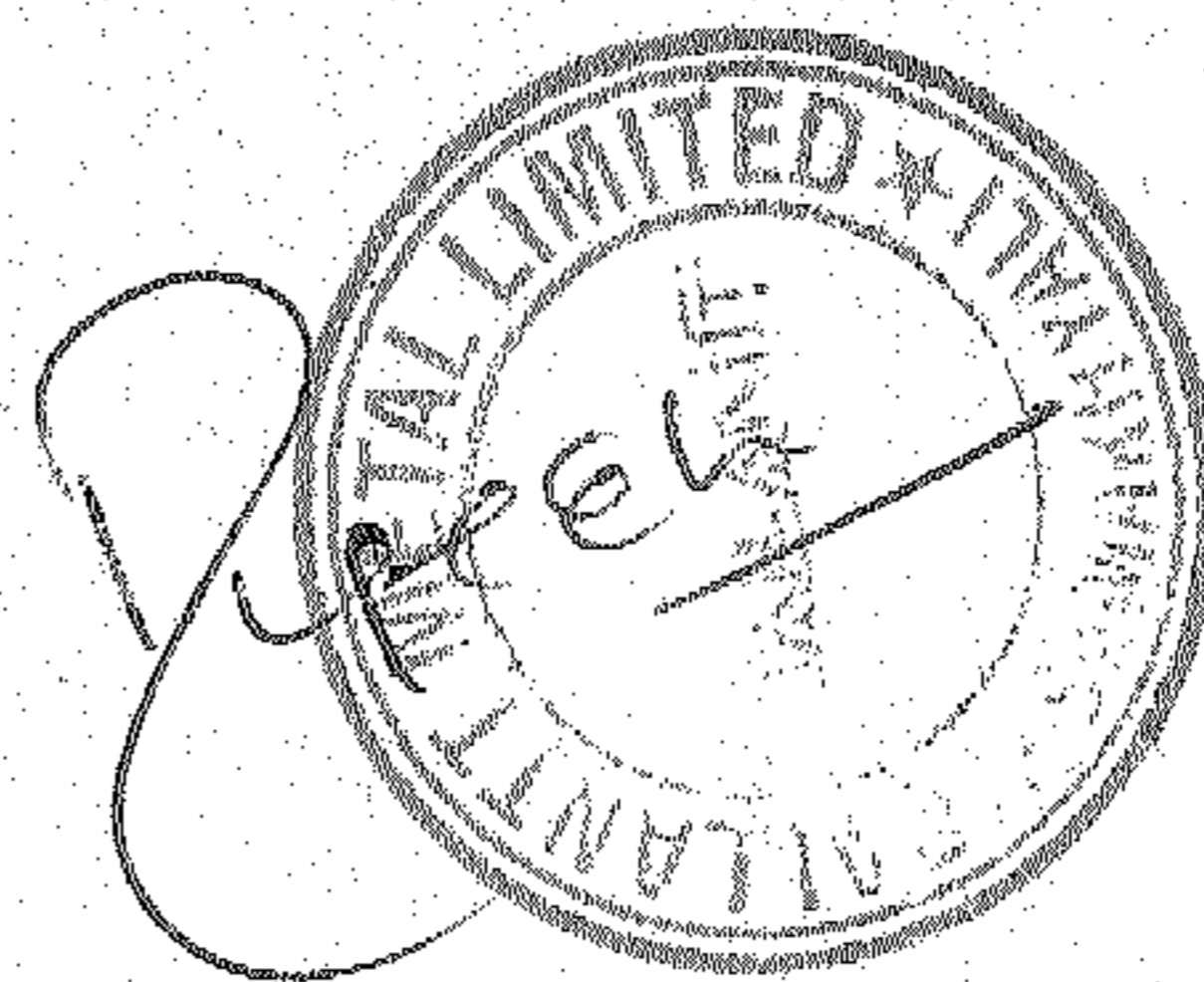


**ENVIRONMENTAL COMPLIANCE FOR**  
**12MW COAL BASED CAPTIVE POWER PLANT AT SAMAKHIYALI, KUTCH BY**  
**M/S GALLANTT METAL LTD-ENVIRONMENT CLEARANCE - REGARDING**

