Ref: VC/WS/ENV/CKJ/10-11/ Date: 28.08.2011

Through: Regd. A/D

To
Member Secretary,
Karnataka State Pollution Control Board,
49, 4TH & 5TH floor,
Parisara Bhavana,
Church Street,
BANGALORE – 560 001

Dear Sir,

Sub: - Environmental Statement for the Financial year 2010-2011
Ref: - Notification No. G.S.R. 329(E) Dt. 13.03.1992 & G.S.R. 386(E) Dt. 28.04.93 of MoEF, New Delhi.

With reference to the above, please find enclosed herewith the Environmental Statement for the financial year ending 31 March 2011.

Hope you will find the same in order.

Kindly acknowledge the receipt.

Thanking you,

Yours faithfully,
For Vasavadatta Cement,
For Kesoram Inds., Ltd.,
(C.K.Jain)
Joint President (Engg & Power Plant)

Cc: Environmental officer,
Karnataka State Pollution Control Board (Regional office),
1ST Floor, Gulbarga Development Authority Building,
Near Sardar Vallabhabhai Patel Chowk,
GULBARGA – 585 102

B.K.BIRLA GROUP OF COMPANIES

REPORT

ON

ENVIRONMENTAL STATEMENT

For the Year
2010-11

OF

VASAVADATTA CEMENT

PROP. : KESORAM INDUSTRIES LTD.
POST : SEDAM - 585222
DIST:- GULBARGA
KARNATAKA

I N T R O D U C T I O N

Vasavadatta Cement is the 2nd green field project of Kesoram Industries, Located in the district of Gulbarga, 4 Kms., away from Sedam town. The Line-I Cement Plant was conceived in the year 1983-84 and commercial production was started in the year 1986. The Line-I plant is supplied by world known plant supplier M/S POLYSIUS, GERMANY and their counterparts M/s THYSSEN KRUPP INDUSTRIES INDIA LTD. Cement plants are based on dry process Pre-Calciner technology and the major equipments of the plant include single stage Hazemag impact crusher for Limestone crushing, Stacker-Reclaimer for preblending/homogenisation/transport of crushed limestone, Polysius Vertical Roller Mill for Raw Meal grinding, Single Continuous Blending Silo for storing Raw meal, Rotary Kiln for Clinkerisation, Aumund's Deep Pan Conveyor for Clinker transport, closed circuit mill for cement grinding and two electronic packers for despatching Cement.

The Pollution Control measures include ESPs for Raw mill/Kiln, Cement mill and Grate Cooler; Bag dust collectors for lime stone crushing, Blending silo, Cement silo, Clinker stockpile, Raw mill hoppers, Cement mill hoppers, Coal mill, Coal weigh feeders, Fine coal bin, Packing plant. All this has made the plant environment friendly.

Line-II was put on stream in 1997. The main plant machinery is supplied by M/S POLYSIUS and their Indian counterparts M/s THYSSEN KRUPP INDUSTRIES INDIA LTD. It employs state-of–the- art technology. ESPs have been provided for Kiln/Raw mill, Cooler and Cement mill. At the other dust emission sources bag filters have been installed.

Line-III Cement plant was commissioned in the year 2006. Pyroprocessing equipment has been supplied by M/s FL Smidth, Denmark; Coal mill by M/s Gebr. Pfeiffer, Germany; Raw mill & Cement mills by M/s Polysisus, Germany.

Line-IV Cement plant was commissioned in the year 2009. Pyroprocessing equipment has been supplied by M/s FL Smidth, Denmark; Coal mill by M/s Gebr. Pfeiffer, Germany; Raw mill & Cement mills by M/s Polysisus, Germany. Capacity of Unit-IV Cement plant Clinker is 1.75 MTPA and Cement production capacity is 2.625 MTPA.

After commissioning Unit-IV Cement Plant the capacity of Line-I, Line-II, Line-III & Line-IV together is 5.67 MTPA of clinker. Corresponding Cement production capacity is 8.565 MTPA.

HIGHLIGHTS OF UNIT-IV CEMENT PLANT

1. Two support friction drive Kiln-eliminating the use of lubricants.
2. Raw mill does not need water spray, less hot air thus reducing energy & water consumption.
3. Bag house for Kiln/Raw mill instead of ESP eliminating uncontrolled emissions for short durations during ESP trippings. Bag house does not have gas conditioning tower in the circuit thus reducing the water requirement.
4. Return water is used in water spraying systems.
5. Selection of screw compressors with acoustic enclosure.
6. Clinker tank for storing clinker eliminates fugitive dust.
7. Cross flow cooler eliminates dust from cooler bottom hoppers.
8. Cooler fans selected with silencers.
9. Selection of machinery with less specific power consumption.
10. Selection of duo flux burner for handling alternate fuels.

