

## 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 Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from April'21 to Sep'21 are given in the Table 1 below & copy of the same is attached as Annexure A1. <b>Compliance Assured</b>

**STACK EMISSION MONITORING  
TABLE 1**

Stack Monitoring Station	SPM (mg/Nm3)				NOX (mg/Nm3)				SO2 (mg/Nm3)			
	Limit	Max	Min	Avg	Limit	Max	Min	Avg	Limit	Max	Min	Avg
Power Plant	50	44.2	42.6	43.4	300	83.4	81.6	82.5	600	95.7	92.3	94

3	High efficiency Electrostatic Precipitators (ESPs) shall be installed to limit particulate emission within 100 mg/Nm3	High efficiency Thermax make Electrostatic Precipitators (ESPs) has been installed with four nos of Mechanical and four nos of Electrical field to limit
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		<p>particulate emission below 100 mg/Nm<sup>3</sup>.</p> <p>Particulate emission 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>April'21 to Sep'21</b> are given in the <b>Table 2</b> below &amp; copy of the same is attached as <b>Annexure A1</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		50	44.2	42.6	43.4
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.	<ul style="list-style-type: none"> <li>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.</li> </ul>			



7	<p>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.</p>	<p>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.</p> <p>Online flow meter and web camera have been installed and connected with CPCB and GPCB and commissioned for zero liquid discharge plant</p> <p>There is no discharge outside the plant premises via drains except during monsoon for storm water.</p> <p>The treated effluent parameters are within prescribed standards. The treated effluent parameters as per analysis 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 April'21 to Sept'21 are given in the Table 3 below &amp; copy of the same is attached as <b>Annexure A2</b>.</p> <p><b>Complied.</b></p>
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#### TREATED EFFLUENT RESULTS

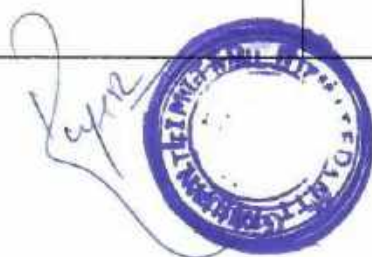
**TABLE 3**

Parameter	Prescribed norms (mg/L)	Effluent Quality-Min. (mg/L)	Effluent Quality-Max. (mg/L)
pH	6.5 TO 8.5	7.51	7.87
Suspended Solids	100	23	26
Oil & Grease	10	0.35	0.42
Copper	1.0	0.51	0.52
Iron as Fe	1.0	0.46	0.48
Phosphate	5	0.6	0.7
Total Chromium	0.20	TRACE	TRACE
Zinc as Zn	1.0	TRACE	TRACE
BOD 3 Days @ °C	30	17	18
COD	100	42	44
Hexavalent Cr	0.1	TRACE	TRACE





8.	<p>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.</p>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Presently rain water is collected into pond and reused in the process after necessary treatment</li> <li>• Company has provided proper drainage system for rainwater to prevent water logging within and in the vicinity of the plant.</li> </ul>
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'.</p> <p>Ambient Noise Level is monitored regularly and is controlled within stipulated limit.</p> <p>Parameters as per monitoring report conducted by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from April'21 to Sept'21 are given in the Table 4 below &amp; copy of the same is attached as <b>Annexure A3</b>.</p> <p>Complied</p>





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	72.9	72.4	72.65	75.0	63.5	63.1	63.3
10	100 % utilization of ash shall be ensured from day one of commissioning of the plant.				<ul style="list-style-type: none"> <li>100 % utilization of ash is being ensured from day one of commissioning of the plant.</li> <li>Fly ash is used for brick manufacturing &amp; sold to an integrated TSDF site (Saurashtra Enviro Project Pvt Ltd (SEPPL)) for utilisation of fly ash as binding Material for solidification and stabilisation not for the disposal purpose.</li> <li>Copy of MOU with M/S Saurashtra Enviro Project Pvt Ltd (SEPPL) is attached as Annexure A4.</li> <li>Fly Ash Generated, Utilised and disposed From April'21 to Sept'21 and expected Fly Ash Generation, Utilisation and disposal plan from 01<sup>st</sup> Oct'21 to March'22 is given in the Table 5 below.</li> </ul>			

**FLY ASH GENERATED/DISPOSED/UTILISED QUANTITY FROM  
APRIL 2021 TO SEPTEMBER 2021  
TABLE 5**

OPENING STOCK ON 01/04/21 IN MT	FLY ASH GENERATION IN MT 01/04/21 to 30/09/21	USED FOR BRICK MAKING IN MT 01/04/21 to 30/09/21	SEND TO TSDF SITES IN MT 01/04/21 to 30/09/21	CLOSING STOCK ON 30/09/21 IN MT
3402.80	29748.06	3632.110	27569.680	1949.07



**FLY ASH GENERATION/DISPOSAL/UTILISATION PLAN FOR FROM  
OCTOBER 2021 TO MARCH 2022**

**TABLE 6**

DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22 IN MT
FLY ASH	1949.070	22000	10-20% TO BE USED FOR BRICK MAKING, 80-90% TO BE SEND TO TSDF SITE	1200
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.		<ul style="list-style-type: none"> <li>Green Belt cover is being continuously developed within and around the project site, as well as outside the plant premises.</li> <li>As per the condition we have already planted the appx 4680 nos of trees around the plant boundary from 2007-2010 covering the area of at least 1.86 ha (appx. 4.6 Acre) as part of this project.</li> </ul> <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	<p><b>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</b></p>	<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 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 Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from <b>April'21 to Sep'21</b> are given in the <b>Table 7</b> below &amp; copy of the same is attached as <b>Annexure A5</b>.</p> <p>Complied</p>
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**AMBIENT AIR QUALITY MONITORING REPORT  
TABLE 7**

Ambient Air Quality Station	PM 10 µg/m3				PM2.5 µg/m3				SOx µg/m3				NOx µg/m3			
	Std	Max	Min	Avg	Std	Max	Min	Avg	Std	Max	Min	Avg	Std	Max	Min	Avg
<b>NR POWER-PLANT AREA</b>	<b>100</b>	<b>56</b>	<b>51</b>	<b>53.5</b>	<b>60</b>	<b>33</b>	<b>31</b>	<b>32</b>	<b>80</b>	<b>15.9</b>	<b>15.3</b>	<b>15.6</b>	<b>80</b>	<b>16.8</b>	<b>15.6</b>	<b>16.2</b>





14	<p>The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days of issue of this letter, informing that the project has been accorded Environmental Clearance and copies of clearance letter are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http:// envfor.nic.in</a>.</p>	<p>The Public were informed of accorded Environment clearance through an advertisement in <b>The Times of India (Gujarat)</b> and <b>Kutch Mitra</b> (in the Gujarati language).</p> <p>Copies of clearance letter are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http:// envfor.nic.in</a>.</p> <p>Copies of news paper clippings have been submitted to the Regional office of the MoEF and also attached as <b>Annexure A6</b>.</p> <p><b>Complied</b></p>
15	<p>A separate Environment Management cell with qualified staff shall be set up for implementation of the stipulated Environmental Safeguards</p>	<ul style="list-style-type: none"> <li>A separate Environment Management cell with qualified staff is in place for implementation of the stipulated Environmental Safeguards.</li> <li>The Company has an Environment Management Cell headed by a Senior Manager. Trained engineers are responsible for incident free operation of all pollution control devices and the enforcement of any rules / laws applicable.</li> </ul>
16	<p>Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry, its Regional Office and the CPCB/SPCB.</p>	<ul style="list-style-type: none"> <li>Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards is being regularly submitted to Ministry, its Regional Office and the CPCB/SPCB.</li> </ul>
17	<p>Regional office of the Ministry of Environment &amp; Forests located at Bhopal will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environmental</p>	<ul style="list-style-type: none"> <li>Complete set of documents including Environmental Impact Assessment Report and Environmental Management Plan were submitted to MOEF on the dates given in the <b>Table8</b> below.</li> </ul>



Management Plant along with the additional information submitted to Ministry of Environment & Forests from time to time shall be forwarded to the Regional Office for their use during monitoring.

**TABLE 8**  
**EIA REPORT SUBMISSION DETAILS**

MOEF LETTER NO	DATE OF SUBMISSION OF EIA REPORT TO MOEF
J-11011/52/2013-IAII(I) dated 19.05.2016	27.08.2014
J-11011/231/2009-IAII(I) dated 08.06.2009	04.09.2008
J-11011/52/2013-IAII(I) dated 28.09.2007	25.06.2007

- Additional informations were also submitted to MOEF for their use from time to time on the dates given in the **Table 9** below.

**TABLE 9**  
**ADDITIONAL DATA SUBMISSION DETAILS**

MOEF LETTER NO.	DATE OF RECEIVING	REPLY DATE
No-4-24/2007(ENV)/454	27/02/2008	25/05/2008
No-5-307/2009(ENV)/2902	01/12/2009	30/04/2010
No-4-24/2007(ENV)/1447	11/08/2014	17/09/2014
No-5-52/2016(ENV)	06/01/2017	20/03/2017
No-5-52/2016(ENV)/784	13/10/2017	19/01/2018
No-5-52/2016(ENV)	25/10/2017	03/04/2018

18 Separate funds shall be allocated for implementation of environmental protection measures along with item wise break up. These cost shall be included as part of the project cost. The funds earmarked for the Environment Protection measures shall not be diverted for other purposes and year wise expenditure shall be reported to the Ministry.

- Separate fund is earmarked towards the capital cost and recurring cost/annum towards environmental pollution control measures
- Rs.0.96 Cr., Rs. 1.46 Cr. & 0.3 Cr. was incurred as capital expenditure during 2019-20,2020-21 & 2021-22 respectively.
- Further, recurring expenditure was incurred to the tune of Rs.0.18 Cr., Rs. 0.20 Cr & Rs.0.10 Cr. During 2019-20, 2020-21 & 2021-22 respectively.
- Sub-headwise break-up of proposed expenditure for the next financial year (2021-22) is given in **Table10** below towards environmental pollution control





		measures.																								
		<p align="center"><b>TABLE 10</b></p> <table border="1"> <tr> <th align="center" colspan="3">Proposed expenditure Environment Protection Measures for financial year 2021-22</th></tr> <tr> <th align="center">S.No</th><th align="center">SUB HEAD</th><th align="center">Proposed Cost(Capital +Recurring)</th></tr> <tr> <td align="center">1</td><td>Air Pollution Control/Noise Control</td><td align="center">40</td></tr> <tr> <td align="center">2</td><td>Water Pollution Control</td><td align="center">3</td></tr> <tr> <td align="center">3</td><td>Environmental Monitoring and Managment</td><td align="center">15</td></tr> <tr> <td align="center">4</td><td>Green Belt Development</td><td align="center">6</td></tr> <tr> <td align="center">5</td><td>Occupational Health</td><td align="center">5</td></tr> <tr> <td align="center" colspan="2">Total</td><td align="center">0.69</td></tr> </table>	Proposed expenditure Environment Protection Measures for financial year 2021-22			S.No	SUB HEAD	Proposed Cost(Capital +Recurring)	1	Air Pollution Control/Noise Control	40	2	Water Pollution Control	3	3	Environmental Monitoring and Managment	15	4	Green Belt Development	6	5	Occupational Health	5	Total		0.69
Proposed expenditure Environment Protection Measures for financial year 2021-22																										
S.No	SUB HEAD	Proposed Cost(Capital +Recurring)																								
1	Air Pollution Control/Noise Control	40																								
2	Water Pollution Control	3																								
3	Environmental Monitoring and Managment	15																								
4	Green Belt Development	6																								
5	Occupational Health	5																								
Total		0.69																								
19	Full cooperation shall be extended to the Scientists /Officers from the Ministry/ Regional Office of the Ministry at Bhopal /the CPCB/the SPCB who would be monitoring the compliance of Environmental Safeguards.	<p>We undertake to give full cooperation to the Scientists /Officers from the Ministry/ Regional Office of the Ministry at Bhopal /the CPCB/the SPCB who would be monitoring the compliance of Environmental Safeguards.</p> <p>Noted &amp; Agreed to Comply</p>																								
20	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the ministry.	Noted & Agreed to Comply																								
21	The EC accorded shall be valid for a period of 5 years to start of production operation by the power plant	Noted & Agreed to Comply																								

*Rajesh*





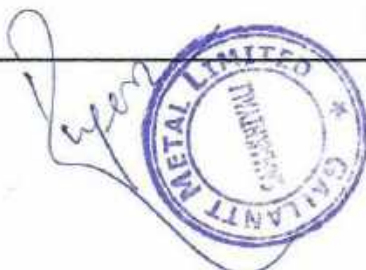
22	In Case of any deviation or alteration in the project proposed from that submitted to this Ministry for clearance,a fresh reference shall be made to the Ministry to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required,if any.	Noted & Agreed to Comply
23	The above stipulations shall be enforced along with others as under the Water (P & CP) Act,1974, the Air (P & CP) Act,1981, the EP Act,1986, the MSIHC Rules 1989, HWMH Rules, 1989, the PLI Act,1991 and rules there under.	Noted & Agreed to Comply




**EC COMPLIANCE  
FOR**

**Expansion of Steel Plant by installation of Sponge Iron Plant (175 TPD) and Captive Power Plant (7 MW; 5 MW AFBC & 2 MW WHRB) at Sy. No.175, 175/2, 176, 177, 178, 179/1, 179/2, 179/3, 182/1. 184, 185/2, 185/3, 185/4, 185/5 Village Samkhiyali, Taluka Bhachau, District Kutch, Gujarat by M/s Gallantt Metal Ltd.**

Sr. No	SPECIFIC CONDITIONS	Compliance status
1.	<p><b>Efforts should be made to reduce RSPM levels in the ambient air and a time bound action plan should be submitted. On-line ambient air quality monitoring and continuous stack monitoring facilities for all the stacks and sufficient air pollution control devices should be provided to keep the emission levels below 100 mg/Nm<sup>3</sup></b></p>	<p>All efforts are being made to reduce RSPM levels in the ambient air. On-line monitoring facilities has been provided and sufficient air pollution control devices (location and air pollution control devices installed details given in <b>Table 11</b> below) provided to keep the emission levels below 100 mg/Nm<sup>3</sup>.</p> <p>Environmental parameters as per monitoring conducted by <b>Royal Environment Auditing &amp; Consultancy Service</b>, Gujarat Pollution Control Board (GPCB) approved <b>Schedule II</b> Auditor having <b>NABL accredited</b> laboratory facility from <b>April'21 to Sept'21</b> for all six stacks are given in the <b>Table 12</b> below &amp; copy of the same is attached as <b>Annexure A1</b>.</p> <p>Environmental parameters as per monitoring conducted by <b>Royal Environment Auditing &amp; Consultancy Service</b>, Gujarat Pollution Control Board (GPCB) approved <b>Schedule II</b> Auditor having <b>NABL accredited</b> laboratory facility for PM<sub>2.5</sub>, PM<sub>10</sub>, Sox &amp; Nox in the ambient air from <b>April'21 to Sept'21</b> are given in the <b>Table 13</b> below &amp; copy of the same is attached as <b>Annexure A5</b>.</p> <p><b>Compliance Assured</b></p>



## Air Pollution Control Device

Table 11

Location	Air Pollution Control Equipment
Power Plant	Electro Static Precipitator (ESP)
Rotary Kiln 1 & 2	Electro Static Precipitator (ESP)
Rotary Kiln 3 & 4	Electro Static Precipitator (ESP)
Induction Furnace 1 & 2	Bag Filter With Spark Trapper and Popped Damper
Induction Furnace 3 & 4	Bag Filter With Spark Trapper and Popped Damper
Reheating Furnace	Bag Filter With Forced Draft Cooler

## STACK EMISSION MONITORING REPORT VALUES

TABLE 12

Stack Monitoring Station	SPM (mg/Nm3) Limit-100 mg/Nm3			NOX (mg/Nm3) Limit-50 mg/Nm3			SO2 (mg/Nm3) Limit-100 mg/Nm3		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Rotary Kiln 1 & 2	72.4	53.7	63.05	27.4	26.4	26.9	70.2	68.4	69.3
Rotary Kiln 3 & 4	78.3	76.8	77.55	26.3	24.9	25.6	76.5	75.6	76.05
Rolling Mill	-	-	-	-	-	-	-	-	-
Induction Furnace F1 & F2	33.6	32.6	33.1	26.4	25.1	25.75	35.7	34.8	35.25
Induction Furnace F3 & F4	34.2	33.7	33.95	28.6	27.4	28	39.1	37.5	38.3
Stack Monitoring Station	SPM (mg/Nm3) Limit-50 mg/Nm3			NOX (mg/Nm3) Limit-300 mg/Nm3			SO2 (mg/Nm3) Limit-600 mg/Nm3		
Power Plant	44.2	42.6	43.4	83.4	81.6	82.5	95.7	92.3	94





## AMBIENT AIR QUALITY MONITORING REPORT

**TABLE 13**

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100µg/m <sup>3</sup>			PM2.5(µg/m <sup>3</sup> ) Limit-60 µg/m <sup>3</sup>			Sox(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>			NOx(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>		
	Max	Min	Avg.	Max	Min.	Avg.	max.	Min.	Avg.	Max	Min.	Avg.
OFFICER COLONY	62	59	60.5	34	30	32	14.3	12.9	13.6	17.8	16.9	17.35
MAIN SECURITY GATE	65	63	64	36	32	34	20.4	19.8	20.1	13.4	13.1	13.25
B/H KILN 1 & 2	56	51	53.5	33	31	32	15.9	15.3	15.6	16.8	15.6	16.2
NR.FURNACE AREA	54	50	52	37	35	36	16.8	15.7	16.25	16.2	15.8	16



2.	<p><b>Electrostatic precipitator (ESP) shall be provided to DRI kilns, WHRB and AFBC boilers to keep the particulate matters within 100 mg/Nm<sup>3</sup>. Hot gases from DRI kiln shall be passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then shall be cleaned in electrostatic precipitator (ESP) before leaving out into the atmosphere through ID fan and stack</b></p>	<p>Electrostatic precipitator (ESP) has been provided to DRI kilns, WHRB and AFBC boilers to keep the particulate matters within 100 mg/Nm<sup>3</sup>. Hot gases from DRI kiln passed through Dust Settling Chamber (DSC) to remove coarse solids and After Burning Chamber (ABC) to burn CO completely and used in waste heat recovery boiler (WHRB). The gas then cleaned in electrostatic precipitator (ESP) before leaving out into the atmosphere through ID fan and stack.</p> <p>Particulate Matter values as per monitoring conducted by <b>Royal Environment Auditing &amp; Consultancy Service</b>, Gujarat Pollution Control Board (GPCB) approved <b>Schedule II Auditor</b> having <b>NABL accredited</b> laboratory facility from <b>April'21 to Sept'21</b> are given in the <b>Table 14</b> below &amp; copy of the same is attached as <b>Annexure A1</b>.</p> <p><b>Complied</b></p>
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**STACK EMISSION MONITORING  
TABLE 14**

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	50	44.2	42.6	43.4	300	83.4	81.6	82.5	600	95.7	92.3	94



3	<p>At least four ambient air quality-monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, SO<sub>2</sub> and NO<sub>x</sub> are anticipated in consultation with the GPCB. Data on ambient air quality and stack emission should be regularly submitted to this Ministry including its Regional Office at Bhopal, GPCB and CPCB once in six months.</p>	<p>Four Ambient Air Quality Monitoring stations have been established in the downward direction as well as where maximum ground level concentration of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> in consultation with GPCB. Data on ambient air quality and stack emission is being regularly submitted to this Ministry including its Regional Office at Bhopal and the SPCB/CPCB once in six months.</p> <p>Ambient air quality parameters are within the stipulated norms. Environmental parameters as per monitoring conducted by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility for PM<sub>2.5</sub>, PM<sub>10</sub>, Sox &amp; Nox from April'21 to Sept'21 are given in the Table 15 below &amp; copy of the same is attached as Annexure A5. Complied</p>
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### AMBIENT AIR QUALITY MONITORING REPORT

TABLE 15

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100µg/m <sup>3</sup>			PM2.5(µg/m <sup>3</sup> ) Limit-60 µg/m <sup>3</sup>			Sox(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>			NOx(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>		
	Max	Min	Avg	Max	Min.	Avg.	max.	Min.	Avg.	Max	Min.	Avg.
OFFICER COLONY	62	59	60.5	34	30	32	14.3	12.9	13.6	17.8	16.9	17.35
MAIN SECURITY GATE	65	63	64	36	32	34	13.4	13.1	13.25	20.4	19.8	20.1
B/H KILN 1 & 2	56	51	53.5	33	31	32	15.9	15.3	15.6	16.8	15.6	16.2
NR.FURNACE AREA	54	50	52	37	35	36	16.8	15.7	16.25	16.2	15.8	16





4.	<p><b>Data on ambient air quality stack emissions and fugitive emissions shall be uploaded on the Company's website and also regularly submitted on-line to the Ministry's Regional Office at Bhopal, Gujarat Pollution Control Board (GPCB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months. Data on SPM, SO<sub>2</sub> and NO<sub>x</sub> shall also be displayed prominently outside the premises at the appropriate place for the information of general public.</b></p>	<p>Data on ambient air quality stack emissions and fugitive emissions has been uploaded on the Company's website and also regularly submitted on-line to the Ministry's Regional Office at Bhopal, Gujarat Pollution Control Board (GPCB) and Central Pollution Control Board (CPCB) as well as hard copy once in six months.</p> <p>Data on SPM, SO<sub>2</sub> and NO<sub>x</sub> is being displayed prominently outside the premises at the appropriate place for the information of general public.</p> <p><b>Complied</b></p>
5	<p><b>Secondary fugitive emissions from blast furnace and sinter plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines / Code of Practice issued by the CPCB shall be followed. The emission standards issued by the Ministry in May, 2008 for the sponge plants shall be followed.</b></p>	<p>Status of Compliance of the emission standards issued by the Ministry in May, 2008 for the sponge plants is given below in <b>Table 16</b> and is attached as <b>Annexure A7</b>.</p>




**Table 16****Compliance report of guidelines published by CPCB for sponge iron plant.**

1.0	STACK EMISSION STANDARDS	COMPLIANCE STATUS			
i.	Stack Emission Standards for Kiln (Particulate Matter) Should be 100 mg/Nm <sup>3</sup> (Coal based)	<ul style="list-style-type: none"> <li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li> <li>Copy of reports are attached as <b>Annexure A1.</b></li> </ul>			
		PARAMETERS	EMISSION STANDARD (mg/Nm <sup>3</sup> )	OBSERVED VALUE (MIN) (mg/Nm <sup>3</sup> )	OBSERVED VALUE (MAX) (mg/Nm <sup>3</sup> )
		PM	300	42.6	44.2
ii.	Carbon Mono oxide (CO) (v/v) Not to exceed 1% (Max.), volume/volume	<ul style="list-style-type: none"> <li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li> <li>Copy of Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is attached as <b>Annexure A8.</b></li> </ul>			
		PARAMETERS	EMISSION STANDARD (%V/V)	OBSERVED VALUE (MIN) (%V/V)	OBSERVED VALUE (MAX) (%V/V)
		CO	1.0%	0.7	0.8
iii.	The kiln off gas stack height should be calculated for proper dispersion of SO <sub>2</sub> (with the formula of $H=14Q^{0.3}$ Where Q=emission of SO <sub>2</sub> in Kg/h) as per emission regulations Part III of CPCB. Sulphur percentage shall be the percentage of sulphur in coal. Permissible SO <sub>2</sub> emission level with	<ul style="list-style-type: none"> <li>Height of 35 mtr is being maintained as required against 30 mtr.</li> <li>Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is given in Table below.</li> </ul>			





reference to stack height is given below:

Sr.No	Q (emission of SO <sub>2</sub> in kg/hr)	H (m)
1.	12.68	30
2.	12.69-33.08	40
3.	33.09-69.60	50
4.	69.61-127.80	60
5.	127.81-213.63	70

SO<sub>2</sub> level need to be maintained using adequate control technology as per the stack height provided by the industry.

PARAMETERS	EMISSION STANDARD	OBSERVED VALUE (MAX)
PARTICULATE MATTER	100 MG/NM <sup>3</sup>	72.4 MG/NM <sup>3</sup>
CARBON MONO OXIDE	1% (VOL/VOL)	0.30% (VOL/VOL)
STACK HEIGHT	30 MTR	35 MTR

## 2.0 STACK EMISSION STANDARDS FROM DE- DUSTING UNITS

**Particulate matter : 100 mg/ Nm<sup>3</sup>**

(i) All de-dusting units should be connected to a stack having a minimum stack height of 30m. In case installation of 30 m height of stack is technically or otherwise not feasible for specific case, the stack height can be reduced but accordingly stringent Particulate Matter emission level required to be achieved by the industry using Particulate Matter dispersion formulae/ model so that ground level concentration of Particulate Matter should not increase beyond the incremental level as it would have been with stack height of 30 m.

(ii) Sampling porthole and platform etc. shall be provided as per CPCB emission regulation to facilitate stack monitoring.

- All dedusting units are connected with adequate stack height as per the norms and sampling porthole and platforms etc are provided as per CPCB emission regulation to facilitate stack monitoring.
- Requirements is being maintained as per norms.

## 3.0 FUGITIVE EMISSION STANDARDS

The fugitive emission of suspended

- Fugitive emission results as per monitoring conducted by Royal Environment Auditing &





particulate matter (SPM) should not exceed  $2000\mu\text{g}/\text{m}^3$  at a distance of 10 m (approx.) from the areas / sources, identified and mentioned below in table 1, where fugitive dust emissions are anticipated. However, the existing industry is allowed up to  $3000\mu\text{g}/\text{m}^3$  of fugitive emission level of suspended particulate matter (SPM) till one year from the date of issue of the notification.

Sr. No	Area	Monitoring Location
1.	Raw material handling area	Wagon tippler, Screen area, Transfer Points, Stock Bin area
2.	Crusher area	Crushing plant, vibrating screen, transfer points
3.	Raw material feed area	Feeder area, Mixing area, transfer points
4.	Cooler discharge area	Over size discharge area, Transfer Points
5.	Product processing area	Intermediate stock bin area, Screening plant, Magnetic Separation unit, Transfer Points, Over size discharge area, Product separation area, Bagging area
6.	Other areas	Areas as specified by State Pollution Control Board

Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility is within the norms.

- Fugitive emission results as per monitoring report at **19 different locations** as per G.S.R.414(E) dated 30th May, 2008 is given in table below and copy of the same is attached as **Annexure A9**.

LOCATION	EMISSION STANDARD ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (MIN) ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (MAX) ( $\mu\text{g}/\text{m}^3$ )
Nr.Vagon Trippler	2000	1786	1823
Nr.screen area	2000	1452	1544
Nr.Transfer point	2000	1715	1785
Nr.stock Bin area	2000	1688	1733
Nr.Crusser area	2000	1697	1751
Nr.Crusher	2000	1632	1725
Nr.Transfer point	2000	1595	1662
Nr.Feeder area	2000	1358	1420
Nr.mixing Feeder area	2000	1693	1725
Nr.Transfer Point	2000	1747	1792
Nr.Wagon tippler	2000	1687	1745
Nr.screen area	2000	1625	1567
Nr.Intermediate stock bin area	2000	1524	1620
Nr.Screening plant	2000	1715	1755
Nr.Magnetic separating plant	2000	1595	1657
Nr.Transfer plant	2000	1419	1485
Nr.Oversize discharge area	2000	1435	1575
Nr.Product separation	2000	1520	1535

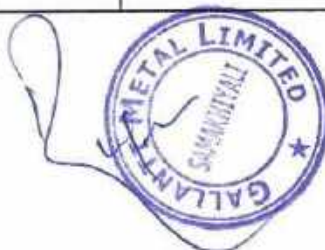


		Bagging area	2000	1555	1640																																								
4.0	<b>EFFLUENT DISCHARGE STANDARDS</b>  i. All efforts should be made to reuse and recirculate the water and to maintain zero effluent discharge. ii. Storm water/ garland drain should be provided in plant. iii. In case of maintainance/ cleaning of the system the settling tanks effluent of wet scrubbing system or re - circulation system if require to be discharged, should be treated suitably to conform to the following standards: Ph - 5.5 to 9.0 TSS <= 100 mg/l COD <= 250 mg/l Oil and grease <= 10 mg/ l	<ul style="list-style-type: none"><li>The effluent water 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.</li><li>There is no discharge outside the plant premises via drains except during monsoon for storm water.</li><li>Domestic waste water is being treated in Sewage treatment plant and reused for gardening and plantation purpose.</li><li>Results of the treated effluent is given in table below and copy of the report is attached as <b>Annexure A2.</b></li></ul> <table><tr><th colspan="4">TREATED EFFLUENT RESULTS</th></tr><tr><th>Parameter</th><th>Prescribed norms (mg/L)</th><th>Effluent Quality- Min. (mg/L)</th><th>Effluent Quality- Max. (mg/L)</th></tr><tr><td>PH</td><td>6.5 TO 8.5</td><td>7.51</td><td>7.87</td></tr><tr><td>Suspended solids</td><td>100</td><td>23</td><td>26</td></tr><tr><td>Oil&amp; Grease</td><td>10</td><td>0.35</td><td>0.42</td></tr><tr><td>Copper</td><td>1</td><td>0.51</td><td>0.52</td></tr><tr><td>Iron as Fe</td><td>1</td><td>0.46</td><td>0.48</td></tr><tr><td>Phosphate</td><td>5</td><td>0.6</td><td>0.7</td></tr><tr><td>Total Chromium</td><td>0.2</td><td>TRACE</td><td>TRACE</td></tr><tr><td>Zinc as Zn</td><td>1</td><td>TRACE</td><td>TRACE</td></tr></table>				TREATED EFFLUENT RESULTS				Parameter	Prescribed norms (mg/L)	Effluent Quality- Min. (mg/L)	Effluent Quality- Max. (mg/L)	PH	6.5 TO 8.5	7.51	7.87	Suspended solids	100	23	26	Oil& Grease	10	0.35	0.42	Copper	1	0.51	0.52	Iron as Fe	1	0.46	0.48	Phosphate	5	0.6	0.7	Total Chromium	0.2	TRACE	TRACE	Zinc as Zn	1	TRACE	TRACE
TREATED EFFLUENT RESULTS																																													
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Total Chromium	0.2	TRACE	TRACE																																										
Zinc as Zn	1	TRACE	TRACE																																										





		BOD 3 days @°C	30	17	18
		COD	100	42	44
		Hexavelent Cr	0.1	TRACE	TRACE
6	<p><b>Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements should also be made to control dust emissions during loading and unloading of the raw material and finished product. Vehicular emissions shall be regularly monitored and records kept.</b></p>	<ul style="list-style-type: none"> <li>• Vehicular pollution principally arises out of emission from the exhausts of vehicles used for transport of raw Material, fly ash and the transport of the workers. However, their effects are highly localized. All the major roads for vehicular movements and approach roads to raw material yards have already been concreted. Interlocking blocks have also been provided along the sides so as to control fugitive dust emission.</li> <li>• Regular water sprinkling is done on coal, raw material, conveyors and also in the unpaved areas. Either covered dumpers or truck covered through tarpaulin has been used to prevent dust emission during transportation.</li> <li>• Dust emission occur due to loading and unloading of raw material, prevented by reducing dropping height and regular water sprinkling in and around the area.</li> </ul>			
7	<p><b>In-plant control measures for controlling fugitive emissions from spillage/raw materials handling shall be provided. Fugitive emissions shall be controlled by using closed storages, covered belt conveyors, bag house at transfer</b></p>	<p>In plant control measures like Bag Filter, Dust Extraction System and other measures provided to control the fugitive emission from all the vulnerable sources.</p> <ul style="list-style-type: none"> <li>• Pulse jet Bag filter system provided at all</li> </ul>			



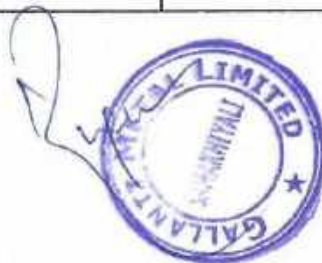


points and crusher house etc. Bag filters shall be provided to crusher house, screen house and at product handling areas to keep the particulate emissions within the permissible limits. Water sprinkling shall be provided at ash dykes and fuel storage area to control fugitive emissions from raw material handling area along with loading and unloading areas to control fugitive emissions. Data on fugitive emissions shall be regularly monitored and records maintained. Bag house/dust collector shall be provided at transfer points, raw material handling area, crusher house, screening plant, stock bin etc. to control fugitive emissions.

transfer points, crusher house, screen house, product handling areas etc. Details of nos of bag filter with location given in **Table 17** below.

- Dry Fog System provided at coal circuit, coal injection and dolachar separation area. Details of nos of Dry Fog system with location are given in **Table 7** below
- Heavy duty Industrial Vacuum Cleaner provided at product separation building to control fugitive emission.
- Rain gun and water sprinkling system provided at coal storage yard, dump hoppers and conveyors to control the fugitive emission generated during screening, loading, unloading, handling and storage of raw materials. Details of nos of Rain Gun and water sprinkling system with location are given in **Table 17** below.
- Erecting the walls high to act as wind shield for storage of raw materials
- Fugitive emission results as per monitoring conducted by Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from **April'21 to Sept'21** are given in the **Table 18** below & copy of the same is attached as **Annexure A9**.

Compliance Assured



**LIST OF POLLUTION CONTROL MEASURES**

**Table 17**

<b>Location</b>	<b>Type Of Air Pollution Control Device</b>	<b>Total Numbers</b>
<b>Coal Screen &amp; Crusher House(DRI)</b>	Bag Filter & Dry Fog system	Bag filter - 01 Nos. Dry Fog system-07 Points
<b>Iron Ore Screen &amp; Crushing House</b>	Bag Filter	Bag filter - 02 Nos
<b>Coal Transfer Points</b>	Dry Fog System	Dry Fog system-04 Points
<b>Iron Ore transfer Point</b>	Bag Filter	Bag filter - 02 Nos
<b>Coal Injection Area</b>	Injection Bag Filter	Bag filter - 04 Nos
<b>Cooler Discharge Area</b>	Bag Filter	Bag filter - 04 Nos
<b>Blending Area</b>	Bag Filter	Bag filter - 01 Nos
<b>Product Separate Building</b>	Bag Filter	Bag filter - 02 Nos
<b>Dolachar Separate Building</b>	Bag Filter & Dry Fog system	Bag filter - 01 Nos. Dry Fog system-02 Points
<b>CPP Coal crusher &amp; screen area</b>	Bag Filter & Dry Fog system	Bag filter - 02 Nos. Dry Fog system-05 Points
<b>CPP Coal Transfer area</b>	Dry Fog system	Dry Fog system-03 Points
<b>CPP Dolachar Transfer area</b>	Bag Filter	Bag filter - 01 Nos.
<b>DRI Product Handling Building</b>	Bag Filter & Industrial Vacuum Cleaner	Bag filter - 02 Nos. Industrial Vacuum Cleaner -01 No
<b>Coal Storage</b>	Rain gun & Sprinkler	Rain gun -26 Nos. Sprinkler-28 Nos.
<b>Fines Storage &amp; others</b>	Rain gun & Sprinkler	Rain gun -06 Nos. Sprinkler-48 Nos.



**FUGUTIVE EMISSION REPORT****TABLE 18**

<b>Fugutive Emission Stations</b>	<b>SPM (<math>\mu\text{g}/\text{M}^3</math>) Max limit : 2000 <math>\mu\text{g}/\text{M}^3</math></b>	
	<b>READING-1</b>	<b>READING-2</b>
NR.WAGON TRIPPLER	1786	1823
NR.SCREEN AREA	1452	1544
NR.TRANSFER POINT	1715	1785
NR.STOCK BIN AREA	1688	1733
NR.CRUSHER AREA	1697	1751
NR.VIBRATING SCREEN	1632	1725
NR.TRANSFER POINT	1595	1662
NR.FEEDER AREA	1358	1420
NR.MIXING FEEDER AREA	1693	1725
NR.TRANSFER POINT	1747	1792
NR.WAGON TRIPPLER	1687	1745
NR.SCREEN AREA	1567	1625
NR.INTERMEDIATE STOCK BIN AREA	1524	1620
NR.SCREEN PLANT	1715	1755
NR.MAGNETIC SEPRATING POINT	1595	1657
NR.TRANSFER PLANT	1419	1485
NR.OVERSIZE DISCHARGE AREA	1435	1575
NR.PRODUCT SEPARATION	1520	1535
BAGGING AREA	1555	1640





8	<p>Total water requirement for expansion from Gujarat Water Infrastructure Limited (GWIL) shall not exceed 255 m<sup>3</sup>/day as per the permission by the GWIL vide letter no. GWIL/Kutch/ind.conn./30 dated 2nd January, 2009. Ground water or any other surface water shall not be utilized for any construction or industrial purposes. Effluent Treatment Plant (ETP) shall be installed for the treatment of process water. Wastewater from Boiler blow down, DM Plant and cooling tower shall be utilized for dust suppression and for green belt development. No process water shall be discharged and 'Zero' discharge will be adopted. Domestic wastes shall be disposed off through septic tank followed by soak pit.</p>	<ul style="list-style-type: none"> <li>• Water Consumption is within the limit as per conditions. Ground water or any other surface water is not being utilized for any construction or industrial purposes. Effluent Treatment Plant (ETP) installed for the treatment of process water. Wastewater from Boiler blow down, DM Plant and cooling tower is being utilized for dust suppression and for green belt development. No process water is being discharged and 'Zero' discharge adopted. Domestic wastes is being treated in Sewage treatment plant (STP) and after treatment used for gardening and plantation purpose.</li> <li>• Results of treated is given in the Table 19 below and Copy of test reports of treated effluent is attached as Annexure A2 and the values are within the norms as prescribed by the board.</li> </ul>
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		TABLE 19			
		TREATED EFFLUENT RESULT			
		Parameter	Prescribed norms (mg/L)	Effluent Quality- Min. (mg/L)	Effluent Quality- Max. (mg/L)
		PH	6.5 TO 8.5	7.51	7.87
		Suspended solids	100	23	26
		Oil & Grease	10	0.35	0.42
		Copper	1	0.51	0.52
		Iron as Fe	1	0.46	0.48
		Phosphate	5	0.6	0.7
		Total Chromium	0.2	TRACE	TRACE
		Zinc as Zn	1	TRACE	TRACE
		BOD 3 days @°C	30	17	18
		COD	100	42	44
		Hexavalent Cr	0.1	TRACE	TRACE
9	Ground water monitoring around the solid waste disposal site / secured landfill (SLF) should be carried out regularly and report submitted to the Ministry's Regional Office at Bhopal, CPCB and GPCB	<p>Ground water monitoring around the solid waste disposal site / secured landfill (SLF) is being carried out regularly and report is being submitted to the Ministry's Regional Office at Bhopal, CPCB and GPCB.</p> <p>Copy of the latest ground water report is attached as <b>Annexure A10</b></p> <p><b>Complied</b></p>			
10	New DRI kiln shall be provided with waste heat recovery boiler (WHRB) to make use Of	<ul style="list-style-type: none"> <li>New DRI kiln has been provided with waste heat recovery boiler (WHRB) to</li> </ul>			



flue gases generated during the process. All the char from existing and proposed DRI plant shall be utilized in AFBC boiler of power plant and no char shall be disposed off anywhere else. AFBC boiler shall be installed simultaneously alongwith the DRI plant to ensure full utilization of char from the beginning. All the other solid / hazardous waste generated shall be properly utilized or disposed off in environment-friendly manner; Process dust shall be recycled back to the process. Spent/used oil shall be sold to the registered recyclers as per the Hazardous Waste (Management & Handling) Rules, 1989 and subsequent amendments.

make use Of flue gases generated during the process. All the char from existing and proposed DRI plant utilized in AFBC boiler of power plant. AFBC boiler installed simultaneously alongwith the DRI plant in order to ensure full utilization of char from the beginning.

- Time bound action plan for financial year 2021-22 of Solid & Hazardous waste generation & disposal quantity along with disposal mode given in **Table 20** and **Table 21** below.
- Process dust is being recycled back to the process.
- Spent/used oil disposed by selling to registered Re-refiner as per the Hazardous Waste (Management & Handling) Rules, 1989 and subsequent amendments.
- Invoice of used oil send to registered Re-refiner is attached as **Annexure A11**.
- Copies of agreement with various agencies along with its validity and manifest is attached as **Annexure A12**.