No	Conditions	Compliance Status
1	No additional land shall be acquired for the project or any activities associated with it	No additional land has been acquired for the project or any activity associated with it. Captive power plant has been commissioned in the existing premises in an area of 4.86 ha.  <b>Complied</b>
2	A stack of 90 m with exit velocity of not less than 8 m/sec shall be provided with continuous On-line monitoring system. The monitored data shall be analyzed and submitted regularly to the Ministry and its Regional Office at Bhopal	Stack of 90 m height with exit velocity of not less than 8m/sec is provided along with Continuous online Emission monitoring system to monitor SPM, Sox & Nox .The analyzed monitored data is being regularly submitted to the Ministry and its Regional Office at Bhopal.  Environmental parameters as per monitoring audit conducted by <b>Royal Environment Auditing &amp; Consultancy Service</b> , Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from <b>Apr'17 to Sept'17</b> are given in the <b>Table 1</b> below & copy of the same is attached as <b>Annexure A</b> .  Copy of Environmental parameters as per Continuous monitoring reports transmitted to CPCB and GPCB from <b>April 2017 to Sept 2017</b> is attached as <b>Annexure B</b> .  <b>Compliance Assured</b>



## STACK EMISSION MONITORING REPORT

### TABLE 1

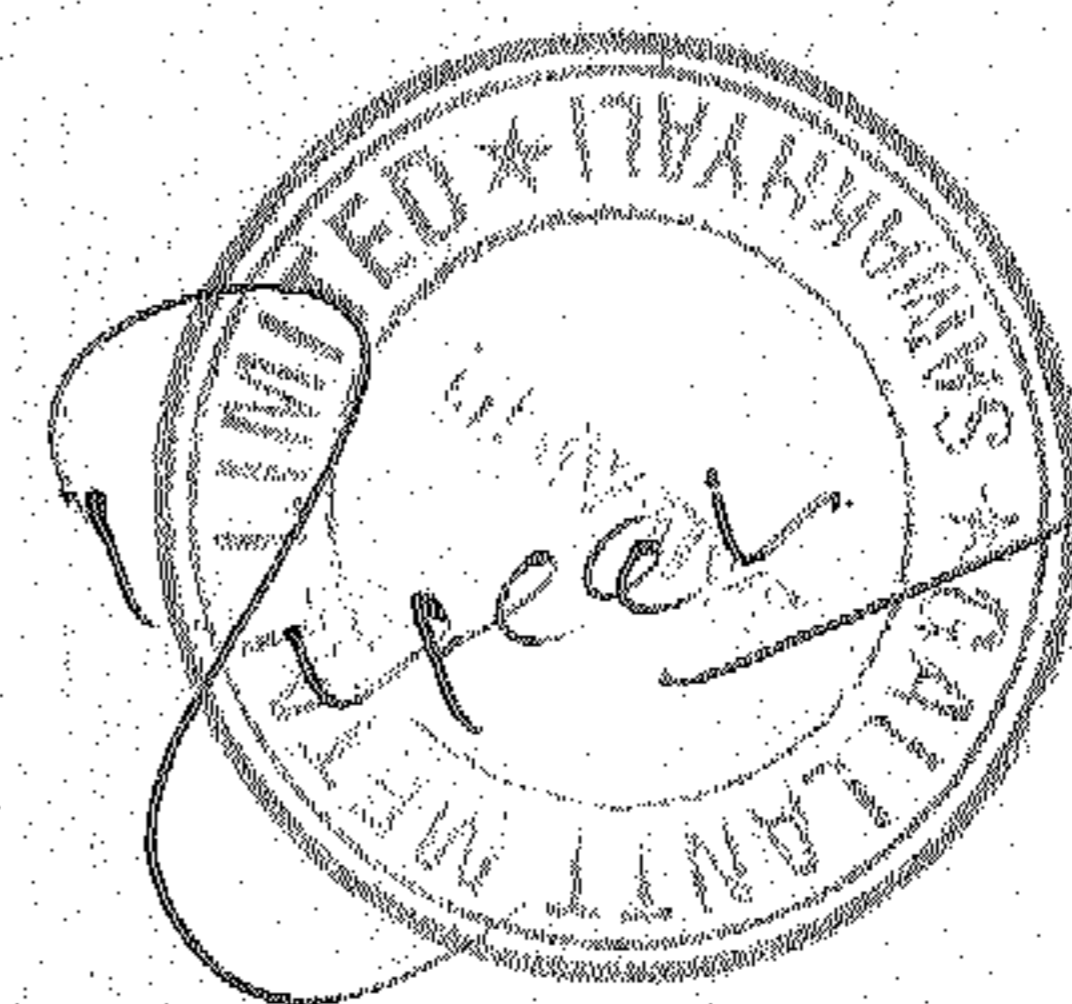
Stack Monitoring Station	SPM (mg/Nm <sup>3</sup> )				NOX (mg/Nm <sup>3</sup> )				SO <sub>2</sub> (mg/Nm <sup>3</sup> )			
	Limit	Max	Min	Avg	Limit	Max	Min	Avg	Limit	Max	Min	Avg
Power Plant	100	67	53	60	50	23.7	21.9	22.8	100	24.8	19.4	22.1