CAPTIVE POWER PLANTS

16.2 MW (peak capacity) Captive Thermal Power Plant (TPP-1) was commissioned in 1997. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY. Alternator was supplied by M/s TOYO DENKI SIEZO JAPAN. Water treatment plant was supplied by M/s ION EXCHANGE INDIA LTD. PUNE and cooling tower was supplied by M/s SHRIRAM TOWER TECH, CHENNAI.

9.5 MW Thermal Power Plant (TPP-2) was commissioned in June 2005. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY. Alternator was supplied by M/s BHEL, Hyderabad. Water treatment plant was supplied by M/s ION EXCHANGE INDIA LTD. and cooling tower was supplied by M/s Paharpur Cooling Tower, Kolkata.

18 MW Thermal Power Plant (TPP-3) was commissioned in February 2007. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY; CVPL,Trichy; Turbogenerator by M/s TDPS, Bangalore, Cooling tower by M/s Paharpur, Kolkata; ESP by M/s Thermax.

18 MW Thermal Power Plant (TPP-4) was commissioned in February 2009. The Boiler was supplied by M/s CETHAR VESSELS LTD, TRICHY; CVPL,Trichy; Turbogenerator by M/s TDPS, Bangalore, Cooling tower by M/s Paharpur, Kolkata; ESP by M/s Thermax. Air cooled condenser by GEA, Chennai.

HIGHLIGHTS OF UNIT-IV POWER PLANT-4

1. Acoustic enclosure for TG set.
2. Screw compressors with acoustic enclosure.
3. Recycling of total effluent of power plant in cement plant.
4. Pneumatic handling of total ash.
5. Air Cooled condenser in addition to water cooled condenser to save water during shortage period.

18 MW Thermal Power Plant (TPP-4) was commissioned in February 2009.

Consumption Of Raw Materials And Fuels For Cement Manufacture In Line-I, Line-II, Line-III & Line-IV (2010-2011)

S.NO.	DESCRIPTION	LINE-I, II, III & IV CEMENT PLANTS IN MT
1.	Limestone & Shale	5453666
2.	Additives	348684
3.	Gypsum	131701
4.	Coal	696501
5	Fly ash for manufacture of PPC	432083