<b>SOLID WASTE DISPOSED/RECYCLED/UTILISATIED PLAN</b>				
<b>Table 20</b>				
DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22 IN MT
FLY ASH	5606.130	50000	10-20% TO BE USED FOR BRICK MAKING, 70-80% TO BE SEND TO TSDF SITE	4500
COAL CHAR	23.275	18000	100% TO BE USED IN POWER PLANT AS RAW MATERIAL	750
<b>HAZARDOUS WASTE DISPOSAL/RECYCLE/UTILISATION PLAN</b>				
<b>Table 21</b>				
DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22 IN MT
USED ION EXCHANGE RESIN	NIL	0.15	100 % TO BE DISPOSED OF BY INCINERATION AT COMMON HAZARDOUS WASTE INCINERATION FACILITY	NIL
USED OIL	NIL	1.20	100 % TO BE SEND TO REGISTERED RECYCLERS	NIL
11	A time bound action plan shall be submitted to reduce solid waste, its proper utilization and disposal		<ul style="list-style-type: none"> <li>• A Time bound action plan submitted to MoEFCC, RO Bhopal to reduce solid waste, its proper utilization and disposal vide letter dated 10.09.18.</li> <li>• Copy of the letter submitted to MoEFCC, RO Bhopal is attached as <b>Annexure A13</b>.</li> <li>• Fly ash is used for brick manufacturing &amp; sold to an integrated TSDF site (Saurashtra Enviro Project Pvt Ltd (SEPPL)) for utilisation of fly ash as binding Material for solidification and stabilisation not for the disposal purpose.</li> <li>• Copy of MOU with M/S Saurashtra Enviro Project Pvt Ltd (SEPPL) is attached as <b>Annexure A4</b></li> <li>• Fly Ash Generated, Utilised and disposed From <b>April'21 to Sept'21</b> and</li> </ul>	



expected Fly Ash Generation, Utilisation and disposal plan from 1<sup>st</sup> Oct'21 to March'22 is given in the Table 22 below

**TABLE 22**

**FLY ASH GENERATED/DISPOSED/UTILISED QUANTITY**

OPENING STOCK ON 01/04/21  IN MT	FLY ASH GENERATION IN MT 01/04/21 to 30/09/21	USED FOR BRICK MAKING IN MT 01/04/21 to 30/09/21	SEND TO TSDF SITES IN MT 01/04/21 to 30/09/21	CLOSING STOCK ON 30/09/21  IN MT
1949.070	44571.800	39648.730	1266.010	5606.130

**FLY ASH GENERATION/DISPOSAL/UTILISATION PLAN**

DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22 IN MT
FLY ASH	1949.070	50000	10-20% TO BE USED FOR BRICK MAKING, 80-90% TO BE SOLD TO TSDF SITE	4500

12	Proper handling, storage, utilization and disposal of all the solid waste shall be ensured and regular report regarding toxic metal content in the waste material and its composition, end use of solid/hazardous waste shall be submitted to the Ministry's Regional Office at Bhopal, MPPCB and CPCB.	<ul style="list-style-type: none"> <li>Details of toxic metal content along with its composition is being regularly submitted to MOEF Bhopal along with Six Monthly Compliance report.</li> <li>Report of toxic element analysis is attached as <b>Annexure A14</b> from <b>April'21 To Sep'21</b>.</li> </ul>
13	Proper utilization of fly ash shall be ensured as per Fly Ash Notification, 1999 and subsequent amendment in 2003. All the fly ash shall be provided to cement and brick manufacturers for further utilization and 'Memorandum of Understanding' shall be	<ul style="list-style-type: none"> <li>Fly ash is used for brick manufacturing &amp; sold to an integrated TSDF site (Saurashtra Enviro Project Pvt Ltd (SEPPL)) for utilisation of fly ash as binding Material for solidification and stabilisation not for the disposal purpose.</li> <li>Copy of "Memorandum of</li> </ul>

*Super*





submitted to the Ministry's Regional Office at Bhopal. All the fly ash shall be provided to cement and brick manufacturers for further utilization and bottom ash shall be used for land filling. Fly ash shall also be utilized in captive brick manufacturing plant, cement plant or in construction activities	<p><b>Understanding (MOU)"</b> with various parties for Fly ash is attached as <b>Annexure A4</b>.</p> <p>Fly Ash Generated, Utilised and disposed From <b>April'21 to Sep'21</b> and expected Fly Ash Generation, Utilisation and disposal plan from <b>1<sup>st</sup> Oct'21 to March'22</b> is given in the <b>Table 23</b> below.</p>
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**TABLE 23**  
**FLY ASH GENERATED/DISPOSED/UTILISED QUANTITY**

OPENING STOCK ON 01/04/21 IN MT	FLY ASH GENERATION IN MT 01/04/21 to 30/09/21	USED FOR BRICK MAKING IN MT 01/04/21 to 30/09/21	SEND TO TSDF SITES IN MT 01/04/21 to 30/09/21	CLOSING STOCK ON 30/09/21 IN MT
1949.070	44571.800	39648.730	1266.010	5606.130

**FLY ASH GENERATION/DISPOSAL/UTILISATION PLAN**

DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22 IN MT
FLY ASH	1949.070	50000	10-20% TO BE USED FOR BRICK MAKING, 80-90% TO BE SOLD TO TSDF SITE	4500





14	<p><b>Green belt shall be developed in 33% area in and around the plant premises to mitigate the effects of fugitive emissions all around the plant as per the CPCB guidelines in consultation with DFO</b></p>	<ul style="list-style-type: none"> <li>• Green Belt cover is being continuously developed within and around the project site, as well as outside the plant premises.</li> <li>• Till date more than 38061 nos of plants in approx. 32.5 acres area have been planted out of 38 Acre (33% of total area) of total green belt area.</li> </ul> <p style="text-align: center;"><b>TABLE 24</b> <b>Proposed Year wise plantation for Next Three Years</b></p> <table border="1"> <thead> <tr> <th>S. No</th><th>Year</th><th>Proposed No. of plants</th></tr> </thead> <tbody> <tr> <td>1</td><td>2022-23</td><td>2250</td></tr> <tr> <td>2</td><td>2023-24</td><td>2150</td></tr> <tr> <td>3</td><td>2024-25</td><td>2200</td></tr> <tr> <td colspan="2"><b>Total</b></td><td><b>6600</b></td></tr> </tbody> </table>	S. No	Year	Proposed No. of plants	1	2022-23	2250	2	2023-24	2150	3	2024-25	2200	<b>Total</b>		<b>6600</b>
S. No	Year	Proposed No. of plants															
1	2022-23	2250															
2	2023-24	2150															
3	2024-25	2200															
<b>Total</b>		<b>6600</b>															
15	<p><b>All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Sector shall be implemented</b></p>	<p><b>Compliance assured.</b></p>															
16	<p><b>The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.</b></p>	<p><b>Compliance assured.</b></p>															



	GENERAL CONDITIONS:	Compliance Status
1.	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB) and the State Government	<ul style="list-style-type: none"> <li>Copy of detailed compliance of CCA stipulations is attached as Annexure A15.</li> </ul>
2.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests	Noted and Agreed to comply
3.	The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The Gujarat Pollution Control Board (GPCB) may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location.	<ul style="list-style-type: none"> <li>Latest report of Environmental parameters as per monitoring, for gaseous emission comparing with the standards notified as per G.S.R.414(E) is given in the Table 25 below.</li> <li>Copy of Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May, 2008 is attached as Annexure A8.</li> </ul>

**TABLE 25**

1.0	STACK EMISSION STANDARDS	COMPLIANCE STATUS													
iv.	Stack Emission Standards for Kiln (Particulate Matter) Should be 100 mg/Nm3 (Coal based)	<ul style="list-style-type: none"><li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li><li>Copy of reports are attached as <b>Annexure A1</b>.</li></ul> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD (mg/Nm³)</th><th>OBSERVED VALUE (MIN) (mg/Nm³)</th><th colspan="2">OBSERVED VALUE (MAX) (mg/Nm³)</th></tr><tr><td>PM</td><td>100</td><td>42.6</td><td colspan="2">44.2</td></tr></table>				PARAMETERS	EMISSION STANDARD (mg/Nm³)	OBSERVED VALUE (MIN) (mg/Nm³)	OBSERVED VALUE (MAX) (mg/Nm³)		PM	100	42.6	44.2	
PARAMETERS	EMISSION STANDARD (mg/Nm³)	OBSERVED VALUE (MIN) (mg/Nm³)	OBSERVED VALUE (MAX) (mg/Nm³)												
PM	100	42.6	44.2												





v.	Carbon Mono oxide (CO) (v/v) Not to exceed 1% (Max.), volume/volume	<ul style="list-style-type: none"><li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li><li>Copy of Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is attached as <b>Annexure A8.</b></li></ul> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD (%V/V)</th><th>OBSERVED VALUE (MIN) (%V/V)</th><th>OBSERVED VALUE (MAX) (%V/V)</th></tr><tr><td>CO</td><td>1.0%</td><td>0.7</td><td>0.8</td></tr></table>	PARAMETERS	EMISSION STANDARD (%V/V)	OBSERVED VALUE (MIN) (%V/V)	OBSERVED VALUE (MAX) (%V/V)	CO	1.0%	0.7	0.8																						
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CO	1.0%	0.7	0.8																													
vi.	<p>The kiln off gas stack height should be calculated for proper dispersion of SO<sub>2</sub> (with the formula of <math>H=14Q^{0.3}</math> Where Q=emission of SO<sub>2</sub> in Kg/h) as per emission regulations Part III of CPCB. Sulphur percentage shall be the percentage of sulphur in coal. Permissible SO<sub>2</sub> emission level with reference to stack height is given below:</p> <table><tr><th>Sr.No</th><th>Q (emission of SO<sub>2</sub> in kg/hr)</th><th>H (m)</th></tr><tr><td>1.</td><td>12.68</td><td>30</td></tr><tr><td>2.</td><td>12.69-33.08</td><td>40</td></tr><tr><td>3.</td><td>33.09-69.60</td><td>50</td></tr><tr><td>4.</td><td>69.61-127.80</td><td>60</td></tr><tr><td>5.</td><td>127.81-213.63</td><td>70</td></tr></table> <p>SO<sub>2</sub> level need to be maintained using adequate control technology as per the stack height provided by the industry.</p>	Sr.No	Q (emission of SO <sub>2</sub> in kg/hr)	H (m)	1.	12.68	30	2.	12.69-33.08	40	3.	33.09-69.60	50	4.	69.61-127.80	60	5.	127.81-213.63	70	<ul style="list-style-type: none"><li>Height of 35 mtr is being maintained as required against 30 mtr.</li><li>Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is given in Table below.</li></ul> <p><b>Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008.</b></p> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD</th><th>OBSERVED VALUE (MAX)</th></tr><tr><td>PARTICULATE MATTER</td><td>100 MG/NM3</td><td>72.4 MG/NM3</td></tr><tr><td>CARBON MONO OXIDE</td><td>1% (VOL/VOL)</td><td>0.30% (VOL/VOL)</td></tr><tr><td>STACK HEIGHT</td><td>30 MTR</td><td>35 MTR</td></tr></table>	PARAMETERS	EMISSION STANDARD	OBSERVED VALUE (MAX)	PARTICULATE MATTER	100 MG/NM3	72.4 MG/NM3	CARBON MONO OXIDE	1% (VOL/VOL)	0.30% (VOL/VOL)	STACK HEIGHT	30 MTR	35 MTR
Sr.No	Q (emission of SO <sub>2</sub> in kg/hr)	H (m)																														
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CARBON MONO OXIDE	1% (VOL/VOL)	0.30% (VOL/VOL)																														
STACK HEIGHT	30 MTR	35 MTR																														
2.0	<b>STACK EMISSION STANDARDS FROM DE- DUSTING UNITS</b> <b>Particulate matter : 100 mg/ Nm<sup>3</sup></b>	<ul style="list-style-type: none"><li>All dedusting units are connected with adequate stack height as per the norms and sampling porthole and platforms etc are provided as per</li></ul>																														





(i) All de-dusting units should be connected to a stack having a minimum stack height of 30m. In case installation of 30 m height of stack is technically or otherwise not feasible for specific case, the stack height can be reduced but accordingly stringent Particulate Matter emission level required to be achieved by the industry using Particulate Matter dispersion formulae/ model so that ground level concentration of Particulate Matter should not increase beyond the incremental level as it would have been with stack height of 30 m.

(ii) Sampling porthole and platform etc. shall be provided as per CPCB emission regulation to facilitate stack monitoring.

CPCB emission regulation to facilitate stack monitoring.

- Requirements is being maintained as per norms.

3.0

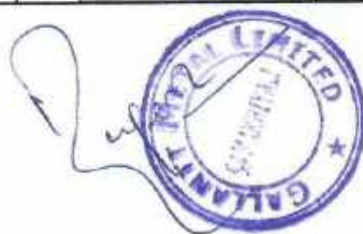
#### **FUGITIVE EMISSION STANDARDS**

The fugitive emission of suspended particulate matter (SPM) should not exceed  $2000 \mu\text{g}/\text{m}^3$  at a distance of 10 m (approx.) from the areas / sources, identified and mentioned below in table 1, where fugitive dust emissions are anticipated. However, the existing industry is allowed up to  $3000 \mu\text{g}/\text{m}^3$  of fugitive emission level of suspended particulate matter (SPM) till one year from the date of issue of the notification.

Sr. No	Area	Monitoring Location
1.	Raw material handling area	Wagon tippler, Screen area, Transfer Points, Stock Bin area
2.	Crusher area	Crushing plant, vibrating screen, transfer points

- Fugitive emission results as per monitoring conducted by Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility is within the norms.
- Fugitive emission results as per monitoring report at **19 different locations** as per G.S.R.414(E) dated 30th May, 2008 is given in table below and copy of the same is attached as **Annexure A9**.

LOCATION	EMISSION STANDARD ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (MIN) ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (MAX) ( $\mu\text{g}/\text{m}^3$ )
Nr.Vagon Trippler	2000	1786	1823
Nr.screen area	2000	1452	1544
Nr.Transfer point	2000	1715	1785
Nr.stock Bin area	2000	1688	1733
Nr.Crusser	2000	1697	1751



	3.	Raw material feed area	Feeder area, Mixing area, transfer points	area				
				Nr.Vibrating screen	2000	1632	1725	
	4.	Cooler discharge area	Over size discharge area, Transfer Points	Nr.Transfer point	2000	1595	1662	
				Nr.Feeder area	2000	1358	1420	
	5.	Product processing area	Intermediate stock bin area. Screening plant, Magnetic Separation unit, Transfer Points, Over size discharge area, Product separation area, Bagging area	Nr.mixing Feeder area	2000	1693	1725	
				Nr.Transfer Point	2000	1747	1792	
				Nr.Wagon tippler	2000	1687	1745	
				Nr.screen area	2000	1567	1625	
				Nr.Intermediate stock bin area	2000	1524	1620	
				Nr.Screening plant	2000	1715	1755	
				Nr.Magnetic separating plant	2000	1595	1657	
				Nr.Transfer plant	2000	1419	1485	
				Nr.Oversize discharge area	2000	1435	1575	
				Nr.Product separation	2000	1520	1535	
				Bagging area	2000	1555	1640	
4.0	<b>EFFLUENT DISCHARGE STANDARDS</b>							
	iv.	All efforts should be made to reuse and recirculate the water and to maintain zero effluent discharge.		<ul style="list-style-type: none"><li>• The effluent water 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.</li><li>• There is no discharge outside the plant premises via drains except during monsoon for storm water.</li><li>• Domestic waste water is being treated in Sewage treatment plant and reused for gardening and plantation purpose.</li></ul>				
	v.	Storm water/ garland drain should be provided in plant.						
	vi.	In case of maintenance/ cleaning of the system the settling tanks effluent of wet scrubbing system or re - circulation system if require to be discharged, should be treated suitably to conform to						





the following standards:  
 Ph - 5.5 to 9.0  
 TSS <= 100 mg/l  
 COD <= 250 mg/l  
 Oil and grease <= 10 mg/l

- Results of the treated effluent is given in table below and copy of the report is attached as **Annexure A2.**

TREATED EFFLUENT RESULTS			
Parameter	Prescribed norms (mg/L)	Effluent Quality-Min. (mg/L)	Effluent Quality-Max. (mg/L)
PH	6.5 TO 8.5	7.51	7.87
Suspended solids	100	23	26
Oil& Grease	10	0.35	0.42
Copper	1	0.51	0.52
Iron as Fe	1	0.46	0.48
Phosphate	5	0.6	0.7
Total Chromium	0.2	TRACE	TRACE
Zinc as Zn	1	TRACE	TRACE
BOD 3 days@°C	30	17	18
COD	100	42	44
Hexavalent Cr	0.1	TRACE	TRACE

4. **Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.**

- The effluent water generated from the utility area in plant is treated in Effluent treatment plant (ETP) and reused within the plant premises for dust suppression and gardening purpose so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time.
- Online flow meter and web camera have been installed and connected with CPCB and GPCB





server for live streaming.

- Copy of Latest results of treated effluent is given in the **Table 26** and copy of report is attached as **Annexure A2**. The results are within the norms as per standards of GPCB.

**TABLE 26**

TREATED EFFLUENT RESULTS			
Parameter	Prescribed norms (mg/L)	Effluent Quality-Min. (mg/L)	Effluent Quality-Max. (mg/L)
PH	6.5 TO 8.5	7.51	7.87
Suspended solids	100	23	26
Oil & Grease	10	0.35	0.42
Copper	1	0.51	0.52
Iron as Fe	1	0.46	0.48
Phosphate	5	0.6	0.7
Total Chromium	0.2	TRACE	TRACE
Zinc as Zn	1	TRACE	TRACE
BOD 3 days @°C	30	17	18
COD	100	42	44
Hexavalent Cr	0.1	TRACE	TRACE

5 The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

Workplace noise level survey is conducted on regular basis to identify high noise levels. Workers employed in High Noise area are provided with proper PPEs. 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 from April'21 to Sep'21 are given in **Table 27** and report is attached as **Annexure A3**  
**Complied**



TABLE 27

Ambient Noise Level Monitoring Station	Noise Level (dBA)					
	Day (LIMIT 75dBA)			Night (LIMIT 70dBA)		
	Max.	Min.	Avg.	Max.	Min.	Avg.
NEAR MAIN GATE	57.5	57.1	57.3	56.3	56.2	56.25
ROLLING MILL AREA	73.5	72.1	72.8	62.6	62.4	62.5
INDUCTION FURNACE AREA	70.4	69.8	70.1	63.7	63.5	63.6
REHEATING FURNACE AREA	72.3	71.7	72	65.8	65.2	65.5
ROTARY KILN AREA	73.6	72.7	73.15	64.3	63.8	64.05
POWER PLANT AREA	72.9	72.4	72.65	63.5	63.1	63.3
6	The company shall undertake rainwater harvesting measures by collecting the rainwater through drains. The water collected shall be connected to raw water pipeline for reuse in the plant. The company shall provide proper drainage system for rainwater to prevent water logging within and in the vicinity of the plant		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. The company has provided proper drainage system for rainwater to prevent water logging within and in the vicinity of the plant. Capacity of the reservoir will be enhanced based on the requirements to meet the maximum water requirement. Air cooled condensers are being used in captive power plant to reduce water consumptions. <b>Complied</b>			
7	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.		Occupational Health Surveillance of the worker is being done on a regular basis and records are being maintained as per factories act.			
8	The project proponent shall also comply with all the environmental		<ul style="list-style-type: none"> <li>We have carried one to one need assessment in co-ordination with Local authorities /Surpanch / leaders and needy of Villages and done</li> </ul>			





	<p>protection measures and safeguards recommended in the EIA / EMP report and during the public hearing meeting. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.</p>	<p>contribution in CSR according to their needs.</p> <ul style="list-style-type: none"> <li>We have carried out one to one assessment with villagers towards their requirements. Funds are allocated as per EIA/EMP report and utilised it on as on basis as and when required. During our expansion also we have noted needs of affected villages , public hearing issues and will address and committed fund will be allocated towards CSR/CER in upcoming EIA/EMP also.</li> </ul>
9	<p>As proposed, Rs. 492.00 Lakhs and Rs. 62.00 Lakhs shall be earmarked towards the capital cost and recurring expenditure/annum earmarked for the environmental pollution control to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for complying with all the conditions stipulated herein shall be submitted to the Regional Office of this Ministry at Bhopal / CPCB / GPCB. The funds so provided shall not be diverted for any other purposes.</p>	<ul style="list-style-type: none"> <li>Separate fund is earmarked towards the capital cost and recurring cost/annum towards environmental pollution control measures.</li> <li>Rs 4.62 Cr is incurred as capital expenditure till Sept 2021 towards environmental pollution control measures</li> <li>Sub-headwise break-up of proposed expenditure for the next financial year (2021-22) is given in <b>Table 28</b> and is attached as <b>Annexure A16</b> towards environmental pollution control measures.</li> </ul>





TABLE 28		
Proposed expenditure Environment Protection Measures for financial year 2021-22		
S.No	SUB HEAD	Proposed Cost(Capital +Recurring) in Lacs
1	Air Pollution Control/Noise Control	40
2	Water Pollution Control	3
3	Environmental Monitoring and Managment	15
4	Green Belt Development	6
5	Occupational Health	5
TOTAL		69
10	The Regional Office of the ministry at Bhopal /CPCB /GPCB shall monitor the stipulated conditions. A six monthly compliance report and the monitored data alongwith statistical interpretation shall be submitted to them regularly.	<ul style="list-style-type: none"> <li>Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards is being regularly submitted to Ministry, its Regional Office and the CPCB/SPCB.</li> </ul>
11	The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with Gujarat Control Board and may also be seen at Website of the Ministry of Environment and Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This shall be advertised within seven days from	<ul style="list-style-type: none"> <li>The Public were informed of accorded Environment clearance through an advertisement in <b>The Times of India</b> (In English) and <b>Kutch Mitra</b> (in the Gujarati language).</li> <li>Copies of clearance letter are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http:// envfor.nic.in</a>.</li> </ul>



	the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of locality concerned and a copy of the same should be forwarded to the Regional office.	<ul style="list-style-type: none"> <li>Copies of news paper clippings have been submitted to the Regional office of the MoEF and also attached as <b>Annexure A6</b>.</li> <li>Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li>Weblink: <a href="http://www.gallantt.com/investorsGML.html">http://www.gallantt.com/investorsGML.html</a></li> </ul>
12	The Project Authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Noted & Agreed to comply
13	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted & Agreed to comply
14	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted & Agreed to comply
15	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Act, 1997.	Noted & Agreed to comply
16	The Above conditions shall be enforced, inter-alia under the provisions of the Water(Prevention & Control of Pollution) Act,1974, the Air (Prevention & Control of Pollution) Act,1981 the Environment (Protection) Act,1986 , Hazardous Wastes (Management	Noted & Agreed to comply



<p>and Handling) Rules, 2003 and the Public (Insurance) Liability Act, 1991 along with their amendments and rules.</p>	
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*Report*



# ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

A	SPECIFIC CONDITIONS:	COMPLIANCE STATUS
	CONDITIONS	
1.	The project proponent shall install 24X7 air monitoring devices to monitor air emission, as provided by CPCB and submit report to Ministry and its Regional Office.	<p>Online 24X7 air monitoring devices has been installed. On-line monitoring facilities has been provided and data generated is being regularly transmitted to CPCB and GPCB online on 24X7 basis and report of the same is being submitted to Ministry and its Regional Office on regular basis.</p> <p>Sufficient air pollution control devices (location and air pollution control devices installed details given in <b>Table 29</b> below) provided to keep the emission within permissible limit.</p> <p>Environmental parameters as per monitoring conducted by <b>Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory</b> facility from <b>April'21 to Sept'21</b> for all six stacks are given in the <b>Table 30</b> below &amp; copy of the same is attached as <b>Annexure A1</b>.</p> <p>Environmental parameters as per monitoring conducted by <b>Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory</b> facility, in the ambient air from <b>April'21 to Sept'21</b> are given in the <b>Table 31</b> below &amp; copy of the same is attached as <b>Annexure A5</b>.</p> <p><b>Compliance Assured</b></p>



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

### Air Pollution Control Device

Table 29

Location	Air Pollution Control Equipment
Power Plant	Electro Static Precipitator (ESP)
Rotary Kiln 1 & 2	Electro Static Precipitator (ESP)
Rotary Kiln 3 & 4	Electro Static Precipitator (ESP)
Induction Furnace 1 & 2	Bag Filter With Spark Trapper and Popped Damper
Induction Furnace 3 & 4	Bag Filter With Spark Trapper and Popped Damper
Reheating Furnace	Bag Filter With Forced Draft Cooler

### STACK EMISSION MONITORING REPORT VALUES

TABLE 30

Stack Monitoring Station	SPM (mg/Nm <sup>3</sup> ) Limit-100 mg/Nm <sup>3</sup>			NOX (mg/Nm <sup>3</sup> ) Limit-50 mg/Nm <sup>3</sup>			SO <sub>2</sub> (mg/Nm <sup>3</sup> ) Limit-100 mg/Nm <sup>3</sup>		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Rotary Kiln 1 & 2	72.4	53.7	63.05	27.4	26.4	26.9	70.2	68.4	69.3
Rotary Kiln 3 & 4	78.3	76.8	77.55	26.3	24.9	25.6	76.5	75.6	76.05
Rolling Mill	-	-	-	-	-	-	-	-	-
Induction Furnace F1 & F2	33.6	32.6	33.1	26.4	25.1	25.75	35.7	34.8	35.25
Induction Furnace F3 & F4	34.2	33.7	33.95	28.6	27.4	28	39.1	37.5	38.3
Stack Monitoring Station	SPM (mg/Nm <sup>3</sup> ) Limit-50 mg/Nm <sup>3</sup>			NOX (mg/Nm <sup>3</sup> ) Limit-300 mg/Nm <sup>3</sup>			SO <sub>2</sub> (mg/Nm <sup>3</sup> ) Limit-600 mg/Nm <sup>3</sup>		
Power Plant	44.2	42.6	43.40	83.4	81.6	82.5	95.7	92.3	94





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

### AMBIENT AIR QUALITY MONITORING REPORT

**TABLE 31**

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100 µg/m <sup>3</sup>			PM2.5(µg/m <sup>3</sup> ) Limit-60 µg/m <sup>3</sup>			Sox(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>			NOx(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>		
	Max	Min	Avg.	Max	Min.	Avg.	max.	Min.	Avg.	Max	Min.	Avg.
OFFICER COLONY	62	59	60.5	34	30	32	14.3	12.9	13.6	17.8	16.9	17.35
MAIN SECURITY GATE	65	63	64	36	32	34	13.4	13.1	13.25	20.4	19.8	20.1
B/H KILN 1 & 2	56	51	53.5	33	31	32	15.9	15.3	15.6	16.8	15.6	16.2
NR.FURNACE AREA	54	50	52	37	35	36	16.8	15.7	16.25	16.2	15.8	16

- |    |  |  |
|----|--|--|
| 2. | <p>Used Oil shall not be reused for lubrication and disposed to the authorized vendor.</p> | <p>Used oil is disposed by selling to registered Re-refiner as per the Hazardous Waste (Management &amp; Handling) Rules, 1989 and subsequent amendments.</p> <p><b>Time bound action plan</b> for financial year <b>2021-22</b> of generation &amp; disposal quantity along with disposal mode for used oil given in <b>Table 32</b> below.</p> <p>Invoice of used oil send to registered Re-refiner is attached as <b>Annexure A11</b></p> |
|----|--|--|

### USED OIL DISPOSAL PLAN FOR YEAR 2021-22

**Table 32**



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22 IN MT
USED OIL	NIL	1.10	100 % TO BE SEND TO REGISTERED RE-REFINER	NIL
3.	Air pollution control devices viz. Electrostatic precipitator (ESP), and bag filters etc. shall be provided to keep the emission levels below 50mg/Nm <sup>3</sup> .		<p>The various air pollution control devices like Electrostatic Precipitator, Bag filters, Fume Extraction System and other measures are provided to control the emission level below 50mg/Nm<sup>3</sup> are as under:</p> <ul style="list-style-type: none"> <li>• 4 nos of ESP with three nos of Electrical and Mechanical Field in all four Rotary kiln and 1 no. Of ESP with Four nos of electrical and Mechanical Field at AFBC boiler.</li> <li>• Bag filter pulse jet type at all transfer points</li> <li>• Four nos of Fume extraction system with bag house and spark trapper at all 4 nos of Induction furnace area.</li> </ul> <p>Environmental parameters as per monitoring conducted from April'21 to Sept'21 for all six stacks already given in the Table 33 above &amp; copy of the same is attached as Annexure A1.</p> <p>Environmental Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory</p>	





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

	facility, in the ambient air from April'21 to Sept'21 already given in the Table 34 above & copy of the same is attached as Annexure A5.  Compliance Assured
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### STACK EMISSION MONITORING REPORT VALUES

**TABLE 33**

Stack Monitoring Station	SPM (mg/Nm3) Limit-100 mg/Nm3			NOX (mg/Nm3) Limit-50 mg/Nm3			SO2 (mg/Nm3) Limit-100 mg/Nm3		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Rotary Kiln 1 & 2	72.4	53.7	63.05	27.4	26.4	26.9	70.2	98.4	69.3
Rotary Kiln 3 & 4	78.3	76.8	77.55	26.3	24.9	25.6	76.5	75.6	76.05
Rolling Mill	-	-	-	-	-	-	-	-	-
Induction Furnace F1 & F2	33.6	32.6	33.1	26.4	25.1	25.75	35.7	34.8	35.25
Induction Furnace F3 & F4	34.2	33.7	33.95	28.6	27.4	28	39.1	37.5	38.3
Stack Monitoring Station	SPM (mg/Nm3) Limit-50 mg/Nm3			NOX (mg/Nm3) Limit-300 mg/Nm3			SO2 (mg/Nm3) Limit-600 mg/Nm3		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Power Plant	44.2	42.6	43.4	83.4	81.6	82.5	95.7	92.3	94

### AMBIENT AIR QUALITY MONITORING REPORT

**TABLE 34**



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

Ambient Air Quality Station	PM 10 ( $\mu\text{g}/\text{m}^3$ ) Limit-100 $\mu\text{g}/\text{m}^3$			PM2.5( $\mu\text{g}/\text{m}^3$ ) Limit-60 $\mu\text{g}/\text{m}^3$			Sox( $\mu\text{g}/\text{m}^3$ ) Limit-80 $\mu\text{g}/\text{m}^3$			NOx( $\mu\text{g}/\text{m}^3$ ) Limit-80 $\mu\text{g}/\text{m}^3$		
	Max.	Min.	Avg.	Max	Min.	Avg.	max.	Min.	Avg.	Max	Min.	Avg.
OFFICER COLONY	62	59	60.5	34	30	32	14.3	12.9	13.6	17.8	16.9	17.35
MAIN SECURITY GATE	65	63	64	36	32	34	13.4	13.1	13.25	20.4	19.8	20.1
B/H KILN 1 & 2	56	51	53.5	33	31	32	15.9	15.3	15.6	16.8	15.6	16.2
NR.FURNACE AREA	54	50	52	37	35	36	16.8	15.7	16.25	16.2	15.8	16
4.	In-plant control measures like bag filters, de-dusting and dust suppression system shall be provided to control fugitive emissions from all the vulnerable sources. Dust extraction and suppression system shall be provided at all the transfer points, coal handling plant etc. Bag filters shall be provided to hoods and dust collectors to coal and coke handling to control dust emissions. Water sprinkling system shall be provided to control secondary fugitive dust emissions generated during screening, loading, unloading, handling and storage of raw materials etc.						<p>In plant control measures like Bag Filter, Dust Extraction System and other measures provided to control the fugitive emission from all the vulnerable sources.</p> <ul style="list-style-type: none"> <li>Pulse jet Bag filter system provided at all transfer points, crusher house, screen house, product handling areas etc. Details of nos of bag filter with location given in <b>Table 35</b>.</li> <li>Dry Fog System provided at coal circuit, coal injection and dolachar separation area.</li> <li>Details of nos of Dry Fog system with location are given in <b>Table 35</b>.</li> <li>Heavy duty Industrial Vacuum Cleaner provided at product separation building to control fugitive emission.</li> <li>Rain gun and water sprinkling system provided at coal storage yard, dump hoppers and conveyors to control the fugitive emission generated during</li> </ul>					





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

		<p>screening, loading, unloading, handling and storage of raw materials. Details of nos of Rain Gun and water sprinkling system with location are given in <b>Table 35</b>.</p> <ul style="list-style-type: none"> <li>Erecting the walls high to act as wind shield for storage of raw materials to avoid fugitive emission due to high wind velocity.</li> <li>Latest reports of Fugitive emission results as per monitoring is given in <b>Table 36</b> and attached as <b>AnnexureA10</b> in accordance with <b>(G.S.R 414 (E) dated 30<sup>th</sup> May,2008)</b>.</li> </ul> <p>Latest report parameters are within the norms as per <b>G.S.R 414 (E) dated 30<sup>th</sup> May,2008</b>.</p>
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### LIST OF POLLUTION CONTROL MEASURES

Table 35

Location	Type Of Air Pollution Control Device	Total Numbers
Coal Screen & Crusher House(DRI)	Bag Filter & Dry Fog system	Bag filter - 01 Nos. Dry Fog system-07 Points
Iron Ore Screen & Crushing House	Bag Filter	Bag filter - 02 Nos
Coal Transfer Points	Dry Fog System	Dry Fog system-04 Points
Iron Ore transfer Point	Bag Filter	Bag filter - 02 Nos
Coal Injection Area	Injection Bag Filter	Bag filter - 04 Nos
Cooler Discharge Area	Bag Filter	Bag filter - 04 Nos



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

Blending Area	Bag Filter	Bag filter - 01 Nos
Product Separate Building	Bag Filter	Bag filter - 02 Nos
Dolachar Separate Building	Bag Filter & Dry Fog system	Bag filter - 01 Nos. Dry Fog system-02 Points
CPP Coal crusher & screen area	Bag Filter & Dry Fog system	Bag filter - 02 Nos. Dry Fog system-05 Points
CPP Coal Transfer area	Dry Fog system	Dry Fog system-03 Points
CPP Dolachar Transfer area	Bag Filter	Bag filter - 01 Nos.
DRI Product Handling Building	Bag Filter & Industrial Vacuum Cleaner	Bag filter - 02 Nos. Industrial Vacuum Cleaner -01 No
Coal Storage	Rain gun & Sprinkler	Rain gun -26 Nos. Sprinkler-28 Nos.
Fines Storage & others	Rain gun & Sprinkler	Rain gun -06 Nos. Sprinkler-48 Nos.

### FUGUTIVE EMISSION REPORT TABLE 36

Fugutive Emission Stations	SPM ( $\mu\text{g}/\text{M}^3$ ) Max limit : 2000 $\mu\text{g}/\text{M}^3$	
	READING-1	READING-2
NR.WAGON TRIPPLER	1786	1823
NR.SCREEN AREA	1452	1544
NR.TRANSFER POINT	1715	1785
NR.STOCK BIN AREA	1688	1733
NR.CRUSHER AREA	1697	1751
NR.VIBRATING SCREEN	1632	1725
NR.TRANSFER POINT	1595	1662





## ENVIRONMENTAL COMPLIANCE FOR


Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

NR.FEEDER AREA	1358	1420
NR.MIXING FEEDER AREA	1693	1725
NR.TRANSFER POINT	1747	1792
NR.WAGON TRIPPLER	1687	1745
NR.SCREEN AREA	1567	1625
NR.INTERMEDIATE STOCK BIN AREA	1524	1620
NR.SCREEN PLANT	1715	1755
NR.MAGNETIC SEPRATING POINT	1595	1657
NR.TRANSFER PLANT	1419	1485
NR.OVERSIZE DISCHARGE AREA	1435	1575
NR.PRODUCT SEPARATION	1520	1535
BAGGING AREA	1555	1640



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

5.	<p>Gaseous emission levels including secondary fugitive emissions from all the sources shall be controlled within the latest permissible limits issued by the Ministry vide G.S.R. 414(E) dated 30th May, 2008 and regularly monitored. Guidelines/ Code of Practice issued by the CPCB shall be followed.</p>	<p>Action plan for controlling the fugitive emission from all sources has been prepared and is being implemented in a time bound manner in order to achieve the prescribed standards. Regular monitoring of fugitive emission is carried out and the results are within the latest permissible limits issued by Ministry vide G.S.R. 414(E) dated 30th May, 2008 .</p> <p><b>Highlights of the action plan are given below:</b></p> <ul style="list-style-type: none"> <li>• Regular &amp; periodic sprinkling of water on all exposed surfaces to suppress emission of dust.</li> <li>• Erected high walls to act as wind shield during storage of raw materials.</li> <li>• Clean return belts in the conveyor belt systems to reduce impact of loose dust;</li> <li>• Vehicles are given speed limit of 30 km/hr within the premise.</li> <li>• Materials are transported in securely covered trucks to reduce dust emission.</li> </ul> <p>The workers are given dust masks to avoid inhalation of dust &amp; fugitive emissions. Gaseous emission monitoring reports are attached as Annexure A8.</p> <p><b>Complied</b></p>
		




## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

**Table 37**

**Compliance report of guidelines published by CPCB for sponge iron plant.**

1.0		STACK EMISSION STANDARDS	COMPLIANCE STATUS																															
i.		Stack Emission Standards for Kiln (Particulate Matter) Should be 100 mg/Nm3 (Coal based)	<ul style="list-style-type: none"><li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li><li>Copy of reports are attached as <b>Annexure A1</b>.</li></ul> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD (mg/Nm³)</th><th>OBSERVED VALUE (MIN) (mg/Nm³)</th><th>OBSERVED VALUE (MAX) (mg/Nm³)</th></tr><tr><td>PM</td><td>100</td><td>42.6</td><td>44.2</td></tr></table>		PARAMETERS	EMISSION STANDARD (mg/Nm³)	OBSERVED VALUE (MIN) (mg/Nm³)	OBSERVED VALUE (MAX) (mg/Nm³)	PM	100	42.6	44.2																						
PARAMETERS	EMISSION STANDARD (mg/Nm³)	OBSERVED VALUE (MIN) (mg/Nm³)	OBSERVED VALUE (MAX) (mg/Nm³)																															
PM	100	42.6	44.2																															
ii.		The kiln off gas stack height should be calculated for proper dispersion of SO2 (with the formula of $H=14Q^{0.3}$ Where Q=emission of SO2 in Kg/h) as per emission regulations Part III of CPCB. Sulphur percentage shall be the percentage of sulphur in coal. Permissible SO2 emission level with reference to stack height is given below: <table><tr><th>Sr.No</th><th>Q (emission of SO2 in kg/hr)</th><th>H (m)</th></tr><tr><td>1.</td><td>12.68</td><td>30</td></tr><tr><td>2.</td><td>12.69-33.08</td><td>40</td></tr><tr><td>3.</td><td>33.09-69.60</td><td>50</td></tr><tr><td>4.</td><td>69.61-127.80</td><td>60</td></tr><tr><td>5.</td><td>127.81-213.63</td><td>70</td></tr></table>	Sr.No	Q (emission of SO2 in kg/hr)	H (m)	1.	12.68	30	2.	12.69-33.08	40	3.	33.09-69.60	50	4.	69.61-127.80	60	5.	127.81-213.63	70	<ul style="list-style-type: none"><li>Height of 35 mtr is being maintained as required against 30 mtr.</li><li>Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is given in Table below.</li></ul> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD</th><th>OBSERVED VALUE (MAX)</th></tr><tr><td>PARTICULATE MATTER</td><td>100 MG/NM3</td><td>72.4 MG/NM3</td></tr><tr><td>CARBON MONO OXIDE</td><td>1% (VOL/VOL)</td><td>0.30% (VOL/VOL)</td></tr><tr><td>STACK HEIGHT</td><td>30 MTR</td><td>35 MTR</td></tr></table> <div></div>		PARAMETERS	EMISSION STANDARD	OBSERVED VALUE (MAX)	PARTICULATE MATTER	100 MG/NM3	72.4 MG/NM3	CARBON MONO OXIDE	1% (VOL/VOL)	0.30% (VOL/VOL)	STACK HEIGHT	30 MTR	35 MTR
Sr.No	Q (emission of SO2 in kg/hr)	H (m)																																
1.	12.68	30																																
2.	12.69-33.08	40																																
3.	33.09-69.60	50																																
4.	69.61-127.80	60																																
5.	127.81-213.63	70																																
PARAMETERS	EMISSION STANDARD	OBSERVED VALUE (MAX)																																
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CARBON MONO OXIDE	1% (VOL/VOL)	0.30% (VOL/VOL)																																
STACK HEIGHT	30 MTR	35 MTR																																



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

	SO <sub>2</sub> level need to be maintained using adequate control technology as per the stack height provided by the industry.		
2	<b>STACK EMISSION STANDARDS FROM DE- DUSTING UNITS</b> Particulate matter : 100 mg/ Nm <sup>3</sup> (i) All de-dusting units should be connected to a stack having a minimum stack height of 30m. In case installation of 30 m height of stack is technically or otherwise not feasible for specific case, the stack height can be reduced but accordingly stringent Particulate Matter emission level required to be achieved by the industry using Particulate Matter dispersion formulae/ model so that ground level concentration of Particulate Matter should not increase beyond the incremental level as it would have been with stack height of 30 m. (ii) Sampling porthole and platform etc. shall be provided as per CPCB emission regulation to facilitate stack monitoring.		<ul style="list-style-type: none"> <li>All dedusting units are connected with adequate stack height as per the norms and sampling porthole and platforms etc are provided as per CPCB emission regulation to facilitate stack monitoring.</li> <li>Requirements is being maintained as per norms.</li> </ul>
3	<b>FUGITIVE EMISSION STANDARDS</b> The fugitive emission of suspended particulate matter (SPM) should not exceed 2000µg/m <sup>3</sup> at a distance of 10 m (approx.) from the areas / sources, identified and mentioned below in table 1, where fugitive dust emissions are anticipated. However, the existing industry is allowed up to 3000 µg/m <sup>3</sup> of fugitive emission level of suspended particulate matter (SPM) till one year from the date of issue of the notification.		<ul style="list-style-type: none"> <li>Fugitive emission results as per monitoring conducted by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility is within the norms.</li> <li>Fugitive emission results as per monitoring report at 19 different locations as per G.S.R.414(E) dated 30th May,2008 is given in table below and copy of the same is attached as <b>Annexure A9.</b></li> </ul>
	<b>Sr. No</b>	<b>Area</b>	<b>Monitoring Location</b>





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

MW)

1.	Raw material handling area	Wagon tippler, Screen area, Transfer Points, Stock Bin area
2.	Crusher area	Crushing plant, vibrating screen, transfer points
3.	Raw material feed area	Feeder area, Mixing area, transfer points
4.	Cooler discharge area	Over size discharge area, Transfer Points
5.	Product processing area	Intermediate stock bin area, Screening plant, Magnetic Separation unit, Transfer Points, Over size discharge area, Product separation area, Bagging area
6.	Other areas	Areas as specified by State Pollution Control Board

LOCATION	EMISSION STANDARD (µg/m³)	OBSERVED VALUE (MIN) (µg/m³)	OBSERVED VALUE (MAX) (µg/m³)
Nr.Vagon Trippler	2000	1786	1823
Nr.screen area	2000	1452	1544
Nr.Transfer point	2000	1715	1785
Nr.stock Bin area	2000	1688	1733
Nr.Crusser area	2000	1697	1751
Nr.Vibrating screen	2000	1632	1725
Nr.Transfer point	2000	1595	1662
Nr.Feeder area	2000	1358	1420
Nr.mixing Feeder area	2000	1693	1725
Nr.Transfer Point	2000	1747	1792
Nr.Wagon tippler	2000	1687	1745
Nr.screen area	2000	1567	1625
Nr.Intermediate stock bin area	2000	1524	1620
Nr.Screening plant	2000	1715	1755
Nr.Magnetic separating plant	2000	1595	1657
Nr.Transfer plant	2000	1419	1485
Nr.Oversize discharge area	2000	1435	1575
Nr.Product separation	2000	1520	1535
Bagging area	2000	1555	1640

4	EFFLUENT DISCHARGE STANDARDS	<ul style="list-style-type: none"><li>The effluent water generated from the utility area in plant is treated in effluent treatment</li></ul>
	i. All efforts should be made to reuse and recirculate the water	



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

- and to maintain zero effluent discharge.
- ii. Storm water/ garland drain should be provided in plant.
  - iii. In case of maintenance/ cleaning of the system the settling tanks effluent of wet scrubbing system or re - circulation system if require to be discharged, should be treated suitably to conform to the following standards:

Ph - 5.5 to 9.0

TSS  $\leq$  100 mg/l

COD  $\leq$  250 mg/l

Oil and grease  $\leq$  10 mg/l

plant and reused within the plant premises for dust suppression and gardening purpose.

- There is no discharge outside the plant premises via drains except during monsoon for storm water.
- Domestic waste water is being treated in Sewage treatment plant and reused for gardening and plantation purpose.
- Results of the treated effluent is given in table below and copy of the report is attached as **Annexure A2.**

**TREATED EFFLUENT RESULTS**

Parameter	Prescribed norms (mg/L)	Effluent Quality- Min. (mg/L)	Effluent Quality- Max. (mg/L)
PH	6.5 TO 8.5	7.51	7.87
Suspended solids	100	23	26
Oil& Grease	10	0.35	0.42
Copper	1	0.51	0.52
Iron as Fe	1	0.46	0.48
Phosphate	5	0.6	0.7
Total Chromium	0.2	TRACE	TRACE
Zinc as Zn	1	TRACE	TRACE
BOD 3 days @°C	30	17	18





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

		COD	100	42	44
		Hexavalent Cr	0.1	TRACE	TRACE

6.	Carbon mono-oxide (CO) shall also be monitored along with other parameters and standards notified under Environment (Protection) Act shall be followed. The reports shall be submitted to the Ministry's Regional Office, CPCB and SPCB.	<ul style="list-style-type: none"><li>The concentration of CO and other parameters from the AFBC Boiler, rotary kiln, and induction furnace are being studied at regular interval along with other parameters and the report of the same is being submitted to MOEF on six monthly basis.</li><li>Latest reports of CO emission results as per monitoring is attached as <b>Table 38</b> and <b>Annexure A8</b> in accordance with notified standards as per (G.S.R 414 (E)dated 30<sup>th</sup> May, 2008).</li></ul> <p style="text-align: center;"><b>Table 38</b></p> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD (%V/V)</th><th>OBSERVED VALUE (MIN) (%V/V)</th><th>OBSERVED VALUE (MAX) (%V/V)</th></tr><tr><td>CO</td><td>1.0%</td><td>0.7</td><td>0.8</td></tr></table>	PARAMETERS	EMISSION STANDARD (%V/V)	OBSERVED VALUE (MIN) (%V/V)	OBSERVED VALUE (MAX) (%V/V)	CO	1.0%	0.7	0.8
PARAMETERS	EMISSION STANDARD (%V/V)	OBSERVED VALUE (MIN) (%V/V)	OBSERVED VALUE (MAX) (%V/V)							
CO	1.0%	0.7	0.8							
7.	Efforts shall further be made to use maximum water from the rain water harvesting sources. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources. Use of air cooled	<p>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.</p> <p>Rain water harvesting measures have been</p>								



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

	condensers shall be explored and closed circuit cooling system shall be provided to reduce water consumption and water requirement shall be modified accordingly.	implemented by means of creating two ponds of water to the tune of 9000 KL and 3890 KL. Capacity of the reservoir will be enhanced based on the requirements to meet the maximum water requirement. Air cooled condensers are being used in power plant to reduce water consumptions. <b>Complied.</b>
8.	All the effluents shall be treated and used for dust suppression and green belt development. No effluent shall be discharged outside the premises via drains and 'zero' discharge shall be adopted. Domestic waste water will be treated in the Sewage Treatment Plant.	The effluent water 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. Domestic waste water is being treated in Sewage treatment plant and reused for gardening and plantation purpose. <b>Complied.</b>
9.	At least 5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment (ESC) based on locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured accordingly in a time bound manner.	As a good corporate citizen the Company is involved in contribution of funds and provides the services for the up liftment of local community in the nearby villages. The company is committed to improve the quality of life of surroundings by way of implementation of need based social development projects. 5% of the project cost i.e. Rs 329.46 lacs has been earmarked and total of 334.64 Lacs(Excess as 5%) is utilized for the following CSR projects till





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

Sep 2021.