3	<p><b>High efficiency Electrostatic Precipitators (ESPs) shall be installed to limit particulate emission within 100 mg/Nm<sup>3</sup></b></p>	<p>High efficiency Thermax make Electrostatic Precipitators (ESPs) has been installed with four nos of Mechanical and four nos of Electrical field to limit particulate emission below 100 mg/Nm<sup>3</sup>.</p> <p>Particulate emission parameters as per monitoring audit conducted by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from Apr'17 to Sept'17 are given in the Table 2 below &amp; copy of the same is attached as Annexure A.</p> <p>Copy of Environmental parameters as per Continuous monitoring reports transmitted to CPCB and GPCB from April 2017 to Sept 2017 is attached as Annexure B.</p> <p><b>Compliance Assured</b></p>
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## STACK EMISSION MONITORING REPORT

### TABLE 2

Stack Monitoring Station	SPM (mg/Nm <sup>3</sup> )			
	Limit	Max	Min	Avg
Power Plant	100	67	53	60



4	AFBC boilers shall be provided	AFBC Boiler has been provided. <b>Complied</b>
5	Air cooled condensers shall be installed	Air Cooled Condenser has been installed. <b>Complied</b>
6	Water requirement shall not exceed 363 m <sup>3</sup> /day and shall be obtained from GWIL Narmada Water Pipeline. No Ground water shall be extracted for any purpose for the project.	Water Consumption is within the limit as per conditions. Water is being obtained from GWIL Narmada Water Pipeline. No Ground water is being extracted for any purpose for the project.  Granted permission for total water consumption as per different permits along with actual consumption from Apr'17 to Sept'17 is attached as per Annexure C. <b>Complied</b>
7	There shall be zero discharge outside the plant boundary. The treated effluents conforming to the prescribed standards shall be re circulated and reused within the plant boundary.	The effluent generated from the utility area in plant is treated in effluent treatment plant and reused within the plant premises for dust suppression and gardening purpose.  Online flow meter and web camera have been installed and connected with CPCB and GPCB and commissioned for zero liquid discharge plant  There is no discharge outside the plant premises via drains except during monsoon for storm water.  The treated effluent parameters are within prescribed standards. The treated effluent parameters as per analysis conducted by Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II



Auditor having NABL accredited laboratory facility from Apr'17 to Sept'17 are given in the Table 3 below & copy of the same is attached as Annexure D.