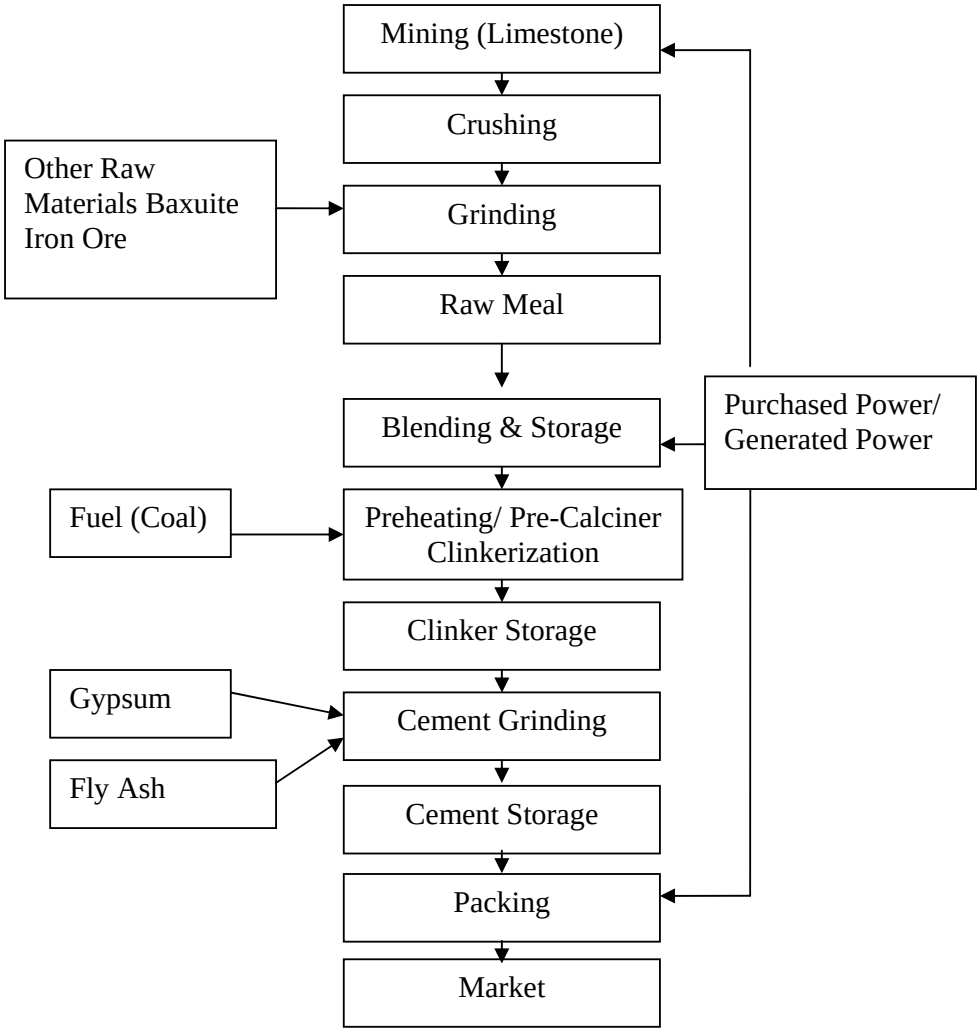
CEMENT MANUFACTURING PROCESS

The Process of manufacturing Cement involves basically the following sequential unit operation and processes.

I) LIMESTONE MINING
II) LIMESTONE CRUSHING
III) STACKING AND RECLAIMING
IV) RAW MATERIAL GRINDING
V) STORAGE AND HOMOGENISATION OF RAW MEAL IN CONTINUOUS BLENDING SILO.
VI) COAL UNLOADING, STACKING AND GRINDING
VII) CLINKERISATION – (Kiln feed, preheating, kiln and cooler)
VIII) CEMENT GRINDING, STORING
IX) CEMENT PACKING & DESPATCHES

CEMENT MANUFACTURING PROCESS

The production process for cement consists of drying, grinding and mixing limestone and additives like bauxite and iron ore into a powder known as “raw meal”. The raw meal fed in the form of a dry powder is then heated and burned in a pre-heater and kiln and then cooled in an air cooling system to form a semi-finished product, known as a clinker. Clinker (95%) is cooled by air and subsequently ground with gypsum (5%) to form Ordinary Portland Cement (“OPC”). Other forms of cement require increased blending with other raw materials. Blending of clinker with other materials helps impart key characteristics to cement, which eventually govern its end use.



THE BASIC STEPS INVOLVED IN THE PRODUCTION PROCESS IS SET OUT BELOW:

All VC Cement plants are dry process plants. Limestone is crushed to a uniform and usable size, blended with certain additives (such as iron ore and bauxite) and discharged on a vertical roller mill/roller press/ball mill, where the raw materials are ground to fine powder. An electrostatic precipitator/bag house dedusts the raw mill gases and collects the raw meal for a series of further stages of blending. The homogenized raw meal thus extracted is pumped to the top of a preheater by bucket elevator. In the preheaters the material is heated to 750°C. Subsequently, the raw meal undergoes a process of calcination in a precalcinator (in which the carbonates present are reduced to oxides) and is then fed to the kiln. The remaining calcination and clinkerization reactions are completed in the kiln where the temperature is raised to between 1,450°C and 1,500°C. The clinker formed is cooled and conveyed to the clinker storage area from where it is extracted and transported to the cement mills for producing cement. For producing OPC, clinker and gypsum are used and for producing Portland [Pozzolana] Cement ("PPC"), clinker, gypsum and fly ash are used.

COAL ASH

Coal ash is a solid waste generated from coal based Thermal power plant. As it is environmentally hazardous, the disposal of coal ash leads to various pollution problems, if it is not used for alternate beneficial use.
The coal ash from power plant is broken up in to two types.

1. Cinder ash (Coarse ash)
2. Fly ash (Ash collected from ESP)

Both fine ash and coarse ash generated in power plant is pneumatically transported to cement plant through dense phase and used to manufacture cement.
We are also procuring the fly ash from Raichur Thermal Power Station and NTPC Ramagundam. It is being used in the production of Portland Pozzolana cement.

The utilisation coal ash helped in reduction of limestone (Natural mineral resource) consumption owing to partial substitution of clinker and conservation of thermal energy corresponding to clinker so substituted.

MATERIAL BALANCE FOR 2010 – 2011 (Unit-I, II, III & IV)

i) Limestone (93.99 %) + Additives (6.01 %)

Raw meal
(100%)

ii) Raw meal

Kiln feed 1.48 — Calcination → Clinker

Coal 17.766 %

iii) Clinker + Gypsum → Ordinary Portland Cement
97.05 % 2.95 % 100%

iv) Clinker +Gypsum +Fly ash → Portland Pozzolana Cement
70.90 % 3.27 % 25.83 % 100%

Note: - Depending upon the quality of raw material and quality of coal, the above balance will go on changing.