- Target plan as per As per office memorandum F.No.22-65/2017-IA.III, MOEF( Impact & Assessment Division), is given in **Table 39** below & **Annexure A17**.

**TABLE 39**  
**TARGET PLAN FOR NEXT THREE YEARS**  
**TOWARDS ENTERPRISE SOCIAL**  
**COMMITMENT**

Year	2021-22	2022-23	2023-24
Sanitation /Cleanliness	10	10	10
Pond Reclamation (Under Sujalam- Sufalam Yojna )	5	5	5
Rain Water Recharging / harvesting	5	5	5
Health & Education	15	15	15
Green Belt Development Plan	7.5	7.5	7.5
Infrastructural Development	15	15	15
Skill Development Plan	5	5	5
<b>Total</b>	<b>Approx. 1.875 Cr</b>		

10. The company shall submit their policy towards Corporate Environment Responsibility which shall inter-alia address (i) Standard operating process/procedure to being in to focus any infringement/deviation /violation of environment or forest norms/conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of

Copy of Corporate Environment Responsibility policy is attached as **Annexure A18**.  
Copy of the same uploaded on the company's website (<http://www.gallantt.com>) for public viewing

**Complied**



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

	non compliance/violation environmental norms to the Board of Directors of the company and/ or stakeholders or shareholders.	
11.	All the commitments made to the public during the Public Hearing/Public Consultation meeting shall be satisfactorily implemented and separate budget for implementing the same shall be allocated and information submitted to the Ministry's Regional Office.	<ul style="list-style-type: none"><li>• All the commitments made to the public during the public Hearing / Public consultation meeting is implemented.</li><li>• Copy of Detailed compliance of the issues raised during the public hearing is attached as <b>Annexure 19</b>.</li></ul>





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

12. Green Belt of 20-30 meters in width should be provided all around the periphery of the site. Greenery shall be developed around storage yards, around plants, either side of roads of the industry as per CPCB Guidelines

- Green Belt cover is being continuously developed within and around the project site, as well as outside the plant premises.
- Till date more than 38061 nos of plants in approx. 32.5 acres area have been planted out of 38 Acre (33% of total area) of total green belt area.

**TABLE 40**  
**Proposed Year wise plantation for Next Three Years**

S. No	Year	Proposed No. of plants
1	2022-23	2250
2	2023-24	2150
3	2024-25	2200
Total		6600



## ENVIRONMENTAL COMPLIANCE FOR

**Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)**

13.	Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Proposed project is in the existing industrial premise; all these facilities are readily available.  <b>Compliance assured.</b>
<b>B</b>	<b>GENERAL CONDITIONS:</b>	<b>Compliance Status</b>
14.	The project authorities must strictly adhere to the stipulations made by the Gujarat Pollution Control Board (GPCB) and the State Government	Copy of detailed compliance of CCA stipulations is attached as <b>Annexure A15</b> .
15.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests and Climate Change (MoEFCC).	<b>Agreed.</b> No further expansion or modifications in the plant will be carried out without prior approval of the Ministry of Environment and Forests and Climate Change (MoEFCC).
16.	At least four ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOx are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bhopal and the SPCB/CPCB once in six months.	Four Ambient Air Quality Monitoring stations have been established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO2 and NOx in consultation with GPCB.  Data on ambient air quality and stack emission is being regularly submitted to this Ministry including its Regional Office at Bhopal and the SPCB/CPCB once in six months.  Ambient air quality parameters are within the stipulated norms. Environmental parameters as per monitoring conducted by <b>Royal Environment Auditing &amp; Consultancy Service, Gujarat</b>





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility, from April'21 to Sept'21 are given in the Table 41 below & copy of the same is attached as Annexure A5.  
**Complied**

**AMBIENT AIR QUALITY MONITORING REPORT  
TABLE 41**

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100 µg/m <sup>3</sup>			PM2.5(µg/m <sup>3</sup> ) Limit-60 µg/m <sup>3</sup>			Sox(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>			NOx(µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>		
	Max.	Min.	Avg.	Max	Min.	Avg.	max.	Min.	Avg.	Max	Min.	Avg.
OFFICER COLONY	62	59	60.5	34	30	32	14.3	12.9	13.6	17.8	16.9	17.35
MAIN SECURITY GATE	65	63	64	36	32	34	13.4	13.1	13.25	20.4	19.8	20.1
B/H KILN 1 & 2	56	51	53.5	33	31	32	15.9	15.3	15.6	16.8	15.6	16.2
NR.FURNACE AREA	54	50	52	37	35	36	16.8	15.7	16.25	16.2	15.8	16

17. Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.

- The effluent water generated from the utility area in plant is treated in Effluent treatment plant (ETP) and reused within the plant premises for dust suppression and gardening purpose as per standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended form time to



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

time.

- Online flow meter and web camera have been installed and connected with CPCB and GPCB server for live streaming.
- Latest results of treated effluent are given in **Table 42** below and is within the norms as prescribed under **GSR 422 (E) dated 19th May, 1993 and 31st December, 1993** or as amended from time to time.
- Copy of Latest results of treated effluent is attached as **Annexure A2** and the parameters is within the norms.

**Table 42**

<b>TREATED EFFLUENT RESULTS</b>			
<b>Parameter</b>	<b>Prescribed norms (mg/L)</b>	<b>Effluent Quality Min (mg/L)</b>	<b>Effluent Quality Max (mg/L)</b>
PH	6.5 to 8.5	7.51	7.87
Suspended Solids	100	23	26
Oil & Grease	10	0.35	0.42
Copper	1	0.51	0.52
Iron as Fe	1	0.46	0.48
Phosphate	5	0.6	0.7
Total Chromium	0.2	TRACE	TRACE
Zinc as Zn	1	TRACE	TRACE
BOD 3 days @°C	30	17	18
COD	100	42	44
Hexavalent Cr	0.1	TRACE	TRACE

- |     |  |   |
|-----|--|---|
| 18. | <p>The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic</p> | <p>Workplace noise level survey is conducted on regular basis to identify high noise levels. Workers employed in High Noise</p> |
|-----|--|---|





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	area are provided with proper PPEs. 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 from April'21 to Sept'21 are given in Table 43 and report is attached as Annexure A3					
Ambient Noise Level Monitoring Station	Noise Level (dBA)					
	TABLE 43					
	Day (LIMIT 75dBA)			Night (LIMIT 70dBA)		
	Max.	Min.	Avg.	Max.	Min.	Avg.
NEAR MAIN GATE	57.5	57.1	57.3	56.3	56.2	56.25
ROLLING MILL AREA	73.5	72.1	72.8	62.6	62.4	62.5
INDUCTION FURNACE AREA	70.4	69.8	70.1	63.7	63.5	63.6
REHEATING FURNACE AREA	72.3	71.7	72	65.8	65.2	65.5
ROTARY KILN AREA	73.6	72.7	73.15	64.3	63.8	64.05
POWER PLANT AREA	72.9	72.4	72.65	63.5	63.1	63.3
19.	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.			Occupational Health Surveillance of the worker is being done on a regular basic and records are being maintained as per factories act.		
				<b>Complied</b>		
20.	The company shall develop rainwater harvesting structure to harvest the rain water for utilization in			Presently rain water is collected into pond and reused in the process after necessary treatment in		



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

	the lean season besides recharging the ground water level.	the lean season besides recharging the ground water table . Rain water harvesting measures have been inplemented by means of creating two ponds for storage of water with capacity of 9000 KL and 3890 KL respectively. The company has provided proper drainage system for rainwater to prevent water logging within and in the vicinity of the plant. Capacity of the reservoir will be enhanced based on the requirements to meet the maximum water requirement. Air cooled condensers are being used in captive power plant to reduce water consumptions.  Complied
21.	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc.	<ul style="list-style-type: none"> <li>• We have carried one to one need assessment in co-ordination with Local authorities/ Surpanch / leaders and needy of Villages and done contribution in CSR according to their needs.</li> <li>• We have carried out one to one assessment with villagers towards their requirements. Funds are allaocated as per EIA/EMP report and utilised it on as on basis as and when required. During our expansion also we have noted needs of affected villages , public hearing issues and will address and committed fund will be allocated towards CSR/CER in upcoming EIA/EMP also.</li> </ul>





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

22. Requisite funds shall be earmarked towards the capital cost and recurring cost/annum for environmental pollution control measures to implement the conditions stipulated by the Ministry of Environment and Forest and Climate Changes (MoEFCC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of this Ministry at Bhopal. The funds so provided shall not be diverted for any other purpose.

- Separate fund is earmarked towards the capital cost and recurring cost/annum towards environmental pollution control measures.
- Rs 4.62 Cr is incurred as capital expenditure till Sept 21 towards environmental pollution control measures
- Sub-headwise break-up of proposed expenditure for the next financial year (2021-22) is given in **Table 44** below and copy is attached as **Annexure A16** towards environmental pollution control measures.

**TABLE 44**

Proposed expenditure EnvironmentProtection Measures for financial year 2021-22		
S. No	SUB HEAD	Proposed Cost (Capital+ Recurring) in Lacs
1	Air Pollution Control/Noise Control	40
2	Water Pollution Control	3
3	Environmental Monitoring and Managment	15
4	Green Belt Development	6
5	Occupational Health	5
<b>Total</b>		<b>69</b>



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

		<ul style="list-style-type: none"> <li>The funds provided will not be diverted for any other purpose.</li> </ul>
23.	<p>A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad / Municipal Corporation, Urban Local Body and the local NGO, if any, from whom suggestions/representations, if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.</p>	<ul style="list-style-type: none"> <li>Copies of the EC have been sent to Panchayat, Zila parishad, Mamladar and to the Local NGO and is attached as documentary evidence in support of the same as <b>Annexure 20</b>.</li> <li>Copy of the EC is posted on the company's website (<a href="http://www.gallantt.com">www.gallantt.com</a>) for public display.</li> </ul>
24.	<p>The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of the monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEFCC at Bhopal, The respective Zonal Office of CPCB and SPCB. The criteria pollutant levels namely; PM10, SO2, NOX (ambient level as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at the convenient location near the main gate of the company in the public domain.</p>	<ul style="list-style-type: none"> <li>Six Monthly compliance reports in respect of Post Environment Clearance Monitoring are timely submitted in hard and soft copies to the concerned regulatory authorities.</li> <li>Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards is being regularly submitted to Ministry, its Regional Office and the CPCB/SPCB</li> <li>Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li>Weblink: (<a href="http://www.gallantt.com/investorsGML.html">http://www.gallantt.com/investorsGML.html</a>)</li> <li>Display of critical parameters is in</li> </ul>





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

		place at the convenient location near the main gate of the company in the public domain.
25.	The Project proponent shall also submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both hard copies as well as by mail) to the Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Bhopal/CPCB/SPCB shall monitor the stipulated conditions	<ul style="list-style-type: none"> <li>Six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both hard copies as well as by mail) are regularly sent to the concerned authorities.</li> <li>Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li><b>Weblink:</b> (<a href="http://www.gallantt.com/investorsGML.html">http://www.gallantt.com/investorsGML.html</a>)</li> </ul>
26.	The environmental statement for each financial year ending 31st March in Form V as mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of the compliance of the environmental conditions and shall also be sent to the respective Regional Office of the MoEFCC at Bhopal by mail.	<ul style="list-style-type: none"> <li>Annual environmental statement for each financial year ending 31st March in Form V is regularly submitted to GPCB.</li> <li>Online submission of Form V is being done regularly at GPCB website (<a href="https://gpcb.gujarat.gov.in">https://gpcb.gujarat.gov.in</a>).</li> <li>Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> </ul> <p>Weblink: (<a href="http://www.gallantt.com/pdfs/Env%20Clearance/GML/form%205.pdf">http://www.gallantt.com/pdfs/Env%20Clearance/GML/form%205.pdf</a>)</p>



## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

27.	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment and Forest and Climate Change (MoEFCC) at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This shall be advertised with in seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office at Bhopal.	<ul style="list-style-type: none"> <li>The Public were informed of the grant of Environment clearance through an advertisement in <b>The Times of India (Gujarat)</b> and <b>Kutch Mitra</b> dated 25.05.16</li> </ul>
28.	Project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	<ul style="list-style-type: none"> <li>Details of Financial Closure, date of final approval of the project and date of commencing of land developement work was submitted along with the reports submitted to MOEF on 15/09/2017 and 17/01/2018</li> <li>Copy of reports submitted to MOEF is attached as <b>Annexure A13</b>.</li> </ul>
29.	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	<p>Noted &amp; Agreed.</p> <p>The ministry can revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.</p>
30.	The Ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	<p>Noted &amp; Agreed.</p> <p>The Ministry can stipulate additional conditions if found necessary.</p>





## ENVIRONMENTAL COMPLIANCE FOR

Expansion project of Sponge Iron (1,75,500 TPA to 2,25,000 TPA) Steel Billets plant (1,78,200 TPA to 3,36,900 TPA), TMT Bars (1,71,963 TPA to 3,30,000 TPA), and Captive Power Plant AFBC (17 MW to 25 MW)

31.	The above conditions shall be enforced. Inter-alia under the provision of the water (Prevention & Control of Pollution) Act. 1974. The Air (Prevention & Control of pollution) Act. 1981. The Environment (Protection) Act, 1986. Hazardous wastes (Management, Handling and Transboundary Movement) Rules, 2008 and the Public (Insurance, Liability) Act. 1991 along with their amendments and rules.	Noted & Agreed.
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**COMPLIANCE STATUS ON THE CONDITIONS OF ENVIRONMENTAL CLEARANCE****Dated :-19.11.2021**

Expansion of production capacity of Sponge Iron:2,25,000 TPA to 3,73,500 TPA. TMT Bars: 3,30,000 TPA to 4,22,400 TPA,M.S.Billet:3,36,600 TPA to 4,29,000 TPA,MS Rolled Bars:6,483 TPA. Coal based Captive Power Plant (AFBC):35MW and WHRB:16 MW located at Village Samakhaiyali.Tehsil Bhachau, District-Kutch, Gujarat by M/s. Gallantt Metal Limited-Environmental Clearance-reg.

S. No	SPECIFIC CONDITION	COMPLIANCE STATUS
1	CER shall be completed in a time frame of three years	Compliance Assured
2	No groundwater shall be abstracted for the project.	No ground water is being used for Industrial Purpose.
3	The natural drain shall be disturbed.	Natural Drain will not be disturbed at any condition.
4	Revised emission norms for power plant shall be complied with.	As per Gazette Notification S.O. 3305(E) dated 7 <sup>th</sup> December 2015 revised emission norms for Power Plant have been complied .
B.	GENERAL CONDITION	
I)	Statutory compliance:	
1	The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act,1981 and the Water(Prevention & Control of Pollution) Act.1974 from the concerned State Pollution Control Board / committee.	Our Unit has obtained CTE from GPCB Gujarat vide letter no 146856 Dated 22/11/2018 & CC&A obtained vide letter no AWH-111498,Dated. 11/02/2020 CC&A valid up to 27/12/2025.
2	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules,2016 as amended from time to time.	Noted & CC&A amendment under the Hazardous and other Waste Management Rules,2016 from GPCB has been obtained vide letter no AWH-111498, Dated. 11/02/2020 CC&A valid up to 27/12/2025.
3	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with Sate Forest Department. The implementation report shall be furnished along with the six-monthly compliance report.	No Forest Land is involved within 10 KM of the plant area.





II)	Air Quality Monitoring and Preservation																					
1	<p>The project proponent shall install 24x7 continuous emission system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414(E) dated 30th May 2008 as amended from time to time; S.O. 3305(E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act,1986 or NABL accredited laboratories.</p>	<p>The online Continuous Emission monitoring system is being installed at our Flue gas stack to monitor the stack emission and it has connect to Gujarat Pollution Control Board (GPCB) and Central Pollution Control Board (CPCB) with online server and calibrate these server from time to time, As per Environment (Protection) Rules 1986 (G.S.R 414(E) dated 30th May 2008 as amended from time to time; S.O. 3305(E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time).</p> <p>The details are tabulated below:</p> <table><tr><th>Sr. No.</th><th>Process to which the stack is attached</th><th>Particulate matter (PM) (Dust Monitor)</th><th>Sulphur dioxide (SO2) and Nitrogen Dioxide (NO2)</th></tr><tr><td>1.</td><td>Rotary kiln 1 &amp;2</td><td>Yes</td><td>Yes</td></tr><tr><td>2.</td><td>Rotary kiln 3 &amp;4</td><td>Yes</td><td>Yes</td></tr><tr><td>3</td><td>Rotary Kiln 05</td><td>Yes</td><td>Yes</td></tr><tr><td>4.</td><td>AFBC/CFBC Boiler</td><td>Yes</td><td>Yes</td></tr></table> <p>And also Environmental 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 April'21 to Sept'21 are given in the Table 1 below &amp; copy of the same is attached as Annexure A.</p> <p>Compliance Assured</p>	Sr. No.	Process to which the stack is attached	Particulate matter (PM) (Dust Monitor)	Sulphur dioxide (SO2) and Nitrogen Dioxide (NO2)	1.	Rotary kiln 1 &2	Yes	Yes	2.	Rotary kiln 3 &4	Yes	Yes	3	Rotary Kiln 05	Yes	Yes	4.	AFBC/CFBC Boiler	Yes	Yes
Sr. No.	Process to which the stack is attached	Particulate matter (PM) (Dust Monitor)	Sulphur dioxide (SO2) and Nitrogen Dioxide (NO2)																			
1.	Rotary kiln 1 &2	Yes	Yes																			
2.	Rotary kiln 3 &4	Yes	Yes																			
3	Rotary Kiln 05	Yes	Yes																			
4.	AFBC/CFBC Boiler	Yes	Yes																			



# STACK EMISSION MONITORING REPORT VALUES

TABLE 1

Stack Monitoring Station	SPM (mg/Nm3) Limit-100 mg/Nm3			NOX (mg/Nm3) Limit-50 mg/Nm3			SO2 (mg/Nm3) Limit-100 mg/Nm3		
	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
Rotary Kiln 1 & 2	72.4	53.7	63.05	27.4	26.4	26.9	70.2	68.4	69.3
Rotary Kiln 3 & 4	78.3	76.8	77.55	26.3	24.9	25.6	76.5	75.6	76.05
Rotary Kiln 5	61.3	45.5	53.4	35.3	34.2	34.75	30.2	17.2	23.7
Rolling Mill	-	-	-	-	-	-	-	-	-
Induction Furnace F1 & F2	33.6	32.6	33.1	26.4	25.1	25.75	35.7	34.8	35.25
Induction Furnace F3 & F4	34.2	33.7	33.95	28.6	27.4	28	39.1	37.5	38.3
Induction Furnace F5 & F6	43.2	30.5	36.85	21.5	18.2	19.85	29.3	28.3	28.8
Stack Monitoring Station	SPM (mg/Nm3) Limit-50 mg/Nm3			NOX (mg/Nm3) Limit-300 mg/Nm3			SO2 (mg/Nm3) Limit-600 mg/Nm3		
Power Plant	44.2	42.6	43.4	83.4	81.6	82.5	95.7	92.3	94

2 The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act,1986 or NABL accredited laboratories.

Fugitive is being regularly monitored once in a Quarter through laboratories recognized under Environment (Protection) Act,1986 or NABL accredited laboratories.i.e.by Royal environment Auditing & consultancy service, Gujarat pollution control Board(GPCB) approved schedule II Auditor having NABL accredited laboratory facility is within the norms.

## FUGITIVE EMISSION MONITORING REPORT

TABLE 2

LOCATION	EMISSION STANDARD ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (Max) ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (Min) ( $\mu\text{g}/\text{m}^3$ )
Nr.Vagon Tippler	2000	1786	1823
Nr. Screen area	2000	1452	1544





	Nr. Transfer point	2000	1715	1785
	Nr. Stock Bin area	2000	1688	1733
	Nr. Crusher area	2000	1697	1751
	Nr. Transfer point	2000	1632	1725
	Nr. Feeder area	2000	1595	1662
	Nr. mixing Feeder area	2000	1358	1420
	Nr. Transfer Point	2000	1693	1725
	Nr. Wagon tippler	2000	1747	1792
	Nr. screen area	2000	1687	1745
	Nr. Intermediate stock bin area	2000	1567	1625
	Nr. Screening plant	2000	1524	1620
	Nr. Magnetic separating plant	2000	1715	1755
	Nr. Transfer plant	2000	1595	1657
	Nr. Oversize discharge area	2000	1419	1485
	Nr. Product separation	2000	1435	1575
	Bagging area	2000	1520	1535

- 3 The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area (at least at four locations one within and three
- Industry have installed Continuous Ambient Air Quality station within Plant premises and the Main pollutants released (PM 10, PM 2.5 SO2 and NOx) is being monitored, and also as per prescribed by the board, Unit have also installed 4.nos manual AAQM monitoring station at 120 degree direction of the a plant boundary location, one in the Plant boundary and three outside the plant boundary, it has been fixed on Environmental**



outside the plant area at an angle of 120° each) covering upwind and downwind directions.

parameters

The Copy the Results by Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility for PM2.5, PM10, SO<sub>x</sub> & NO<sub>x</sub> in the ambient air from April'21 to Sept'21 are given in the Table 3 below & copy of the same is attached as Annexure B.

**AMBIENT AIR QUALITY MONITORING REPORT  
TABLE 3**

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100µg/m <sup>3</sup>			PM2.5(µg/m <sup>3</sup> ) Limit-60 µg/m <sup>3</sup>			SO <sub>2</sub> (µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>			NO <sub>x</sub> (µg/m <sup>3</sup> ) Limit-80 µg/m <sup>3</sup>		
	Max	Min	Avg.	Max	Min	Avg.	Max.	Min.	Avg.	Max	Min	Avg.
OFFICER COLONY	62	59	60.5	34	30	32	14.3	12.9	13.6	17.8	16.9	17.35
MAIN SECURITY GATE	65	63	64	36	32	34	13.4	13.1	13.25	20.4	19.8	20.1
B/H KILN 1 & 2	56	51	53.5	33	31	32	15.9	15.3	15.6	16.8	15.6	16.2
NR.FURNA CE AREA	54	50	52	37	35	36	16.8	15.7	16.25	16.2	15.8	16

4

The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MOEF&CC, Zonal office of CPCB and Regional

The Monthly summary report of Online Continuous Stack monitoring & Ambient Air Quality monitoring is being monitored and Manual Stack and Ambient Air quality Monitoring report conducted by Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory.  
(Manual Monitoring report along with Six Monthly





	Office of SPCB along with six-monthly monitoring report.	Compliance report is attached as Annexure A)
5	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards.	Appropriate/sufficient air pollution control devices provided to keep the emission levels below 100 mg/Nm <sup>3</sup> .(location and air pollution control devices installed details given in Table3 below)

#### Air Pollution Control Device

Table 4

Location	Air Pollution Control Equipment
Power Plant (AFBC/CFBC)	Electro Static Precipitator(ESP)
Rotary Kiln 1 & 2	Electro Static Precipitator(ESP)
Rotary Kiln 3 & 4	Electro Static Precipitator(ESP)
Rotary Kiln 05	Electro Static Precipitator(ESP)
Induction Furnace 1 & 2	Bag Filter with spark Traper & Propped Damper
Induction Furnace 3 & 4	Bag Filter with spark Traper & Propped Damper
Induction Furnace 5 & 6	Bag Filter with spark Traper & Propped Damper
Reheating Furnace	Bag Filter with forced Draft cooler



# LIST OF AIR POLLUTION CONTROL MEASURES

Table 5

Location	Type Of Air Pollution Control Device	Total Numbers
<b>Rotary Kiln 1&amp;2&amp;3&amp;4</b>		
Coal Screen & Crusher House(DRI)	Bag Filter & Dry Fog system	Bag filter - 01 Nos. Dry Fog system-07 Points
Iron Ore Screen & Crushing House	Bag Filter	Bag filter - 02 Nos.
Coal Transfer Points	Dry Fog System	Dry Fog system-04 Points
Iron Ore transfer Point	Bag Filter	Bag filter - 02 Nos.
Coal Injection Area	Injection Bag Filter	Bag filter - 04 Nos.
Cooler Discharge Area	Bag Filter	Bag filter - 04 Nos.
Blending Area	Bag Filter	Bag filter - 01 Nos.
Product Separate Building	Bag Filter	Bag filter - 02 Nos.
Dolachar Separate Building	Bag Filter & Dry Fog system	Bag filter - 01 Nos. Dry Fog system-02 Points
Product Handling Building	Bag Filter & Industrial Vacuum Cleaner	Bag filter - 02 Nos. Industrial Vacuum Cleaner - 01 No
Coal Storage	Rain gun & Sprinkler	Rain gun -26 Nos. Sprinkler-28 Nos.
Fines Storage & others	Rain gun & Sprinkler	Rain gun -06 Nos. Sprinkler-48 Nos.
<b>Power Plant (AFBC/CFBC)</b>		
CPP Coal crusher & screen area	Bag Filter & Dry Fog system	Bag filter - 02 Nos. Dry Fog system-05 Points
CPP Coal Transfer area	Dry Fog system	Dry Fog system-03 Points
CPP Dolachar/Coal Char Transfer area	Bag Filter	Bag filter - 01 Nos.
<b>Rotary Kiln - 05</b>		
I-Bin & PSB	Bag Filter	Bag filter - 02 Nos.
Iron Ore Crusher	Bag Filter	Bag filter - 01 Nos.
Blending TT	Bag Filter	Bag filter - 01 Nos.
CD Building	Bag Filter	Bag filter - 01 Nos.





6	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Regular maintenance of bag filters, leakage checking, cleaning of bag filters is being done by dedicated mechanical maintenance team as per schedule. And also separate Manometer Installed for Bag-filter Healthiness checking.
7	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roof regularly	Regular road sweeping and floor cleaning is being done by vacuum sweeping machine for the control of fugitive dust emission. For Industrial Cleaning mobile vacuum cleaner is being provided for floors/roof/shop. For Industrial Vacuum cleaner system for Road cleaning is being provided on regularly basis.
8	Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting / agglomeration.	Iron ore fines is being Stored in a closed hopper after required Screening and is being sold to third party, and Coal Fines is being utilized in DRI (Sponge Iron) plant.
9	The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation.	All raw materials is being transported in covered belt conveyors. Raw material & products is being transported in covered tarpaulin trucks / bulkers /rail for the control of material spillage as well as control of fugitive dust emission.
10	Regular monitoring of vehicular emissions shall be carried out and reports may be submitted to concerned Regional office.	Fugitive Emission is being Monitored at different locations at the plant premises And Separate truck parking facility provided to park trucks. Regular checking of vehicles PUC certificates which entering in plant to control of vehicular emission .
11	Wind shelter fence and chemical spraying shall be provided on the raw material stock piles.	Erected the wind walls high to act as wind shield for storage of raw materials from ground level up to 6 mtr. to protect the high wind velocity and further started the chemical spraying through guns.



III)	Water quality monitoring and preservation										
1	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414(E) dated 30th May 2008; S.O.3305 (E) dated 7th December 2015(Thermal Power Plants)as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act,1986 or NABL accredited laboratories.	<p>The Online Continuous Effluent Monitoring System is being installed at ETP to monitor the waste water quality and it has connect to Gujarat Pollution Control Board (GPCB) and Central Pollution Control Board (CPCB) and calibrate these server from time to time,As per standards prescribed in Environment (Protection) Rules 1986 (G.S.R 414(E) dated 30th May 2008; S.O.3305 (E) dated 7th December 2015(Thermal Power Plants) And also 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>April'21 to Sept'21</b> are given in the <b>Table 6</b> below &amp; copy of the same is attached as <b>Annexure C</b>.</p>									
2	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of pyrometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection)Act,1986 and NABL accredited laboratories.	<p>Regularly monitoring of ground Water quality by approved Schedule II Auditor having NABL accredited laboratory and the Latest Report of Ground Water are given in the <b>Table 7</b> below &amp; copy of the same is attached as <b>Annexure D</b>.</p> <p style="text-align: center;"><b>TABLE 7</b></p> <table border="1"> <thead> <tr> <th>Parameter</th><th>Prescribed norms (mg/L)</th><th>Effluent Quality-Min. (mg/L)</th></tr> </thead> <tbody> <tr> <td>PH</td><td>6.5 TO 8.5</td><td>7.39</td></tr> <tr> <td>Suspended solids</td><td>100</td><td>28</td></tr> </tbody> </table>	Parameter	Prescribed norms (mg/L)	Effluent Quality-Min. (mg/L)	PH	6.5 TO 8.5	7.39	Suspended solids	100	28
Parameter	Prescribed norms (mg/L)	Effluent Quality-Min. (mg/L)									
PH	6.5 TO 8.5	7.39									
Suspended solids	100	28									





		Turbidity NTU	5	3
		Total Hardness	200	481
		Calcium	200	111
		Iron as Fe	No relaxation	0.6
		Magnesium	100	49.5
		Chloride	1000	236
		Sulphates	400	311
		Total Alkalinity	600	216
		Total Arsenic	0.05	Nil
		Phenolic Compound	0.002	ND
		Total Coliform Bacteria	Absent	Absent

- 3 The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MOEF&CC. Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

**Regularly Monitoring on Online Effluent Monitoring system & also doing regular analysis of Effluent and ground water quality by Third party Environment Agency i.e. Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory.**

- Results of treated is given in the **Table 8** below and Copy of test reports of treated effluent is attached as **Annexure C** and the values are within the norms as prescribed by the board.
- Latest Ground Water Quality reports is Attached as **Annexure D**

**TABLE 8**

<b>TREATED EFFLUENT RESULT</b>			
<b>Parameter</b>	<b>Prescribed norms (mg/L)</b>	<b>Effluent Quality -Min. (mg/L)</b>	<b>Effluent Quality -Max. (mg/L)</b>
PH	6.5 TO 8.5	7.51	7.87

		Suspended solids	100	23	26
		Oil& Grease	10	0.35	0.42
		Copper	1	0.51	0.52
		Iron as Fe	1	0.46	0.48
		Phosphate	5	0.6	0.7
		Total Chromium	0.2	TRACE	TRACE
		Zinc as Zn	1	TRACE	TRACE
		BOD 3 days @°C	30	17	18
		COD	100	42	44
		Hexavalent Cr	0.1	TRACE	TRACE

4	Adhere to 'Zero Liquid Discharge'	Complied, Adhere Zero Liquid Discharge
5	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	STP plant already is in Operational and the results are within the prescribe standard.
6	Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	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. The company has provided proper drainage system for rainwater to prevent water logging within and in the vicinity of the plant. Capacity of the reservoir will be enhanced based on the requirements to meet the maximum





		water requirement. Air cooled condensers are being used in captive power plant to reduce water consumptions.
7	The project proponent shall practice rainwater harvesting to maximum possible extent.	Complied, and further we have planned to maximum possible extent for rain water harvesting.
8	The project proponent shall make efforts to minimize water consumption in the steel plant complex by segregation of used water practicing cascade use and by recycling treated water.	<p>Complied</p> <ul style="list-style-type: none"> <li>• ACC Air cooled condensers are being used in captive power plant to reduce water consumptions.</li> <li>• ETP is being used in Sponge iron Plant for Cooling of Kiln Shell.</li> <li>• Blow down water is being used in Gardening &amp; road Sprinkling.</li> </ul>

<b>IV)</b>	<b>Noise monitoring and prevention</b>	
1	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Noise Monitoring is being carried out on Every Month by Third party Environment Agency i.e. Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory. And it will submit to Board on every month.
2	The ambient noise levels should confirm to the standards prescribed under E(P)A Rules, 1986 viz, 75 db(A) during day time and 70 db(A) during night time.	The Ambient Noise Levels is under Below table.

Ambient Noise Level Monitoring Station	Noise Level (dbA)					
	TABLE 9					
	Day (LIMIT 75dBA)			Night (LIMIT 70dBA)		
	Max.	Min.	Avg.	Max.	Min.	Avg.
NEAR MAIN GATE	57.5	57.1	57.3	56.3	56.2	56.25



ROLLING MILL AREA	73.5	72.1	72.8	62.6	62.4	62.5
INDUCTION FURNACE AREA	70.4	69.8	70.1	63.7	63.5	63.6
REHEATING FURNACE AREA	72.3	71.7	72	65.8	65.2	65.5
ROTARY KILN AREA	73.6	72.7	73.15	64.3	63.8	64.05
POWER PLANT AREA	72.9	72.4	72.65	63.5	63.1	63.3

3	Provide solar power generation on roof tops buildings for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.	Assure to comply to the extent possible.
4	Provide LED lights in their offices and residential areas.	LED light and is being provided in office and residential area for Lighting purpose.

VI)	Waste Management	
1	Used refractories shall be recycled as far possible.	Refractories will be use in Road making with adding of Waste Slag as far as Possible.
2	100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufactures for further utilization and Memorandum of Understanding in this regard shall be submitted to the ministry's Regional Office.	<p>100 % Fly ash is used for brick manufacturing &amp; sold to an integrated TSDF site (Saurashtra Enviro Project Pvt. Ltd. (SEPPL) for utilization of fly ash as binding Material for solidification and stabilization not for the disposal purpose.</p> <ul style="list-style-type: none"> <li>Copy of "Memorandum of Understanding (MOU)" with various parties for Fly ash is attached as Annexure E.</li> </ul> <p>Fly Ash Generated, Utilized and disposed From April'21 to Sept'21 and expected Fly Ash Generation, Utilization and disposal plan from 1<sup>st</sup> Oct'21 to March'22 is given in the Table 10 below</p>





**TABLE 10**  
**FLY ASH GENERATED/DISPOSED/UTILISED QUANTITY**

OPENING STOCK ON 01/04/21  IN MT	FLY ASH GENERATION IN MT 01/04/21 to 30/09/21	USED FOR BRICK MAKING IN MT 01/04/21 to 30/09/21	SEND TO TSDF SITES IN MT 01/04/21 to 30/09/21	CLOSING STOCK ON 30/09/21  IN MT
1949.070	44571.800	39648.730	1266.010	5606.130

**FLY ASH GENERATION/DISPOSAL/UTILISATION PLAN**

DESCRIPTION	OPENING STOCK ON 01/10/21 IN MT	EXPECTED GENERATION 01/10/21 TO 31/03/22 IN MT	DISPOSAL/RECYCLE/UTILISATION PLAN	EXPECTED BALANCE STOCK ON 31/03/22  IN MT
FLY ASH	1949.070	50000	10-20% TO BE USED FOR BRICK MAKING, 80-90% TO BE SOLD TO TSDF SITE	4500

<b>3</b>	The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016	Used oil is disposed by selling to registered Re-refiner as per the Hazardous Waste (Management & Handling) Rules, 1989 and subsequent amendments.  Invoice of used oil send to registered Re-refiner is attached as <b>Annexure F</b> .
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<b>VII)</b>	<b>Green Belt</b>	
<b>1</b>	Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall internal cover the entire periphery of the plant.	<ul style="list-style-type: none"> <li>Green Belt cover is being continuously developed within and around the project site, as well as outside the plant premises.</li> <li>Till date more than <b>38061 nos.</b> of plants in approx. 32.5 acres area have been planted out of 38 Acre (33% of total area) of total green belt area.</li> <li>A time targeted action plan for development of greenbelt as per CPCB guidelines is submitted to MoEF&amp;CC, RO Bhopal via letter dated 10.09.18</li> </ul>



and is given in the Table 11 Copy of the letter submitted to MoEF&CC, RO Bhopal is attached as Annexure G.

**TABLE 11**  
**Proposed Year wise plantation for Next Three Years**

S. No	Year	Proposed No. of plants
1	2022-23	2250
2	2023-24	2150
3	2024-25	2200
<b>TOTAL</b>		<b>6600</b>

- 2 The project proponent shall prepare GHG emission inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

GHG emission inventory report programme is being prepared for reduction of the same including carbon sequestration including plantation. The Report of GHG emission inventory is enclosed as Annexure H.

**VIII) Public hearing and Human health issues**

- 1 Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

Emergency preparedness plan based on the Hazard Identification and Risk Assessment (HIRA) is being Prepared & implemented and the copy of the plan is Enclosed as Annexure I

- 2 The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

Heat Stress analysis is being carried out for the workmen who work in high temperature zone. The Copy of Heat Stress Report is Enclosed as Annexure J

- 3 Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such

All necessary infrastructure/facility provided to construction labour during construction phase of the project and also removed temporary houses after completion of project.





	as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	
4	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Occupational health surveillance of the workers regularly checkup and maintained the Health Record bas per Factory Act/Gujarat Factory Rules 1963. <b>The Copy of the Health Record is Enclosed as Annexure K</b>

<b>IX)</b>	<b>Corporate Environment Responsibility</b>	
1	The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable regarding Corporate Environment Responsibility.	Being Compliance
2	The company shall have a well laid down environment policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholder's / stake holders. The copy of the board resolution in this regard shall be submitted to the MOEF&CC as a part of six-monthly report.	Noted Unit has CERS Policy duly approved by the Board of Directors. The Copy of the CERS Policy is Attached as <b>Annexure L</b>



3	A separate Environmental Cell both at the project and company head quarter level, with qualified personal shall be set up under the control of senior Executive, who will directly to the head of the organization.	A separate Environment cell has been created & implemented of the stipulated Environmental safeguards.
4.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the six Monthly Compliance Report.	<ul style="list-style-type: none"> <li>• We have carried one to one need assessment in co-ordination with Local authorities /Surpanch / leaders and needy of Villages and done contribution in CSR according to their needs.</li> <li>• We have carried out one to one assessment with villagers towards their requirements. Funds are allocated as per EIA/EMP report and utilized it on as on basis as and when required. During our expansion also we have noted needs of affected villages , public hearing issues and will address and committed fund will be allocated towards CSR/CER in upcoming EIA/EMP also.</li> <li>• Separate fund is earmarked towards the capital cost and recurring cost/annum towards environmental pollution control measures.</li> <li>• Rs 4.62 Cr is incurred as capital expenditure till Sept 2020 towards environmental pollution control measures.</li> <li>• Sub-head wise break-up of proposed expenditure for the next financial year (2021-22) is given in Table 12 and is attached as Annexure M towards environmental pollution control measures.</li> </ul>





**Table 12**

**Proposed Expenditure Environment Protection Measures for financial year 2021-22**

S. No	SUB HEAD	Proposed Cost(Capital +Recurring) in lacs
1	Air Pollution Control/Noise Control	40
2	Water Pollution Control	3
3	Environmental Monitoring and Management	15
4	Green Belt Development	6
5	Occupational Health	5
<b>TOTAL</b>		<b>69</b>

5. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

As per the Order of H'ble High Court of Gujarat, Gujarat Pollution Control Board implemented the Environment Audit Scheme in the Month of April 97. It has been conducted on every Financial Year Apr to Mar, its report submission to GPCB on 30th June of every Year with Auditor Recommendations.

(Latest Environment Audit Report submitted to Board vide our letter no.GML/Audit/2019-20 Dated 29.06.2020)

6. All the recommendations made in the Charter on Corporate Responsibility for Environment

**Compliance Assured**



	Protection (CREP) for the Sponge Iron plants shall be implemented.	
X	Miscellaneous	
1	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	<ul style="list-style-type: none"> <li>The Public were informed of accorded Environment clearance through an advertisement in <b>The Times of India</b> (In English) and <b>Kutch Mitra</b> (in the Gujarati language).</li> <li>Copies of clearance letter are available with the State Pollution Control Board / Committee and may also be seen at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a>.</li> <li>Copies of news paper clippings have been submitted to the Regional office of the MoEF and also attached as <b>Annexure N</b>.</li> <li>Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li>Weblink: (<a href="http://www.gallantt.com/investorsGMI.html">http://www.gallantt.com/investorsGMI.html</a>)</li> </ul>
2	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies. Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Copy of the EC is posted on the company's website ( <a href="http://www.gallantt.com">www.gallantt.com</a> ) for public display. And local bodies, Panchayat and Municipal Bodies. The Receiving copy is Attached As <b>Annexure O</b> <b>Compliance Assured</b>
3	The project proponent shall upload the status of Compliance of the stipulated environment clearance conditions, including results of	<ul style="list-style-type: none"> <li>Six monthly reports on the status of the compliance of the stipulated environmental conditions including</li> </ul>





	monitored data on their website and update the same on half-yearly basis.	<p>results of monitored data (both hard copies as well as by mail) are regularly sent to the concerned authorities.</p> <ul style="list-style-type: none"> <li>• Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li>• <b>Weblink:</b> <a href="https://gallantt.com/wp-content/uploads/bsk-pdf-manager/2020/12/SIX-MONTHLY-COMPLIANCE-REPORT-APRIL20-TO-SEPT20.pdf">https://gallantt.com/wp-content/uploads/bsk-pdf-manager/2020/12/SIX-MONTHLY-COMPLIANCE-REPORT-APRIL20-TO-SEPT20.pdf</a></li> </ul>
4	The project proponent shall monitor the criteria pollutants level namely; PM10,SO2,NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public add put on the website of the company.	<p>Digital Display Board is being fixed at main gate as per guidelines to monitor the Ambient Air Quality &amp; Stack Emission and also uploaded the Monthly Monitoring reports on our Company website.</p> <ul style="list-style-type: none"> <li>• Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li>• <b>Weblink:</b> <a href="https://gallantt.com/wp-content/uploads/bsk-pdf-manager/2020/12/SIX-MONTHLY-COMPLIANCE-REPORT-APRIL20-TO-SEPT20.pdf">https://gallantt.com/wp-content/uploads/bsk-pdf-manager/2020/12/SIX-MONTHLY-COMPLIANCE-REPORT-APRIL20-TO-SEPT20.pdf</a></li> </ul>
5	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the Website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Compliance Assured
6	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules,1986 as amended subsequently and put on the website of the company.	<ul style="list-style-type: none"> <li>• Annual environmental statement for each financial year ending 31st March in <b>Form V</b> is regularly submitted to GPCB.</li> <li>• Online submission of <b>Form V</b> is being done regularly at GPCB XGN website (<a href="https://gpcbogn.gujarat.gov.in/Login.aspx">https://gpcbogn.gujarat.gov.in/Login.aspx</a>)</li> <li>• Details uploaded at company's website <a href="http://www.gallantt.com">www.gallantt.com</a></li> <li>• <b>Weblink:</b> <a href="https://gallantt.com/wp-content/uploads/bsk-pdf-manager/2020/07/Environmental-Statement-ReportForm-52019-20.pdf">https://gallantt.com/wp-content/uploads/bsk-pdf-manager/2020/07/Environmental-Statement-ReportForm-52019-20.pdf</a></li> </ul>
7	The project proponent shall inform the	<b>Final Approval of the project has</b>



	Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	obtained on dated 17 <sup>th</sup> June 2019, started the commencing the land development work and 1 <sup>st</sup> Feb 2021 start the production operation .
8	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted & Compliance Assured
9	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report , commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Noted & Agreed The details of EIA/EMP report, commitment made during PH is Enclosed as Annexure P.
10	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MOEF&CC)	Noted & Agreed
11	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act,1986	Noted & Agreed
12	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted & Agreed
13	The ministry reserves the right to stipulate additional conditions if found necessary. The company in a time bound manner shall implement these conditions.	Noted & Agreed
14	The Regional Office of this Ministry shall	Noted & Agreed





	monitor compliance of stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	
15	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act 1981, the Environment (Protection) Act 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	<b>Noted &amp; Agreed</b>
16	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act. 2010. The issues with the approval of the Competent Authority.	<b>Noted &amp; Agreed</b>

**Thanking You**

**For, Gallantt Metal Ltd**

**Authorized Signatory**



**ANNEXURE A1**

**STACK MONITORING  
ANALYSIS REPORT**





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 6026/07/2021-22

Date : 27/07/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : Gallantt Metal Limited

Survey No. 175/1, Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Sr. No.	Particulars	Unit	Stack - 1
01.	Date of sampling	---	07/07/2021
02.	Time of sampling	Hr	10.45
03.	Stack Attached to	---	AFBC Boiler of Power Plant
04.	Air Pollution Control Measures	---	ESP
05.	Stack Height	Meter	90
06.	Stack Diameter	Meter	3.8
07.	Ambient Temperature	Degree Centi.	30
08.	Stack Temperature	Degree Centi.	115
09.	Average Velocity of Flue Gases	M/Sec.	7.6
10.	Isokinetic flow rate for P.M. Sampling	LPM	18
11.	Gaseous Sampling Flow Rate	LPM	2.0
12.	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	50
13.	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	42.6
14.	Permissible Limit for SO <sub>2</sub>	mg/Nm <sup>3</sup>	600
15.	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	92.3
16.	Permissible Limit for NOx	mg/Nm <sup>3</sup>	300
17.	Measured Concentration of NOx	mg/Nm <sup>3</sup>	81.6

\*Permissible limit are as per MoEF&CC Notification S.O.3305(E) dated 07/12/2015.