**Complied.**

**TREATED EFFLUENT RESULTS  
TABLE 3**

Parameter	Prescribed norms (mg/L)	Effluent Quality (mg/L)
pH	6.5 TO 8.5	7.23
Suspended Solids	100	17
Oil & Grease	10	0.88
Copper	1.0	0.50
Iron as Fe	1.0	0.6
Phosphate	5	2.8
Total Chromium	0.20	0.09
Zinc as Zn	1.0	TRACES
BOD 3 Days @ °C	30	22.5
COD	100	46

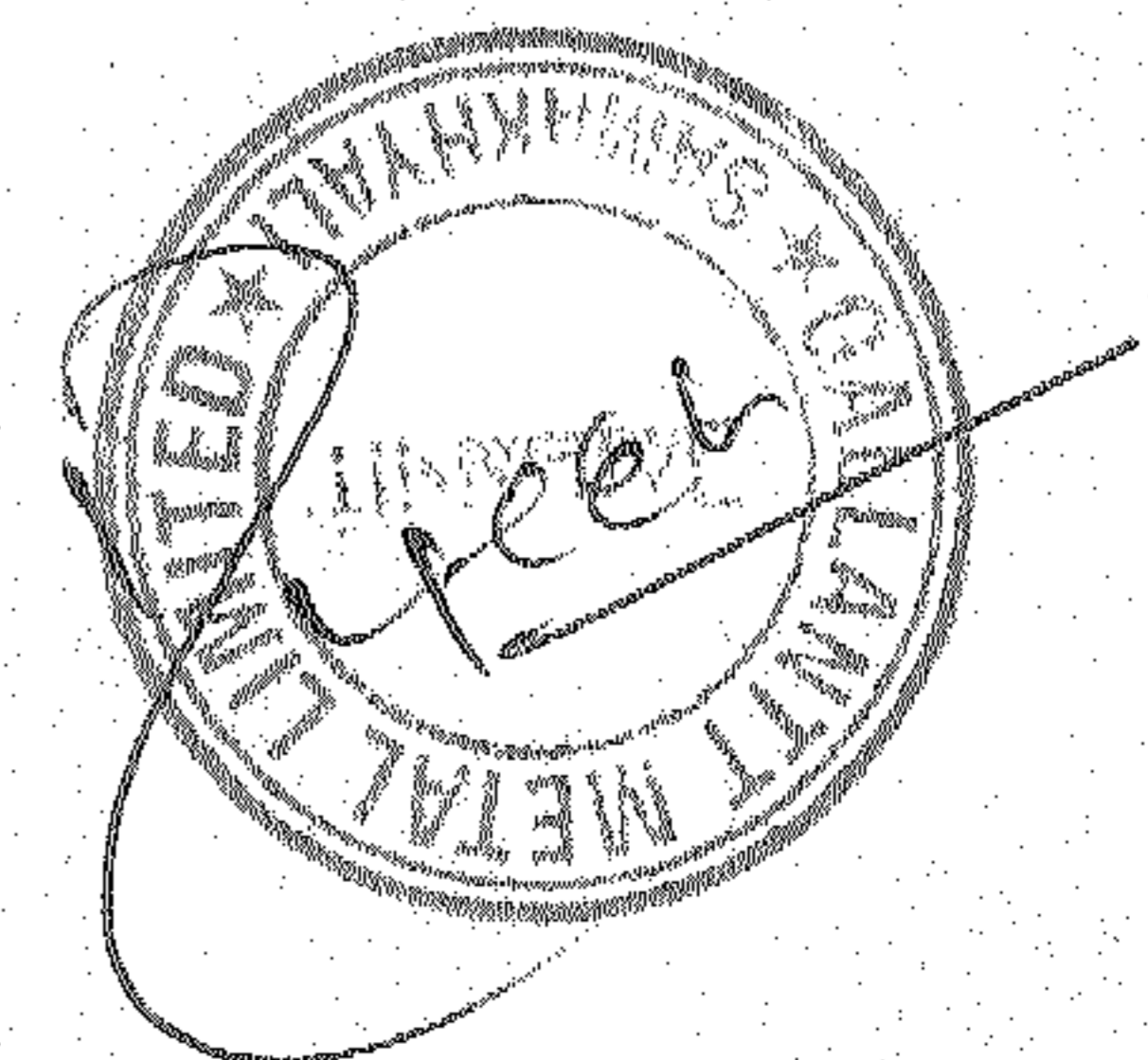
8. Rain water harvesting shall be practiced. A detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority /State Ground Water Board and a copy of the same shall be submitted within three months to this Ministry.

Presently rain water is collected into pond and reused in the process after necessary treatment in the lean season besides recharging the ground water table.