FORM – V

Environmental Statement for the financial year ending 31st March 2011

PART – A

i) Name and address of the owner/ Occupier of the industry operation:	Syt. K.C.JAIN Kesoram Industries Ltd. 9/1 R.N. Mukherjee Road KOLKATA – 700 001
ii) Industry Category	
Primary : (STC Code)	----
Secondary : (STC Code)	----
iii) Production capacity of units:	
Combined capacity of Line-I, II, III & IV Cement plants and Upgradation of Unit-II & Unit-III	: 5.67 MTPY of clinker (effective from 22nd Jan 09)
Combined capacity of Cement plant Cement production of line-I, II, III & IV and Upgradation of Unit-II & Unit-III	: 8.565 MTPY of cement (effective from 22nd Jan 09)
Thermal power plant (TPP# 1)	: 15.7 MW (Peak 16.2 MW)
(TPP#2)	: 9.5 MW
(TPP#3)	: 18.0 MW
(TPP#4)	: 18.0 MW
iv) Year of establishment:	
Line-I Cement plant	: 1986
Line-II Cement plant	: 1997
Line-III Cement plant	: 2006
Line-IV Cement plant	: 2009 (March 09)
Thermal power plant (TPP# 1)	: 1997
Thermal power plant (TPP# 2)	: 2005
Thermal power plant (TPP# 3)	: 2007
Thermal power plant (TPP# 4)	: 2009 (Feb 09)
Ball Mill	: Jan 2002
Fly ash silo	: Jan 2002
Mines Air Strip	: Existing since 1986
v) Date of last Environment statement submitted	: 12.08.2010 (for the year 2009-2010)

PART B

WATER AND RAW MATERIAL CONSUMPTION

1. WATER CONSUMPTION

Being a complete dry process cement manufacturing plant does not require any process water. Water consumption in the plant for cooling, boiler feed, gardening etc is as follows.

S.NO.	Description	During financial year 2009-2010	During current financial year 2010-2011
1.	Water consumption in cum. Per day	8105	7517
	a) Process/Cooling	6151	5471
	b)Domestic/Gardening	1954	2046

Note: VC is permitted to draw water for 238 days in a year from river Kagina. VC is permitted to draw water from Kagina River at the rate of 17 lakh gallons per day and 3182 m3/day from Kamalavathi Barrage.

2. RAW MATERIAL CONSUMPTION

S.NO	Name of the Raw Material	Name of the Product	Consumption of Raw Material per unit of out put	
			During financial year 2009-2010	During current financial year 2010-2011
			Line – I, II, III & IV	Line – I, II, III & IV
a.	Lime stone & Shale	Tonne of cement	1.2264	1.2078
b.	Additives		0.0809	0.07723
c.	Gypsum		0.02895	0.03076
d.	Coal		0.1525	0.1542
e.	Ash		0.08756	0.10099

PART C

POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT

(Parameter as specified in the consent issued)

S.NO	Pollutants	Quantity of pollutants discharged (Mass/day))	Concentration of pollutants in discharge (Mass/Volume)	Percentage of variation from prescribed standards with reasons
WATER: -				
a.	Outlet effluent of sewage treatment plant	400 KL/day		
	i) Suspended solids		18 *mg/lit	Within Standards
	ii) Bio chemical oxygen demand 5 days at 20 Deg. C		9 * mg/lit	Within Standards
AMBIENT AIR:-				
a.	Mine area (Plant premises)	Suspended Particulate Matter And RSPM	126 ∝g/m3 54 ∝g/m3	Within Standards
b.	Top of Guest house (Employees colony)		112 ∝g/m3 48 ∝g/m3	Within Standards
c.	Sedam town		123 ∝g/m3 53 ∝g/m3	Within Standards
d.	Top of Dairy farm (Employees Colony)		111 ∝g/m3 47 ∝g/m3	Within Standards
e.	Top of load centre-4 (Plant premises)		134 ∝g/m3 56 ∝g/m3	Within Standards
f.	Top of Lions Bhavan (Sedam town)		126 ∝g/m3 54 ∝g/m3	Within Standards

* The value represents arithmetic average of 12 months for financial year 2010-2011.