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On : 13/10/2020



Royal Environment Auditing & Consultancy Service

Ashish  
Analyst



# Royal

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Ph.: +91 281 2360695 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 6028/07/2021-22

Date : 27/07/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255 1/2/3/7

Sr. No.	Particulars	Unit	Stack - 3	Stack - 4
1	Date of sampling	---	07/07/2021	07/07/2021
2	Time of sampling	Hr	10.45	11.45
3	Stack Attached to	---	Rotary Kiln - 1, 2	Rotary Kiln - 3
4	Air Pollution Control Measures	---	Recouperatur & ESP	Recouperatur & ESP
5	Stack Diameter	Meter	1.5	1.5
6	Stack Height	Meter	35	35
7	Stack Temperature	Degree Centi.	122	134
8	Ambient Temperature	Degree Centi.	30	32
9	Average Velocity of Flue Gases	M/Sec.	7.9	7.6
10	Isokinetic flow rate for P.M. Sampling	LPM	18	19
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	100	100
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	53.7	76.8
14	Permissible Limit for SO <sub>2</sub>	ppm	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	68.4	75.6
16	Permissible Limit for Nox	ppm	50	50
17	Measured Concentration of Nox	ppm	27.4	24.9
18	Permissible Limit for CO*	% (V/V)	1.0%	1.0%
19	Measured Concentration of CO*	% (V/V)	0.6	0.7

\*Permissible limit are as per MoEF&CC Notification G.S.R.414(E), dated 30/05/2008.

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On : 13/10/2020



Ashish





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail: royalenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 6029/07/2021-22

Date : 27/07/2021

### REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255 1/2/3/7

Sr. No.	Particulars	Unit	Stack - 5	Stack - 6
1	Date of sampling	---	07/07/2021	07/07/2021
2	Time of sampling	Hr	13.45	14.20
3	Stack Attached to	---	Induction Furnace - 1 & 4	Induction Furnace - 2 & 3
4	Air Pollution Control Measures	---	Cyclone Separator & Wet Scrubber	Cyclone Separator & Wet Scrubber
5	Stack Diameter	Meter	1.5	1.5
6	Stack Height	Meter	48	30
7	Stack Temperature	Degree Centi.	126	135
8	Ambient Temperature	Degree Centi.	32	33
9	Average Velocity of Flue Gases	M/Sec.	6.7	6.9
10	Isokinetic flow rate for P.M. Sampling	LPM	18	19
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	50	50
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	33.6	34.2
14	Permissible Limit for SO <sub>2</sub>	ppm	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	34.8	37.5
16	Permissible Limit for NO <sub>x</sub>	ppm	50	50
17	Measured Concentration of NO <sub>x</sub>	ppm	25.1	27.4

\*Permissible limit not specified in EC copy as well as in GPCB CC&A

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On. : 13/10/2020



Aashish

## **ANNEXURE A2**

### **REPORT OF TREATED EFFLUENT**





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalk-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 2037/07/2021-22

Date : 27/07/2021

### WASTE WATER SAMPLE ANALYSIS REPORT

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Date of sampling : 07/07/2021

Source of Sample: Waste Water Treatment Plant (ETP Plant)

Sr. No.	Parameters	Unit	GPCB Limits *	Waste Water (ETP Inlet)	Treated Water (ETP Outlet)
1	pH	pH Unit	6.5 to 8.5	7.15	7.87
2	Colour	Pt.co scale	100 Units	27	16
3	Temp.	°C	40	36	32
4	Suspended Solids	Mg/Lit	100	55	26
5	Total Dissolved Solids	Mg/Lit	---	847	467
6	Total Solids	Mg/Lit	---	902	493
7	Oil & Grease	Mg/Lit	10	3.2	0.42
8	Sulphides	Mg/Lit	2	3.5	0.16
9	Phosphate	Mg/Lit	5	4.5	0.7
10	BOD	Mg/Lit	30	59	17
11	COD	Mg/Lit	100	327	44
12	Total Chromium (as Cr)	Mg/Lit	0.2	0.72	N.D.
13	Hexavalent Cr	Mg/Lit	0.1	0.7	N.D.
14	Copper	Mg/Lit	1.0	0.44	0.51
15	Total Iron (as Fe)	Mg/Lit	1.0	3.4	0.46
16	Zinc (as Zn)	Mg/Lit	1.0	0.5	NIL

\* GPCB Limits are only applicable to treated waste water (ETP Outlet)



Royal Environment Auditing & Consultancy Service

Analyst

## **ANNEXURE A3**

# **NOISE MONITORING ANALYSIS REPORT**





# Royal

## Environment Auditing & Consultancy Service

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Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 2034/07/2021-22

Date : 27/07/2021

### AMBIENT NOISE LEVEL MEASUREMENT

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhiali,

Taluka : Bhachau,

Kutch, Gujarat.

Sr. No.	Location of Sampling	Noise Level Avg. in dB (A)	
Date of sampling		07/07/2021	07/07/2021
Time of sampling		Day Time 6.00 AM - 10.00 PM	Night Time 10.00 PM - 6.00 AM
	Permissible Limits	75.0	70.0
01.	Near Main Gate	57.1	56.2
02.	Rolling Mill Area	72.8	62.4
03.	Induction Furnace	69.8	63.7
04.	Reheating Furnace	71.7	65.2
05.	Rotary Kiln	72.7	63.8
06.	Power Plant	72.9	63.1

Instruments used : Sound level meter, Model : SL - 4030 (Lutron Make)

Range : A - 30 to 80 dB; B-50 to 100 dB; C-80 to 130 dB.

Calibration done on : 12/09/2020

Royal Environment Auditing & Consultancy Service



Ashish  
Analyst

**ANNEXURE A4**

**COPY OF MEMORANDUM OF  
UNDERSTANDING**



**GALLANTT**  
Memo

This MOU has been signed between Gallantt Metal Ltd. Survey No 175/1, Village Samakhiali, Taluka, Bhachau, District Kutch Gujarat (First Party) and Hindustan Oils Industries, Plot No 282, Sector No 3, KSEZ, Kandla (Second Party) under following terms & conditions:

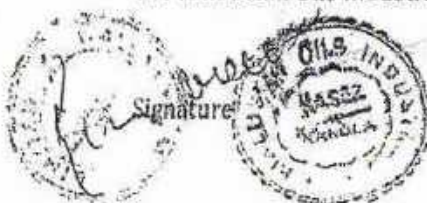
- 1) That the First Party will send Used Oil for Recycling, which is generated in his Plant to the Second Party every month end during the whole year.
- 2) That the First Party is agree to pay Rs.10/- per Liter to the Second Party as Recycling charges for the quantity to be send to the Second Party during the year on monthly basis.
- 3) The MOU will remain valid from 01-04-2021 to 31-03-2022
- 4) Duties and Taxes shall be extra on above price.
- 5) Transportation shall be arranged by the First Party.
- 6) The Second Party will recycle the Used Oil in their plant situated at Kandla SEZ.
- 7) The First Party shall pay to seller, the amount of Recycling charges duly billed by account payee cheque.
- 8) The MOU will be renewed before its expiry

We, hereby, agree with the above terms and conditions.

For Gallantt Metal Ltd.



For Hindustan Oils Industries



**GALLANTT METAL LIMITED**

WORKS : SURVEY No. 175/1, VILLAGE - SAMAKHIALI, TALUKA - BHACHAU, KUTCH - GUJARAT - 370150. FAX : +91 2837 783521  
REGISTERED OFFICE : 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA - 700 069. TEL : +91 33 406 4012  
OFFICE : WARD 108C, PLOT NO. 123, GROUND FLOOR, GANDHIDHAM, KUTCH, GUJARAT - 370201. TEL : +91 7836 22150  
CIN : L27106WB2006PLC101553  
e-mail : gms@gallantt.com Web : www.gallantt.com

**ANNEXURE A5**  
**AMBIENT AIR QUALITY REPORT**





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 1032/04/2021-22

Date : 22/04/2021

### REPORT OF AMBIENT AIR QUALITY MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhyaali,

Taluka : Bhachau,

Kutch, Gujarat.

Sr. No.	Particulars	Unit	Location No. 1	Location No. 2
01.	Location of Sampling	---	Officer Colony	Main Security Gate
02.	Date of sampling	---	09/04/2021	09/04/2021
03.	Time of sampling	Hr	8.20	8.40
04.	Duration of Sampling	Min.	1440	1440
05.	Average Wind Speed	Km/Hr	2 to 14	2 to 14
06.	Average flow rate during sampling	m <sup>3</sup> /Hr	1.1	1.2
07.	Average flow rate for Gas sampling	LPM	0.2	0.2
08.	Permissible Limits of PM 2.5	µg/m <sup>3</sup>	60	60
09.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	30	36
10.	Permissible Limits of PM 10	µg/m <sup>3</sup>	100	100
11.	Measured Concentration of PM 10	µg/m <sup>3</sup>	62	65
14.	Permissible Limits of SO <sub>2</sub>	µg/m <sup>3</sup>	80	80
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	14.3	13.1
16.	Permissible Limits of NO <sub>2</sub>	µg/m <sup>3</sup>	80	80
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	17.8	20.4

Instrument used : 1) Ecotech make (RDS), Model No. APM - 217 BL, Gaseous Sampling Kit No. AAS-190, 2) Ecotech make 2 Nos. PM 2.5

Calibration done on : 15/06/2020

Royal Environment Auditing & Consultancy Service



Jagdish  
Analyst

**ANNEXURE A6**

**NEWS PAPER CLIPPING COPY**



## PUBLIC NOTICE

### Environmental Clearance of proposed Coal based Captive Power Plant

The main object of this advertisement is to inform the public that the ministry of Environment & Forests, Government of India has accorded Environment Clearance for our proposed Coal based Captive Power Plant for the 12 MW Coal based Power Plant at Survey No. 175/1, Vill. Samakhiali, Ta. Bhachau, Dist, Kutch. This Environmental Clearance has been given vide letter No. j-13011/37/2007-IA.II (T) dated 28<sup>th</sup> September, 2007 and copy of clearance letter is available with the Gujarat Pollution Control Board, Gandhinagar and also at web site of the Ministry of Environment & Forests at <http://envfor.nic.in>

Gallantt Metal Ltd, 175/1, Vill. Samakhiali, Ta, Bhachau, Kutch (Gujarat)



## પબ્લિક નોટિસ

કોલસા આધારિત કેપ્ટીવ પાવર પ્લાન્ટનું પર્યાવરણીય ક્લિયરન્સ આથી જાણ કરવામાં આવે છે કે ભારત સરકારના પર્યાવરણ અને વન મંત્રાલય, નવી દિલ્હી તરફથી પ્રસ્તાવિત કોલસા આધારિત કેપ્ટીવ પાવર પ્લાન્ટ જે સર્વે નં. ૧૭૫/૧, ગામ: સામખિયાળી, તા. ભચાઉ, જી. કર્ણાટક છે. તેને તારીખ ૨૮ સપ્ટેમ્બર, ૨૦૦૭ના પત્ર નં. J-૧૩૦૧૧/૩૭.૨૦૦૭-IA. II (T) દ્વારા પર્યાવરણીય ક્લિયરન્સ આપેલ છે. જે પત્રની નકલ ગુજરાત પ્રદૂષણ નિયંત્રણ બોર્ડ, ગાંધીનગર તેમજ પર્યાવરણ અને વન મંત્રાલયની વેબ સાઈટ <http://envfor.nic.in> પર જોઈ શકાશે.

## ગોલન્ટ મેટલ લિમિટેડ

૧૭૫/૧, ગામ: સામખિયાળી, તા. ભચાઉ, જી. કર્ણાટક (ગુજરાત)





## **ANNEXURE A7**

### **COMPLIANCE OF EMISSION STANDARD FOR SPONGE IRON ISSUED BY MINISTRY IN 2008**

## ANNEXURE A7

### Compliance report of guidelines published by CPCB for sponge iron plant.

1.0	STACK EMISSION STANDARDS	COMPLIANCE STATUS								
i.	Stack Emission Standards for Kiln (Particulate Matter) Should be 100 mg/Nm3 (Coal based)	<ul style="list-style-type: none"><li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li><li>Copy of reports are attached as <b>Annexure A1</b>.</li></ul> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD (mg/Nm³)</th><th>OBSERVED VALUE (MIN) (mg/Nm³)</th><th>OBSERVED VALUE (MAX) (mg/Nm³)</th></tr><tr><td>PM</td><td>300</td><td>42.6</td><td>44.2</td></tr></table>	PARAMETERS	EMISSION STANDARD (mg/Nm³)	OBSERVED VALUE (MIN) (mg/Nm³)	OBSERVED VALUE (MAX) (mg/Nm³)	PM	300	42.6	44.2
PARAMETERS	EMISSION STANDARD (mg/Nm³)	OBSERVED VALUE (MIN) (mg/Nm³)	OBSERVED VALUE (MAX) (mg/Nm³)							
PM	300	42.6	44.2							
ii.	Carbon Mono oxide (CO) (v/v) Not to exceed 1% (Max.), volume/volume	<ul style="list-style-type: none"><li>Environmental parameters are continuously monitored by Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility and the parameters are within the prescribed standard.</li><li>Copy of Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is attached as <b>Annexure A8</b>.</li></ul> <table><tr><th>PARAMETERS</th><th>EMISSION STANDARD (%V/V)</th><th>OBSERVED VALUE (MIN) (%V/V)</th><th>OBSERVED VALUE (MAX) (%V/V)</th></tr><tr><td>CO</td><td>1.0%</td><td>0.7</td><td>0.8</td></tr></table>	PARAMETERS	EMISSION STANDARD (%V/V)	OBSERVED VALUE (MIN) (%V/V)	OBSERVED VALUE (MAX) (%V/V)	CO	1.0%	0.7	0.8
PARAMETERS	EMISSION STANDARD (%V/V)	OBSERVED VALUE (MIN) (%V/V)	OBSERVED VALUE (MAX) (%V/V)							
CO	1.0%	0.7	0.8							
iii.	The kiln off gas stack height should be calculated for proper dispersion of SO2 (with the formula of $H=14Q^{0.3}$ Where Q=emission of SO2 in Kg/h) as per emission regulations Part III of	<ul style="list-style-type: none"><li>Height of 35 mtr is being maintained as required against 30 mtr.</li><li>Data of gaseous emission monitored comparing with the standards notified as per G.S.R.414(E) dated 30th May,2008 is given in Table below.</li></ul>								





CPCB. Sulphur percentage shall be the percentage of sulphur in coal. Permissible SO<sub>2</sub> emission level with reference to stack height is given below:

Sr.No	Q (emission of SO <sub>2</sub> in kg/hr)	H (m)
1.	12.68	30
2.	12.69-33.08	40
3.	33.09-69.60	50
4.	69.61-127.80	60
5.	127.81-213.63	70

SO<sub>2</sub> level need to be maintained using adequate control technology as per the stack height provided by the industry.

PARAMETERS	EMISSION STANDARD	OBSERVED VALUE (MAX)
PARTICULATE MATTER	100 MG/NM <sup>3</sup>	72.4 MG/NM <sup>3</sup>
CARBON MONO OXIDE	1% (VOL/VOL)	0.30% (VOL/VOL)
STACK HEIGHT	30 MTR	35 MTR

## 2.0 STACK EMISSION STANDARDS FROM DE- DUSTING UNITS

Particulate matter : 100 mg/ Nm<sup>3</sup>

(i) All de-dusting units should be connected to a stack having a minimum stack height of 30m. In case installation of 30 m height of stack is technically or otherwise not feasible for specific case, the stack height can be reduced but accordingly stringent Particulate Matter emission level required to be achieved by the industry using Particulate Matter dispersion formulae/ model so that ground level concentration of Particulate Matter should not increase beyond the incremental level as it would have been with stack height of 30 m.

(ii) Sampling porthole and platform etc. shall be provided as per CPCB emission regulation to facilitate stack monitoring.

- All dedusting units are connected with adequate stack height as per the norms and sampling porthole and platforms etc are provided as per CPCB emission regulation to facilitate stack monitoring.
- Requirements is being maintained as per norms.





- 3.0 FUGITIVE EMISSION STANDARDS
- The fugitive emission of suspended particulate matter (SPM) should not exceed  $2000 \mu\text{g}/\text{m}^3$  at a distance of 10 m (approx.) from the areas / sources, identified and mentioned below in table 1, where fugitive dust emissions are anticipated. However, the existing industry is allowed up to  $3000 \mu\text{g}/\text{m}^3$  of fugitive emission level of suspended particulate matter (SPM) till one year from the date of issue of the notification.

Sr. No	Area	Monitoring Location
1.	Raw material handling area	Wagon tippler, Screen area, Transfer Points, Stock Bin area
2.	Crusher area	Crushing plant, vibrating screen, transfer points
3.	Raw material feed area	Feeder area, Mixing area, transfer points
4.	Cooler discharge area	Over size discharge area, Transfer Points
5.	Product processing area	Intermediate stock bin area, Screening plant, Magnetic Separation unit, Transfer Points, Over size discharge area, Product separation area, Bagging area
6.	Other areas	Areas as specified by State Pollution Control Board

- Fugitive emission results as per monitoring conducted by Royal Environment Auditing & Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility is within the norms.
- Fugitive emission results as per monitoring report at 19 different locations as per G.S.R.414(E) dated 30th May,2008 is given in table below and copy of the same is attached as **Annexure A9**.

LOCATION	EMISSION STANDARD ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (MIN) ( $\mu\text{g}/\text{m}^3$ )	OBSERVED VALUE (MAX) ( $\mu\text{g}/\text{m}^3$ )
Nr.Vagon Trippler	2000	1786	1823
Nr.screen area	2000	1452	1544
Nr.Transfer point	2000	1715	1785
Nr.stock Bin area	2000	1688	1733
Nr.Crusser area	2000	1697	1751
Nr.Vibrating screen	2000	1632	1725
Nr.Transfer point	2000	1595	1662
Nr.Feeder area	2000	1358	1420
Nr.mixing Feeder area	2000	1693	1725
Nr.Transfer Point	2000	1747	1792
Nr.Wagon tippler	2000	1687	1745
Nr.screen area	2000	1567	1625
Nr.Intermediate stock bin area	2000	1524	1620
Nr.Screening plant	2000	1715	1755
Nr.Magnetic separating plant	2000	1595	1657
Nr.Transfer plant	2000	1419	1485





Nr.Oversize discharge area	2000	1435	1575
Nr.Product separation	2000	1520	1535
Bagging area	2000	1555	1640

#### 4.0 EFFLUENT DISCHARGE STANDARDS

- All efforts should be made to reuse and recirculate the water and to maintain zero effluent discharge.
- Storm water/ garland drain should be provided in plant.
- In case of maintenance/ cleaning of the system the settling tanks effluent of wet scrubbing system or re - circulation system if require to be discharged, should be treated suitably to conform to the following standards:  
Ph - 5.5 to 9.0  
TSS <= 100 mg/l  
COD <= 250 mg/l  
Oil and grease <= 10 mg/l

- The effluent water 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.
- There is no discharge outside the plant premises via drains except during monsoon for storm water.
- Domestic waste water is being treated in Sewage treatment plant and reused for gardening and plantation purpose.
- Results of the treated effluent is given in table below and copy of the report is attached as **Annexure A2.**

TREATED EFFLUENT RESULTS			
Parameter	Prescribed norms (mg/L)	Effluent Quality-Min. (mg/L)	Effluent Quality-Max. (mg/L)
PH	6.5 TO 8.5	7.51	7.87
Suspended solids	100	15	16
Oil& Grease	10	0.35	0.42
Copper	1	0.51	0.52
Iron as Fe	1	0.46	0.48
Phosphate	5	0.6	0.7
Total Chromium	0.2	TRACE	TRACE



		Zinc as Zn	1	TRACE	TRACE
		BOD 3 days @°C	30	17	18
		COD	100	42	44
		Hexavalent Cr	0.1	TRACE	TRACE





**ANNEXURE A8**

**COPY OF CO REPORT**



# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bai Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 201 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 5028/06/2021-22

Date : 30/06/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255\_1/2/3/7

Sr. No.	Particulars	Unit	Stack - 3	Stack - 4
1	Date of sampling	---	06/06/2021	06/06/2021
2	Time of sampling	Hr	10.50	12.20
3	Stack Attached to	---	Rotary Kiln - 1, 2	Rotary Kiln - 3
4	Air Pollution Control Measures	---	Recouperatur & ESP	Recouperatur & ESP
5	Stack Diameter	Meter	1.5	1.5
6	Stack Height	Meter	35	35
7	Stack Temperature	Degree Centi.	128	134
8	Ambient Temperature	Degree Centi.	32	33
9	Average Velocity of Flue Gases	M/Sec.	8.1	7.4
10	Isokinetic flow rate for P.M. Sampling	LPM	19	20
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	100	100
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	54.4	75.6
14	Permissible Limit for SO <sub>2</sub>	ppm	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	66.2	74.9
16	Permissible Limit for Nox	ppm	50	50
17	Measured Concentration of Nox	ppm	28.3	26.8
18	Permissible Limit for CO*	% (V/V)	1.0%	1.0%
19	Measured Concentration of CO*	% (V/V)	0.7	0.8

\*Permissible limit are as per MoEF&CC Notification G.S.R.414(E), dated 30/05/2008.

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On. : 13/10/2020

Royal Environment Auditing & Consultancy Service



Jagdish  
Analyst



**ANNEXURE A9**

**COPY OF FUGITIVE EMISSION  
REPORT**



# Royal

## Environment Auditing & Consultancy Service

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Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 2026/07/2021-22

Date : 27/07/2021

### REPORT OF FUGITIVE EMISSION MONITORING

Name of company : Gallantt Metal Limited

Survey No. 175/1,  
Near toll gate,  
Village : Samakhyali,  
Taluka : Bhachau,  
Kutch, Gujarat.

Sampling Site: Near raw material handling area

Sr. No.	Particulars	Unit	Location # 1	Location # 2	Location # 3	Location # 4
01.	Location of Sampling	---	Nr. Vagon Trippler	Nr. Sreen Area	Nr. Transfer Point	Nr. Stock Bin area
02.	Date of sampling	---	07/07/2021	07/07/2021	07/07/2021	07/07/2021
03.	Time of sampling	Hr	8.30	8.40	8.50	9.00
04.	Dominant Wind Direction (From)	---	SW to NE	SW to NE	SW to NE	SW to NE
05.	Average Wind Speed	Km/Hr	4 to 16	4 to 16	4 to 16	4 to 16
06.	Average flow rate during sampling	m <sup>3</sup> /minute	1.10	1.10	1.20	1.20
07.	Permissible limit for SPM	µg/m <sup>3</sup>	2000	2000	2000	2000
08.	Measured Concentration of SPM	µg/m <sup>3</sup>	1786	1452	1715	1688

Instruments Used : Envirotech HVS APM 430 & Ecotech RDS - AAS 217

Calibration done on : 17/06/2020

Royal Environment Auditing & Consultancy Service



Ashish  
Analyst





# Royal

## Environment Auditing & Consultancy Service

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Ref. No. : 2027/07/2021-22

Date : 27/07/2021

### REPORT OF FUGITIVE EMISSION MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Sampling Site: Crusser area

Sr.No.	Particulars	Unit	Location # 5	Location # 6	Location # 7
01.	Location of Sampling	---	Nr. Crusser area	Nr. Vibrating screen	Nr. Transfer point
02.	Date of sampling	---	07/07/2021	07/07/2021	07/07/2021
03.	Time of sampling	Hr	9.20	16.10	16.25
04.	Dominant Wind Direction (From)	---	SW	SW	SW
05.	Average Wind Speed	Km/Hr	4 to 17	4 to 17	4 to 17
06.	Average flow rate during sampling	m <sup>3</sup> /minute	1.20	1.10	1.10
07.	Permissible limit for SPM	µg/m <sup>3</sup>	2000	2000	2000
08.	Measured Concentration of SPM	µg/m <sup>3</sup>	1697	1725	1595

Instruments Used : Envirotech HVS APM 430 & Ecotech RDS - AAS 217

Calibration done on : 17/06/2020



Royal Environment Auditing & Consultancy Service

Analyst



# Royal

## Environment Auditing & Consultancy Service

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Ref. No. : 2028/07/2021-22

Date : 27/07/2021

## REPORT OF FUGITIVE EMISSION MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhiali,

Taluka : Bhachau,

Kutch, Gujarat.

Sampling Site: Raw material feeder area

Sr. No.	Particulars	Unit	Location # 8	Location # 9	Location # 10
01.	Location of Sampling	---	Nr. Feeder area	Nr. mixing Feeder area	Nr. Transfer point
02.	Date of sampling	---	07/07/2021	07/07/2021	07/07/2021
03.	Time of sampling	Hr	16.30	16.40	16.55
04.	Dominant Wind Direction (From)	---	SW to NE	SW to NE	SW to NE
05.	Average Wind Speed	Km/Hr	4 to 16	4 to 16	4 to 16
06.	Average flow rate during sampling	m <sup>3</sup> /minute	1.10	1.20	1.20
07.	Permissible limit for SPM	µg/m <sup>3</sup>	2000	2000	2000
08.	Measured Concentration of SPM	µg/m <sup>3</sup>	1420	1693	1747

Instruments Used : Envirotech HVS APM 430 & Ecotech RDS - AAS 217

Calibration done on : 17/06/2020



Royal Environment Auditing & Consultancy Service

Analyst





# Royal

## Environment Auditing & Consultancy Service

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Ref. No. : 2029/07/2021-22

Date : 27/07/2021

### REPORT OF FUGITIVE EMISSION MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

**Sampling Site: Cooler Discharge Area**

Sr. No.	Particulars	Unit	Location # 11	Location # 12
01.	Location of Sampling	---	Nr. Wagon tippler	Nr. Screen area
02.	Date of sampling	---	08/07/2021	08/07/2021
03.	Time of sampling	Hr	10.20	10.35
04.	Dominant Wind Direction (From)	---	SW to NE	SW to NE
05.	Average Wind Speed	Km/Hr	4 to 16	4 to 16
06.	Average flow rate during sampling	m <sup>3</sup> /minute	1.10	1.10
07.	Permissible limit for SPM	µg/m <sup>3</sup>	2000	2000
08.	Measured Concentration of SPM	µg/m <sup>3</sup>	1687	1625

Instruments Used : Envirotech HVS APM 430 & Ecotech RDS - AAS 217

Calibration done on : 17/06/2020



Royal Environment Auditing & Consultancy Service

Ashish  
Analyst



# Royal

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Ref. No. : 2030/07/2021-22

Date : 27/07/2021

### REPORT OF FUGITIVE EMISSION MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Sampling Site: Product Processing area

Sr. No.	Particulars	Unit	Location # 13	Location # 14	Location # 15	Location # 16
01.	Location of Sampling	---	Nr. Intermediate stock bin area	Nr. Screening plant	Nr. Magnetic saprating plant	Nr. Transfer plant
02.	Date of sampling	---	08/07/2021	08/07/2021	08/07/2021	08/07/2021
03.	Time of sampling	Hr	10.00	10.15	10.25	10.30
04.	Dominant Wind Direction (From)	---	SW to NE	SW to NE	SW to NE	SW to NE
05.	Average Wind Speed	Km/Hr	3 to 17	3 to 17	3 to 17	3 to 17
06.	Average flow rate during sampling	m <sup>3</sup> /minute	1.20	1.20	1.20	1.20
07.	Permissible limit for SPM	µg/m <sup>3</sup>	2000	2000	2000	2000
08.	Measured Concentration of SPM	µg/m <sup>3</sup>	1620	1715	1595	1419

Instruments Used : Envirotech HVS APM 4311 & Ecotech RDS - AAS 217

Calibration done on : 17/06/2020

Royal Environment Auditing & Consultancy Service



Analyst





# Royal

## Environment Auditing & Consultancy Service

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Ref. No. : 2031/07/2021-22

Date : 27/07/2021

### REPORT OF FUGITIVE EMISSION MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Sampling Site: Product Processing area

Sr. No.	Particulars	Unit	Location # 17	Location # 18	Location # 19
01.	Location of Sampling	---	Nr. Oversize discharge area	Nr. Product separation	Bagging area
02.	Date of sampling	---	08/07/2021	08/07/2021	08/07/2021
03.	Time of sampling	Hr	15.20	15.35	15.45
04.	Dominant Wind Direction (From)	---	SW to NE	SW to NE	SW to NE
05.	Average Wind Speed	Km/Hr	4 to 15	4 to 15	4 to 15
06.	Average flow rate during sampling	m <sup>3</sup> /minute	1.10	1.10	1.10
07.	Permissible limit for SPM	µg/m <sup>3</sup>	2000	2000	2000
08.	Measured Concentration of SPM	µg/m <sup>3</sup>	1435	1520	1640

Instruments Used : Envirotech HVS APM 430 & Ecotech RDS - AAS 217

Calibration done on : 17/06/2020



Royal Environment Auditing & Consultancy Service

Ashish  
Analyst

**ANNEXURE A10**

**COPY OF LATEST GROUND  
WATER REPORT**





# Royal

## Environment Auditing & Consultancy Service

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### TEST REPORT (WATER)

Test Report No : 2038/07/2021-22

Date : 27/07/2021

Work Order No : ----

Job Card No : Gallant/21-22/07

Name of company : Gallant Metal Limited

Survey No. 175/1, Near toll gate,

Village : Samakhya,

Taluka : Bhachau,

Kutchh,

Attention : Mr. Manoj Rastogi

Date of Sample Receipt : 08/07/2021

Date & Time of Sampling : 08/07/2021, 11.25

Lab ID : W/21-22/07/13

Date of Testing : 09th to 13th JULY 2021

Sample Type : Water

Description of Sample Packing : Plastic Bottle

Type of Sampling : Grab

Quantity of Sample : 1.0 Ltr.

Description : Ground Water

Sample Collected by : Royal Environment

Sampling Method : IS 3025 : Part 1

Location of Sample : Ground Water - Nr. Solid Waste Storage Area

Sr. No.	Parameters	Unit	Acceptable Limits	Permissible Limits as per IS 10320:2016	Results	Test Method
01.	Color	Hazen Units	5	15	Colorless	IS 3025 : Part 44
02.	Odour	---	Agreeable	Agreeable	Odourless	IS 3025 : Part 5
03.	pH Value	---	6.5 - 8.5	No relaxation	7.12	IS 3025 : Part 11
04.	Turbidity	NTU	1	5	2	IS 3025 : Part 10
05.	Total Dissolved Solids	mg/l	500	2000	917	IS 3025 : Part 16
06.	Total Suspended Solids	mg/l	---	---	26	IS 3025 : Part 17
07.	Total hardness (as CaCO <sub>3</sub> )	mg/l	200	600	478	IS 3025 : Part 21
08.	Calcium (as Ca)	mg/l	75	200	109	IS 3025 : Part 40
09.	Magnesium (as Mg)	mg/l	30	100	50.0	IS 3025 : Part 46
10.	Chloride (as Cl)	mg/l	250	1000	237	IS 3025 : Part 32
11.	Sulphate (as SO <sub>4</sub> )	mg/l	200	400	309	IS 3025 : Part 24
12.	Total alkalinity as (as CaCO <sub>3</sub> )	mg/l	200	600	218	IS 3025 : Part 23
13.	Nitrate (as NO <sub>3</sub> )	mg/l	45	No relaxation	13	IS 3025 : Part 34
14.	Fluoride (as F)	mg/l	1	1.5	0.07	IS 3025 : Part 60
15.	Iron (as Fe)	mg/l	0.3	No relaxation	0.5	IS 3025 : Part 63
16.	Mineral oil	mg/l	0.5	No relaxation	N.D.	IS 3025 : Part 39
17.	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	0.002	N.D.	IS 3025 : Part 43
18.	Total arsenic (as As)	mg/l	0.01	0.05	Nil	IS 3025 : Part 37
19.	E. Coli	---	Absent	Absent	Absent	APHA
20.	Total Coliform Bacteria	---	Absent	Absent	Absent	APHA

\*\* This water can't be used as drinking water.

Authorized Signatory

\* End of Report \*

Analyst

1. This test report shall not be reproduced except in full, without written approval from the Royal Environment Auditing & Consultancy Service  
2. The results relate only to the item tested.

Doc. No. F/7.8/03, Issue No. 02, Issue Date : 01-10-18, Amend No. --, Amend Date : --

**ANNEXURE A11**

**COPY OF INVOICE OF  
USED OIL**





# Hindustan Oil Industries [43423] ( Hazardous Waste Manifest )

Manifest No:  
1401546  
07/09/2021

Copy 1

To be forwarded by To be forwarded by the occupier to the State Pollution Control Board or Committee.

Sender's Details					
Sender Name	Gallant Metal Limited [17845]				
Address	185/1,185/2,185/3,185/4,185/5,179/1, 179/2, 179/3,Samakhiyali, Bhachau, Kutch Taluka :BHA Distict:KUT Pin no:370150				
Contact Details	9327734496 gml@gallantt.com	GPS Coordinates	Lat :23.1800 Long :70.2900		
Receiver's Details					
State	Gujarat	Type of Facility	Actual user (within state)		
Facility Details	Hindustan Oil Industries [43423]				
Contact Details	9825226095 hindolkan@yahoo.com	GPS Coordinates	Lat :23.0700 Long:70.1400		
Address	Sector- 3,- Taluka :GAN Distict:KUT Pin no:370201				
Waste Details					
Waste Details	I~5~5.1~Used or Spent Oil				
Waste Intended for	Recycling	Total Qty	0.400MT	Consistency	liquid
Transporter Details					
Name	Gallantt Metal Limited	Contact Details	9327734496 taxes@gallantt.com		
Address	Survey No 175/1 Village Samakhiyali ,Taluka Bhachau Distt. Kutch District :Kutch East Taluka :Bhachau				
Vehicle Details					
Vehicle no	GJ12BW4757	GPS Enabled	Yes	Type of Vehicle	Special vehicle
Driver name	BHARAT	Driver Contact No	9879896717		
Waste Transportation Details					
Vehicle Depart.	08/09/2021 10:00AM	Number of Drums	2	Loose Waste	0.000
Remarks	Disposal of 400 Ltr Used Oil		No of bags	0	
<b>Sender's Declaration :</b> 1. I hereby declare that contents of the consignment are fully and accurate described above by proper shipping name and are categorized , packed, marked , and labeled , and are all in all respects in proper condition for transport by road according to applicable national government regulations. 2. I hereby declare that we have obtained membership of common facility / carried out agreement with actual user for disposal/ actual use of hazardous waste.					
Name and stamp of sender:		Date:			
Transporter's Acknowledgement of Receipt of waste Stamp:		Date:			
Receiver's Certification of Receipt of Hazardous waste					

In Principal Approval Details :Accepted - 07/09/2021 4:43PM - Remarks :We will consume / recycle within premises.

Stamp:

Date:

Signature:

**ANNEXURE A12**

**COPY OF AGREEMENT WITH  
VARIOUS AGENCIES**





# SAURASHTRA ENVIRO PROJECTS PVT. LTD.

Integrated Common Hazardous Waste Management Facility

Site : R. S. No. 415, 417 & 418, Village : Jura Katsiya, B.H. Gell Pump Station,  
Samakhiali-Randhenpur Highway, Taluka : Bhachau, Dist - Kutch.

Ph.: +91-281-2351248, 2348161, 6452205 Fax: +91-281-2354068 E-mail: info@seplindia.com Website: www.seplindia.com



## Certificate

Certificate No: CSG002

*To Whomsoever it may concern*

*This is to certify that*

**GALLANTT METAL LIMITED**

SURVEY NO.17511

NEAR TOLL GATE

VILLAGE: SAMAKHIYALI

KUTCH

*is a valid member of*

**SAURASHTRA ENVIRO PROJECTS PVT. LTD.**

*for Integrated Common Hazardous Waste Management Facility.*

*This membership is valid for a period of*

*5 Years*

Date of issue : 25/01/2019

Date of expiration : 24/01/2024

Place of issue : Surat

For Saurashtra Enviro Projects Pvt. Ltd.

*Director/Authorised signatory*

SUBJECT TO SURAT JURISDICTION

Regd. Office : 3rd Floor, K.G. Chambers, Udhna Darwaja, Ring Road, Surat - 395 002



This MOU has been signed between Gallantt Metal Ltd. Survey No 175/1, Village Samakhialli, Taluka, Bhachau, District Kutch Gujarat (First Party) and Hindustan Oils Industries, Plot No 282, Sector No 3, SEZ, Kandla (Second Party) under following terms & conditions:

- 1) That the First Party will send Used Oil for Recycling, which is generated in his Plant to the Second Party every month end during the whole year.
- 2) That the First Party is agree to pay Rs.10/- per liter to the Second Party as Recycling charges for the quantity to be send to the Second Party during the year on monthly basis.
- 3) The MOU will remain valid from 01-04-2021 to 31-03-2022
- 4) Duties and Taxes shall be extra on above price.
- 5) Transportation shall be arranged by the First Party.
- 6) The Second Party will recycle the Used Oil in their plant situated at Kandla SEZ.
- 7) The First Party shall pay to seller, the amount of Recycling charges duly billed by account payee cheque.
- 8) The MOU will be renewed before its expiry

We, hereby, agree with the above terms and conditions.

For Gallantt Metal Ltd.



For Hindustan Oils Industries



**GALLANTT METAL LIMITED**

WORKS : SURVEY No. 175/1, VILLAGE - SAMAKHIALI, TALUKA - BHACHAU, KUTCH - GUJARAT-370150. FAX : +91 2937 284501  
REGISTERED OFFICE : 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA - 700 089. TEL. : +91 33 40640111  
OFFICE : WARD 10SC, PLOT NO. 123, GROUND FLOOR, SANDHIDHAM, KUTCH, GUJARAT - 370201 TEL. : +91 2938 227024  
CIN : L27109WB2005PLC101553  
e-mail : gmvl@gallantt.com Web : www.gallantt.com



**ANNEXURE A13**

**COPY OF INWARD LETTER SUBMITTED  
TO MOEF**

**GALLANT**

Date: 17<sup>th</sup> January  
February 2018

To,  
The Director  
Ministry of Environment & Forest  
Regional Office, Western Region,  
Kendriya Paryavaran Bhavan,  
Link Road No.: 03,  
Ravi Shankar Nagar,  
Bhopal - 452 016 (MP)

SUBJ: REQUEST FOR CERTIFIED COPY OF COMPLIANCE OF ENVIRONMENT  
CLEARANCE LOCATED AT VILL. SAMAKHIYALI, DIST. KUTCH, GUJARAT BY  
M/S. GALLANTT METAL LIMITED.

REF: EC LETTER NO. J-13011/37/2007-IA-II (T) DATED: 28/09/2007  
EC LETTER NO. J-11011/231/2009-IA-II (I) DATED: 08/06/2009  
EC LETTER NO. J-11011/52/2013-IA-II (I) DATED: 19/05/2016

Dear Sir,

With reference to the Environmental Clearances obtained from MoEF  
vide letter NO. J-13011/37/2007-IA-II (T) dated: 28/09/2007,  
J-11011/231/2009-IA-II (I) dated: 08/06/2009, J-11011/52/2013-IA-II  
(I) dated: 19/05/2016 and matter subjected above, we are submitting  
half yearly compliance status regularly to MoEF, Bhopal. We are  
planning for expansion in existing unit and for that we required the  
Certified Compliance Report of Environmental Clearance.

We request you to please issue us Certified Compliance Report as early as  
possible

Thanking You.

For M/s. GALLANTT METAL LTD.

AUTHORIZED SIGNATORY



**GALLANTT METAL LIMITED**

WORKS : SURVEY NO. 175/1, VILLAGE - SAMAKHIYALI, TALUKA - BHACHAO, DIST. KUTCH, GUJARAT  
REGISTERED OFFICE : 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA - 700020  
OFFICE : WARD 10BC, PLOT NO. 123, GROUND FLOOR, GANDHIHAM, KUTCH, GUJARAT  
CIN : L27106WB2005PLC101533  
e-mail : gml@gallantt.com Web : www.gallantt.com



**GALLANTT**

Date: 17<sup>th</sup> <sup>January</sup> ~~February~~ 2018

To,  
The Director  
Ministry of Environment & Forest  
Regional Office, Western Region,  
Kendriya Paryavaran Bhavan,  
Link Road No.: 03,  
Ravi Shankar Nagar,  
Bhopal - 452 016 (MP)

SUB: REQUEST FOR CERTIFIED COPY OF COMPLIANCE OF ENVIRONMENT  
CLEARANCE LOCATED AT VILL. SAMAKHIYALI, DIST. KUTCH, GUJARAT BY  
M/S. GALLANTT METAL LIMITED.

REF: EC LETTER NO. J-13011/37/2007-IA-II (T) DATED: 28/09/2007  
EC LETTER NO. J-11011/231/2009-IA-II (I) DATED: 08/06/2009  
EC LETTER NO. J-11011/52/2013-IA-II (I) DATED: 19/05/2016

Dear Sir,

With reference to the Environmental Clearances obtained from MoEF vide letter NO. J-13011/37/2007-IA-II (T) dated: 28/09/2007, J-11011/231/2009-IA-II (I) dated: 08/06/2009, J-11011/52/2013-IA-II (I) dated: 19/05/2016 and matter subjected above, we are submitting half yearly compliance status regularly to MoEF, Bhopal. We are planning for expansion in existing unit and for that we required the Certified Compliance Report of Environmental Clearance.

We request you to please Issue us Certified Compliance Report as early as possible

Thanking You.

For M/s. GALLANTT METAL LIMITED.

