80
Casorina	35
Custurd apple	139
Jamun	708
Total	5656