STACK GAS QUALITY FOR PARTICULATE MATTER

LINE – I CEMENT PLANT

S.No	POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (m3/Hr)	CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm3)	PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS
1.	Crusher	15411	70	Within Standards
2.	R.M. Hopper	7961	56	
3.	Blending silo venting	15387	62	
4.	Kiln feed equipment	3820	53	
5.	Fine coal silo	3918	62	
6.	Fine coal feeding equipment	3961	52	
7.	Clinker storage hall	13605	59	
8.	Cement mill hopper	9582	56	
9.	Cement silo	9655	55	
10.	Packing plant-I	18346	55	
11.	Packing plant-II	17721	53	
12.	Clinker cooler venting	255538	68	
13.	Coal mill	50229	62	
14.	Kiln/Raw mill	306526	69	
15.	Cement mill	41981	60	

The value represents arithmetic average of 12 months for financial year 2010-2011

STACK GAS QUALITY FOR PARTICULATE MATTER

LINE – II CEMENT PLANT AND POWER PLANT

S.NO.	POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (m3/Hr)	CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm3)	PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS
16	Raw mill hopper and weigh feeders dedusting	17030	54	Within Standards
17	Raw mill silo	13120	50	
18	Kiln feed fluidor and weigh bin	9592	46	
19	Cement mill hopper	5481	42	
20	Polycom and bucket elevator	31031	61	
21	Static separator	7186	49	
22	Packer m/c –I	17195	51	
23	Packer m/c – II	17034	52	
24	Packer m/c – III	18523	54	
25	Packer m/c – IV	17217	55	
26	Cement silo – I	4586	51	
27	Cement silo – II	4304	50	
28	Cement silo – III	4254	49	
29	Raw mill/Kiln	593889	73	
30	Clinker cooler	412455	57	
31	Cement mill	70952	56	
32	Coal mill	97974	61	
THERMAL POWER PLANT				
33	Boiler 70 TPH	97864	40	Within Standards
34	Coal crusher	10350	44	
35	100 KVA D.G.Set	---	---	
36	Boiler 42 TPH	75044	51	

The value represents arithmetic average of 12 months for financial year 2010-2011.

STACK GAS QUALITY FOR PARTICULATE MATTER

LINE – III CEMENT PLANT AND POWER PLANT

S.NO.	POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (m3/Hr)	CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm3)	PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS
37	Raw mill/Kiln	883977	38	Within Standards
38	Clinker cooler	527769	35	
39	Coal mill	143593	36	
40	Cement mill	74345	37	
41	Crusher (Located at Mines)	43426	43	
THERMAL POWER PLANT				
42	Boiler 80 TPH	132567	41	Within Standards
43	Kiln-I 125 KVA DG Set	---	---	
44	Kiln-II 125 KVA DG Set	---	---	
45	Kiln-III 380 KVA DG Set	---	---	
46	Boiler 42 TPH 250 KVA DG Set	---	---	

The value represents arithmetic average of 12 months for financial year 2010-2011.

STACK GAS QUALITY FOR PARTICULATE MATTER

LINE – IV CEMENT PLANT AND POWER PLANT

S.NO.	POLLUTANTS	QUANTITY OF POLLUTANTS DISCHARGED (m3/Hr)	CONCENTRATIONS OF POLLUTANTS IN DISCHARGE (Mass/Vol.) (mg/Nm3)	PERCENTAGE OF VARIATION FROM PRESCRIBED STANDARDS WITH REASONS
47	Raw mill/Kiln	884051	39	
48	Clinker cooler	499659	38	
49	Coal mill	144110	36	
50	Cement mill	74798	39	Within Standards
THERMAL POWER PLANT				
51	Boiler 80 TPH	131973	40	Within Standards
52	Kiln-I 125 KVA DG Set	---	---	
53	Kiln-II 125 KVA DG Set	---	---	
54	Kiln-III 380 KVA DG Set	---	---	
55	Boiler 42 TPH 250 KVA DG Set	---	---	

The value represents arithmetic average of 12 months for financial year 2010-2011.

PART - D

HAZARDOUS WASTE

(As specified under hazardous wastes/Management and handling Amendment Rules 2000)

Year	Cat. No.	Waste oil Generation	Burnt in Kiln	Sold to authorised reprocessors	Closing stock
2010-11	5.1 & 3.3	473 barrels	375 barrels	90 barrels	8 barrels

Note: Each barrel approximate 200 lit.

Total 126 numbers of used batteries (weighing approximately 5.56 MT) returned to dealers during the period 2010-2011.