AUTHORIZED SIGNATORY



*Handwritten signature*  
17/11/2018  
OFFICE



**GALLANTT METAL LIMITED**

WORKS : SURVEY No. 175/1, VILLAGE - SAMAKHIYALI, TALUKA - BHACHAU, DIST. KUTCH, GUJARAT  
REGISTERED OFFICE : 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA  
OFFICE : WARD 10BC, PLOT NO. 123, GROUND FLOOR, GANDHIDHAM KUTCH, GUJARAT  
CIN : L27109WB2005PLC101553  
e-mail: gmr@gallantt.com Web: www.gallantt.com

## **ANNEXURE A14**

### **REPORT OF TOXIC ELEMENT ANALYSIS**



Plot No. g7, Sector VA  
Gandhidham - 370201  
(CIN U519@yyB1956PTC023037)

T : 02836 226225  
F : 02836 226225  
E : gandhidham@mitrask.co.in

Certificate No.GDM/21-22/A-061

Date: 15.08.2021

## CERTIFICATE OF ANALYSIS

We hereby certify that One sample describe as "FLY ASH" submitted to us by M/s. GALLANT METALS LTD - GANDHIDHAM, on 04.08.2021 has been analyzed with the following results.

### Analysis Result:-

PARAMETERS	SAMPLE MARK	
	SAMPLE-01	SAMPLE-02
Vanadium(V)	0.036	0.033
Chromium(Cr)	0.0051	0.0053
Barium (Ba)	0.07	0.06
Nickel (Ni)	0.0002	0.0001
Copper (Cu)	0.0023	0.0022
Zinc (Zn)	0.0026	0.0027
Arsenic (As)	0.0095	0.0093
Lead (Pb)	<0.0001	<0.0001
Molybdeum (Mo)	<0.0001	<0.0001
Mercury(Hg)	<0.0001	<0.0001
Cobalt(Co)	<0.0001	<0.0001

M/s. GALLANTT METALS LTD.,  
GANDHIDHAM

Checked By :



M/s. Mitra S. K. Private Limited



Authorized Signatory

Certificate No.GDM/21-22/A-063

Date: 15.08.2021

## CERTIFICATE OF ANALYSIS

We hereby certify that One sample describe as "SLAG" submitted to us by M/s. GALLANT METALS LTD - GANDHIDHAM, on 04.08.2021 has been analyzed with the following results.

### Analysis Result:-

PARAMETERS	SLAG
Vanadium(V)	0.029%
Chromium(Cr)	0.14%
Barium (Ba)	0.68%
Nickel (Ni)	0.0003%
Copper (Cu)	0.0038%
Zinc (Zn)	0.0042%
Arsenic (As)	Less than 25 µg/kg
Lead (Pb)	0.0001%
Molybdeum (Mo)	0.0011%
Mercury(Hg)	Less than 8 µg/kg
Cobalt(Co)	0.0004%

M/s. GALLANTT METALS LTD.,  
GANDHIDHAM

Checked By :



M/s. Mitra S. K. Private Limited



**ANNEXURE A15**

**COMPLIANCE REPORT OF**  
**CCA OF CPCB**



**COMPLINCE REPORT OF CONSENT ORDER NO AWH-80514 DATE OF ISSUE 20/07/2016 VALID UP TO 27/12/2020.**

No	Conditions	Compliance status																								
1	Consent order no AWH-80514 date of issue 20/07/2016 valid up to 27/12/2020.	Noted																								
2	<p>The consent order shall be valid up to 27/12/2020 for storage of chemicals at Survey No 175/1,175/2,176,177,178,182/1,182/2,183/1,183/2,184,185/1,185/2,185/3,185/4,185/5,179/1,179/2,179/3, village Samakhiyali, Taluka Bhachau, Dist: Kutch-370150.</p> <table border="1"> <thead> <tr> <th>Sr. No</th><th>Product</th><th>Quantity per Month</th></tr> </thead> <tbody> <tr> <td>1</td><td>Sponge Iron</td><td>18,750 MT</td></tr> <tr> <td>2</td><td>Billet Ingots</td><td>21,450 MT</td></tr> <tr> <td>3</td><td>M.S. Bar</td><td>20,915 MT</td></tr> <tr> <td>4</td><td>Power Plant (AFBC)</td><td>25 MW</td></tr> <tr> <td>5</td><td>Power Plant(WHRB)</td><td>8 MW</td></tr> <tr> <td>6</td><td>Runner &amp; Riser</td><td>74.25 MT</td></tr> <tr> <td>7</td><td>Missed Rolled Bar</td><td>445.50 MT</td></tr> </tbody> </table>	Sr. No	Product	Quantity per Month	1	Sponge Iron	18,750 MT	2	Billet Ingots	21,450 MT	3	M.S. Bar	20,915 MT	4	Power Plant (AFBC)	25 MW	5	Power Plant(WHRB)	8 MW	6	Runner & Riser	74.25 MT	7	Missed Rolled Bar	445.50 MT	Noted
Sr. No	Product	Quantity per Month																								
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5	Power Plant(WHRB)	8 MW																								
6	Runner & Riser	74.25 MT																								
7	Missed Rolled Bar	445.50 MT																								
<b>SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:</b>																										
1	You shall comply all EC conditions issued by MoEF & CC vide order No F.No.J-11011/52/2013-IA-II(I) dated 19.5.2016	Noted and agreed to comply																								
1	No ground water shall be withdrawal without obtaining prior permission from competent authority.	Complied No ground water is being used.																								
3	<b>CONDITIONS UNDER THE WATER ACT 1974:</b>																									
3.1	The quantity of industrial effluent from manufacturing process and other ancillary industrial operations shall not exceed <b>135.5 KL/Day</b> . after expansion	Complied. Industrial effluent is being treated in ETP and is being reused after treatment.																								
3.2	The quantity of the domestic waste water (Sewage) shall not exceed <b>105 KL/Day</b> after expansion.	Complied. Domestic waste water is being treated in STP and reused for gardening and plantation purpose.																								



No	Conditions		Compliance status																																							
3.3	The Quality of industrial effluent shall conform the following standards.		<b>COMPLIED.</b> Latest report of industrial effluent is attached as Annexure A2 and the results are within the norms as prescribed in standards.																																							
<table><thead><tr><th>PARAMETERS</th><th>GPCB NORMS</th></tr></thead><tbody><tr><td>PH</td><td>6.5 to 8.5</td></tr><tr><td>Temperature</td><td>40 C</td></tr><tr><td>Colour (pt.co.scale) in units</td><td>100 UNITS</td></tr><tr><td>Suspended Solids</td><td>100 mg/L</td></tr><tr><td>Oil and Grease</td><td>10 mg/L</td></tr><tr><td>Phenolic Compounds</td><td>1 mg/L</td></tr><tr><td>Fluorides</td><td>1.5 mg/L</td></tr><tr><td>Sulphides</td><td>0.5 mg/L</td></tr><tr><td>Ammonical Nitrogen</td><td>50 mg/L</td></tr><tr><td>Total Chromium</td><td>2.0 mg/L</td></tr><tr><td>Hexavalant Chromium</td><td>0.1 mg/L</td></tr><tr><td>Copper</td><td>2 mg/L</td></tr><tr><td>Lead</td><td>0.1 mg/L</td></tr><tr><td>Mercury</td><td>0.01 mg/L</td></tr><tr><td>Nickel</td><td>3 mg/L</td></tr><tr><td>Zink</td><td>5 mg/L</td></tr><tr><td>Cadmium</td><td>2.0 mg/L</td></tr><tr><td>BOD(3days at 27 C)</td><td>30 mg/L</td></tr><tr><td>COD</td><td>100 mg/L</td></tr></tbody></table>		PARAMETERS		GPCB NORMS	PH	6.5 to 8.5	Temperature	40 C	Colour (pt.co.scale) in units	100 UNITS	Suspended Solids	100 mg/L	Oil and Grease	10 mg/L	Phenolic Compounds	1 mg/L	Fluorides	1.5 mg/L	Sulphides	0.5 mg/L	Ammonical Nitrogen	50 mg/L	Total Chromium	2.0 mg/L	Hexavalant Chromium	0.1 mg/L	Copper	2 mg/L	Lead	0.1 mg/L	Mercury	0.01 mg/L	Nickel	3 mg/L	Zink	5 mg/L	Cadmium	2.0 mg/L	BOD(3days at 27 C)	30 mg/L	COD	100 mg/L
PARAMETERS	GPCB NORMS																																									
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BOD(3days at 27 C)	30 mg/L																																									
COD	100 mg/L																																									





No	Conditions	Compliance status																						
3.4	The effluent conforming to the above standards shall be utilized in dust suppression and partially utilized in gardening and plantation within plant premises.	<b>Complied</b> After treatment effluent utilized in dust suppression and partially utilized in gardening and plantation within plant premises.																						
3.5	The Quality of the sewage shall conform to the following standards; <table><tr><th>PARAMETER</th><th>PERMISSIBLE LIMIT</th></tr><tr><td>BOD (5days at 20 OC )</td><td>20 mg/L</td></tr><tr><td>Suspended Solid</td><td>30 mg/L</td></tr><tr><td>Residual Chlorine</td><td>Minimum 0.5 mg/L</td></tr></table>	PARAMETER	PERMISSIBLE LIMIT	BOD (5days at 20 OC )	20 mg/L	Suspended Solid	30 mg/L	Residual Chlorine	Minimum 0.5 mg/L	<b>Complied.</b> Copy of treated sewage is attached as Annexure														
PARAMETER	PERMISSIBLE LIMIT																							
BOD (5days at 20 OC )	20 mg/L																							
Suspended Solid	30 mg/L																							
Residual Chlorine	Minimum 0.5 mg/L																							
3.6	Sewage shall be disposed off through septic tank/ soak pit system.	<b>Complied.</b> Sewage is collected in sewage tank and is treated in STP																						
3.7	The unit shall install meters at utilities for measuring category wise (Category as given in Schedule II of Water (Prevention & Control of Pollution) Cess Act-1977) consumption of water.	<b>Complied.</b> Meters are installed to get the consumption of water																						
4.0	<b>CONDITIONS UNDER AIR ACT</b>																							
4.1	The following shall be used as Fuel in the boiler/furnace/Thermic Fluid Heater/D.G. Sets as per following rates after proposed expansion. <table><tr><th rowspan="2">Sr. No</th><th rowspan="2">Name of the Fuel</th><th colspan="2">Quantity/Month</th></tr><tr><th>Existing</th><th>proposed</th><th>Total</th></tr><tr><td>1</td><td>Coal (Sponge Iron plant)</td><td>15,975 MT</td><td>4,125 MT</td><td>20,100 MT</td></tr><tr><td>2</td><td>Coal (Power plant)</td><td>11,440.80 MT</td><td>4,186.5 MT</td><td>15,627.30 MT</td></tr><tr><td>3</td><td>Diesel</td><td>1667 TPA</td><td>----</td><td>1,667 TPA</td></tr></table>	Sr. No	Name of the Fuel	Quantity/Month		Existing	proposed	Total	1	Coal (Sponge Iron plant)	15,975 MT	4,125 MT	20,100 MT	2	Coal (Power plant)	11,440.80 MT	4,186.5 MT	15,627.30 MT	3	Diesel	1667 TPA	----	1,667 TPA	<b>Noted and agreed to comply</b>
Sr. No	Name of the Fuel			Quantity/Month																				
		Existing	proposed	Total																				
1	Coal (Sponge Iron plant)	15,975 MT	4,125 MT	20,100 MT																				
2	Coal (Power plant)	11,440.80 MT	4,186.5 MT	15,627.30 MT																				
3	Diesel	1667 TPA	----	1,667 TPA																				





No	Conditions							Compliance status
.2	The applicant shall install & operate air pollution control system in order to achieve flue gas emission norms as prescribed below:							Noted and agreed to Comply. Apart from GPCB approved schedule II auditor monitoring, Online stack monitoring systems are installed in order to control the emission within the norms. Latest report is attached as Annexure A1. Results are within the norms.
	Stack No.	Stack attached to	Status	Stack height in meter	Air Pollution Control Measures	Parameter	Permissible Limit	
	1	Rotary Kiln 1 & 2	Existing	35	Electro Static Precipitator	PM SO2 NOX	100mg/Nm3 100mg/Nm3 50mg/Nm3	
	2	Rotary Kiln 3 & 4	Existing	35	Electro Static Precipitator			
	3	Induction Furnaces no. 1 & 2	Existing	48	Bag Filter with spark trapper and poppet dampers			
	4	Induction Furnaces no. 3	Existing	48	Bag Filter with spark trapper and poppet dampers	PM SO2 NOX	50mg/Nm3 100mg/Nm3 50mg/Nm3	
	5	Induction Furnaces no. 4	Proposed	48	Bag Filter with spark trapper and poppet dampers			
	6	AFBC Boiler of Power Plant	Existing	95	Electro Static Precipitator			
	7	Reheating Furnace - 1	Existing	30.00	-----	PM SO2 NOX	100mg/Nm3 100mg/Nm3 50mg/Nm3	
	8	Coal Crusher House	Existing	30.00	Bag House			
	9	D.G. Set 3Nos	Existing	12.00	-----			
4.3	There shall be no process gas emission from the manufacturing and other ancillary activities							Noted and agreed to Comply.



No	Conditions	Compliance status																				
4.4	<p>The concentration of the following parameters in the ambient air within the premises of the industry shall not exceed the limits specified hereunder as per National Ambient Air Quality Standards issued by MoEF&amp;CC dated 16th November -2009</p> <table><tr><th>No</th><th>Parameter</th><th>Time Weighted Average</th><th>Concentration in Ambient air in ug/m3</th></tr><tr><td>1</td><td>Sulphur Dioxide (SO2)</td><td>Annual 24 Hours</td><td>50 80</td></tr><tr><td>2</td><td>Nitrogen Dioxide (NO2)</td><td>Annual 24 Hours</td><td>40 80</td></tr><tr><td>3</td><td>Particular Matter. (Size less than 10 um) Or PM 10</td><td>Annual 24 Hours</td><td>60 100</td></tr><tr><td>4</td><td>Particular Matter. (Size less than 2.5 um) Or M 2.5</td><td>Annual 24 Hours</td><td>40 60</td></tr></table>	No	Parameter	Time Weighted Average	Concentration in Ambient air in ug/m3	1	Sulphur Dioxide (SO2)	Annual 24 Hours	50 80	2	Nitrogen Dioxide (NO2)	Annual 24 Hours	40 80	3	Particular Matter. (Size less than 10 um) Or PM 10	Annual 24 Hours	60 100	4	Particular Matter. (Size less than 2.5 um) Or M 2.5	Annual 24 Hours	40 60	<b>Complied.</b> Ambient air quality monitoring reports is attached as Annexure A5. Result are within the norms.
No	Parameter	Time Weighted Average	Concentration in Ambient air in ug/m3																			
1	Sulphur Dioxide (SO2)	Annual 24 Hours	50 80																			
2	Nitrogen Dioxide (NO2)	Annual 24 Hours	40 80																			
3	Particular Matter. (Size less than 10 um) Or PM 10	Annual 24 Hours	60 100																			
4	Particular Matter. (Size less than 2.5 um) Or M 2.5	Annual 24 Hours	40 60																			
4.5	<p>The applicant shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/displayed to facilitate identification.</p>	<b>Complied.</b> We have provided portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and designated the nos. As C1, C2 etc to the chimneys.																				
4.6	<p>The concentration of Noise in ambient air within the premises of industrial unit shall not exceed following levels; Between 6 A.M. to 10 P.M. : 75dB(A) Between 10 P.M. to 6 A.M. : 70dB(A)</p>	<b>Complied.</b> Noise monitoring report is attached as Annexure A3 and the results are within the norms																				
5	<p>AUTHORIZATION UNDER HAZARDOUS WASTE [MANAGEMENT, HANDLING&amp; TRANSBOUNDARY MOVEMENT] RULES,2016 &amp; AMENDED</p>																					
5.1	<p>AUTHORIZATION NUMBER AWH-80514 AND SHALL VALID UP TO 27/12/2020</p>	<b>NOTED</b>																				





No	Conditions				Compliance status																				
5.2	<p>M/s GALLANTT METAL LIMITED is hereby granted an authorization to operate facility for following hazardous wastes after expansion on the premises situated at Survey No. 175/1, 175/2, 176, 177, 178, 182/1, 182/2, 183/1, 183/2, 184, 185/1, 185/2, 185/3, 185/4, 185/5, 179/1, 179/2, 179/3, village Samakhiyali, Taluka Bhachau, Dist: Kutch-370150.</p> <table><tr><th>Sr. No</th><th>Waste</th><th>Quantity per annum</th><th>Category</th><th>Mode of Disposal</th></tr><tr><td>1</td><td>Used Oil</td><td>1.617 MT /Year</td><td>5.1</td><td>Collection, Storage , Transportation, Disposal by selling to Registered Re-refiners</td></tr><tr><td>2</td><td>Used ION Exchange Resin</td><td>0.350 MT/Year</td><td>34.2</td><td>Collection, Storage , Transportation, Disposal at Integrated Facility site of M/s Saurashtra Enviro Projects Pvt. Ltd located at survey No 415,417,418, Village Juna Kataria, Taluka Bhachau, Dist: Kutch</td></tr><tr><td>3</td><td>Tar Residue</td><td>3.60</td><td>13.4</td><td>Collection, Storage , Transportation, Disposal at Integrated Facility site of M/s Saurashtra Enviro Projects Pvt. Ltd located at survey No 415,417,418, Village Juna Kataria, Taluka Bhachau, Dist: Kutch</td></tr></table>				Sr. No	Waste	Quantity per annum	Category	Mode of Disposal	1	Used Oil	1.617 MT /Year	5.1	Collection, Storage , Transportation, Disposal by selling to Registered Re-refiners	2	Used ION Exchange Resin	0.350 MT/Year	34.2	Collection, Storage , Transportation, Disposal at Integrated Facility site of M/s Saurashtra Enviro Projects Pvt. Ltd located at survey No 415,417,418, Village Juna Kataria, Taluka Bhachau, Dist: Kutch	3	Tar Residue	3.60	13.4	Collection, Storage , Transportation, Disposal at Integrated Facility site of M/s Saurashtra Enviro Projects Pvt. Ltd located at survey No 415,417,418, Village Juna Kataria, Taluka Bhachau, Dist: Kutch	Complied. Hazardous waste is being disposed as per GPCB norms only.
Sr. No	Waste	Quantity per annum	Category	Mode of Disposal																					
1	Used Oil	1.617 MT /Year	5.1	Collection, Storage , Transportation, Disposal by selling to Registered Re-refiners																					
2	Used ION Exchange Resin	0.350 MT/Year	34.2	Collection, Storage , Transportation, Disposal at Integrated Facility site of M/s Saurashtra Enviro Projects Pvt. Ltd located at survey No 415,417,418, Village Juna Kataria, Taluka Bhachau, Dist: Kutch																					
3	Tar Residue	3.60	13.4	Collection, Storage , Transportation, Disposal at Integrated Facility site of M/s Saurashtra Enviro Projects Pvt. Ltd located at survey No 415,417,418, Village Juna Kataria, Taluka Bhachau, Dist: Kutch																					
5.3	The authorization is granted to operate facility for collection, storage, within the factory premises transportation and ultimate disposal of Hazardous & other waste by selling out to registered recyclers.				Complied																				
5.4	The Authorization is subject to conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act 1986				Noted and agreed to comply.																				
5.5	<b>TERMS AND CONDITION OF AUTHORIZATION</b>																								
1.	The authorized person shall comply with the provisions of the Environment (Protection) Act 1986 and the rules made there under.				Noted for compliance																				
2.	The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the State Pollution Control Board.				Noted for compliance																				
3.	The persons authorized shall not rent, lend, sell, transfer or otherwise transport the hazardous & other wastes except what is permitted through this authorization.				Noted for compliance																				
4.	Any unauthorized change in personnel, equipment, or working condition as mentioned in the application by the person authorized shall constitute a breach of his authorization.				Noted for compliance																				
5.	The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization is being granted considering all site specific possible scenarios such as spillages, leakage, fire etc . and their possible impacts and also carry out mock drill in this regard at regular interval of time.				Compliance assured																				
	The person authorized shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "implementing liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty"				Compliance assured																				
	It is the duty of the authorized person to take prior permission of the State Pollution Control Board to close down the facility				Compliance assured																				
8.	The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.				Compliance assured																				
9.	The record of consumption and fate of the imported hazardous and other and other wastes shall be maintained.				Compliance assured																				





No	Conditions	Compliance status
10.	The hazardous and other wastes which gets generated during recycling or reuse or recovery of per-processing or utilization of imported hazardous or other wastes shall be treated and disposed off as per specific conditions of authorization.	Compliance assured
11.	The importer or exporter shall bear the cost of import or export and mitigation of the damages if any	Compliance assured
12.	An application for the renewal of an authorization shall be made as laid down under these rules.	Noted for compliance
13.	Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.	Compliance assured
14.	Annual Return shall be filed by June 30th for the period ensuring by 31st March of the year.	Complied.
6.0	<b>GENERAL CONDITIONS</b>	
6.1	Any change in personnel equipment or working conditions as mentioned in the consents form/order should immediately be intimated to this board.	Compliance assured
6.2	The waste generator shall be totally responsible for (i.e. Collection, storage, transportation and ultimate disposal) of the wastes generated. Records of the waste generation, its management and annual return shall be submitted to Gujarat Pollution Control Board in Form 4 by 31st January of every year.	Complied. Details are uploaded at online GPCB site regularly.
6.3	In case of any accident, details of the same shall be submitted in form 5 to Gujarat Pollution Control Board. Applicant shall comply relevant provision of Public Liability Act -91	Complied. Details are uploaded at online GPCB site regularly.
6.4	Empty drums and containers of toxic and hazards material shall be treated as per guideline published for management & handling of discarded containers". Records of the same shall be maintained and forwarded to Gujarat Pollution Control Board, regularly.	Compliance assured
6.5	In no case any kind of Hazardous Waste shall be imported without prior approval of appropriate authority.	Noted for compliance
6.6	In case of transport of Hazardous waste to a facility for (I.E Treatment, Storage & Disposal) existing in a state other than the state where hazardous waste are generated the occupier shall obtain " No Objection Certificate" from the state pollution control board , the committee of the concerned state or union territory Administration where the facility exists	Compliance assured
6.7	Industry shall have to display the relevant information with regard to hazardous wastes as indicated in the Supreme Court's order in W.P.No 657 of 1995 dated 14 <sup>th</sup> October 2003	Compliance assured
6.8	Industry shall have to display online data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises	Compliance assured



**ANNEXURE A16**

**PROPOSED EXPENDITURE FOR  
21-22 TOWARDS EMP**

**Annexure-A16**

<b>Proposed expenditure Environment Protection Measures for financial year 2021-22</b>		
<b>S.No</b>	<b>SUB HEAD</b>	<b>Proposed Cost(Capital +Recurring) in Lac</b>
1	Air Pollution Control/Noise Control	40
2	Water Pollution Control	3
3	Environmental Monitoring and Managment	15
4	Green Belt Development	6
5	Occupational Health	5
<b>TOTAL</b>		<b>69</b>





**ANNEXURE A17**

**COPY OF CORPORATE ENVIRONMENT  
RESPONSIBILITY POLICY**

**GALLANTT METAL LIMITED**  
**CORPORATE ENVIRONMENTAL SOCIAL RESPONSIBILITY POLICY**

### The Vision

Our vision is to full fill all commitments related to environmental requirements, to maintain quality productivity, legal complies & improve management performance.

We will achieve this through an integrated Environment Management approach which focuses on technology and Best Practices and is supported by management Commitment as the prime driver.

### Environment Policy

GML is committed to meeting the needs of customers in an environmentally sound manner, through continuous improvement in environmental performance in all our activities. Management at all levels , jointly with employees, is responsible and will be held accountable for company's environmental performance.

Accordingly,GML aims to:

- Ensure safety of its products and operations for the environment by using standards of environmental safety, which are scientifically sustainable and commonly acceptable.
- Develop,introduce and maintain environmental management system across the company to meet the company standards as well as statutory requirements for environment. Verify compliance with these standards through regular auditing.
- Assess environmental impact of all its activities and set continual improvement objectives and targets along with periodic review to meet with target & making efforts to reduce waste, conserve energy and explore opportunities for reuse and recycle.
- Involve all employees in the implementation of this policy and provide appropriate training.





- Encourage suppliers and service providers to develop and employ environmentally superior processes and ingredient and co operate with other members of the supply chain to improve overall environmental performance.
- Work in partnership with external bodies and Government agencies to promote environmental care, increase understanding of environmental issues and disseminate good practices.

### **Corporate Environmental & Social responsibility Policy (CESR)**

The Director of the Company is responsible for the Compliance of the Policy. The Director may constitute a Committee called as Corporate Environment & Social responsibility committee. The committee is committed to conduct the company operations in an environmentally sound manner With commitment of social responsibility . The committee will :

- Set standards and establish environmental improvement objective and targets for units, and ensure these are included in the annual operation plans.
- Formally review CESR performance of the company once every quarter
- Review environment performance when visiting units and recognize exemplary performance.
- Nominate a unit head or senior employee as coordinator for compliance of environmental performance at the site.

The committee, through the nominated coordinator will :

- Ensure implementation of Policy on environment and compliance with the Company's environmental standard and the standards stipulated under relevant national / local legislation. where appropriate, apply more stringent criteria than those required by law.
- Assess environmental impact of GML operations and establish strategies for sound environment management and key implementation steps.





- Establish system for appropriate training in implementation of Environment management system at work.
- Ensure that all employees are made aware of individual and collective responsibilities towards environment.
- Participate, where possible, with appropriate industry and Government bodies advising on environmental legislation and interact with national and local authorities concerned with protection of environment.

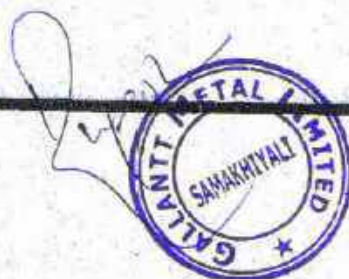
**The corporate social responsibility Objectives and activates area : -**

Strive for economic development that positively impacts the society at large to Promote well being of the communities effected by its operations and enhance the quality of life in such communities through activities on education healthcare, environment and rural development for all customers and society.

Encourage employee participation at all level and recognize its employees for volunteering with the sprit of serving and sharing with the community.

**CSR Rules**

The CSR activities shall include the activities in accordance with the requirements under the schedule VII of the companies Act, 2013, but not restricted to such activities only. the focus areas shall be on education, health care, environment and rural development.





## INDIVIDUAL UNITS RESPONSIBILITIES

The overall responsibility for environment management at each unit will rest with the unit head or senior employee, who will ensure implementation of Policy on environment at unit level and report to Director or Committee as the case may be. Concerned line managers / heads of departments are responsible for environmental performance at department levels.

In order to fulfill the requirements of the policy at each site, the Unit Head will:

- Designate a unit environment who will be responsible for coordinating environmental activities at unit, collecting environmental data and providing / arranging for expert advice.
- Agree with the coordinator responsible for the unit specific environmental improvement objectives and targets for the units and ensure that these are incorporated in the annual objectives of the concerned managers and officers and are reviewed periodically.
- Ensure that the unit complies with GML's environmental standards and the relevant national and state regulations with respect to environment.
- Ensure formal environmental risk assessment to identify associated environmental aspects and take appropriate steps to control risks at acceptable levels.
- Ensure that all new operations are subjected to a systematic and formal analysis to assess environmental impact. Findings of such exercises should be implemented prior to commencement of the activity.
- Manage change in people, technology and processes through a planned approach base on training, risk assessment, pre-commissioning audits and adherence to design norms.
- Regularly review environment performance of the unit against set objectives and targets and strive for continual improvement.



- Sustain a high degree of environmental awareness through regular promotional campaigns and employee participation through training, safety committees, emergency drills etc.
- Ensure dissemination of relevant information on environment within the unit and to outside bodies, and regularly interact with Government authorities concerned for protection of environment.
- Maintain appropriate emergency procedures consistent with available technologies to prevent / control environmental incidents.
- Provide appropriate training to all employees.
- Ensure periodic audits to verify compliance with environment management systems.
- Also ensure periodic 3rd party environment audits through certification bodies to check efficacy of the Environment Management Systems.
- Report environmental performance to committee on a monthly basis.

X

For GALLANT METAL LTD.

Director





**ANNEXURE A18**

**COPY OF COMPLIANCE OF ISSUES  
RAISED DURING PUBLIC HEARING  
DATED 24/05/2015**

Compliance to issues raised during Public Hearing held on 24/05/2015 for M/s Gallantt metal Ltd. (1) Sponge Iron - 1,75,000 TPA to 2,25,000 TPA, (2) Steel Billets- 1,78,200 TPA to 3,36,600 TPA, (3) TMT-1,71,963 TPA to 3,30,000 TPA (4) Power Plant(AEBC)- 17 MW to 25MW, (5) Power Plant(WHRB)-3 MW (6) Runner & Riser-891 TPA, (7) Miss Rolled Bar-5,346 TPA, at Survey No.175/1, 175/2, 176, 177, 178, 179/1, 179/2, 179/3, 182/1, 182/2, 182/1, 183/2, 184, 185/1, 185/2, 185/3, 185/4, 185/5, Village: Samakhiyali, Ta. Bhachau, Dist. Kutch.

Sr.No	Name of the Person	Comments and Issues raised	Reply by Management	Status as on 31.03.18
1.	Shri Ranchoobhai Karanbhai Madhhva	He represented that he had constructed his new house and due to black particles of coals, house become blackish and cloths kept for drying also becomes black and due to this, issue is created in his family. He requested to change the direction of smoke so that smoke should not come towards villages.	<ul style="list-style-type: none"> <li>Technical representative of Industry Shri Pushpak Shah informed that they have installed morden APCM (Air Pollution Control Measures) in their Industry and emission disperse from the stack are well within norms.</li> <li>In addition to that they have installed Bag filters for induction furnace and it is operated efficiently. Pakka (Lined) roads are constructed to control the fugitive emission and regularly water is sprinkled. Further their emission is reach upto maximum 500 meters, where as village Samakhiyali is about 1.5 KM away. They have prepared mathematical model for emission and accordingly APCM are upgraded. However responsible officer of company will visit his house and if any problem is there due to their industry then they will take all required measures and whatever measures taken are upgraded, if required to be upgraded.</li> </ul>	Closed Company has have installed Bag filters for induction furnace and it is operated efficiently. RCC roads are constructed to control the fugitive emission and regularly water is sprinkled. Further emission is reaching upto maximum 500 meters, where as village Samakhiyali is about 1.5 KM away. We have prepared mathematical model for emission and accordingly APCM are upgraded. Authorised officer has visited the the said house and explained all the measures which are being taken by company to minimise the emission and also the CSR activities done by company and to be done by company for the local peoples.





2.	<p>Shri Dineshbhai Rana, Village: Lakadia Human Welfare and Environment Protection Society:(Manav Kalyan Suraksha Mandal) Tal: Bhachau Dist: Kutch</p>	<p>He welcomed the project and informed that this industry has given contribution for development works in surrounding area and by upcoming project contribution will be given for social and educational development in surrounding villages and demanded for development of work like development of education and school. It is requested for development work to be done.</p>	<p>• Technical representative Shri Pushpak Shah expressed thanks for welcoming the project and informed that they will give proper and required contribution for development work in surrounding villages.</p>	<p><b>Closed.</b> Point is about welcoming the project and does not warrant any further action. We are regularly carrying one to one need assessment in coordination with Local authorities / Surpanch / leaders and needy of Villages and doing contribution in CSR according to their needs.</p>
3.	<p>Shri Bhanajibhai Dungariya Village: Samakhiyali Representative "Kutch Jilla Bharat Mukti Morcha" Tal: Bhachau Dist: Kutch</p>	<p>He represented that Grampanchayat have been given responsibility for public hearing organized by company through medium of company, but this is case of Environment pollution and advertisement is not being done by village panchayat. Social leader should be invited in public hearing programme by considering public interest and no adequate publicity is being made in villages. This matter is of pollution hence it is serious matter for health. Hence, it will not be tolerated if company makes false promises in this regards. He inquired that there is 8 to 12 working hours in company, is it proper? Is it as</p>	<p>• At this juncture, Regional Officer, GPCB, Bhuj informed the gathering that Public Hearing is being conducted as per the provisions of EIA Notification No- S.O. 1533 dated 14/09/2006 and its subsequent amendments. Advertisement of this Public Hearing was given prior to more than 1 month in Gujarati daily newspaper 'Kutchmitra' and English daily news paper 'Indian Express' on 22/01/2015. EIA Report and its summary were made available at public places/offices mentioned in it. In addition to that publicity of today's Public Hearing was made through Auto Rikshaw mounted with loud speaker on 22/02/2015 and 23/02/2015 in all</p>	<p><b>Closed.</b> Company has always given employment priority to local qualified persons and in future the same will be continued. Company follows the norms as per the Factory Act and all the working is as per rule. We are maintaining documents as per requirement and the same can be verified.</p>



per the provision of Indian Constitution? P.F of the workers of company are being deducted as per the provision of rules or not? Payship to the worker is given by the company or not? Whether Aadhar card has been taken from the worker? If all these are not given due consideration then they will make agitation in Whole Country. (i.e INDIA)

villages situated in study area. In addition to that advertisement for today's Public Hearing was displayed on 22/02/2015 and 23/02/2015 in local T.V. Channel namely "Kutch Uday". Thus wide publicity of today's Public hearing was made.

Representative of project Shri Jagmohansingh vice president (Adm) inform that there is 8 hours shift which is as per law. In addition to that overtime is being given for further working. Work is not taken more than 26 days in a month and no additional work is being taken. All workers are on payroll and all are having P.F. account and P.F of them is deducted as per rules. All workers are on record and Identity proof like Ration Card/ Driving Licence/ Aadhar card/ are taken from all workers and the same is reported into police. Record of all these are maintained and you can check it.





**ANNEXURE A19**  
**COPY OF EC SENT TO DIFFERENT**  
**AUTHORITIES**



मानव कल्याण पर्यावरण एवं सुरक्षा मंडल  
HUMAN WELFARE, ENVIRONMENT &  
SAFETY ASSOCIATION  
(NATIONAL LEVEL N.G.O.)  
KUTCH DISTRICT SECRETORY

Regd. office : 7, Gajanand Society, Ankleshwar - 393 001  
Dist. Bharuch (Gujarat)  
Kutch Office : D/102 Gayatri Kunj, Shakti Nagar, Gandhidham  
& Bus Station, Lakodiya - 370 145  
E-mail: dineshrana912@gmail.com

Dinesh Rana (Bhil)  
Phone: 9878627480  
9714627480

Regd. No. F/1027/BHARUCH (1990)  
GUJ/1038/BHARUCH (1990)

Ref.

Date :

Received Copy of Environment  
Clearance No F.No J-11011/52/2013-14  
dated 19.05.16 from Gallant  
Metal Limited, Samabkhalji-Kutch

*Dinesh Rana*  
12/6/16





ટ્રસ્ટ નોંધણી નંબર : ગુજ/૨૫૩૩/૬૨૭.  
સાર્વજનિક ટ્રસ્ટ રજી.નં. એસ/૨૭૧૩/૬૨૭.

મો. ૮૦૦૦૭ ૫૨૫૫-૧૬

# પ્રગતિ એજ્યુકેશન ચેરીટેબલ ટ્રસ્ટ

જંગી રોડ, સામખીયારી, તા. ભચાઉ-૬૨૭.

જાવક નં.

તારીખ :

એન્જિનાયરીમેન્ટલ ફેલોશિપ્સ નં. F. નં.

J- ૨૨૦૧૨/૫૨/૨૦૧૩ TA II (A) તારીખ

૧૯/૦૫/૨૦૧૬ ના તારીખે એન્જિનિયરિંગ ડિપાર્ટમેન્ટ

સામખીયારી તરફથી મળેલ છે.



*Standard*  
પ્રમુખશ્રી  
પ્રગતિ એજ્યુકેશન ચેરીટેબલ ટ્રસ્ટ  
સામખીયારી  
૧૯/૫/૧૬

"વિના સહકાર નહીં ઉદ્ધાર"

# શ્રી ઘરાણા ગ્રામપંચાયત

મુ. ઘરાણા. તા.ભચાઉ-કચ્છ.

જાવક નં.

તારીખ :-

સામગ્રીનું નામ કુલીયક્ષેપ નં. F. નં.  
J- ૧૧૦૧૨/૫૬/૨૦૨૩ - IA II (I) તારીખ  
૧૮/૦૫/૨૦૨૩ ની નકલ ઊલ્ટીંગ મોડેલ લામીટ્ડ  
સામગ્રીયાદિ તરફથી મળેલ છે.

સામગ્રીના નામ મેધા જાડે  
સરપંચશ્રી 12/06/16  
ઘરાણા ગ્રામ પંચાયત





રજી.નં. ૧૩૪૩/૭ રજી. તા. ૧૭/૭/૯૮



# શ્રી વાગડ માનવ વિકાસ ટ્રસ્ટ - ગાગોદર

(કચ્છ શાખા)

મો. ૯૯૭૮૧ ૦૭૦૫૧, ૯૯૭૯૭ ૯૭૭૨૧



શુ.:

પો.:

તાલુકો:

અલ્લો:

જાવક નં.

તારીખ:

મુખ્ય કાર્યાલય :- ગાગોદર, તા. રાપર - કચ્છ.

પ્રમુખ

ભરપાડ ઘરાભાઈ કલાભાઈ

પ્રવૃત્તિઓ :-

❖ લોક જાગૃતિ સંગઠન

❖ શોષણ અન્યાય સામે  
અધિકાર સંઘર્ષ

❖ બેતી પશુ પાલન વિકાસ

❖ મહિલા, બાળ વિકાસ

❖ જળ, જંગલ, જમીન,  
સંરક્ષણ અને વિકાસ

❖ હુદ્દતી સંશોધનો દ્વારા  
ગ્રામ વિકાસ

❖ સહકારી પ્રવૃત્તિ

❖ ખેતર હિતાર્થ

અન્યાયશોધન કેન્દ્ર કુલીયરંસ નં. F.નં  
J-૧૭૦૧૨/૫૨/૨૦૨૩ - IA II (I) તારીખ  
૨૬/૦૫/૨૦૨૭ ની નકલ ગેલેન્ટ  
મેટલ લેખાડે, સામજીયાદિ તરફથી  
મળેલ છે

સહકારી પ્રમુખ

13/6/16

શ્રી વાગડ માનવ વિકાસ ટ્રસ્ટ  
મુખ્ય કાર્યાલય, તા. રાપર - કચ્છ



**ANNEXURE A**

**STACK MONITORING  
ANALYSIS REPORT**





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 3026/04/2020-21

Date : 30/04/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : Gallantt Metal Limited

Survey No. 175/1, Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Sr. No.	Particulars	Unit	Stack - 1
01.	Date of sampling	---	09/04/2021
02.	Time of sampling	Hr	11.20
03.	Stack Attached to	---	AFBC Boiler of Power Plant
04.	Air Pollution Control Measures	---	ESP
05.	Stack Height	Meter	90
06.	Stack Diameter	Meter	3.8
07.	Ambient Temperature	Degree Centi.	33
08.	Stack Temperature	Degree Centi.	118
09.	Average Velocity of Flue Gases	M/Sec.	7.6
10.	Isokinetic flow rate for P.M. Sampling	LPM	20
11.	Gaseous Sampling Flow Rate	LPM	2.0
12.	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	50
13.	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	43.5
14.	Permissible Limit for SO <sub>2</sub>	mg/Nm <sup>3</sup>	600
15.	Measured Concentration of SO <sub>2</sub>	mg/Nm <sup>3</sup>	95.2
16.	Permissible Limit for NO <sub>x</sub>	mg/Nm <sup>3</sup>	300
17.	Measured Concentration of NO <sub>x</sub>	mg/Nm <sup>3</sup>	83.4

\*Permissible limit are as per MoEF&CC Notification S.O.3305(E), dated 07/12/2015.

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On. : 13/10/2020



*Jagdish*  
Analyst



# Royal

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303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 3028/04/2020-21

Date : 30/04/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255\_1/2/3/7

Sr. No.	Particulars	Unit	Stack - 3	Stack - 4
1	Date of sampling	---	09/04/2021	09/04/2021
2	Time of sampling	Hr	11.30	12.20
3	Stack Attached to	---	Rotary Kiln - 1, 2	Rotary Kiln - 3
4	Air Pollution Control Measures	---	Recouperatur & ESP	Recouperatur & ESP
5	Stack Diameter	Meter	1.5	1.5
6	Stack Height	Meter	35	35
7	Stack Temperature	Degree Centi.	126	135
8	Ambient Temperature	Degree Centi.	32	32
9	Average Velocity of Flue Gases	M/Sec.	6.5	7.5
10	Isokinetic flow rate for P.M. Sampling	LPM	19	20
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	100	100
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	54.6	74.1
14	Permissible Limit for SO <sub>2</sub>	ppm	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	66.3	77.2
16	Permissible Limit for Nox	ppm	50	50
17	Measured Concentration of Nox	ppm	29.2	26.7
18.	Permissible Limit for CO*	% (V/V)	1.0%	1.0%
19.	Measured Concentration of CO*	% (V/V)	0.5	0.6

\*Permissible limit are as per MoEF&CC Notification G.S.R.414(E), dated 30/05/2008.

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On. : 13/10/2020







# Royal

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Ph.: +91 281 2360695 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 3029/04/2021-22

Date : 30/04/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255\_1/2/3/7

Sr. No.	Particulars	Unit	Stack - 5	Stack - 6
1	Date of sampling	---	09/04/2021	09/04/2021
2	Time of sampling	Hr	14.40	15.30
3	Stack Attached to	---	<b>Induction Furnace - 1 &amp; 4</b>	<b>Induction Furnace - 2 &amp; 3</b>
4	Air Pollution Control Measures	---	Cyclone Separator & Wet Scrubber	Cyclone Separator & Wet Scrubber
5	Stack Diameter	Meter	1.5	1.5
6	Stack Height	Meter	48	30
7	Stack Temperature	Degree Centi.	126	138
8	Ambient Temperature	Degree Centi.	33	33
9	Average Velocity of Flue Gases	M/Sec.	6.5	7.1
10	Isokinetic flow rate for P.M. Sampling	LPM	21	20
11	Gaseous Sampling Flow Rate	LPM	2.0	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	50	50
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	33.1	32.6
14	Permissible Limit for SO <sub>2</sub>	ppm	100	100
15	Measured Concentration of SO <sub>2</sub>	ppm	32.4	36.7
16	Permissible Limit for NO <sub>x</sub>	ppm	50	50
17	Measured Concentration of NO <sub>x</sub>	ppm	25.4	27.5

\*Permissible limit not specified in EC copy as well as in GPCB CC&A

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On. : 13/10/2020





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 728/09/2021-22

Date : 01/10/2021

## REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255\_1/2/3/7

Sr. No.	Particulars	Unit	Stack - 5
1	Date of sampling	---	29/09/2021
2	Time of sampling	Hr	15.15
3	Stack Attached to	---	Rotary Kiln - 5 (New) (350 TPD)
4	Air Pollution Control Measures	---	ESP
5	Stack Diameter	Meter	1.5
6	Stack Height	Meter	48
7	Stack Temperature	Degree Centi.	105
8	Ambient Temperature	Degree Centi.	33
9	Average Velocity of Flue Gases	M/Sec.	8.2
10	Isokinetic flow rate for P.M. Sampling	LPM	21
11	Gaseous Sampling Flow Rate	LPM	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	100
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	45.5
14	Permissible Limit for SO <sub>2</sub>	ppm	100
15	Measured Concentration of SO <sub>2</sub>	ppm	30.2
16	Permissible Limit for Nox	ppm	50
17	Measured Concentration of Nox	ppm	35.3

\*Permissible limit are as per MoEF&CC Notification G.S.R.414(E), dated 30/05/2008.