Rain water harvesting measures have been implemented by means of creating two ponds for storage of water with capacity of 9000 KL and 3890 KL respectively.

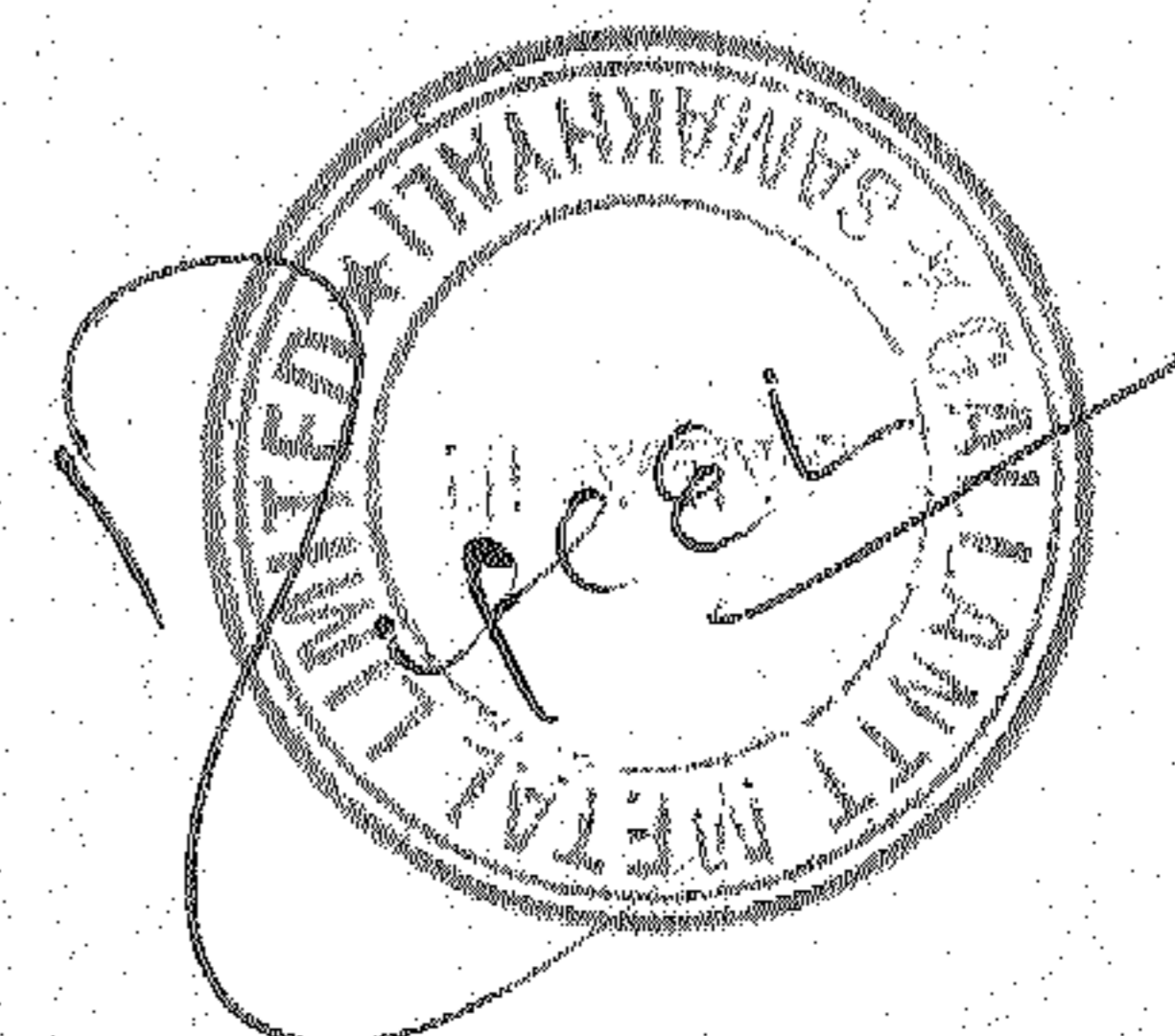
Capacity of the reservoir will be enhanced based on the requirements to meet the maximum water requirement.