PART – E

SOLID WASTES

S.No	Solid Waste	Total Quantity	
		During the current financial year 2009-2010	**During the current financial year 2010-2011**
1. (a)	From process (Fly ash from captive Thermal Power Plant)	# Nil from Cement plant. 1, 64,258 MT from Power plants.	# Nil from Cement plant. 1, 80,826 MT from Power plants.
1. (b)	Fly Ash from RTPS / NTPC Ramagundam	# 2,04,069 MT	# 2,51,257 MT
2.	From pollution control facility	Recycled in to main process in cement plant. Fly ash from power plants reutilised in cement plants.	Recycled in to main process in cement plant. Fly ash from power plants reutilised in cement plants.
3.	Quantity recycled or reutilised within the unit	24,947 MT/Day (In process, material recycled from Pollution control equipment like ESPs /Bag House /Bag filter).	22,370 MT/Day (In process, material recycled from Pollution control equipment like ESPs /Bag House /Bag filter).
	ii) Sold	------	------
	iii) Disposed	------	------

Fly ash utilization improving continuously. This is observed from the consumption values of total ash generated at our power plant, RTPS, NTPC, Parli & Ramagundam.

PART – F

Pollution control equipments restrain the emissions and the entrapped solid wastes are recycled at appropriate stages in cement plant.

PART – G

MODIFICATIONS FOR THE YEAR 2010-11 FOR ENERGY CONSERVATION AND BETTER ENVIRONMENT

MECHANICAL:

- ✓ Cement mill-4 bag house discharge which is coming into mill outlet elevator, diverted directly to the cement silo through sepol cyclone air slides.
- ✓ Packing plant -4 bulk loading system integral bag filter modified.
- ✓ Cement mill-4 belt conveyor 4N11, additional venting line connecting to mill outlet bag house provided.
- ✓ Purchased of two number of Road sweeping machines.
- ✓ To avoid the fugitive dust emission from 2BC-10 belt conveyor hood at Unit-2 Raw mill.
- ✓ Provided 2 dust charging point in RABH mass flow conveyor at Unit-3 raw mill.
- ✓ Modification of inlet duct of pre heater top & bottom bag filters at Unit-3 Kiln.
- ✓ Material spillage avoided from the reject belt 2N43 feed chute at Unit-2 Cement mill.

ELECTRICAL:

- ✓ Introduction of Harmonic filters at 415V bus of at unit-1 PCC.
- ✓ Shifting of power supply for Unit-1 Cement mill auxiliaries MCC11&12 from U-1 PCC to Unit-1 cement mill up gradation load center
- ✓ Commissioned 4 Nos of MLDB at colony at different location.
- ✓ Installed additional capacitor banks near motor terminals (above 45 KW) in identified motors at Unit-1&2 Kiln, Coal mill & Raw mill.
- ✓ Replaced DOL starter with Star – Delta - star for Recirculation B/E of Raw Mill -2

PQC:

- ✓ Cement mill-4 mill venting B/H discharge (Which is having the fineness of 400 Blaine value) was given to mill out product air slide which further feeded to mill separator.
- ✓ Eliminating the product idle running of Air slide blower in Cement mill-2
- ✓ Diverting the HR separator center cyclone material to mill out let form mill inlet in Cement mill-2.
- ✓ To increase the mill out put by changing the bag house collected material from circuit to product directly in cement mill-4.

PROCESS:

- ✓ GCT pump tripping with LL limit in Unit-II
- ✓ Kiln tripping reduced.
- ✓ Cooler ESP I/L duct coating.
- ✓ Cooler ID fan trip D/T any reason, PH fan & Kiln trips after 20 sec in Unit-IV.

POWER PLANT:

- ✓ Fitting of isolation valves for bleed off valves at air box (70 TPH boiler)
- ✓ Fitting of high temperature resistant insulation pads for turbine in Unit-I.
- ✓ Provision of interlock for the compressors & air dryers.
- ✓ Connecting boiler bank system (42 TPH boiler) directly to Unit-I ash silo.
- ✓ Modification of C2 system of Unit-I at fine ash silo.
- ✓ Connecting the flushing line of PD pump to silo.
- ✓ Provided the dense phase system for fine coal dust conveying.
- ✓ Modification of suction of bag filter.

MINES:

- ✓ Dust suppression system by Techno Alpin – Italy for effective dust suppression while loading and transportation of limestone and shale.
- ✓ Bulk Mix & Delivery unit (truck Mounted) for Mixing and charging of AN and FO to achieve better explosive energy and less blasting fumes.
- ✓ Installed of six tower lights around mines pit to improve illumination in mines.
- ✓ Laying of high gradient shot length equipment shifting ramps for crawler mounted equipment to reduce shifting distance and time thereby saving in diesel.