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On : 13/10/2020

Royal Environment Auditing & Consultancy Service



Maulik  
Analyst





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bel Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360685 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 729/09/2021-22

Date : 01/10/2021

### REPORT OF STACK EMISSION ANALYSIS

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Test Method : As per IS Standards - 11255 1/2/3/7

Sr. No.	Particulars	Unit	Stack - 9
1	Date of sampling	---	29/09/2021
2	Time of sampling	Hr	16.15
3	Stack Attached to	---	Induction Furnace - 5 & 6
4	Air Pollution Control Measures	---	Bag Filter with Spark Trapper
5	Stack Diameter	Meter	1.5
6	Stack Height	Meter	48
7	Stack Temperature	Degree Centi.	108
8	Ambient Temperature	Degree Centi.	33
9	Average Velocity of Flue Gases	M/Sec.	6.2
10	Isokinetic flow rate for P.M. Sampling	LPM	23
11	Gaseous Sampling Flow Rate	LPM	2.0
12	Permissible Limit for P.M.	mg/Nm <sup>3</sup>	50
13	Measured Concentration of P.M.	mg/Nm <sup>3</sup>	30.5
14	Permissible Limit for SO <sub>2</sub>	ppm	100
15	Measured Concentration of SO <sub>2</sub>	ppm	18.2
16	Permissible Limit for NO <sub>x</sub>	ppm	50
17	Measured Concentration of NO <sub>x</sub>	ppm	29.3

\* Permissible limit not specified in EC copy as well as in GPCB CC&A

Instruments used : Ecotech Stack Sampler, Model No. ESS 100

Calibration Done On. : 13/10/2020



Maulik  
Analyst

Royal Environment Auditing & Consultancy Service

## **ANNEXURE B**

# **AMBIENT AIR QUALITY REPORT**





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royal.environment@live.com ■ admin@royalconsultancy.com

Ref. No. : 2032/07/2021-22

Date : 27/07/2021

### REPORT OF AMBIENT AIR QUALITY MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

Kutch, Gujarat.

Sr. No.	Particulars	Unit	Location No. 1	Location No. 2
01.	Location of Sampling	---	Officer Colony	Main Security Gate
02.	Date of sampling	---	07/07/2021	07/07/2021
03.	Time of sampling	Hr	9.25	9.45
04.	Duration of Sampling	Min.	1440	1440
05.	Average Wind Speed	Km/Hr	4 to 16	4 to 16
06.	Average flow rate during sampling	m <sup>3</sup> /Hr	1.2	1.2
07.	Average flow rate for Gas sampling	LPM	0.2	0.2
08.	Permissible Limits of PM 2.5	µg/m <sup>3</sup>	60	60
09.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	34	32
10.	Permissible Limits of PM 10	µg/m <sup>3</sup>	100	100
11.	Measured Concentration of PM 10	µg/m <sup>3</sup>	59	63
14.	Permissible Limits of SO <sub>2</sub>	µg/m <sup>3</sup>	80	80
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	12.9	13.4
16.	Permissible Limits of NO <sub>2</sub>	µg/m <sup>3</sup>	80	80
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	16.9	19.8

Instrument used : 1) Ecotech make (RDS), Model No. APM - 217 BL, Gaseous Sampling Kit No. AAS 190, 2) Ecotech make 2 Nos. PM 2.5

Calibration done on : 15/06/2020



Royal Environment Auditing & Consultancy Service

Ashish  
Analyst



# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 2033/07/2021-22

Date : 27/07/2021

### REPORT OF AMBIENT AIR QUALITY MONITORING

Name of company : **Gallantt Metal Limited**

Survey No. 175/1, Near toll gate,

Village : Samakhyali,

Taluka : Bhachau,

Kutch, Gujarat.

Sr. No.	Particulars	Unit	Location No. 3	Location No. 4
01.	Location of Sampling	---	B/h. Kiln 1 & 2	Nr. Furnace Area
02.	Date of sampling	---	08/07/2021	08/07/2021
03.	Time of sampling	Hr	9.20	9.35
04.	Duration of Sampling	Min.	1440	1440
05.	Average Wind Speed	Km/Hr	4 to 17	4 to 17
06.	Average flow rate during sampling	m <sup>3</sup> /Hr	1.2	1.1
07.	Average flow rate for Gas sampling	LPM	0.2	0.2
08.	Permissible Limits of PM 2.5	µg/m <sup>3</sup>	60	60
09.	Measured Concentration of PM 2.5	µg/m <sup>3</sup>	31	37
10.	Permissible Limits of PM 10	µg/m <sup>3</sup>	100	100
11.	Measured Concentration of PM 10	µg/m <sup>3</sup>	51	54
14.	Permissible Limits of SO <sub>2</sub>	µg/m <sup>3</sup>	80	80
15.	Measured Concentration of SO <sub>2</sub>	µg/m <sup>3</sup>	15.9	15.7
16.	Permissible Limits of NO <sub>2</sub>	µg/m <sup>3</sup>	80	80
17.	Measured Concentration of NO <sub>2</sub>	µg/m <sup>3</sup>	15.6	15.8

Instrument used : 1) Ecotech make (RDS), Model No. APM - 217 BL, Gaseous Sampling Kit No. AAS 190, 2) Ecotech make 2 Nos. PM 2.5

Calibration done on : 15/06/2020



made/9

75/15/21

## **ANNEXURE C**

### **REPORT OF TREATED EFFLUENT**





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivallik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail : royalenvironment@live.com ■ admin@royalconsultancy.com

Ref. No. : 2037/07/2021-22

Date : 27/07/2021

### WASTE WATER SAMPLE ANALYSIS REPORT

Name of company : **Gallantt Metal Limited**

Survey No. 175/1,

Near toll gate,

Village : Samakhali,

Taluka : Bhachau,

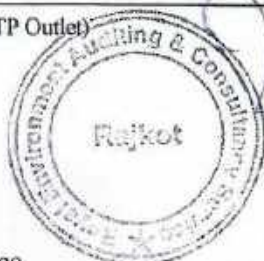
Kutch, Gujarat.

Date of sampling : 07/07/2021

Source of Sample: Waste Water Treatment Plant (ETP Plant)

Sr. No.	Parameters	Unit	GPCB Limits *	Waste Water (ETP Inlet)	Treated Water (ETP Outlet)
1	pH	pH Unit	6.5 to 8.5	7.15	7.87
2	Colour	Pt.co scale	100 Units	27	16
3	Temp.	°C	40	36	32
4	Suspended Solids	Mg/Lit	100	55	26
5	Total Dissolved Solids	Mg/Lit	---	847	467
6	Total Solids	Mg/Lit	---	902	493
7	Oil & Grease	Mg/Lit	10	3.2	0.42
8	Sulphides	Mg/Lit	2	3.5	0.16
9	Phosphate	Mg/Lit	5	4.5	0.7
10	BOD	Mg/Lit	30	59	17
11	COD	Mg/Lit	100	327	44
12	Total Chromium (as Cr)	Mg/Lit	0.2	0.72	N.D.
13	Hexavalent Cr	Mg/Lit	0.1	0.7	N.D.
14	Copper	Mg/Lit	1.0	0.44	0.51
15	Total Iron (as Fe)	Mg/Lit	1.0	3.4	0.46
16	Zinc (as Zn)	Mg/Lit	1.0	0.5	NIL

\* GPCB Limits are only applicable to treated waste water (ETP Outlet)



**ANNEXURE D**

**COPY OF LATEST GROUND  
WATER REPORT**



# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com

### TEST REPORT ( WATER )

Test Report No : 2038/07/2021-22

Date : 27/07/2021

Work Order No : ----

Job Card No : Gallant/21-22/07

Name of company : Gallant Metal Limited

Survey No. 175/1, Near toll gate,

Village : Samakhiali,

Taluka : Bhachau,

Kutchh.

Attention : Mr. Manoj Rastogi

Date of Sample Receipt : 09/07/2021

Date & Time of Sampling : 08/07/2021 , 11.25

Lab ID : W/21-22/07/13

Date of Testing : 09th to 13th JULY 2021

Sample Type : Water

Description of Sample Packing : Plastic Bottle

Type of Sampling : Grab

Quantity of Sample : 1.0 Ltr.

Description : Ground Water

Sample Collected by : Royal Environment

Sampling Method : IS 3025 : Part 1

Location of Sample : Ground Water - Nr. Solid Waste Storage Area

Sr. No.	Parameters	Unit	Acceptable Limits	Permissible Limits as per IS 10500:2012	Results	Test Method
01.	Color	Hazen Units	5	15	Colorless	IS 3025 : Part 44
02.	Odour	---	Agreeable	Agreeable	Odourless	IS 3025 : Part 5
03.	pH Value	---	6.5 - 8.5	No relaxation	7.12	IS 3025 : Part 11
04.	Turbidity	NTU	1	5	2	IS 3025 : Part 10
05.	Total Dissolved Solids	mg/l	500	2000	917	IS 3025 : Part 16
06.	Total Suspended Solids	mg/l	---	---	26	IS 3025 : Part 17
07.	Total hardness (as CaCO <sub>3</sub> )	mg/l	200	600	478	IS 3025 : Part 21
08.	Calcium (as Ca)	mg/l	75	200	109	IS 3025 : Part 40
09.	Magnesium (as Mg)	mg/l	30	100	50.0	IS 3025 : Part 46
10.	Chloride (as Cl)	mg/l	250	1000	237	IS 3025 : Part 32
11.	Sulphate (as SO <sub>4</sub> )	mg/l	200	400	309	IS 3025 : Part 24
12.	Total alkalinity as (as CaCO <sub>3</sub> )	mg/l	200	600	218	IS 3025 : Part 23
13.	Nitrate (as NO <sub>3</sub> )	mg/l	45	No relaxation	13	IS 3025 : Part 34
14.	Fluoride (as F)	mg/l	1	1.5	0.07	IS 3025 : Part 60
15.	Iron (as Fe)	mg/l	0.3	No relaxation	0.5	IS 3025 : Part 53
16.	Mineral oil	mg/l	0.5	No relaxation	N.D.	IS 3025 : Part 39
17.	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	0.001	0.002	N.D.	IS 3025 : Part 43
18.	Total arsenic (as As)	mg/l	0.01	0.05	Nil	IS 3025 : Part 37
19.	E. Coli	---	Absent	Absent	Absent	APHA
20.	Total Coliform Bacteria	---	Absent	Absent	Absent	APHA

\*\* This water can't be used as drinking water

Authorized Signatory

Rajkot

End of Report

Analyst

1. This test report shall not be reproduced except in full, without written approval from the Royal Environment Auditing & Consultancy Service  
2. The results relate only to the item tested.

Doc. No. F/7.8/03, Issue No. 02, Issue Date : 01-10-18, Amend No. --, Amend Date : --



**ANNEXURE E**

**COPY OF MEMORANDUM OF  
UNDERSTANDING**

This MOU has been signed between Gallantt Metal Ltd. Survey No 175/1, Village Samakhiali, Taluka, Bhachau, District Kutch Gujarat (First Party) and Hindustan Oils Industries, Plot No 282, Sector No 3, KSEZ, Kandla (Second Party) under following terms & conditions:

- 1) That the First Party will send Used Oil for Recycling, which is generated in his Plant to the Second Party every month end during the whole year.
- 2) That the First Party is agree to pay Rs.10/- per Liter to the Second Party as Recycling charges for the quantity to be send to the Second Party during the year on monthly basis.
- 3) The MOU will remain valid from 01-04-2021 to 31-03-2022
- 4) Duties and Taxes shall be extra on above price.
- 5) Transportation shall be arranged by the First Party.
- 6) The Second Party will recycle the Used Oil in their plant situated at Kandla SEZ.
- 7) The First Party shall pay to seller, the amount of Recycling charges duly billed by account payee cheque.
- 8) The MOU will be renewed before its expiry

We, hereby, agree with the above terms and conditions.

For Gallantt Metal Ltd.



For Hindustan Oils Industries



*Refer*

**GALLANTT METAL LIMITED**

WORKS : SURVEY No. 175/1, VILLAGE - SAMAKHIALI, TALUKA - BHACHAU, KUTCH - GUJARAT - 370150. FAX : ++91 2837 283555. 24x7x24  
REGISTERED OFFICE : 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA - 700 069. TEL : ++91 331-4064211.  
OFFICE : WARD 108C, PLOT NO. 123, GROUND FLOOR, GANDHIDHAMA, KUTCH, GUJARAT - 370201 TEL : ++91 7836 - 221104 ext. 123/1  
CIN : L27106WB2005PLC101553  
e-mail : gml@gallantt.com Web : www.gallantt.com

**ANNEXURE F**

**COPY OF INVOICE OF  
USED OIL**





**Hindustan Oil Industries [43423]**  
( Hazardous Waste Manifest )

Manifest No:  
1401546  
07/09/2021

**Copy 1**

To be forwarded by To be forwarded by the occupier to the State Pollution Control Board or Committee.

Sender's Details					
Sender Name	Gallant Metal Limited [17845]				
Address	185/1,185/2,185/3,185/4,185/5,179/1, 179/2, 179/3,Samakhiyali, Bhachau, Kutch Taluka :BHA Dist:KUT Pin no:370150				
Contact Details	9327734496 gml@gallantt.com	GPS Coordinates	Lat :23.1800 Long :70.2900		
Receiver's Details					
State	Gujarat	Type of Facility	Actual user (within state)		
Facility Details	Hindustan Oil Industries [43423]				
Contact Details	9825226095 hindoilkan@yahoo.com	GPS Coordinates	Lat :23.0700 Long:70.1400		
Address	Sector- 3,- Taluka :GAN Dist:KUT Pin no:370201				
Waste Details					
Waste Details	In~5~1~Used or Spent Oil				
Waste Intended for	Recycling	Total Qty	0.400MT	Consistency	liquid
Transporter Details					
Name	Gallantt Metal Limited	Contact Details	9327734496 taxes@gallantt.com		
Address	Survey No 175/1 Village Samakhiyali ,Taluka Bhachau Distt. Kutch District :Kutch East Taluka :Bhachau				
Vehicle Details					
Vehicle no	GJ12BW4757	GPS Enabled	Yes	Type of Vehicle	Special vehicle
Driver name	BHARAT	Driver Contact No	9879896717		
Waste Transportation Details					
Vehicle Depart.	08/09/2021 10:00AM	Number of Drums	2	Loose Waste	0.000
Remarks	Disposal of 400 Ltr Used Oil		No of bags	0	
<b>Sender's Declaration :</b> 1. I hereby declare that contents of the consignment are fully and accurate described above by proper shipping name and are categorized , packed, marked , and labeled , and are all in all respects in proper condition for transport by road according to applicable national government regulations. 2. I hereby declare that we have obtained membership of common facility / carried out agreement with actual user for disposal/ actual use of hazardous waste.					
Name and stamp of sender:		Date:			
Transporter's Acknowledgement of Receipt of waste Stamp:		Date:			
Receiver's Certification of Receipt of Hazardous waste					

In Principal Approval Details :Accepted - 07/09/2021 4:43PM - Remarks :We will consume / recycle within premises.

Stamp:

Date:

Signature:

## **ANNEXURE G**

### **COPY OF INWARD LETTER SUBMITTED TO MOEF**



**GALLANTT**

C/L

Date: 14<sup>th</sup> September 2017

To,  
The Director  
Ministry of Environment & Forest  
Regional Office, Western Region,  
Kendriya Paryavaran Bhavan,  
Link Road No.: 03,  
Ravi Shankar Nagar,  
Bhopal - 452 016 (MP)

SUB: REQUEST FOR CERTIFIED COPY OF COMPLIANCE OF ENVIRONMENT  
CLEARANCE OF EXPANSION OF SPONGE IRON (1,75,500 TPA TO 2,25,000  
TPA), STEEL BILLETS (1,78,200 TPA TO 3,36,600 TPA), TMT BARS (1,71,963  
TPA TO 3,30,000 TPA) AND CAPTIVE POWER PLANT (17 MW TO 25 MW)  
LOCATED ATA VILL. SAMAKHAIYALI, DIST. KUTCH, GUJARAT BY M/S.  
GALLANTT METAL LIMITED.

REF: MINISTRY'S LETTER NO. J-11011/52/2013-IA-II (I) DATED: 19/05/2016

Dear Sir,

With reference to the Environmental Clearance obtained from MoEF vide  
letter NO.J-11011/52/2013-IA-II (I) dated: 19/05/2016 and above subject  
matter that, we are submitting half yearly compliance status regularly to  
MoEF, Bhopal. We are planning for expansion in existing unit and for that we  
required the Certified Compliance Report of Environmental Clearance.

We request you to please issue us Certified Compliance Report.

We hope that you will find it in order and do the needful.

Thanking You.

For M/s. GALLANTT METAL LTD.

AUTHORIZED SIGNATORY



*Handwritten signature*  
Bhopal-14/9/2017  
कार्यालय  
Office



**GALLANTT METAL LIMITED**

WORKS : SURVEY No. 175/1, VILLAGE - SAMAKHAIYALI, TALUKA - BHACHAU, KUTCH - GUJARAT-370150.  
REGISTERED OFFICE: 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA - 700 080. TEL. : +91 33 4004215.  
OFFICE: WARD 10BC PLOT NO. 123, GROUND FLOOR, GANDHIDHAM, KUTCH, GUJARAT - 370 201. TEL. : +91 370 223666 FAX : 370 223667  
CIN : L27109WB2006PLG101533  
e-mail : gml@gallantt.com Web : www.gallantt.com



**GALLANTT**

C/L

Date: 14<sup>th</sup> September 2017

To,  
The Director  
Ministry of Environment & Forest  
Regional Office, Western Region,  
Kendriya Paryavaran Bhavan,  
Link Road No.: 03,  
Ravi Shankar Nagar,  
Bhopal - 452 016 (MP)

SUB: REQUEST FOR CERTIFIED COPY OF COMPLIANCE OF ENVIRONMENT  
CLEARANCE OF EXPANSION OF SPONGE IRON (1,75,500 TPA TO 2,25,000  
TPA), STEEL BILLETS (1,78,200 TPA TO 3,36,600 TPA), TMT BARS (1,71,963  
TPA TO 3,30,000 TPA) AND CAPTIVE POWER PLANT (17 MW TO 25 MW)  
LOCATED ATA VILL. SAMAKHAIYALI, DIST. KUTCH, GUJARAT BY M/S.  
GALLANTT METAL LIMITED.

REF: MINISTRY'S LETTER NO. J-11011/52/2013-IA-II (I) DATED: 19/05/2016

Dear Sir,

With reference to the Environmental Clearance obtained from MoEF vide  
letter NO.J-11011/52/2013-IA-II (I) dated: 19/05/2016 and above subject  
matter that, we are submitting half yearly compliance status regularly to  
MoEF, Bhopal. We are planning for expansion in existing unit and for that we  
required the Certified Compliance Report of Environmental Clearance.

We request you to please issue us Certified Compliance Report.

We hope that you will find it in order and do the needful.

Thanking You.

For M/s. GALLANTT METAL LTD.

AUTHORIZED SIGNATORY



*Handwritten signature*  
19/9/2017  
कार्यालय  
पर्यावरण एवं वन मंत्रालय (केन्द्रीय)  
Ministry of Environment & Forests (C)  
केन्द्रीय कार्यालय (पश्चिम क्षेत्र)  
Regional Office (Western Region)  
Bhopal (M.P.) - 462016



**GALLANTT METAL LIMITED**

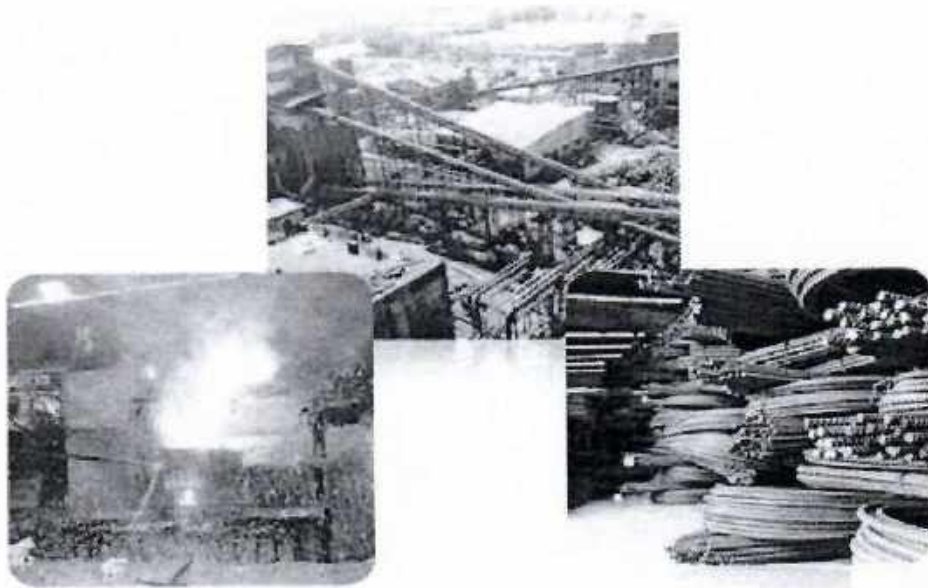
WORKS: SURVEY No. 175/1, VILLAGE - SAMAKHAIYALI, TALUKA - BHACHAU, KUTCH - GUJARAT-370150.  
REGISTERED OFFICE: 1, CROOKED LANE, 2ND FLOOR, ROOM NO. 222 & 223, KOLKATA - 700 060. TEL. 1+91 33 40-4216.  
OFFICE: WARD 108C PLOT NO. 123, GROUND FLOOR, GANDHI NAGAR, KUTCH, GUJARAT - 370 201. TEL. 1+91 22366-22366.  
CIN : L27109WB2005PLC101553

e-mail: gmil@gallantt.com Web: www.gallantt.com

## **ANNEXURE H**

### **COPY OF GHG EMISSION REPORT**

# **Report on GHG Emission Inventory and Carbon Sequestration of Gallantt Metal Limited, Samakhayali, Gujarat**



**Period : 2019 -2020**



**For:**

**M/s Gallantt Metal Limited  
Survey No. 175/1, Village Samakhiyali,  
Taluka Bhachau, Kutch District, Gujarat**

**Prepared By:**

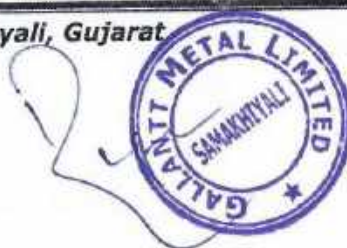
**Sustainable Enviro Industrial Tech, Navi  
Mumbai**





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**ABBREVIATIONS**

AFBC	Atmospheric Fluidized Bed Combustion
DRI	Direct reduced iron
GCV	Gross Calorific Value
GHG	Green House Gases
HSD	High Speed Diesel
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation of Standardization
NCV	Net Calorific Value
WBCSD	World Business Council on Sustainable Development
WHRB	Waste Heat Recovery Boiler
WRI	World Resources Institute



## 1. BACKGROUND & INTRODUCTION:

**Gallantt Metal Limited (GML)** is a large scale existing industrial unit which is situated at Survey No. 175/1, Village - Samkhaiyali, Tehsil- Bhachau, District - Kutch, Gujarat. GML is a well-established public limited company, listed on both the premier stock exchanges of India viz. Bombay Stock Exchange Limited and National Stock Exchange of India Limited. GML is one of the companies of "Gallantt Group" which was incorporated in 2005 at Kolkata, with an object to carry on the business of manufacturers, producers etc. in all kinds of iron and steel products such as sponge iron, pig iron, cast iron, bars, rods, billets, Captive power plant etc.

At present, the company is running an integrated steel plant at Kutch Gujarat to manufacture Sponge Iron, M.S. billets/ S.S. Billets and Re-Rolled products (TMT bars). Considering the power requirements of manufacturing facilities the Company has also set up a captive power plant to meet its power requirement along with WHRB.

GML through this report intends to prepare GHG inventory reporting of its facility in Samakhiyali, Gujarat for the financial year 2019-2020 i.e. 1<sup>st</sup> April 2019 - 31<sup>st</sup> March 2020. This shall be considered as the Base Year also.

**Base Year:** Historic period specified for the purpose of comparing GHG emissions or removals over time.

*(NOTE – Base year emissions or removals could be quantified based on a specific year or averaged from several years" - ISO Definition)*

GHG inventory and reporting system in this report has been prepared referring to various recognised standards like ISO14064, ISO 14004-3 and protocols developed by the World Resources Institute (WRI) / World Business Council on Sustainable Development (WBCSD) Greenhouse Gas Protocol (GHG Protocol) for the Iron and Steel Sector.

## 2. GREENHOUSE GASES (GHG) REPORTING

**GHG Accounting And Reporting:** The Six Internationally Recognised GHGs Include

1. Carbon dioxide (CO<sub>2</sub>)
2. Methane (CH<sub>4</sub>)
3. Nitrous oxide (N<sub>2</sub>O)
4. Hydrofluorocarbons (HFCs)





5. Perfluorocarbons (PFCs) and
6. Sulphur hexafluoride (SF6)

GML through this report, is accounting and reporting for all the relevant GHGs from the above list. For GML, the business activities fall in the Iron and Steel Sector and GHGs such as Carbon dioxide, Nitrous oxide, and Methane have been included in the GHG emissions inventory. Appropriate global warming potential factor for each GHG has been used to arrive at GHG emissions in units of CO<sub>2</sub> equivalent.

#### **Differences between CO<sub>2</sub> and CH<sub>4</sub>/N<sub>2</sub>O**

CO<sub>2</sub> emissions are largely determined by the carbon contents of the consumed materials, whereas N<sub>2</sub>O and CH<sub>4</sub> emissions are much more influenced by the combustion or emission control technologies employed by the industrial apparatus. Consequently, CO<sub>2</sub> emissions are best determined using a material balance approach that tracks the flow of carbon through the industrial process, whereas N<sub>2</sub>O and CH<sub>4</sub> emissions are best determined using equipment or process-specific emission factors.

### **3. GHG INVENTORY BOUNDARIES**

#### **3.1. Geographical Boundary**

WRI/WBCSD have classified geographical boundaries into three levels:

- a) Sub-national reporting – participants report emissions from all required sources located within a particular state, or other sub-national region.
- b) National reporting – participants report emissions from all required sources located within the national boundary. The Corporate GHG Inventory Programme is a national GHG programme.
- c) Global reporting – participants report emissions from all required sources throughout their global operations

#### **3.2. Organizational Boundary**

Reporting of GHG emissions requires defining its organizational boundaries as it may comprise of one or more facilities. Facility-level GHG emissions or removals may be produced from one or more GHG sources or sinks.

GML has consolidated its **facility-level GHG emissions** and removals in this report for its production facility at Samakhialyali, Gujarat following the Sub-national reporting system.



The approach used is:

**Control:** the organization accounts for all GHG emissions and/or removals from facilities over which it has financial or operational control.

### **3.3. Reporting Boundary**

After the company has determined its organizational boundaries in terms of the operations that it owns or controls, it then sets its reporting boundaries. This involves identifying emissions associated with its operations, categorizing them as direct and indirect emissions, and choosing the scope of accounting and reporting for indirect emissions.

There are 2 types of emissions primarily:

#### **a. Direct GHG emissions :**

Direct GHG emissions are emissions from sources that are owned or controlled by the company

#### **b. Indirect GHG emissions :**

Indirect GHG emissions are emissions that are a consequence of the activities of the company but occur at sources owned or controlled by another company

### **GHG inventory categories**

GHG emissions are further aggregated into the following categories at the organizational level:

- ❖ direct GHG emissions and removals;
- ❖ indirect GHG emissions from imported energy
- ❖ indirect GHG emissions from transportation;
- ❖ indirect GHG emissions from products used by organization;
- ❖ indirect GHG emissions associated with the use of products from the organization;
- ❖ indirect GHG emissions from other sources.

To help delineate direct and indirect emission sources, improve transparency, and provide utility for different types of organizations and different types of climate policies and business goals, three "scopes" (scope 1, scope 2, and scope 3) are defined for GHG accounting and reporting purposes.

Emissions fall under one of three scopes.





**Scope 1** emissions are 'direct'; that is, they stem from sources that are owned or controlled by the reporting company.

**Scope 2** emissions stem from the consumption of purchased electricity, and

**Scope 3** emissions from indirect sources, notably the third party transport of raw materials, transportation of materials etc..

(**Scopes 2 and 3** refer to 'indirect' emissions that originate from sources that are controlled by third parties, but that are nonetheless related to the activities of the reporting company)

**4. MANUFACTURING PROCESS AT INTEGRATED IRON AND STEEL PLANT OF GALLANTT METAL LIMITED**

**SPONGE IRON:**

The process of the production of sponge iron consists of the reduction of Iron ore with solid carbonaceous material (coal) in a rotary kiln at high temperature, cooling to room temperature in the rotary cooler with indirect water cooling system, screening and magnetic separation of the product. Sponge iron, being magnetic, gets attracted and separated from the non-magnetic char. The gasses, which flow in the counter current direction of the material, go to the dust-settling chamber where the heavier particles settle down. These particles are continuously removed

by the wet scrapper system. The gasses then pass to the after burner chamber where the residual carbon or CO is burned by the excess air available. The gasses are at high temperature and have lot of heat energy, which can be utilized for the power generation through the waste heat recovery boiler. The hot gas after the heat recovery boiler gets cooled to 200°C. The gases are then scrubbed and let-off to the atmosphere through the chimney. Alternatively the hot gasses are quenched and scrubbed to clean all the dust in it, and then let off to the atmosphere through the stack.

**CAPTIVE POWER PLANT:**

The entire waste gas from the sponge iron kiln is utilized in the waste heat boiler for the steam generation. CFB (Circulating Fluidized Bed) boiler technology is used to produce the steam by heating the coal. Fuel is fed to the lower furnace where it is burned in an upward flow of combustion air. Fuel, ash and unburned fuel carried out of furnace by a separator and returned to the lower furnace. Steam generated





will be passed to steam turbine to produce electricity. Electricity thus generated will be transmitted to substation in order to distribute to different section of the plant.

#### **STEEL MELTING SHOP:**

The process involves the charge mix of Raw material mainly Sponge Iron and In house generated Scrap, into molten bath with constant power track through Solid State generator converting A.C. Power into D.C. Power and again to convert the same into A.C. Power after changing the frequency of cycle in between 250 to 500 HZ through thyristers (an electronic device). This converted A.C. power with a frequency of 250 to 500 HZ is passed through capacitor Rack after achieving the desired voltage and the same is passed through copper Bus Bar into Molten bath having copper coil, cooled through water circulation, transparent the heat energy into molten bath at constant voltage to melt the Iron and Steel at a temperature of 1550-1600 °C.

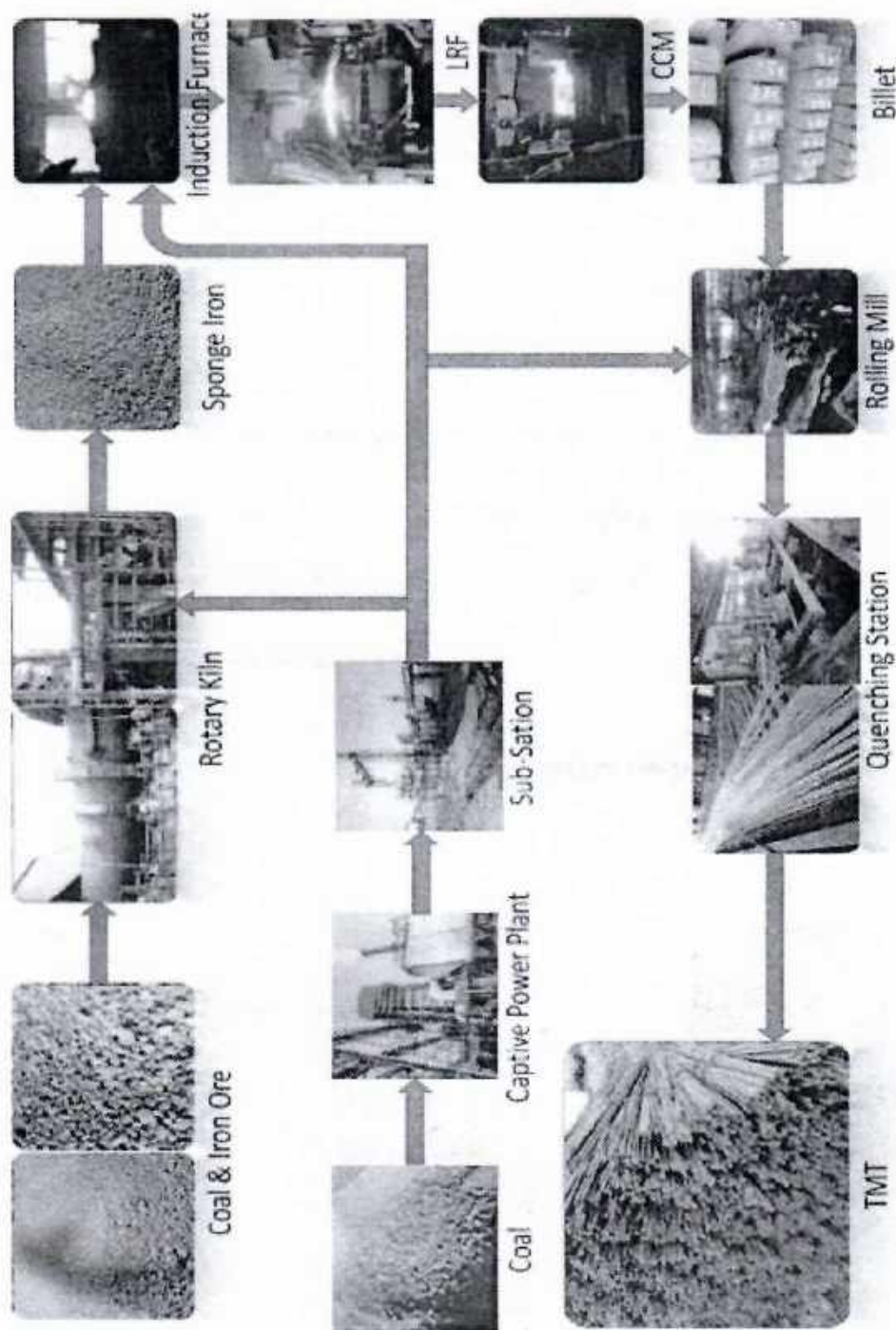
#### **CONTINUOUS CASTING MACHINE:**

Liquid Metal from Ladle refining Furnace is carried in a ladle over to Caster Machine. The liquid metal flows from the ladle through a slide gate system underneath it into water cooled copper mould tubes which solidifies the liquid metal into a square shaped mould which we call as M.S. Billets.

#### **ROLLING MILL:**

The process involves converting the shape stock viz. billets to desired finished section in hot condition by way of passing the material between a pair of grooved rolls and providing suitable reduction at various stages. Whole operation is conducted at a particular temperature range and within a limited time span. Stages of rolling operation are comprised of heating of feed stock to rollable temperature, rolling the feed stock in different mill stands, cropping the hot bar during process of rolling between stands as applicable and subsequently finishing in the form of hot rolled deformed bar in straight length. The hot bar coming out of last pass is then guided through specially designed proprietary Thermax pipes (QST process of H & K Germany) where in the surface temperature of 950- 1000 deg is brought down drastically in a relatively short period of time and collected in a cooling bed. The bars at almost ambient temperature are sheared to commercial length stored and kept ready for dispatch.





**Figure 1: Process Flow Chart**



**Process Flow Diagram of Integrated Steel Plant, Gallant Metal Limited, Samakhiali**

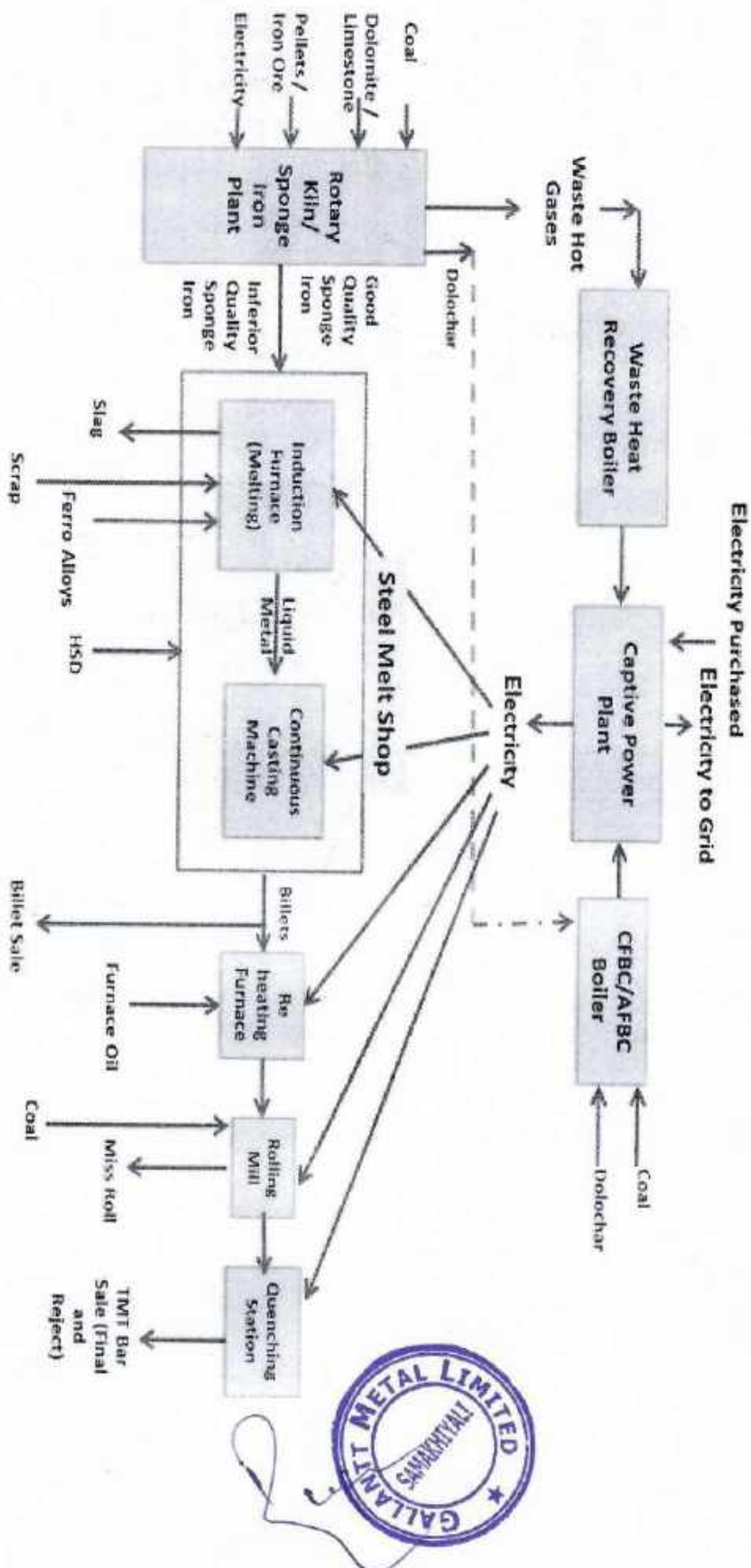


Figure 2: Process Flow Diagram of Integrated Steel Plant of Gallant Metal Limited, Samakhiali



## EMISSION SOURCES IN IRON AND STEEL INDUSTRY

Emission source is defined as the process emitting CO<sub>2</sub> during the production of steel products.

There are three categories of CO<sub>2</sub> emission sources: Direct, Upstream and Credit.

a) **Direct CO<sub>2</sub> Emission:** CO<sub>2</sub> Emissions from steel production activity inside the boundary

b) **Upstream CO<sub>2</sub> Emission:** CO<sub>2</sub> emissions from imported material related to outsourced steel production activities outside the boundary and from imported electricity and steam into the boundary

c) **Credit CO<sub>2</sub> emission**

CO<sub>2</sub> emission that corresponds to exported material and electricity or steam

Matrix of GML operational activities at its chosen facilities in the

reporting boundary and GHG emission scope

S.No.	Activity Description	GHG	Emission	Scope 1	Scope 2	Scope 3
-------	----------------------	-----	----------	---------	---------	---------

1.	Stationary					
1.	Combustion					
1.	Sponge Iron Plant	Fossil Fuel, Electricity	✓	✓	✓	✓

2.	Steel Melt Shop					
	in sponge iron plant					
	Iron Ore consumption					
	Coal, Dolomite, Pellets/					
	Emission sources –					

1.	Induction Furnace	Fossil Fuel, Electricity	✓			
	Emission sources –					
	consumption of sponge					
	iron, scrap and ferro					
	alloys					

ii.	Continuous Casting Machine	Fossil Fuel, Electricity	✓			
3.	Re heating Furnace	Fossil Fuel, Electricity	✓			
4.	Rolling Mill	Fossil Fuel, Electricity	✓			
5.	Quenching Station	Fossil Fuel, Electricity	✓			
6.	Captive Power Plant					

1	Waste Heat Recovery Boiler	Fossil Fuel				
	sponge iron plant gas					
	based power generation					
	(Waste Heat Recovery)					



S.No.	Activity Description	GHG Sources	Emission	Scope 1	Scope 2	Scope 3
ii	CFBC / AFBC Boiler	Fossil Fuel, Electricity,	✓	✓	✓	
7.	In plant Material handling	Fossil Fuel	✓			
8.	Transportation	Fossil Fuel	✓			✓
9.	Offsite Lime Production					✓

## 6. CALCULATION METHODOLOGY

The GHG emissions have been calculated using the prescribed formula mentioned in "Calculating Greenhouse Gas Emissions from Iron and Steel Production: A component tool of the Greenhouse Gas Protocol Initiative, January 2008", GHG Protocol and WRI.

The formulas referred in calculations are mentioned below.

### 6.1. Emissions from Stationary Combustion

This category consists of all GHG emissions arising out of combustion and fugitive releases of fuel.

#### 6.1.1. Electricity generation and other stationary combustion like induction furnace, rolling mill etc.

**Equation 1** Calculating CO<sub>2</sub> emissions from stationary combustion sources using carbon content data expressed on an energy basis:

$$E = A \cdot HV_f \cdot F_{c,h} \cdot F_{ox} \cdot \frac{44}{12}$$

Where:

E = Amount of CO<sub>2</sub> emitted (metric tonnes)

A = Mass/Volume of fuel consumed (e.g., metric tonnes, Nm<sup>3</sup>)

HV<sub>f</sub> = Heating value of fuel (GJ/MT or GJ/Nm<sup>3</sup>)

F<sub>c,h</sub> = Carbon content of fuel on a heating value basis (kg C/GJ)

FOX = Fraction oxidation factor (Considered 100% or complete oxidation)

44/12 = The ratio of the molecular weight of carbon to that of CO<sub>2</sub>

**CH<sub>4</sub> and N<sub>2</sub>O emissions from stationary combustion**





N<sub>2</sub>O and CH<sub>4</sub> emissions are much more influenced by the combustion or emission control technologies employed by the industrial apparatus. In absence of facility specific data, the N<sub>2</sub>O and CH<sub>4</sub> emissions from Electricity Generation and Reheating Furnaces can be calculated using Equation 2.

Equation 2	Calculating N <sub>2</sub> O and CH <sub>4</sub> emissions from stationary combustion sources
------------	---

Tier 1: $E = Af \cdot HHVf \cdot EF \cdot GWP$
--

Where:

E = Amount of either N<sub>2</sub>O or CH<sub>4</sub> emitted (metric tonnes CO<sub>2</sub>-equivalent)

Af = Amount of fuel combusted on a mass or volume basis (e.g., lb, bbl, etc.)

HHVf = Heating value of fuel (e.g., MJ/Kg, thousand Btu/lb or MMBtu/bbl, etc.)

EF = Tier 1 fuel-specific emission factor (see Appendix II-2006 IPCC Guidelines for National Greenhouse Gas Inventories for default values)

GWP = 21 for CH<sub>4</sub> or 310 for N<sub>2</sub>O

#### 6.1.2. Industrial Process Emissions

In this category of emissions, CO<sub>2</sub> and CH<sub>4</sub> are the main GHGs emitted by process sources. As per IPCC, N<sub>2</sub>O emissions may also occur, but these are considered very small and are not considered.