**Complied.**



9	<p>Leq of Noise level shall be limited to 75 dBA and regular maintenance of equipments should be undertaken. For people working in high noise areas, personal protection devices should be provided.</p>	<p>Workplace noise level monitoring is being conducted on regular basis to identify high noise levels. Workers employed in High Noise area are provided with proper PPEs. Leq of noise level is being limited to less than 75 dBA &amp; regular maintenance of equipment is done &amp; personal protective equipments are provided to workers. Enclosures are provided with the equipments producing high level of noise. Periodic Audiometric tests of the workmen employed in High Noise Area is also conducted as part of workers 'Health Surveillance Program'. Ambient Noise Level is monitored regularly and is controlled within stipulated limit. Parameters as per monitoring report conducted by <b>Royal Environment Auditing &amp; Consultancy Service</b>, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from <b>Apr'17 to Sept'17</b> are given in the <b>Table 4</b> below &amp; copy of the same is attached as <b>Annexure E</b>.</p> <p><b>Complied</b></p>
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Ambient Noise Level Monitoring Station	Noise Level (dBA) TABLE 4							
	Day				Night			
POWER PLANT AREA	Limit	Max.	Min.	Avg.	Limit	Max.	Min.	Avg.
	75.0	71.60	67.60	69.60	75.0	63.50	59.70	61.60



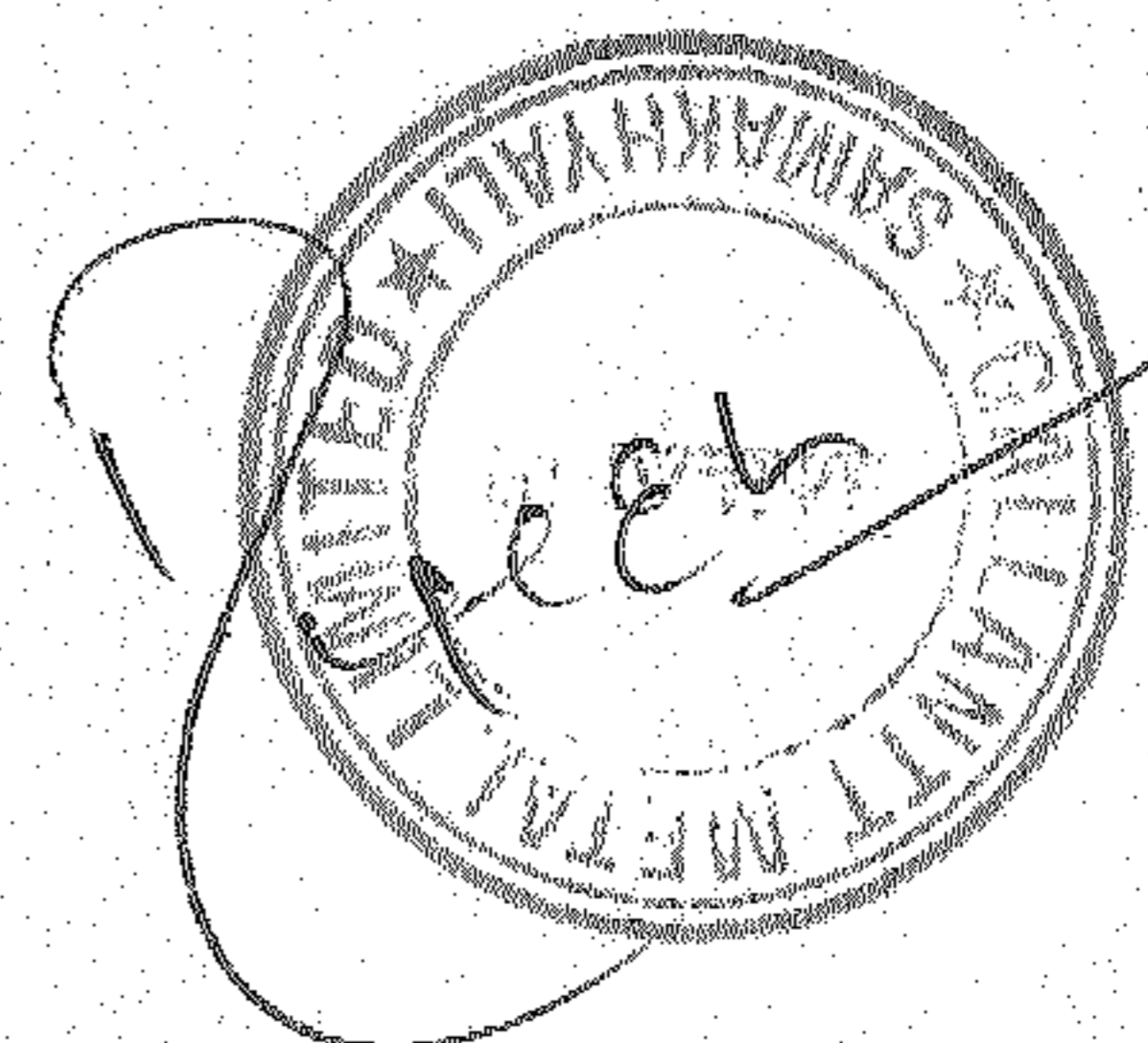
10	<p>100 % utilization of ash shall be ensured from day one of commissioning of the plant.</p>	<p>100 % utilization of ash is being ensured from day one of commissioning of the plant. Captive brick manufacturing plant is installed. Fly ash is partly used for brick manufacturing &amp; partly send to TSDF site for their disposal purpose.</p> <p>Fly ash Generation and its disposal from <b>Apr'17 to Sept'17</b> is given in <b>Table 5</b> below. Action plan for fly ash utilization/disposal from <b>Oct'17 to Mar'18</b> is also given in <b>Table 6</b> below.</p> <p><b>Complied</b></p>
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**FLY ASH GENERATION/DISPOSAL/UTILISED QUANTITY FROM  
APRIL 2017 TO SEPTEMBER 2017  
TABLE 5**