CIVIL:

- ✓ To control Fugitive emission of dust from Additive Trucks.
- ✓ Additive stock pile yard concreting to control Fugitive emission
- ✓ GI sheet covering for all transfer towers 3TT-1, 3TT-2, 3TT-3, 4TT-1, 4TT-2 and 2BC-5
- ✓ Construction of Boundary wall along Power plant road
- ✓ Flooring and road concreting in unit-IV area and drainage system
- ✓ Concreting of coal handling area at Power plant

INSTRUMENTATION:

- ✓ 7.5 kw VFD provided for stand by water spray pump in raw mill -1
- ✓ 18.5 kw VFD provided for unit-1 lime stone reclaimer harrow drive
- ✓ 18kw VFD provided for stand by water spray pump in raw mill -2
- ✓ 18.5 kw VFD provided for unit-2 lime stone reclaimer harrow drive
- ✓ 75kw VFD panel provided for polycom bag filter in cement mill-2
- ✓ 18.5 kw VFD provided for unit-3 lime stone reclaimer harrow drive
- ✓ Running of new mines crusher bag filter fan in auto speed loop by providing suction draft transmitter
- ✓ 160 KW VFD drive installed for H.R separator drive in cement mill-2
- ✓ 55 KW VFD drive installed for 2N29BF fan in cement mill-2
- ✓ 30 KW VFD drive installed for 2N30BF fan in cement mill-2
- ✓ 160 KW VFD drive installed for H.R separator drive in cement mill-1
- ✓ 75 KW VFD drive installed for IN29BF fan in cement mill-1
- ✓ 45 KW VFD drive installed for IN47BF fan in cement mill-1.
- ✓ 75 KW VFD drive installed for IN61BF fan in cement mill-1.

PART – H

PROPOSED MODIFICATIONS FOR THE YEAR 2011-12 FOR ENERGY CONSERVATION AND BETTER ENVIRONMENT

MECHANICAL DEPARTMENT:

- ✓ Hot disc system in Kiln-3 to burn alternative fuel and waste.
- ✓ ESP to bag house conversion in Kiln 1 & 2
- ✓ ESP to bag filter conversion in Cement mill 1 & 2
- ✓ One bag filter installation at cement mill-1 clinker hopper area.

ELECTRICAL:

- ✓ Replacement of conventional (Old type) LRS with Latest technology LRS at L.S.Crusher (old)
- ✓ Replacement of old LT motors (Low efficiency) with energy efficient motors at Unit-1
- ✓ Synchronisation of TG supply with Grid at 110 KV Voltage Level.
- ✓ Existing 110 KV Switchyard extension to achieve Max Export with reduced Power system fault level

POWER PLANT:

- ✓ Fitting of VFD for following equipments to save power.
  a) CEP-2 (Unit-II)
  b) IAC-1 (Unit-III)
  c) CEP-2 (Unit-III)
- ✓ Fitting insulation blocks for main steam line in Unit-I to reduce heat emission.
- ✓ Fitting of 6 No. of bag filters in coal handling system to reduce fugitive dust emission.
- ✓ Painting of the turbine casing (Unit - I TG) with heat resistance paint to reduce heat emission.

PQC:

- ✓ Measuring pressure drop across cooler silencer and to be eliminate from circuit.
- ✓ Fuzzy logic control system for the operation of plant at Cement mill 1 & 2, Power Plant, Pyrosection etc.
- ✓ Coarse material in final product eliminated in Cement mill by doing PSD Analysis.
- ✓ Consistency in the cement Blane to be maintained.
- ✓ C3S percentage in clinker to be increased.

MINES:

- ✓ Purchase of sweeping machine for cleaning bench floors and road.
- ✓ Installation of sprinklers on haul road (Central & Ramsethu) for green belt development.
- ✓ Pressurized sprinkler system on water tanker for dust suppression on haul road.
- ✓ Green development in Ramesthu & near low grade stock yard.

INSTRUMENTATION:

- ✓ One no. of Sox/Nox on-line analyzer installed in power plant, unit-4 stack.
- ✓ Proposing to install on-line Sox/Nox analyzer for unit-1,2,3 & 4 kiln stack in cement plants.
- ✓ Proposing to install on-line Sox/Nox analyzer for unit-1,2 & 3 in power plants.
- ✓ Proposing to install online ambient air quality system one at power plant and another at New Admin Bldg.
- ✓ Proposing to install VFD for main bag filter in unit-1 cement mill.
- ✓ 75 KW bag filter fan to be installed for unit-3 flyash system.