##### Iron & Steel Production

The CO<sub>2</sub> emissions from iron and steel making can be calculated following Equation 3.

Equation 3	Calculating CO <sub>2</sub> emissions from iron and steel production
------------	--

$$E_{CO_2} = \left[ PC \cdot C_{PC} + \sum_a (COB_a \cdot C_a) + CI \cdot C_{CI} + L \cdot C_L + D \cdot C_D + CE \cdot C_{CE} + \sum_b (O_b \cdot C_b) + COG \cdot C_{COG} - S \cdot C_S - IP \cdot C_{IP} - BG \cdot C_{BG} \right] \cdot \frac{44}{12}$$

Where:

ECO<sub>2</sub> = emissions of CO<sub>2</sub> from iron and steel production (tonnes)

PC = quantity of coke consumed in iron and steel production (not including sinter production) (tonnes)

COBa = quantity of onsite coke oven by-product a, consumed in blast furnace (tonnes)





CI= quantity of coal directly injected into blast furnace (tonnes)

L = quantity of limestone consumed in iron and steel production (tonnes)

D = quantity of dolomite consumed in iron and steel production (tonnes)

CE = quantity of carbon electrodes consumed in EAFs (tonnes)

Ob = quantity of other carbonaceous and process material b, consumed in iron and steel production, such as sinter or waste plastic (tonnes)

COG= quantity of coke oven gas consumed in blast furnace in iron and steel production (m3)

S = quantity of steel produced (tonnes)

IP = quantity of iron production not converted to steel (tonnes)

BG = quantity of blast furnace gas transferred offsite (m3)

Cx = carbon content of material input or output X, tonnes C/(unit for material X) [e.g., tonnes C/tonne].

## 6.2. Indirect Emissions from Purchased Electricity

Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. This falls under Scope 2 emissions which physically occur at the facility where electricity is generated. GML purchases electricity from Gujarat Electricity Board. The latest values of grid emission factor to calculate emissions from purchased electricity have been referred from "CO<sub>2</sub> Baseline Database for the Indian Power Sector, User Guide, Version 15.0 December 2019 Government of India, Ministry of Power, Central Electricity Authority."

## 6.3. Indirect Emissions From Limestone And Dolomite Production

The CO<sub>2</sub> emissions from offsite Limechips and Dolomite production can be calculated following Equation 4.

Equation 4 Calculating Scope 3 CO<sub>2</sub> emissions from lime production

$$E_{CO_2} = \sum (M_l \cdot EF_{lime}) * (1 - (H_{fraction} \cdot H_{water})) \cdot LKD_{CF}$$

Where:

ECO<sub>2</sub> = emissions of CO<sub>2</sub> from lime production (tonnes)

EF<sub>lime</sub> = emission factor for the specific type of lime that is imported. The default value is: 0.75 tonnes CO<sub>2</sub>/ tonne lime produced. See below



ML = weight or mass of lime produced (tonnes)

Hfraction = Fraction of imported lime that is hydrated. Default value: 0.1

Hwater = Water content of hydrated lime (fraction). Default value: 0.1

LKDCF = Correction factor for the production of lime kiln dust (LKD) that is not returned to the lime kiln. Default value: 1.02.

#### 6.4. Emissions from Mobile Combustion

##### 6.4.1. Material Handling:

It considers the fuel used in material handling within the organization boundaries like transport of raw materials from unloading point to consumption point. It is considered in the Scope 1.

Default Emission Factors for Off-Road Mobile Sources and Machinery, Chapter 3, Mobile Combustion, 2006 IPCC Guidelines for National Greenhouse Gas Inventories has been referred for the calculation.

##### 6.4.2. Transport of Employees

Employees use transportation facilities like private cars, traveller car, two wheelers for commuting. Emission factor as per the vehicle type and fuel has been considered for the calculation purpose. Emissions factors considered have been referred from the "India GHG Program - India Specific Road Transport Emission Factors, 2015, Version 1.0".

##### 6.4.3. Transportation of Material

Raw material used in the manufacturing process and finished product of GML is transported from various distant places through Sea and roadways as indicated below:

Component	Mode
Iron Ore *	Sea and Road
Coal type 1 used in CPP*	Sea and Road
Coal type 2 used in SMS	Sea and Road
Dolomite	Road
Scrap	Road
Finished Products	Road
Ferro Alloys	Road





Pellets

Road

\* The materials are imported by the vendors and purchased by GML from the ports (Kandla, Tuna and Mundra Port). The sea transportation has not been considered in the calculation due to unavailability of data.

The CO<sub>2</sub> emission from the material transportation is considered under Scope 3. "India GHG Program - India Specific Road Transport Emission Factors, 2015, Version 1.0" has been referred for the calculation tool.

**Note:** The default emission values and calorific values, Carbon content of fuels and materials used in the calculation has been referred from the following documents primarily:

- Chapter 4- Metal Industry emissions, Volume 2: Energy, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 3: Industrial Processes and Product Use,
- Chapter 3, Volume 2: Energy, Mobile Combustion, 2006 IPCC Guidelines for National Greenhouse Gas Inventories
- Calculating Greenhouse Gas Emissions from Iron and Steel Production, A component tool of the Greenhouse Gas Protocol Initiative, January 2008, WRI

## 7. RESULT

### 7.1. GHG Emission Sources in the Plant

GHG emission sources for Integrated Steel Plant of GML are given below in terms of Direct, Upstream and Credit Emissions.

S.No.	CO <sub>2</sub> emission Source	Direct Emission Source	Upstream emission	Credit emission	Remarks
	<b>Liquid fuel</b>				
1.	HSD	✓			
2.	Furnace Oil	✓			
	<b>Solid fuel</b>				
3.	Coal	✓			
4.	Dolochar	✓			
	<b>Auxiliary material</b>				
5.	Dolomite				
	<b>Energy carriers</b>				
6.	Electricity	✓	✓	✓	Electricity generated in CPP, Purchased from Grid and Exported to Grid





7.	Steam	√			
	<b>Ferrous containing material</b>				
8.	Pellets	√			
9.	Sponge Iron	√		√	Sponge Iron Sold
10.	Iron Ore	√			
11.	Scrap	√			
	<b>Alloys</b>				
12.	Ferro Alloys	√			
	<b>Product and By Products</b>				
13.	Billets	√		√	Billets sold
14.	TMT Bar	√		√	TMT Bar sold

#### 7.2. Production Details for the Financial Year 2019 - 2020

The production details of the GML for the financial year 2019 - 2020 is given in the table below for which the GHG emission calculations have been carried out.

#### Production Details of the study period i.e. financial year 2019-20

S.No.	Particulars	Quantity
1.	Sponge Iron Produced	193614 MT
2.	Sponge Iron Sold	3115 MT
3.	Billets Produced	252433 MT
4.	Billets Sold	16448.77 MT
5.	TMT Bars Sold	224308.69 MT
6.	TMT Bars as Miss Roll	5198.97 MT
7.	Electricity Generated (excluding Auxillary consumption)	161649175 units
8.	Electricity Generated though WHRB	55982005 units
9.	Electricity Purchased	18599325 units
10.	Electricity Sold to Grid	4534845 units
11.	Electricity Generated through DG set approx.	29400 units



## 7.3. Summary of GHG Emission Inventory

Thus, as per the calculations, the GHG emission inventory from Scope 1, Scope 2 and Scope 3 (partially) have been done and summarised in the table below:

S.No.	Financial Year	2019-2020
	Emissions- Activity Wise	Quantity
<b>I</b>	<b>GHG emissions (tCO<sub>2</sub>) in the plant</b>	
<b>A</b>	<b>Stationary Sources- Scope 1</b>	
1	Sponge iron plant (tCO <sub>2</sub> )	342528
2	Captive Power Plant - Fuel (tCO <sub>2</sub> )	230705
3	Emission from DG set (Negligible)	22
4	CO <sub>2</sub> e emissions from the Stationary source by Fuel burning for different units like Induction Furnace and Continous Casting Machine, Rolling Mill, Re heating furnace and Quenching Station and others	4930
<b>B</b>	<b>Mobile Combustion Sources</b>	
5	Material handling (in-house) (tCO <sub>2</sub> ) - Scope 1	879
6	Transportation of material (external) (tCO <sub>2</sub> ) - Scope 3	19228
7	Transport of employees (tCO <sub>2</sub> ) - Scope 3	109
<b>C</b>	<b>Scope 2</b>	
8	Purchased Electricity (tCO <sub>2</sub> ) - Scope 2	15251
<b>D</b>	<b>Offsite Lime Production -Scope 3</b>	
9	Emission from Dolomite	6762
<b>E</b>	<b>Total Emissions from the plant (tCO<sub>2</sub>e) - a</b>	<b>620414</b>
<b>II</b>	<b>Reductions in GHG emissions (tCO<sub>2</sub>) in the plant due to</b>	
10	Electricity supplied to Grid (tCO <sub>2</sub> )	3718.6
11	Sponge Iron Sold (tCO <sub>2</sub> )	5510.8
12	Billets Sold (tCO <sub>2</sub> )	22332.0
13	Miss Roll and Other losses (tCO <sub>2</sub> )	14362.6
<b>14</b>	<b>Total Reduction in GHG emissions (tCO<sub>2</sub>) - b</b>	<b>45924.0</b>
<b>III</b>	<b>Net Emissions from the plant - a-b (tCO<sub>2</sub>e)</b>	<b>574490.3</b>
<b>15</b>	<b>Total TMT bars produced</b>	<b>219109.72</b>
<b>16</b>	<b>Specific emissions t CO<sub>2</sub>/MT of TMT bars</b>	<b>2.62</b>





**Net GHG Emissions is 574490.3 t CO<sub>2</sub> and the Specific GHG emission from TMT bars manufacturing is 2.62 t CO<sub>2</sub>/MT of TMT bars.**

## **8. GHG EMISSION REDUCTION PROGRAMME**

The greenhouse gas of most relevance to the world steel industry is carbon dioxide (CO<sub>2</sub>). According to the international energy agency, the iron and steel industry accounts for approximately 6.7% of total world CO<sub>2</sub> emissions. The steel industry generates between 7% and 9% of direct emissions from the global use of fossil fuel. ([www.worldsteel.org](http://www.worldsteel.org)).

However, over the past 40 years, recycling and strong energy conservation policies have achieved a substantial reduction in GHG emissions.

Various technologies and measures are being practiced for GHG emission reduction in the Iron and Steel Industry. Following measures are being taken up by the Gallantt Metal Limited at Samakhialyali, Gujarat.

### **8.1. GHG Emission Reduction Through Carbon Sequestration Through Plantation:**

**Carbon sequestration** is the process involved in carbon capture and the long-term storage of atmospheric carbon dioxide or other forms of carbon to mitigate or defer global warming. It has been proposed as a way to slow the atmospheric and marine accumulation of greenhouse gases, which are released by burning fossil fuels.

#### **Carbon Sequestration through Plantation:**

Carbon sequestration through plantation can be defined as biotic process whereby the atmospheric CO<sub>2</sub> is transferred into a long lived C pool. About two-third of terrestrial carbon is sequestered in the standing forest, forest under store plant, leaf and forest debris and in forest soils. With the increase of atmospheric CO<sub>2</sub> concentration, plants' carbon storage potential could increase due to greater assimilation of carbon through the process of photosynthesis. Plants grow through the well-known process of photosynthesis, utilizing the energy of sunlight to convert water from the soil and carbon dioxide from the air into sugar, starches and cellulose. The carbohydrates are the foundations of the entire food chain. CO<sub>2</sub> enters a plant through its leaves, the greater atmospheric concentrations tend to increase the difference in partial pressure between the air outside and inside the plant leaves and as a result more CO<sub>2</sub> is absorbed and converted to carbohydrates.





GML plant is having a greenbelt spread of approximate 31 acres with different species more than 38176 numbers till date.

The list and approximate number is as given in the table below:

S.No.	Common Name of plant	Botanical Name	Existing
1.	Neem	Azadirachta Indica	10200
2.	Gulmohar	Dreloxia regia	5236
3.	Pepal	Ficus religiosa	10
4.	Babool	Acacia nilotica	725
5.	Amaltash	Casia fistula	1000
6.	Karanj	Pongamia Pinnata	3500
7.	Ardu	Ailanthus Excelsa	950
8.	Shisham	Delbergia Sissoo	1200
9.	Ashok	Polyalthia Longifolia	800
10.	Jhal	Salvadora Persica	1000
11.	Papita	Carica Papaya	300

The calculation for total weight of CO<sub>2</sub> sequestered in trees per year in tonnes for the trees in the GML plant was carried for the year 2019-2020. The calculation methodology was adopted from

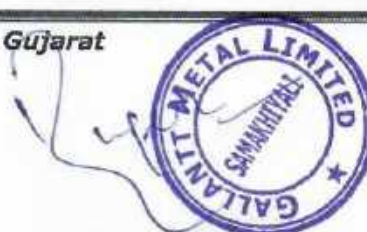
[http://cpcb.nic.in/cpcb/old/zonaloffice/bangalore/FINAL\\_REPORT\\_GREEN\\_BELT\\_PROJECT.pdf](http://cpcb.nic.in/cpcb/old/zonaloffice/bangalore/FINAL_REPORT_GREEN_BELT_PROJECT.pdf)

The total amount of CO<sub>2</sub> sequestered in GML plant through trees per year was 6433 tonnes of CO<sub>2</sub>.

Further, phase wise plantation of 6000 more trees is plant for the financial year 2020-21, 2021-22 and 2022-23.

#### 8.2. GHG Emission Reductions from Waste Energy Recovery Project:

GML has Captive Power Plant of 33 MW capacity. Out of the total power generation, 8.0 MW is through the Waste Heat Recovery Boilers (WHRB) of 30.7 TPH (4 Nos.) installed using waste heat of DRI kiln as fuel.



The waste heat recovery boiler generates 35.0 TPH of steam with the outlet parameters of 110 Ksc (a) and 540 Deg. C, while taking in the feed water at 160 Deg. C from the deaerator. The entire waste gas from the sponge iron kiln is utilized in the waste heat boiler for the steam generation.

### System Design – Mechanical

System in the power plant is designed based on the following normal operating conditions:

- Power at generator terminal: 12 MW
- Voltage of power generation: 11 KV

Following gives the design basis of the different system offered for the proposed WHRB plant.

### Process and Control Mechanism

Steam Turbine Generators (STG) are the main assembly in the Power Plant. The steam generator(s) shall be outdoor type and waste heat recovery boilers.

The boiler shall receive the water from economizer Water Treatment System; which shall convert raw water to soft water suitable for the boiler application. The steam generated at Boiler will be passed through the Turbine attached to it. In turbine Generator, the steam will be used to rotate the coil in magnetic field to produce electricity. This electrical energy will be supplied at step-up transformer; from where, it is transmitted at high voltage to step-down transformer for distribution.

**The electricity generated through the WHRB is one of the major GHG emission reduction measure in the iron and steel industry.** The total GHG emission reductions achieved due to WHRB system has been calculated for GML using the below formula from Approved consolidated baseline and monitoring methodology ACM0012 "Consolidated baseline methodology for GHG emission reductions from waste energy recovery projects" of UNFCCC/CCNUCC CDM methodology.

**Baseline emissions from electricity (BE<sub>electricity,y</sub>) Type-1 activities:**

**Waste energy is used to generate electricity**

$$BE_{Elec,y} = f_{cap} * f_{wch} * \sum_j \sum_t (EG_{t,j,y} * EF_{Elec,t,j,y})$$

Where:

BE<sub>elec,y</sub> = Baseline emissions due to displacement of electricity during the year y in tons of CO<sub>2</sub>





$EG_{i,j,y}$  = The quantity of electricity supplied to the recipient  $j$  by generator, that in the absence of the project activity would have been sourced from  $i$ th source ( $i$  can be either grid or identified source) during the year  $y$  in MWh, and

$E_{Elec,i,j,y}$  = The CO<sub>2</sub> emission factor for the electricity source  $i$  ( $i$ =gr (grid) or  $i$ =is (identified

source)), displaced due to the project activity, during the year  $y$  in tons CO<sub>2</sub>/MWh

$f_{wcm}$  = Fraction of total electricity generated by the project activity using waste energy. This fraction is 1 if the electricity generation is purely from use of waste energy.

$f_{cap}$  = Energy that would have been produced in project year  $y$  using waste energy generated in base year expressed as a fraction of total energy produced using waste source in year  $y$ .

The ratio is 1 if the waste energy generated in project year  $y$  is same or less than that generated in base year.

The proportion of electricity that would have been sourced from the  $i$ th source to the  $j$ th recipient plant

$$BE_{Elec,y} = 79,897 \text{ tCO}_2$$

Thus total emission reduction of **79,897 tCO<sub>2</sub>** has been achieved in the year **2019-2020 through WHRB in GML.**

Further, it is proposed to install one more WHRB of 35 TPH and 8 MW power production capacity. This will lead to the further reduction of CO<sub>2</sub> emissions to approximately **79,923 tCO<sub>2</sub>.**

	Existing WHRB	Proposed WHRB	Total
Capacity	8 MW	8 MW	16 MW
tCO <sub>2</sub> emissions reduction	79,897	79,923	1,59,820

Total reduction from WHRB will amount to **1,59,820 t CO<sub>2</sub>** approximately.

### 8.3. Energy Conservation Measures for GHG Emission Reduction

Energy Consumption accounts as a major component for the GHG emission source in an iron and steel industry as it is energy intensive sector. Therefore measures taken for energy conservation helps reduce the GHG emission reduction from the plant.

GML has taken various energy conservation measures in the plant as listed below:





- a) Installation of VFD (Variable frequency drives) on ID, FD and SA fans of CFBC boilers to save power during part load working and otherwise.
- b) Installation of Pre Heater
- c) Hot Charging of Billets
- d) Bag-Filter dust Injection installed to ABC (After Burning Chamber)
- e) Installation of Centralised HVAC system to optimise the Air conditioning of plant.
- f) Recirculation of Cooling tower and boiler drains to DRI for direct cooling to save fresh water.
- g) Installation of LED's in plant buildings to save power.
- h) Optimising the plant operation through DCS for minimum Auxillary power consumption.
- i) Selection of Circulating fluidising bed combustion boiler to obtain high efficiency and low loss on Ignition during part load operation and also quick load changes.
- j) APFC installation on electrical system to improve power factor.
- k) Installation of VFD's on Cooling tower pumps and fans to conserve power during part load operation and also during winter season.
- l) Robust preventive and Predictive maintenance to prevent frequent kiln breakdown due to mechanical, electrical and operational interruptions have a significant effect on Kiln availability which also leads to poor efficiency.
- m) Improvement in Operational losses.

Various initiatives have been taken to minimize the same like:

- ✓ Better sealing done in stack cap to capture fugitive emission;
- ✓ For Better sealing, pneumatic cylinders installed at slip seal to maintain gaps in seals;
- ✓ Thorough inspection of old and worn out refractory and application of best quality refractory which reduced in radiation losses;
- ✓ Inspection of spillages if any and arresting;
- ✓ Using minimum coal during Shut down & Light up and following Ramp up plans;
- n) Energy Audits conducted regularly and action plan prepared and followed to improve energy utilization practices and reduce wastages;



**9. CONCLUSION:**

Thus, GHG emission inventory of GML plant has been prepared and accounted from the existing sources. Carbon sequestration measures have been adopted to reduce the GHG emissions. Further GML will monitor and update its GHG emissions on regular basis. It will take suitable action for further reducing the GHG emissions from its plant in future by taking necessary measures including at operational level.





**ANNEXURE 1**

For the purposes of this document, the definitions of the following terms have been outlined as per ISO definitions. However in drafting the report, each of these definitions have been accounted for.

**Carbon Dioxide Equivalent (CO<sub>2</sub>e)**

"Unit for comparing the radiative forcing of a GHG to carbon dioxide. This is generally calculated using the quantity of a given GHG multiplied by its global warming potential". ISO Definition

For example certain sub-processes in Iron and Steel industry involving fossil fuel also generate very small quantities of other GHG's such as Methane (CH<sub>4</sub>), having a global warming potential of 21 and Nitrous Oxide (N<sub>2</sub>O) having a global warming potential of 310.

**Directed Actions**

"Specific activity or initiative implemented by an organization to reduce [or avoid] GHG emissions or increase GHG removals

NOTE – GHG emission or removal differences that result from directed actions may occur within or outside of organizational boundaries". ISO Definition

For example GML has implemented a waste heat based power generation by utilizing the waste gas from waste gases from DRI plant.

**Facility**

"Single installation, set of installations, or production processes, stationary or mobile, which can be defined within a single geographical boundary, organizational unit or production process" ISO Definition

**Greenhouse Gas (GHG)**

"gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds"

Note – Common GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>). ISO Definition

**GHG Source**

"process which releases a GHG into the atmosphere" ISO Definition

**GHG sink**

"process that removes a GHG from the atmosphere" ISO Definition

**GHG emissions**

"Release of a GHG to the atmosphere" ISO Definition

**GHG removal**

"withdrawal of a GHG from the atmosphere by GHG sinks" ISO Definition

**GHG activity data**

"quantitative measure of activity that results in a GHG emission or GHG removal





EXAMPLE Amount of energy, fuels or electricity consumed, material produced, service provided, area of

**GHG emission factor**

Coefficient relating *GHG activity data* with the *GHG emission*

**GHG removal factor**

Coefficient relating *GHG activity data* with the *GHG removal*

**Direct GHG emissions**

"*GHG emission from GHG sources owned or controlled by the organization*

**Direct GHG emission**

*GHG emission from GHG sources owned or controlled by the organization*

**Indirect GHG emission**

*GHG emission that is a consequence of an organization's operations and activities, but that arises from GHG sources that are not owned or controlled by the organization*

Note 1 to entry: These emissions occur generally in the upstream and/or downstream chain.

**GHG inventory**

list of *GHG sources* and *GHG sinks*, and their quantified *GHG emissions* and *GHG removals*

**GHG program**

voluntary or mandatory international, national or subnational system or scheme that registers, accounts or manages *GHG emissions*, *GHG removals*, *GHG emission reductions* or *GHG removal enhancements* outside the *organization*) or *GHG project*

**GHG report**

standalone document intended to communicate an *organization's* or *GHG project's* GHG related information to its *intended users*

**Global Warming potential**

"Factor describing the radiative forcing impact of one unit of a given GHG relative to one unit of carbon dioxide" ISO Definition

**Organisation**

"Company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration. ISO Definition

NOTE – Assessments can be continuous or periodic and could include assessment of inputs or outputs of GHG sources and sinks or the general conditions that may influence GHG emissions and removals". ISO Definition



## ANNEXURE 2

## Default carbon contents for process materials

Process material	Carbon content (kg C/ kg material)
Blast Furnace Gas	0.17
Charcoal	0.91
Coal	0.671
Coal tar	0.62
Coke	0.83
Coke Oven gas	0.47
Coking Coal	0.73
Direct reduced Iron (DRI)	0.02
Dolomite	0.13
EAF Carbon Electrodes	0.822
EAF Charge Carbon	0.833
Fuel Oil	0.864
Gas Coke	0.83
Hot Briquetted iron	0.02
Limestone	0.12
Natural Gas	0.73
Oxygen Steel Furnace Gas	0.35
Petroleum Coke	0.87
Purchased pig Iron	0.04
Scrap Iron	0.04
Steel	0.01

Source: 2006 IPCC Guidelines for National Greenhouse Gas Inventories. The IPCC values were originally on a NCV (LHV) basis and have been converted to a GCV (HHV) basis using rule of thumb. Gross calorific (higher heating) values are preferred because they are more closely related to the carbon content of fuels than net calorific (lower heating) values.



## **ANNEXURE I**

### **COPY OF EMERGENCY PREPARENESS PLAN**



# **EMERGENCY PREPAREDNESS AND RESPONSE & SAFETY ASSURANCE PLAN**



Document No. GML/EPP/2018

## **FOR GALLANTT METAL LIMITED**

**SURVEY NO 175/1, VILLAGE  
SAMAKHIYALI, TALUKA – BHACHAU,  
DISTRICT – KUTCH, GUJARAT - 370150**



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*Ref*



**1.0 INTRODUCTION :**

**GALLANTT METAL LIMITED** (Integrated Steel Plant) is located at SAMAKHIYALI on National Highway Road declared as N.H.8A Ahmedabad to Gandhidam, Distt.- Kutch, Samakhiyali (G.J), commenced production of Sponge Iron, Billets TMT on 2005 After successfully running of Plant, for the quality product and increasing the production capacity and avoid the power interpretation from the supply from GEB, we had established separate power plant having the boiler (WHRB & AFBC). Our existing production and generation capacities are Sponge iron 1.755 L/MTPA, Billets 1.782L/MTPA, TMT Rod 1.719 L/MTPA, power generation is 25MW ( WHRB 8MW & AFBC 17MW) .

**1.1 LOCATION, AREA & EMPLOYEES :**

Factory is situated about 500 Mtr. from Samakhiyali on Highway /NH 8A in vill.-Samakhiyali , P.O.- Samakhiyali, Distt.- Kutch (G.J). It is well connected with Ahmedabad – Ghandidam rail line and on NH 8A. The site is not located in densely populated area and the plant is scattered in around 116 acres land including the colony area. Total number of workers in the plant are around 650 Company employee and 380 are Contractor workers.

**1.2 RAW MATERIALS & FINISHED PRODUCTS :**

The Raw materials and other main consumables are as given below:

- (a) Iron ore
- (b) Coal
- (c) Furnace oil
- (d) Scrap
- (e) HSD
- (f) Dolomite
- (g) Silico Manganese

The finished products are Sponge Iron, MS Billets, TMT

**1.3 PLANT AND MACHINERY**

The basic process consists of following major equipments:

**SPONGE IRON DIVISION****1.4.1. KILN & COOLER - 4 NOS.**

There are 4 Nos. of refractory lined rotary kilns with rotary coolers. Out of 4 Kin 03Nos having the rotator preheating system. The size of Kiln is 2.5mts in diameter and 68X2 (Kiln 40Mtr. + Cooler. 28Mtr.X 2) & 98X2 (Pre-Hater 30Mtr + Kiln 40Mtr + Cooler 28Mtr. X 2 ) Kiln meter in length mounted inclined to downward slope. The raw materials are feed in its upper end and the finished product with the by-product is drawn at lower end. Drawn material is cooled in cooler by spraying water on shell.

**1.4.2 RAW MATERIAL HANDLING YARD**

There are separate handling yards for iron ore, coal & dolomite. All the raw materials are brought by transportation and after weighing are unloaded in yard. Then it is feed into the intake hopper from where it is carried to crusher to minimize at appropriate size and then send it to the Kiln.

**1.4.3 PAY LOADER AND TIPPER**

Graded quantity of raw material from stock yard is feed to intake hopper on demand by means of pay loader and tipper.

**1.4.4 CRUSHER WITH VIBRATORY SIEVE**

There are number of crushers with vibratory sieves to make the appropriate size of raw material (R.M). These crushers are connected with conveyor system.

**1.4.5 AIR COMPRESSOR**

Air is drawn from the atmosphere and compressed it for use in instrument and for other purposes.

**1.4.6 CONVEYORS**



There is well-equipped belt conveyor system for carrying raw material from the feeding hoppers and connection various equipment such as crushers, screen and stock hoppers and also installed up feed point of Kiln, all the finish & by-products are carrying to the designated location or stock unit by the belt conveyors.

#### 1.4.7 HSD/LDO TANK

There is 01 tank of capacity 1X12 KL for HSD storage. HSD oil is used for the initiating combustion in Kiln.

#### 1.4.8 WORKSHOP

A moderate workshop consist two lathe M/C, one shaper, One drill m/c, one grinder, one welding m/c are there for the maintenance of machine parts used in the factory.

#### 1.4.9 ASH HANDLING PLANT/SYSTEM

In the rotary kiln ash particles formed due to combustion of coal/dolomite are present in flue gases even after it passes through After Burning Chamber (ABC) and Wet scrubber is evacuated in the ash handling section. Accordingly in FBC 90-95% of the ash called as fly ash is arrested by "electrostatic precipitators" (it is also known as Main Pollution Control Device). The remaining 5-10 % of ash which is called 'Bottom Ash' collects itself in the bottom of the boiler. Thus the produced ash will be collected and removed through ash handling system and disposed off as per government norms.

#### 1.4.10 POLLUTION CONTROL DEVICES

For controlling the air pollution the main device "Electrostatic Precipitator" is there by which fly ash is retained to defuse in air. Only flue gases coming out from Kiln and Boiler (due to combustion of Coal) defused by means of Chimney/Stack and ID fan in atmosphere. To control the fugitive emission for the raw material handling systems, dust extraction system Bag filter units are installed according the required capacities.

#### 1.4.11 COOLING TOWERS

Cooling towers are used for water cooling and circulated in the areas with help of pumps. Cooled water from cooling tower is pumped to the cooler to cool the exit product from kiln. The returning water gets hot which is again pumped to the cooling tower for cooling.

### CAPTIVE POWER PLANT(WHRB & AFBC)

#### 1.5.1 WASTE HEAT RECOVERY BOILER - 4 NOS.

There are 4 Nos. WHR Boilers which convert inert heat of flue gases into heat energy at high temperature, high pressure steam. In the Sponge Iron plant the kiln flue gases are let out at a rate of at a temperature range of 900 °C to 1050 °C depending upon the Iron Ore/Coal feed rate and process requirements. These kiln waste gases when passed through a heat recovery boiler, made of radiant/conductive heat transfer surfaces, can generate 40T/hour steam at 106-107kg/cm<sup>2</sup> pressure and 410 °C temperature.

#### 1.5.2 COAL/DOLOCHAR/CHAR FIRED AFBC Boiler - 01 No.

Coal/ dolochar feed into the boiler in a pressurized way where it gets burn and chemical energy of fuel convert into heat energy and high pressure and high temperature steam generates. At present from all the kilns, dolochar coal fines are generated as By- Product continuously. These fuels (char, dolo-char and coal fines) can be burned in a fired boiler to generate 70-75 MT/hour steam at 105-106 kg/cm<sup>2</sup> pressure and 520°C temperature.

#### 1.5.3 STEAM TURBO GENERATORS – 2 NOS. (CONSIST OF 1X25MW & 1X08MW)

These are mainly consist of

- A) A 'Turbine' is driven by the steam feed to it. It converts kinetic energy into mechanical energy. The turbine is driven at 7000 rpm for generating power.
- B) A 'Generator' which is driven by the turbine by means of which it generates "Electrical Power" by converting mechanical energy into electrical energy.
- C) A 'Condenser' which condensate the steam in to water, The condensed water goes back to De aerator
- D) 'Boiler feed pump', it pumps water in to boiler along with water from D.M. Plant for production of steam.

#### 1.5.4 ELECTRICAL SUB STATION AND SWITCH YARD





There is a substation and switch yard from where the generated electricity is diverted to DRI, SMS-CCM and Rolling Mill balance infirm quantity step up and then switched to GSEB grid line.

**1.5.5 AIR COMPRESSOR**

Air is drawn from the atmosphere and compressed it for use in instrument and for other purposes.

**1.5.6 D.M. PLANT/WATER TREATMENT PLANT**

Water from Narmada river is pumped and collected in our reservoir, after pre-treatment in under ground and over head tank. These water is free from any salts & ions and fit for steam generation and are separately stored in D.M. water tanks.

**1.5.7 ASH HANDLING PLANT/SYSTEM**

In the rotary kiln ash particles formed due to combustion of coal/dolomite are present in flue gases even after it passes through After Burning Chamber (ABC) and Wet scrubber is evacuated in the ash handling section. Accordingly in FBC 90-95% of the ash called as fly ash is arrested by "electrostatic precipitators" (it is also known as Main Pollution Control Device). The remaining 5-10 % of ash which is called 'Bottom Ash' collects itself in the bottom of the boiler. Thus the produced ash will be collected and removed through ash handling system and disposed off as per government norms.

**1.5.8 POLLUTION CONTROL DEVICES**

To control the air pollution the main device "Electrostatic Precipitator" is there by which fly ash is retained to defused in air. Only flue gases coming out from Kiln and Boiler (due to combustion of Coal) defused by means of Chimney/Stack and ID fan in atmosphere.

**1.5.9 COOLING TOWERS**

Cooling towers are used for water cooling and circulated in the areas with help of pumps. Cooled water from cooling tower is pumped to the condenser coil where it condensed the the returning water get hot which is again pumped to the cooling tower for cooling.

**1.5.10 FIRE EXTINGUISHERS**

To meet the fire hazards if occur in the factory premises, fire extinguishers are provided various locations.

**1.5.11 EOT CRANES**

There is One EOT crane (60/05MT) mounted on turbine building used for lifting and loading of heavy equipments and machineries respectively.

**1.5.12 LABORATORY EQUIPMENTS**

There is well equipped laboratory for analyzing the raw water, chemical composition of fuel and testing the properties of steam etc. along with the quality of sponge Iron.

**1.5.13 DG SETS**

There is 04 Nos. of DG sets are installed at Switch yard area having the capacity 812KvA X 2, 725KvA X 1 & 7200KvA X 1 for generating the electricity to start the process after shut down or in case of emergency.

**1.5.14 ELECTRICAL SUB STATION AND SWITCH YARD**

There is one sub stations and switch yard from where the generated electricity is diverted to existing production units namely DRI, SMS & Rolling Mill and balance infirm quantity step up and then switched to GEB grid line.

**INDUCTION FURNACE**

**1.6.1** There is 04 Nos. of frequency furnace along with 02 CCM (Continues Casting Mill) installed to meet its production target for the casting of blooms & billets. Power is used for melting the scrap. For lining the furnace acid rummy mass as per the grade of steel to be melted.

**1.6.2 FURNACE TRANSFORMER**

To provide smooth electricity to every furnaces and the auxiliary power supply separate transformers, having various capacities are installed in the furnace sheds.

**1.6.3 BILLET CASTING M/C (CCM)**

For casting Blooms there is Continuous Casting Machine (CCM) with all its accessories in which molten metal is poured in to the tundish for the casting process. mould tubes are changed as per required size are needed.

**.6.4 EOT CRANES**

EOT Cranes of different capacities in different sheds are established for the purpose of charging of raw materials, tapping, slag handling and loading, unloading of finished products, for placing the ladle in the place where molten metal is poured in it and then shifted the filled ladle to CCM.

**1.6.5 AIR COMPRESSORS**

It is required to supply compressed air to machines operated pneumatically and other related works.

**1.6.6 LADLE PRE HEATER**

it was installed for heating of newly lined ladles for the lapping the molten metal.

**1.6.7 COOLING TOWER**

During the process of casting, cooled water is circulated through CCM water jacket, primary and secondary water cooling line which get hot during the process and cooled in cooling tower.

**1.6.8 DG SETS**

There is one D.G. set having capacity of 1 x 500KvA, electricity is generated to start the process after shut down or in case of emergency

**1.6.9 WORK SHOP**

A work shop consists of sheet bending machine, lathe, shapers, drilling machines, grinding machine welding machine and cutting set etc. are provided for fabrication and other required maintenance jobs of system and furnace equipments.

**1.6.10 RAW MATERIAL YARD.**

Steel production related raw materials such as Steel Scrap materials are stocked near by the Furnace area & Open yard of the central store.

**ROLLING MILL**

**1.7.1** There are 2 rolling mill for the manufacturing of TMT rods, from the casting machine sized billets are directly displaced in the rolling mill with the help of roller conveyer system, the billets are passed through the rollers stands for the Thermo mechanical treatment. as per the requirement we are manufacturing TMT rods in various size (08mm - 32mm). after the sharing stand, the rods are dispensed to the cooling, there after move to the sizing process and dispatched.

**1.7.2 Roller conveyers:-**

This conveyer arrangement has installed for the shifting of billets from the casting machines & Re-heating furnace to the roughing stands and other stands. after the expansion treatment of the rods, through the conveyer shifted the TMT rod to the cooling bed.

**1.7.3 Rolling Stands :-**

Hot billets were passed to the thermal mechanical treatment through the Various stands, ie Roughing stand, Pinch roll, Intermediate, mediate, continuous, sharing stand etc. all the stand are connected with electrical motor through the accessories of the gear box arrangement and compared shaft and mechanical power distribution arrangements, the shaft connected the gear box of the specific stands. total 15nos. of heavy motors are install for the entire process system.

**1.7.4 Reheating Furnace :-**

There was an arrangement ( Re heating Furnace) of to reheat the cooled billets & bloom to increase the temperature up to the required level for the rolling process. With the pulverizing system making coal composition at inside of the re-heating furnace. the average temperature inside of the furnace is 630°C - 1000°C and to control the related pollution, exhausting smoke and the dust practical are treated with the back filter system.

**1.7.5 EOT CRANES**

EOT Cranes of different capacities are installed for the shifting of rolls, equipments and other spare materials, all the cranes are operated with the pendulum control switch.

**1.7.6 AIR COMPRESSORS**





It is required to supply compressed air to machines operated pneumatically and also for cleaning out risers and runners of moulds.

**1.7.7 COOLING TOWER**

During the process of rolling the billets in the mill, cooled water is sprayed on the external case of rolling stands, which get hot during the process and cooled in cooling tower & re-circulated for the same process.

**1.7.8 WORK SHOP**

A work shop consists of lathe, shapers, drilling machines, grinding machine welding machine and cutting set etc. are provided for the required maintenance jobs of mill rollers and other system.



PROCESS FLOW CHART

PROCESS FLOW CHART FOR STEEL

RAW MATERIAL CHARGING.:

:

V

MELTING

:

:

V

BATH SAMPLE TESTING.

:

:

V

ALLOY ADDITION

:

:

TEMPERATURE MEASURING

:

:

V

HEAT TAPPED IN LADLE

:

:

V

LADLE PURGING.

:

:

V

LOLLYPOP SAMPLE TESTING.

:

:

V

CCM

:

:

BILLET CASTING.

:

:

V

HOT BILLETS

:

:

V

PRE INSPECTION & HEATING

:

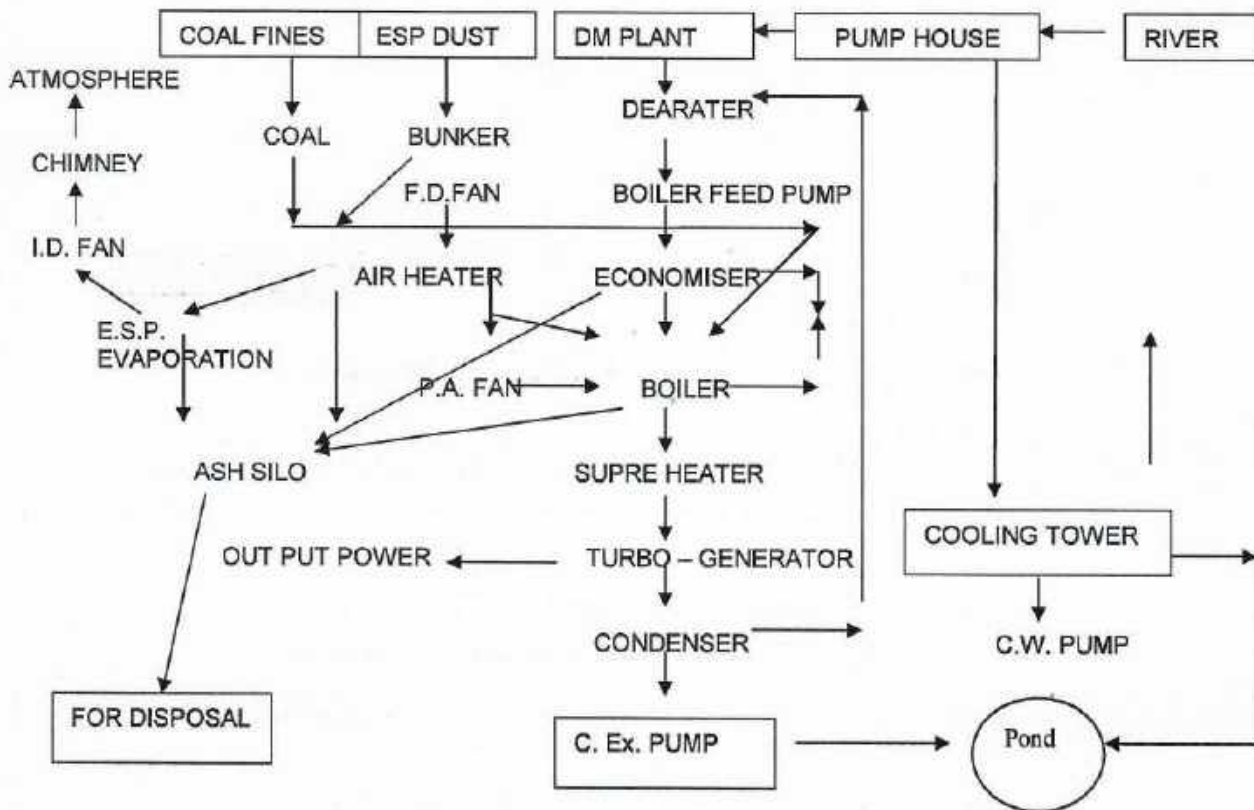
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V

TO ROLLING MILL.



**PROCESS FLOW CHART FOR CAPTIVE POWER PLANT AND WHRB**



**PROCESS FLOW CHART FOR WHRB**

STEAM GENERATED BY WHRB AND  
FBCB AT HIGH TEMP & PRESSURE

⋮  
V

PASSED THROUGH LP SECTION OF  
TURBINE

⋮  
V

TURBINE COUPLED WITH GENERATOR  
WHICH ROTATE AND PRODUCED  
ELECTRICITY

⋮  
V

PRODUCED ELECTRICITY IS STEP UP  
AND SUPPLY TO DIFFERENT SECTION  
OF PLANT THROUGH SUB STATION





**SPONGE IRON**

-----  
**RAW MATERIAL FEEDING  
(IRON ORE, DOLOMITE AND COAL  
FROM YARD TO BINS**  
-----

:  
:  
V

-----  
**RAW MATERIAL FEEDING  
(IRON ORE, DOLOMITE AND COAL  
FROM BIN TO ROTARY KILN**  
-----

:  
:  
V

-----  
**COOLER DISCHARGE**  
-----

:  
V

-----  
**PRODUCT SEPARATION**  
-----

:  
V

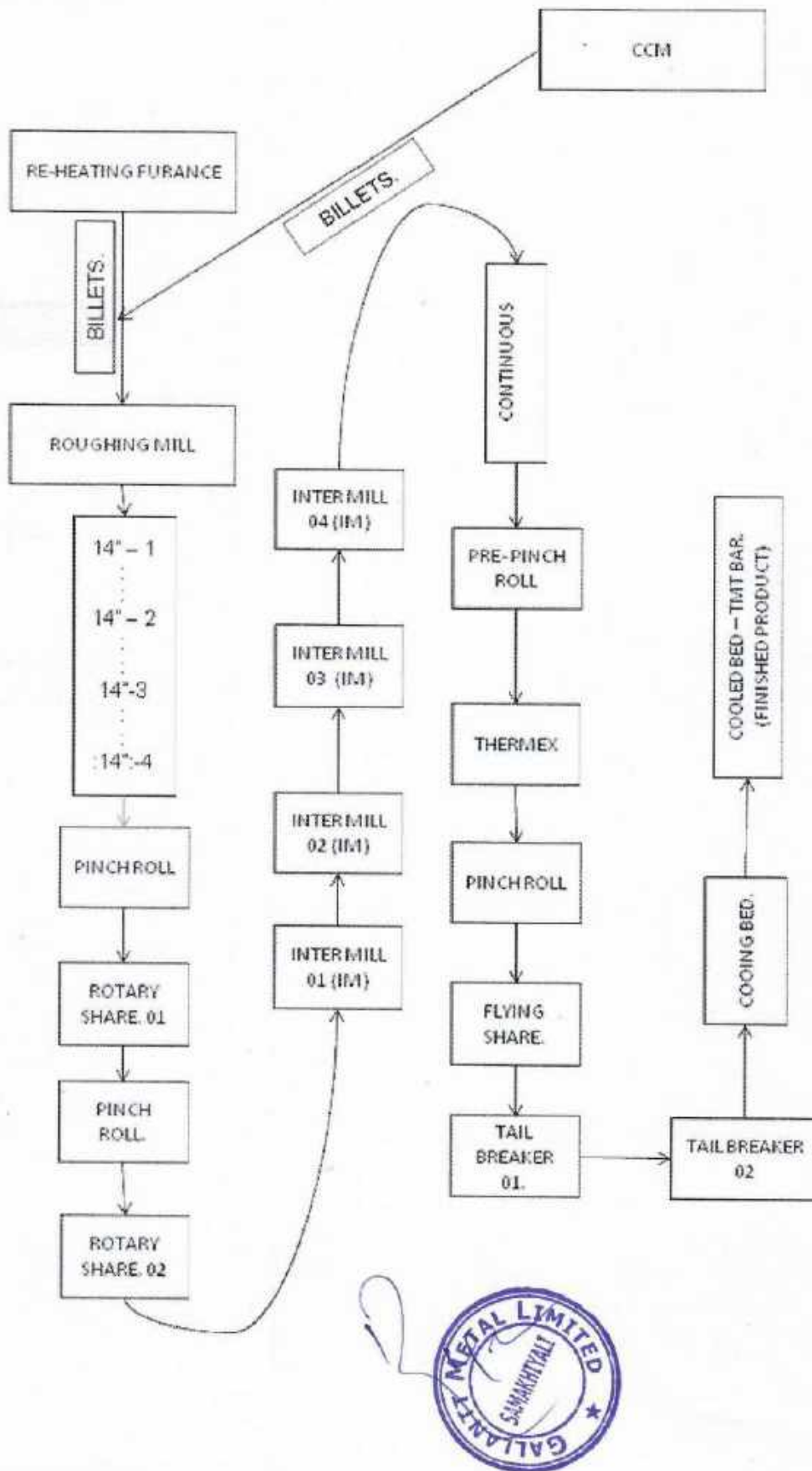
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**PRODUCT INTO THE SILO**  
-----

:  
V

-----  
**DISPATCH**  
-----



**ROLLING MILL**



THE OBJECTIVE OF MANAGEMENT SYSTEM):



The Management of GALLANTT METAL LIMITED has a moral and legal obligation to prevent and control hazards and to provide safe and healthy working environment to all the employees. The company therefore adopts the Policy set-out below for the purpose of creating and maintaining a safe and healthy environment.