OPENING STOCK ON 01/04/17 IN MT	FLY ASH GENERATION IN MT 01/04/17 to 30/09/17	USED FOR BRICK MAKING IN MT 01/04/17 to 30/09/17	SEND TO TSDF SITES IN MT 01/04/17 to 30/09/17	CLOSING STOCK ON 30/09/17 IN MT
1412.17	23783.08	2508.10	22491.17	195.45

**FLY ASH GENERATION/DISPOSAL/UTILISATION PLAN FOR FROM  
OCTOBER 2017 TO MARCH 2018  
TABLE 6**

DESCRIPTION	OPENING STOCK ON 01/10/17 IN MT	EXPECTED GENERATION 01/10/17 TO 31/03/18 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/18 IN MT
FLY ASH	195.45	22810	10-20% TO BE USED FOR BRICK MAKING, 80-90% TO BE SEND TO TSDF SITE	1005



11	A green belt shall be developed around the plant boundary covering an area of at least 1.86 ha as part of this project.	<p>A total area of 1.86 hectare is allotted for green belt development &amp; company has planted no. of trees within this area. The plant spieces selected are Neem, Sheesham, Jamun, Kesia Samiya, Kachnar, Karenj, Peepal, Amla, Ashok, Kadam, etc. The company has carried out tree plantation program within &amp; outside the plant premises at regular intervals. The total no. of trees planted in last 6 months are 6100 nos.</p> <p>Since plantation is continuous process, we asured to raise plantation further as per CPCB guideline.</p> <p><b>Compliance Assured</b></p>
12	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	<p>During construction phase First aid and Sanitation arrangements were made for the drivers and other contract workers.</p> <p><b>Complied</b></p>
13	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation with the State Pollution Control Board. Periodic reports shall be submitted to the Regional Office of this Ministry at Bhopal	<p>Regular monitoring of the ambient air quality is being carried out in and around the power plant and records are being maintained. Environment Management Plan is attached as Annexure F for the location of monitoring stations and frequency of monitoring decided in consultation with the State Pollution Control Board (GPCB). Periodic reports is being submitted to the Regional Office of this Ministry at Bhopal.</p> <p>Ambient air quality parameters are within the stipulated norms. Parameters as per monitoring audit conducted by Royal Environment</p>