MISCELLANEOUS MATTERS

1. Industry has been certified for standards ISO 9001: 2000, ISO 14001& IS 18001
2. Energy conservation measures are being taken.
3. On- site emergency and crises management schemes developed by industry.
4. Success in efforts of ensuring accident free working conditions for workers.
5. Building up-to-date library to facilitate the process of learning of environment protection measures.
6. Environment messages printed on company covers.
7. Implementation of TPM in the plant.
8. Regularity in filing of cess returns and payment of assessment demands, renewal of air, water, hazardous waste and bio- medical waste management consents for operation of plant.
9. Regular monitoring of stack gas quality, ambient air quality, solid waste management and submitting the report every month.
10. Regular monitoring of treated sewage quality and upkeep of sewage treatment plant.
11. Regularity in filing of hazardous waste management report.
12. Fugitive dust is being monitored regularly.
13. We have noise level meter and noise levels are being monitored regularly. Noise generating sources have been isolated by housing them in enclosures. Wherever entry is necessitated in such areas ear plugs/ear muffs are issued.
14. Helping the engineering and management students to carryout their project works.

AFFORESTATION

In our plant, colony & mining area the conditions are not suitable for growing trees as rock sheet is just below 1 mt depth and especially in colony and mines it is just below 0.3 mt to 0.6 mt. Hence the roots of the plant cannot penetrate in to depth and cattle come for grazing due to which the whole area was looking like barren land except very few trees & shrubs here and there. In spite of the adverse conditions we have been able to develop plantation by constructing retaining walls and filling up the area with black cotton soil and installing tree guards. This has resulted in to a thick green belt in colony, mines and plant which has increased the aesthetic view of the area. The area greenery of our plant includes lawn, ornamental garden, mango orchard, teak wood farm, afforestation etc.

The following measures are being taken for development of thick green belt

- We have a beautiful nursery where the saplings are being developed and distributed free of cost to our colony residents and farmers through GAK to enhance the greenery development and also we are purchasing plants from forest dept to develop afforestation.
- We are conducting annual garden competition among the colony residents and distributing the prizes**.** The competitions are conducted quarter wise to give awards to more nos. of people.
- We have developed a good checklist to audit the garden of the colony during competition and a committee is formed to award the winners.
- We are planting the trees as per five years plan. Our colony is so beautiful that the nearby peoples refer to it is a place of greenery and picnic spot.
- We have started plantation of mosquito repellent plants in colony.

Since 1983 till date we have planted over 4.54 lakhs saplings out of which over 2.59 lakhs plants are surviving**.**

The following species are being used for plantation

1. Neem
2. Tulsi
3. Marva
4. Lemon Grass
5. Lentana Hedge
6. Peltophoram
7. Pongamia
8. Cassia Sp.
9. Banyan
10. Pipal
11. D. Sisso
12. Teak

For year wise plantation refer annexure-I

ASSESSMENT/RECCOMMENDATION

The unit is operating with complete dry process of cement making and therefore water pollution is not significant. The emissions from stacks are within the limits and complying with the consent conditions.

ANNEXURE – I

The Details Of Tree Plantation In Vasavadatta Cement Factory, Colony And Mines Area From 1983-84 To 2009-2011 And Percentage Of Survival

Year	Colony	Factory	Mines	Total	Survival % Age	Survivals
1983-84	10000	8000	2000	20000	80	16000
1984-85	10000	7000	3000	20000	62	12400
1985-86	11000	3000	559	14559	60	8735
1986-87	13000	8500	3000	24500	55	13475
1987-88	14000	10000	3000	27000	60	16200
1988-89	13000	9000	3121	25121	60	15072
1989-90	12500	8500	4000	25000	55	13750
1990-91	9000	4000	3000	16000	65	10400
1991-92	11000	6000	4000	21000	48	10080
1992-93	11500	8000	2500	22000	47	10340
1993-94	13000	5000	4180	22180	83	18409
1994-95	10580	3500	1000	15080	80	12064
1995-96	9000	12764	5441	27206	80	21765
1996-97	9400	6400	9200	25000	52	13000
1997-98	2000	14996	8000	24996	50	12498
1998-99	4850	5700	4650	15200	50	7600
1999-00	1000	4000	5000	10000	30	3000
2000-01	1303	3891	4812	10006	35	3502
2001-02	2200	4500	3500	10200	50	5100
2002-03	2100	3500	4400	10000	30	3000
2003-04	2020	3010	5100	10130	52	5267
2004-05	1500	3500	1500	6500	60	3900
2005-06	1700	1500	4500	7700	30	2310
2006-07	4915	2800	2490	10295	50	5147
2007-08	2075	1650	3950	7675	45	3453
2008-09	2485	2950	1800	7235	43	3111
2009-10	2500	1000	5500	9000	50	4500
2010-11	2400	1490	6565	10455	48	5018
Total	**190028**	**154151**	**109768**	**454038**	**54**	**259096**
Total Survival						**259096**