## **POLICY**

### **ENVIRONMENT, HEALTH AND SAFETY POLICY**

Gallantt Group is committed to protect the environment, health and safety of our employees, associates, customers, and the communities where we operate. Our commitment for being a socially responsible company requires that we meet the demands of commerce in an ecologically and socially sound manner.



We expect managers to provide the leadership for delivering on our EHS objectives. Same we expect from every Gallantt associate to contribute through decision-making and actions that are consistent with these objectives. If you became aware of any activities that are in conflict with this policy, report the situation to your supervisor, manager or any of the ethics reporting resources. To that end, we shall:

- Comply with all applicable environmental, health and safety (EHS) regulations and laws.
  - Provide a safe and healthful workplace for all, and shall minimize the impact of our production processes and products on the environment.
  - Take EHS performance as a priority in our business and operations planning & decision-making. We are guided by our core value of ethics and integrity to do what is right.
  - Operate and maintain equipment, facilities and processes in a safe manner. We shall help them do this through education and training.
  - Reduce the environmental impact and conserve natural resources by minimizing waste and emissions, reusing and recycling materials, and responsibly managing the use of water and energy.
  - Conduct safety audits as per our statutory requirement for reviewing safety systems and evaluating safety performance of the company.
- We shall do whatever we can, to protect our Glittering Name. Our reputation demands it; our associates require it; our communities expect it.

#### **1.9 ROLE CALL SYSTEM**

The industry is operating round the clock and there are three shifts and one general shift system. The alarm blown at the plant main gate in each shifts starting and end as per the below given details:-

- |                |   |
|----------------|---|
| 1. At 06.00 AM | - For beginning of A-Shift and end of C-Shift.                        |
| 2. At 09.00 AM | - For beginning of General Shift.                                     |
| 3. At 01.00 PM | - For lunch break   |
| 4. At 02.00 PM | - For end of lunch break and end of A-Shift and beginning of B-Shift. |
| 5. At 06.00 PM | - For end of General Shift  |
| 6. At 10.00 PM | - For end of B- shift and beginning of C-Shift.                       |

The siren is blown continuously for 15 seconds once only in above cases.

To ensure the plant entry of employees, each and every individual employee are ensuring their entry on Bio metric machine provided in main gate. The overall data for attendance by day to day is being monitored by time office/ P&A dept.

#### **1.10 TRAINING**

The GML has taken training as a major concern and we have full-fledged training section under HR & Admin department. Sufficient nos of training programs (shop floor and class room) conducted in each month. All new employees are handed over to training department for induction purposes and after successfully



completion of induction training, these are deputed to the concerned department. All the employees are restricted not to enter without wearing safety shoes and helmet. All the contract workers (new) are also trained for safety precautions.

#### 1.11 SALIENT FEATURES OF THE SITE

FEATURE	DETAILS
Location	175/1, 175/2, 176, 177, 178, 179/1, 179/2, 179/3, 182/1, 182/2, 183/1, 183/2, 184, 185/1, 185/2, 185/3, 185/4, 185/5
Longitude and Latitude	70° 29' 36.60"E 23° 18' 53.40"N
Type of Land	Within existing industrial premises.
Village, Tehsil, District, State	Village: Samakhiyali, Taluka: Bhachau, Distt: Kutch, Gujarat
Max. Mean Temperature, °C.	48°C
Min Mean Temperature, °C.	10°C
Relative Humidity, %	65% Max & 15% Min.
Annual rainfall.	700-2000mm
Land availability	116 acres
Topography	Plain
Soil Type	Sandy + hard stone.
Nearest Highway	Ahmedabad to Gandhidam NH 8A
Nearest Railway station	Samakhiyali – 1 km
Nearest Village	Samakhiyali 1 km
Nearest City	Bhachau (13 Km)
Nearest Industries	Electrotherm India Limited, A.S.R. Multi metals
Nearest Air port	Kandla, 70KM.

### CHAPTER – 2

#### **MEDICAL FACILITIES**

A Health Centre - adequately manned by Doctor & Para-medical staff to provide round the clock services in case of any emergency is set up at nearby the Employee Canteen.

##### **1.0 FACILITIES FOR MINOR SURGICAL PROCEDURES :**

First aid surgical procedures like Lacerated injury, stitches, foreign body removal from eye, nose, ear burns and electrical injuries are performed at the Dispensary.

##### **2.0 AMBULANCE SERVICES :**

The Dispensary set-up is provided with 01 No. of ambulances in each shift to bring patients from works to Dispensary in emergency. If the accident resulting to sever injury in nature the patients are sent to Samakhiyali and. For further treatment referred to Hospital at Bachau & Gandhidam.

##### **3.0 REFERRAL SERVICES :**

We have got liaison with many Hospital of Samakhiyali, Bachau & Gandhidam for admission of the persons who are got sever injury.

##### **4.0 MEDICINES AND EQUIPMENTS AT DISPENSERY**

Following medical facilities are available at Gallant Metal Limited:

- (01) First-aid Dispensary - (Situated closely to Employee Canteen)
- (02) Qualified Medical officer - 01 No.
- (03) Compounder Cum Dresser - 03 Nos.
- (04) Ambulance Van - 01 No. (Available round the clock at Mine Gate)
- (05) First-aid related medicines and injections.
- (06) Sterilizers.
- (07) Emergency Oxygen system. ( in ambulance)
- (08) First-aid injuries treatment facilities.
- (09) Stretcher.

All cases other than of First-aid nature are referred to Mahim Hospital situated in Samakhiyali around 1.5 Km. from the plant. However, patients are sometimes referred to other nursing home at





Bacbau/Adhipur/Gandhidam, Mahim Hospital is a full-fledged hospital equipped with all necessary treatment facilities.

#### 5.0 **FIRST-AID BOXES**

First-aid Boxes are kept in all important locations of the plant about 15 Nos. to cater the needs of the employees at the spot. First-Aid boxes are provided at prominent places in the plant with following items:

#### **6.0 List of Items for First – Aid Box**

- 01 Twenty four small sterilised dressings
- 02 Twenty medium size sterilized dressings
- 03 Twelve large size sterilized dressings
- 04 Twelve large size sterilized burn dressing
- 05 Twelve (15 gms. ) packets of sterilized cotton wool
- 06 One (200 ml) bottle of cetrinide solution (1%) or a suitable antiseptic solution
- 07 One (200 ml) bottle of mercurochrome (2%) solution in water
- 08 One (120 ml) bottle of sal-volatile having the dose and mode of administration indicated on the label
09. One pair scissors
10. One roll adhesive plaster
11. A bottles containing 100 Tab of Aspirin or any other analgesic





### CHAPTER - 3

#### 1.0 POLLUTION CONTROL FACILITIES

To prevent any dust generation or emission in Plant high-pressure water sprinklers, Bag filter system and ESPs have been installed. To prevent water pollution a high efficiency Sewage Treatment Plant(STP) is installed in the Colony

#### POLLUTION CONTROL EQUIPMENT DETAILS

SL NO.	LOCATION	NAME OF THE EQUIPEMTN.	VOLUME CMH.
01	OLD I-BIN	CENTRALISED B.F. (OLD)	1000000
02	NEW I-BIN	CENTRALISED B.F. (New)	65000
03	C.D.-1	BAGFILTER & HIPPER WEIGHING	10000
04	C.D.-02	BAGFILTER & HIPPER WEIGHING.	8000
05	T.R. HOUSE.	BAG FILTER.	15000
06	C.D.-03	BAGFILTER & HIPPER WEIGHING	8000
07	C.D.-04	BAGFILTER & HIPPER WEIGHING	15000
08	COAL CIRCUIT	BAGFILTER & DRY FOG SYSTEM.	5000
09	DAY - BIN	BAGFILTER & DRY FOG SYSTEM	20000
10	IRON ORE	BAG FILTER	8000
11	TRANSFER JUNCTION	DRY FOG SYSTEM.	
12	1ST KILN INJ.	INSERTABLE BAGFILTER & DFS	3000
13	2ND KILN INJ.	INSERTABLE BAGFILTER & DFS	3000
14	3RD KILN INJ.	INSERTABLE BAGFILTER & DFS	3000
15	4TH KILN	INSERTABLE BAGFILTER & DFS	3000
16	KILN 1 & 2 FEED	INSERTABLE BAGFILTE & DFS.	3000
17	CPP - COAL YARD FEED	BAGFILTER	8000
18	CPP - COAL CRUSHER	BAGFILTER.	800

#### ELECTROSTATIC PRECIPITATOR.

SL NO.	LOCATION	IDENTIFICATION NO.	VOLUME CU./HR
01	1ST PLANT (KILN 01)	ESP-1	70000
02	2ND PLANT (KILN 02)	ESP-02	70000
03	3RD PLANT (KILN 03)"	ESP-03	100000
04	4TH PLANT. (KILN 04)	ESP - 04	100000
05	POWER PLANT (AFBC)	ESP -05	
01	STP	Connected with domestic waste water	500 m3/day

#### 2.0 ENVIRONMENT MONITORING DATA

##### Ambient Air Quality Monitoring Result

Si No.	Location.	PM 2.5 ( $\mu\text{g}/\text{m}^3$ )		PM 10 ( $\mu\text{g}/\text{m}^3$ )		SOx ( $\mu\text{g}/\text{m}^3$ )		NOx ( $\mu\text{g}/\text{m}^3$ )	
		P. Limit.	Result.	P. Limit.	Result.	P. Limit.	Result.	P. Limit.	Result.
01	Officer Colony	60	38	100	50	80	9.8	80	20.8
02	Main security Gate.	60	32	100	55	80	10.2	80	21.3
03	B/h. Kiln 1 & 2	60	33	100	50	80	12.2	80	16.8
04	Nr. Furnace Area.	60	35	100	45	80	11.3	80	17.3



**3.0 STP Outlet Out let results**

Parameters	Range	Location
		STP Outlet (100% recycled)
pH	7.5-9.5	9.19
TH	75 - 175	114
Lo.H	50 - 125	82
P-AIK	10 - 50	26
M - AIK	100 - 250	170
COD	4 - 7 mg/L	6.4
Chloride.	20 - 50	41.18
Turbidity	2 - 6	3.2

**4.0 Noise Level Monitoring Results**

Sl. No.	Location	Day Time - dB (A)		Night Time - dB (A)	
		P. Limit	Avg.	P. Limit.	Avg.
01	Near Main Gate	75.0	70.2	70.0	61.2
02	Rolling Mill Area.	75.0	68.2	70.0	62.7
03	Induction Furnace	75.0	67.3	70.0	63.3
04	Reheating Furnace	75.0	66.5	70.0	65.4
05	Rotary Kiln	75.0	67.3	70.0	63.2
06	Power Plant	75.0	65.4	70.0	60.8

**5.0 Stack Monitoring Result**

Sl. No	Name of Stack	Cross sectional area of duct/ stack m <sup>2</sup>	Temp	Velocity	Flow	Particular Matter Emission Concentration	SO <sup>2</sup> in ppm	NO <sub>x</sub> ppm
			°C	m/s	m <sup>3</sup> /s	mg/Nm <sup>3</sup>		
01	AFBC/CFBC Boiler (CPP)	3.2	132	9.8	2.0	62	36.7	30.5
02	Coal Crusher House	1.5	-	-	-	-	-	-
03	Kiln 1 & 2	1.5	126	10.2	2.0	50	11.3	21.3
04	Kiln 3 & 4	1.5	131	9.8	2.0	42	8.4	23.4
05	Kiln 5	2.0	133	10.5	2.0	45	30.2	35.3
05	Induction Furnace - 1,2	1.5	70	10.1	2.0	54	12.7	22.4
06	Induction Furnace - 3,4	1.5	70	9.5	2.0	32	36.7	27.5
07	Induction Furnace - 5,6	1.5	70	9.9	2.0	30	18.2	29.3
06	Reheating Furnace	1.5	103	10.8	2.0	-	-	-



**CHAPTER - 4****POSSIBLE EMERGENCY SITUATIONS IN THE PLANT AND REMEDIAL MEASURES****1.0 MAJOR HAZARD POTENTIAL ASSESSMENT**

The major emergencies usually take birth from one or any combination of the following:-

- (a) Slow isolated fires
- (b) Fast spreading fires
- (c) Explosions
- (d) Bursting of pipe lines/vessels/Pressurized equipments.
- (e) Uncontrolled release of toxic/flammable gases/dusts.

Depending upon the nature, scale, speed and impact on environment each of these may constitute an emergency. The hazard potential of various plant sections is identified and tabulated.

**1.1 FIRE HAZARD**

- (a) In Coal handling plant and at conveyors.
- (b) Cables on galleries and on trays in all plant sections.
- (c) From oil handling.
- (d) Transformer oil.
- (e) Diesel /F.O Storage tank
- (f) Exposure of fire from the Kiln transfer chute & Main door.

**1.2 EXPLOSION HAZARD**

- (a) Turbo generator where Oil is used for cooling of T.G.
- (b) Transformers (oil cooled)
- (c) Boiler (WHR/Coal/Oil fired)
- (d) In Induction Furnace (Liquid metal come contact with water)
- (e) Reheating furnace.
- (e) Compressor and Air Tank





**1.3 BURSTING OF PIPE LINES AND VESSELS**

- (a) Compressed Air Pipes due to high pressure.
- (b) Steam pipes due to high pressure.
- (c) Water pipes due to high pressure.
- (a) Oil Feeding Pipes due to high pressure.
- (c) Air Tank and Air Pipes.

**1.4 RELEASE OF GASES / DUSTS**

- (a) Fly ash from chimneys, Ash silo, ESP, hoppers and bottom ash system.
- (b) Carbon Mono Oxide (CO) which is about 20-25 % in Flue gases from Kiln.
- (c) Releasing of Carbon Mono Oxide(CO) & Carbon Dioxide (CO<sub>2</sub>) from Re-Heating furnace.

**2.0 INFLAMMABLE MATERIALS/GASSES/CHEMICALS USED IN GML SAMAKHIYALI FOR VARIOUS PROCESS/PURPOSE**
**2.1 SPONGE IRON & Power plant DIVISION**

- a) H.S.D. - Its consumption depends on D.G. set operation
- b) L.D.O. - Consumption quantity depends on frequency of kiln light-up
- c) COAL - Maximum 700MT consumption per day & 17000MT stacked at a time.

**2.2 PUMP HOUSE**

- (A) ALUM - Used for water treatment,
- (B) LIME - Used for water treatment,
- (C) SODIUM HYPOCHLORIDE - For purification of portable water (Drinking water)

**2.3 POWER GENERATION**

- (A) Hydrochloric acid - Used in Cooling Tower for treatment of Water.
- (B) Sodium hypo chloride - Used as a coolant in cooling tower of T.G.
- (C) resin - For water treatment purpose.

**3.0 HAZARDOUS SUBSTANCES STORED & THEIR QUANTITY**

SL. NO.	CHEMICAL STORED	STORAGE CAPICITY	STORAGE LOCATION	CONSUMPTI ON	HAZARDOUS NATURE	REMARKS/IMPACT
04	Diesel	20 KL	At Diesel pump (near DG Room)	For Transporting vehicle / Kiln light up / DG Sets	Fire	Dyke wall (1.5 times more than storage capacity) provided, Fire fighting facilities provided. No chances to spread the material outside dyke wall and no impact will be out side dyke wall.
03	Furnace Oil (FO)	22 KL	Near by the Central Store and Rolling mill pre heater area.	12KL /Month	Fire	
05	Sulphuric Acid	Jerican of 5Lit. x 15 Nos.	Central Store.	35Ltr /Month	Toxic, Burns, Corrosion	
06	Hydrochloric Acid	Jerican of 40Ltr X 25 Nos. (1000Ltr)	CPP - DM Plant.	35Ltr.	Toxic, Burns, Corrosion	Isolated area, proper storage, no chances to spread out the material.
07	Hydrazine	Drum of 35Ltr. .	CPP - DM Plant.	25Ltr.	Toxic, Corrosion	
08	Liquid Ammonia	2.25 LTr.	Central Lab.	2.5 Ltr.		
09	Sodium Silicate	12 KL	Near by the Central Store.	12KI /Month		
11	Caustic Flake	1000 Kg (50 kg bags)	CPP - DM Plant.	300Kg/ Month.		
12	Morph line	35 Ltr. Drum	CPP - DM Plant.	30 Lit/Month		
	Sodium Hypo chloride	200 Ltr.	CPP - DM Plant.	150 LTr/ Month.		
13	Coal	17000 Tone Stock Yard	Stock Yard of DRI & CPP	700T/ Day.	Fire	Isolated area, No impact possible to outside the



#### 4.0 PROTECTION SYSTEMS

The Gallantt Metal Limited, Samakhiali which consist Sponge Iron, Power Plant, Induction Furnace, Rolling Mill and has been carefully designed and protected by sophisticated instrumentation, valves, controllers and Inter-locks and it properly maintained and operated so the above risks remain negligible. To run the plant and to control the process, experienced, qualified and trained personnel are deployed. where necessary the employees are equipped with required personal protective equipment for protection against specific hazard. Fire hydrant system is provided to facilitate supply of water under adequate pressure round the clock to the fire vulnerable areas/points/plant sections.

The fire fighting equipments like Fire Extinguishers and Sand Buckets are also provided at conspicuous points to over come the emergency due to Fire.

SL NO	OPERATION PROCESS EQUIPMENT/AREAS	POSSIBLE HAZARDOUS	PRECAUTIONARY MEASURE	MEASURES TO BE TAKEN IF HAZARDS OCCURS.
<b>SPONGE IRON DIVISION</b>				
01	Belt Conveyor Systems for iron Ore, coal etc., Raw material Handling Plant	A. Jamming of conveyor Belts	A. All Conveyor belts must be provided with Trip Wire System	The process to be stopped immediately and the cause of jam must be removed.
		B. Breakage of Conveyor Belts.	B. Head & Tail end are provided by nip guard.	The broken conveyor belt to be replaced or repaired
		C. Splash of Material from Conveyor System.	C. Movement below the conveyor belt during operation must be banned.	Reason for splash to be rectified.
			D. 750 mm wide walk way must be provided both side for movement	
			E. Drives are provided with coupling guards.	
			F. Stop switches with Pull cord must be provided for safety.	
02	Crusher Hopper	A. lone ore or Coal jamming/ bridging in hopper	A. Red light indication to stop feeding of Iron ore /Coal from the yard.	Rock breaker for releasing jamming in hopper
			B. Information given to yard supervisor not to allow supply of Iron ore & coal	
			C. Chain barrier to stop dumping of ore in hopper.	
			D Side gate lower in case of jamming/ bridging in over Jaw Crusher	
			E. Sings/ Abhors/ Wedges are used as a tool for releasing jams. the operation must be supervised by a competent supervisor.	
			F. No worker allow to enter inside the crusher	
03	Mechanical Vibro-feeders	Feeder, tail and Removal of ste clay in Vibro drum.	A. Vibro feeder must be interlocked with other belt.	Safety shoes, Safety helmets & goggles are provided
			B. Line clearance is taken after checking the trip wire system	
			C. Use of Safety	





			appliances.	
			D. Minimum two workmen to take care of men & materials as safety measures	
04	Coal Hopper.	A. Removal of jams. Gantry & Coal Crusher Jamming	A. Hopper jams is mostly cleared with the help pay loaders and other equipments up to grill & below the grill-jam is removed manually by poking with pipe.	The crane movement is done only after obtaining the line clearance.
			B All precautions are taken before sending worker on grill for removing the jam.	
			C. should be ensured the presence of sectional in-charge. A workmen posted for emergency help.	
			D.. connection belts should be kept in ideal.	
05	Coal belts, tunnels & pits	A. Jamming with fine coals dust and spilled material	A. Regular cleaning is being ensured. No welding job is started out when the area is not clean. Smoking is strictly prohibited. Fire hydrants points are provided to spray water in case of fire.	The jam to be cleared immediately before supplies is continued.
		B. Fire cause by welding spark, Electrical short circuit or throwing the lighted bidi & excessive high temperature.		In case of fire all the fire fighting steps to be taken Immediately.
06	Rotary Kiln.	A. Jump out or fall out.	A. Support Roller to be properly maintained	The plant operation to be stopped Immediately.
		B. Rotary Kiln jam or choked due to formation of accretion.	B. Girth Gear and Tyres are to be checked and frequently	The area to be sealed until the cooled for reinstallation.
			C. Structural barrier to be provided to avoid fallout	In case of jam the KILN must be stopped & allowed to cool down before breaking the accretion.
			D. The temperature and the pressure of Kiln to be maintained properly, and ensure all the inter locking systems are working effectively.	
07	Coal Storage Dump	A. Fire Hazard possible	A. No smoking zone declared.	In case of fire water hoses are operated
			B. Water hose provided near to the Dump & Stores	Un burnt heap is immediately removed.
			C. Stored away from electrical installation.	
08	Control Rooms	A. Electrical shock possible due to	A. Earth leakage circuit Breaker is installed	In the event of electric leakage main supply should be





		leakage		immediately shut off.
			B. Shock precaution & treatment chart are displayed.	Shock Treatment & Medical Aid shall be immediately provided.
			C. Operator should be provided with insulated shoes.	
09	POWER PLANT			
	POWER PLANT	A. Leakage of CO Gas	A. CO Gas analysis device installed.	Any case of poisoning CO Gas will be given initiate first health treatment. Cause of CO leakage will be ducted & eliminated.
			B. Fire hazards, due to oil or electrical short circuit.	The system will be shut down and will electrically disconnected till the complete remedy is not done.
10	C) FURNACE DIVISION:			
	Oxygen Cylinder welding gases etc	A. Fire Hazards caused by flames.	A. Fire fighting equipments are installed on the tapping bay used to set out the fire.	Fire Extinguisher shall immediately be used.
		B. Excessive heating of cylinders may cause explosion	B. Water hose provided to fight out fire.	Water hoses will be opened to set out the fire.
			C. Furnace Operators staff and the workers are trained to fight fire.	Emergency alarm to be put on to signal the accident.
			D. Sand buckets are provided near furnace to fight fire.	First aid shall be rushed to the site by the security staff.
			E. Cylinders are kept independently & away from heat zone.	Immediate message shall be passed on to fire station
			F. Cylinders are not allowed to clash with each other.	Immediate message shall be passed on Hospital.
			G. Cylinders are unloaded on sand bed.	Immediate message shall be passed on to Police Station
			H. Gas regulators and strong Gas hoses are used for using the gas.	
			I. Periodic inspection should be done to see the precautionary measures are observed to avoid accident.	
			J. Cylinders are not allowed to roll or dropped.	
11	Furnace is leaked.	In case of damages in running furnace, molten metal may leak causing splash of Hot Metal, also chance of explosion while meet with the water content.	A. Continuous Monitoring of furnace shell should be done & observe proper	Immediately Drain out the furnace by pouring or tapping out.
		Came in contact of hot metal particles.	B. immediately restrict the entry or movement.	Molten slashed metal down before removing Furnace
			C. Heat zone sign displayed near to the furnace.	Further process is stopped till repairs are conducted.
			D. Safety shoes, safety goggles, hand gloves	In case of fire fighting equipments are used to set



			apron & safety helmet provided to workers	out the fire.
			E. Fire prone materials are not brought nearer to the furnace.	
12	Slag Pot	A. Leakage due to breakage in slag pot observed.	A. Frequent checking of Slag Pot be.	Furnace operation to be stopped immediately until slag cool down and after cooling of the slag removed carefully.
13	Coal Storage Dump	A. Fire Hazards possible.	A. No smoking zone declared.	In case of Fire water hoses are operated water is flooded
			B. Water hose provided near to the dump and stores	Un burnt heap is immediately removed
			C. Stored away from electrical installation	Fire alarm is activated. Fire fighting steps are taken
14	Furnace Transformer	A. Fire Hazards possible.	A. Furnace should be operated within the prescribed load.	Power line should be immediately put off ducted.
			B. Carefully changing of taps on load.	fire fighting steps should be taken to stop fire.
			C. Temperature of Furnace Transformer should be observed continuously	Further processing must be stopped till repairing of transformer
			D. Furnace T% Oil level and oil quality is monitored regularly	
			E. Un-authorized persons are restricted, no entry to Transformer Room.	
15	Control Rooms.	A. Electrical shock possible due to leakage.	A. Earth leakage circuit breaker is installed.	A. In the event of electric leakage main supply should immediately shut off.
			B. Shock precaution and Treatment chart are displayed.	B. Shock Treatment and Medical Aid shall be immediately given to injured
			C. Operator should be provided with insulated shoes.	D. All instruments are properly earthed.
				Electrification layout & diagram is displayed
16	Water Cooling pond / Scale pit.	A. Drawing of a man possible.	A. Cooling Pond should be fenced or covered	A. Drowned person should immediately be given first-aid.
			B. Must not be permitted for using the water pond for general utility.	
17	E.O.T. Crane	A. Hoist Rope Breakage possible.	A. No movement of strange people in crane bay will be permitted.	Weak Rope shall be immediately replaced.
			B. Frequent check of the rope and other load bearing material shall be done.	
			C. Prescribed load shall only be allowed.	
			D. Crane operator to	





			give alarm before movement	
<b>18 GENERAL ACCIDENTS:</b>				
01	Lab Chemicals etc.	A. In case of breakage, caused burns & damage to respiratory system due to concrete Acid, Alcohol etc	A. Proper care taken to store/handle chemicals	Instruction Board to be displayed for the knowledge of other man to take care of e situation in the event.
			B. Qualified and trained personnel are employed	
			C. First Aid Boxes available at site	
			D. Fire fighting cylinders available.	
<b>19 Rolling Mill.</b>				
	Roller conveyers.	a) Hot billets rolling on the roller, roll out the moving billet or fall on basement.	a) support arrangements provided on the sides of the conveyer.	
		b) Burn injury due to contact with hot billet.	b) To avoid burn injury, instructed to all employees to keep safe distance.	
		c) Contact with V-belts of roller drive motor.	c) Proper guards were provided to avoid such type of incidents.	
	Process Stands.	a) Breakage of roller stand assembly while running the mill. may lead to incident, result to personal injury or property damage.	a) taking continuous supervision, though the direction of sectional in-charge. b) effective safe operating procedure made available and effectively discussed with the all respective employees.	
	Hydraulic systems.	a) failure on the hydraulic oil storage and pumping unit.	A. Continuous Monitoring of hydraulic system should be done & observe proper	Immediately Drain out the furnace by pouring or tapping out.  Adequate qty of fire fighting equipments should be kept available.
	Re-Heating furnace.	a) exposure of toxic gas (CO)  b) Exposure of fire from the closed openings.	a) continuous air circulation should be ensured in the surrounding the re-heating furnace. b) Continuous monitoring of all the closed openings, if any slight or heavy exposure of fire is identified immediacy fixed or reported.	Fire fighting equipments are available.
	Transformer	A. Fire Hazards possible.	A. Should be operated within the prescribed load.	Power line should be immediately put off ducted.
			C. Temperature of Furnace Transformer should be observed	fire fighting steps should be taken to stop fire.





			continuously	
			E. Un-authorised persons are restricted, no entry to Transformer Room.	Further processing must be stopped till repairing of transformer
	Control Rooms,	A. Electrical shock possible due to leakage.	A. Earth leakage circuit breaker is installed.	A. In the event of electric leakage main supply should immediately shut off.

#### 5.0 IN CASE OF EMERGENCY:

- Inform immediately to Security at Main gate, HOD - Concerned, Director / Manager P&A, V.P Manager Safety.
- In case of fire in the explosives, evacuate personnel to a safe distance and no attempt should be made to extinguish the fire.
- The details regarding the accident should be communicated to the District authorities.

#### ELECTRICAL TRANSFORMER:

**1 POSSIBLE EMERGENCY:** Possibility of catching fire in the Electrical Transformer.

#### 2 PREVENTIVE MEASURES:

- Predictive interlocks are provided which will automatically give an alarm/trip the system.
- In case oil pressure inside transformer tank increases, buchholtz relay provided will sound an alarm and if necessary will trip the transformer and thus avoid oil explosion. A diaphragm is provided at the bottom of explosion vent pipe which will burst to vent out high oil pressure whenever pressure increases beyond limit.
- Fire extinguishers and sand buckets are provided in the transformer room for fighting fire due to explosion or during any emergency situation.

#### 3 IN CASE OF EMERGENCY: -

Inform immediately to Security at Main Gate :- 7574845722

- Ambulance :- 7574845722
- Manager P & A (Mr.Sushil Oza) :-9327734470
- Departmental HOD's
  - SMS :- 9375921970
  - CCM :- 9327734457
  - DRI :- 7574821683
  - Power Plant :- 7574845753
  - Rolling Mill :- 7574845769
  - Project :-7574845788
- Occupier :- 9374597821
- Vice President :- 7574845759
- GM HR - 7574845221
- Manager Safety :- 7574845752.

#### 4. ASSEMBLY POINT

There are total 07 Nos. of assembly points marked inside the plant so that as soon as the non-essential staff and employees came to know about emergency, they shall reach to the assembly point without delaying any further, to ensure their safety and security.

1. Main Gate
2. TMT Yard
3. SMS(Near by Over Head Tank)
4. DRI - Near by the Char coal building.
5. DRI - Near ESP 01
5. Power Plant - Near Cooling Tower.

#### 5 MUTUAL AID SCHEME

Presently, Gallantt metal limited is not covered in any Mutual Aid Scheme. We have well relation with other industries situated at Samkhiyali/Anajar/Gandhinagar ect. to provide facilities in any emergency condition.



**CHAPTER - 5**
**1.0 MAIN ELEMENT OF EMERGENCY PLAN**

<b>1.0 MAIN ELEMENT OF EMERGENCY PLAN</b>		
1.1	Name of Occupier & Address of the Company	Mr.Prashant Jalan GALLANTT METAL LIMITED. SURVEY NO 175/1, VILLAGE SAMAKHIYALI, TALUKA – BHACHAU, DISTRICT – KUTCH, GUJARAT - 370150
1.2	Name of the Product	Sponge Iron, Billet, Power & TMT
1.3	Total No. of Employees	Company-870 and Contractor 380
1.4	Average No. of Employees employed at a time	A Shift – Average 310 B Shift – Average 310 C Shift – Average 250 General Shift – Average 380
1.5	Nos. of quarters in the colony	Quarters –240Nos.
1.6	Identification of Hazards	Given in Chapter 4.
1.7	No. of entry & exit points of the factory	Two.
1.8	Name & Address of HOD – i) Health & Safety Dept. ii) Environment,	Mr.Rajesh Agarwal ( Vice President )
1.9	Details of Fire Fighting Equipment	Given in Chapter 10
1.10	Adequacy of First Aid Boxes & Medical Facilities	α) Fully equipped First Aid Boxes inside the plant are available. β) Well-equipped Dispensary adjoining to the factory with qualified Medical Officers and paramedical staff.
1.11	Training	α) Regular training to employees on fire & safety is being imparted to create Safety awareness amongst all the employees.
1.12	Records	α) Safety Inspection Report β) Mock Drills
1.13	Emergency Power Supply	DG Sets : 06Nos. Total Capacity : 10149KvA (812KvA X 2, 725KvA X 1 & 7200KvA X 1, 1 x 500KvA, 1 X 100KvA)
1.15	Whether mutual aid scheme exists	No.
1.16	External Technical Support	Through Factory Inspectorate.
1.17	Alarm System	Siren is fitted at plant gate to alert Colony residents, Plant and general public in case of eventuality. Siren will be blown 10 seconds and of for 5 seconds to be repeated 3 times.30. second long siren when the emergency is over.
1.18	Message conveyed in emergency.	Inform immediately to Security at Main Gate :- 7574845722 ➤ Ambulance :-7574845722 ➤ Manager P & A (Mr.Sushil Oza) :- 9327734470 ➤ Departmental HOD's SMS :- 09375921970 /CCM :- 9327734457/DRI :- 7574821683 /Power Plant :- 7574845753 /Rolling Mill :- 7574845769 / Project :- 7574845788 ➤ Occupier :- 9374597821 ➤ Vice President :- 7574845759 ➤ GM - HR :- 7574845221 ➤ Manager Safety :- 7574845752
1.19	Assembly points at the time of emergency	The areas are identified as assembly points where employees can assemble in case of emergency.
1.20	Communication System	a) Factory is provided with numerous no. of Mobile phone service & intercom Tel. Connections for communication.. b) Network of Public Address System controlled from Main gate is available for disseminating information.
1.21	Emergency Services	<b>Fire Fighting :</b> a) Fire Fighting Equipment given in Chapter 10.



		b) Well-experienced persons for fire fighting. c) Adequate no. of First Aid boxes and trained First Aiders are available.
1.22	Medical Services	d) A full fledged health centre adjacent to factory and full time medical staffs are employed and are available all the time. α) Minimum stock of medicine is being preserved to meet the emergency requirement. A well-equipped ambulance van is always made available for shifting the affected, in case of emergency.
1.23	Mock Drill	Emergency Mock Drills are conducted once in six months as per annual plan for identified locations and the records are maintained by the Manager safety

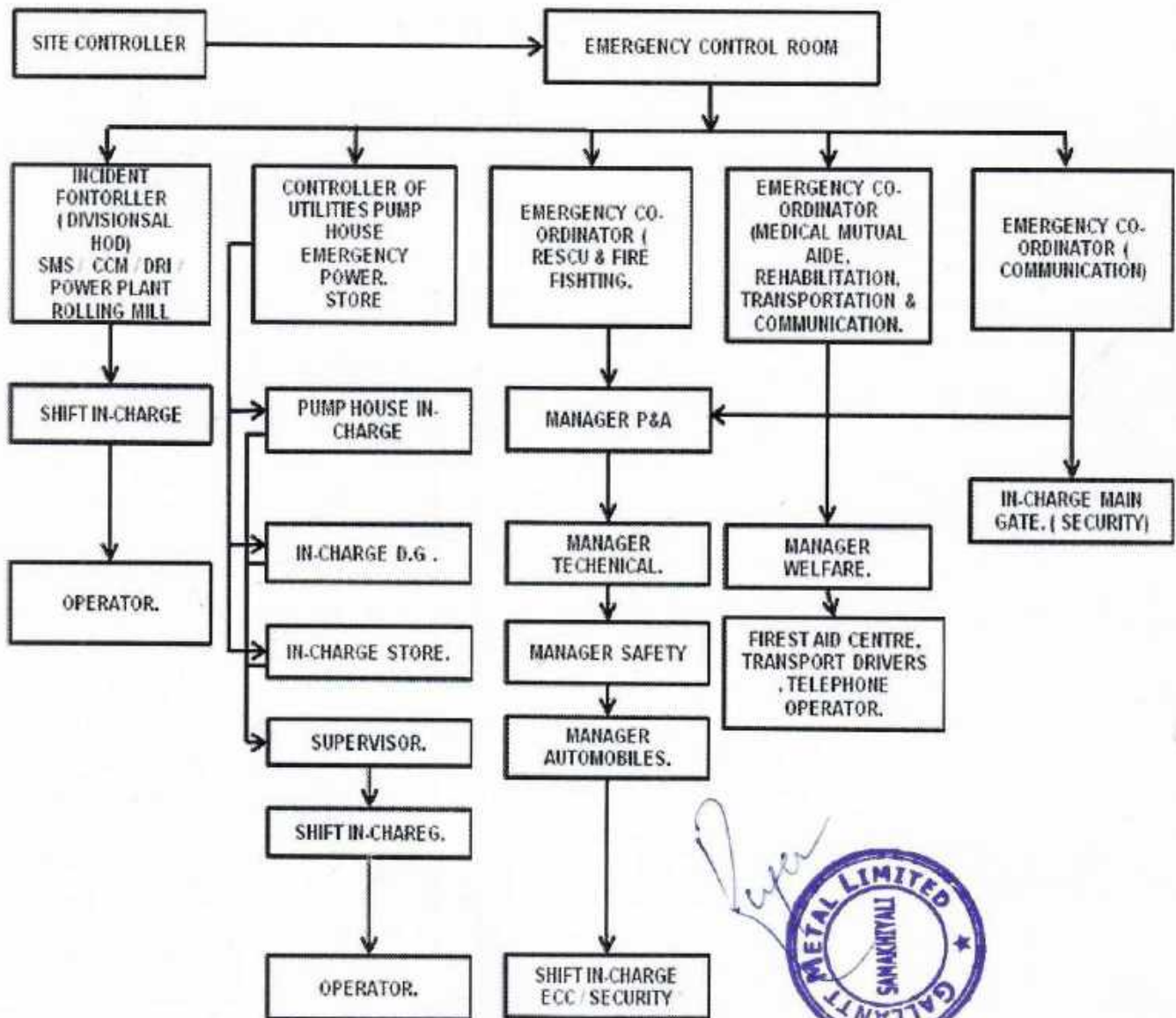




**ORGANISATION FOR MEETING EMERGENCIES**
**1.0 ONSITE EMERGENCIES**

Following officers of the Factory are responsible for co-ordination in case of emergency. They will be called as "Key Personnel". Their organization Designation and telephone nos. are indicated below:

KEY PERSON	ORGANISATION POSITION	TELEPHONE NOS.
		Mobile No.
Site Controller	Operational Director (Occupier)	9374597821
Incident Controller	Respective HODs of the Incident	Chapter 07- 1.0
Administrative Officer	PA & Manager P&A	9327734470
Communication Officer	PA & Manager P&A	Do
Fire & Security Officer	Manager Safety.	7574845752
Telephone operator	Shift in charge (Security)	7574845722/23
Environment, Health & Safety	Vice President /Manager Safety & Welfare	7574845759 / 7574845752 / 7574845708
Medical	Medical Officer	7574845733
Fire Pump Attendant	Shift Operator (Water Pump House)	7574845736 / 24/11



## **2.0 RESPONSIBILITIES OF KEY PERSONNEL**

### **2.1 SITE CONTROLLER**

Director /Occupier or his nominated deputy will retain overall responsibility of the factory and its personnel in case of emergency. As soon as he is informed of the emergency, he shall proceed to the control room and meet the Administrative Officer. His duties shall be:

- Assess the magnitude of the situation and decide if employees need to be evacuated from their working points.
- Exercise direct operational control over the area other than that which is affected.
- Maintain a continuous review of possible development and assess in consultation with incident controller and other key personnel as to whether shutting down of the plant and evacuation of personnel is required.
- Give necessary instruction to Manager PA to co-ordinate with Officials of Police, Fire Brigade, Medical and Factory Inspectorate, Pollution Control Board. Provide advice on possible effects on area outside the factory premises.
- Control rehabilitation of affected area and persons on discontinuous of emergency. Inform to the victims relatives etc.
- Issue authorized statement to news media and ensures that evidence is preserved for statutory inquiries to be conducted by authorities.
- In absence of Site Controller, Acting Site Controller will take over the responsibilities of site controller.

### **2.2 INCIDENT CONTROLLER**

The concerned HODs of the incident area will act as Incident Controller jointly. On hearing of emergency alarm he will rush to the scene of occurrence and take overall charges and report to Site Controller. He will assess scale of emergency and inform the communication officer accordingly. He will:

- Direct all operation within the effected area with the priorities for safety of personnel, minimize damage to the plant, property and environment.
- Pending arrival of site controller assume the duties of his post and in particular direct the shutting down and evacuation of plant and area likely to be adversely affected. Ensure that all-key personnel and outside help is called in.
- Provide advice and information to the HOD - Security and the local fire service as and when required.
- Ensure that all non-essential workers / staff of the area affected are evacuated to the appropriate assembly point.
- In the event of failure of electric supply and thereby Public Address System and internal telephones, setup communication points and establish contact with emergency control centre.
- Report to communication officer on all significant developments.
- Have regard to need for preservation of evidence to facilitate any inquiry.
- In absence of Incident Controller, next section in-charge will take over the responsibilities.

### **2.3 ADMINISTRATIVE OFFICER**

PA/ Manager PA will act as Administrative Officer, stationed at the main entrance of Plant during the emergency. He will, under the direction of the Site Controller, handle Police, Press and other inquiries, receive reports from roll-call leaders from assembly points and pass on the absentee information to the Incident Controller. His responsibilities shall be:

- To ensure that casualties receive adequate attention / to arrange additional help if required and inform relatives,
- To control traffic movements inside the factory and ensure that alternative transport is available when need arises





- When emergency is prolonged, arrange for the relief of personnel and organize refreshments / catering facility.
- In absence of Administrative Officer, Communication Officer (2<sup>nd</sup> In-charge – HR &PA) will take over the responsibilities.

#### **2.4 COMMUNICATION OFFICER**

- Manager P&A will work as a Communication Officer. He will proceed to Emergency Control Centre on hearing alarm and maintain communication with Incident Controller. He will:
- Pass information to the Site Controller / Incident Controller accordingly. Recruit suitable persons to act as runner between incident controller and himself if telephone falls due to any reason.
- Maintain a log of the incident in a register kept for the purpose at the emergency control room.
- Inform out side agency for mutual aid if required
- In case of a prolonged emergency involving risk to outside area by wind-blown materials – contact local meteorological office to receive early notification of changes in weather conditions.
- In absence of Communication Officer, Dy. In-charge – (P&A) will take over the responsibilities.

#### **2.5 FIRE & SECURITY OFFICER**

Manager PA will act as Fire and Security Officer. On hearing Siren / receiving information he will reach the fire station immediately and advise Safety and security personnel in the factory about the incident zone.

He will direct the Fire Brigade and Emergency services at the incident site.

On Public Address System or convey through telephones or messengers to the Communication Officer, Incident Controller and Site Controller about the Incident Zone. He will open the gates near to the incident Zone and stand by to direct the emergency services.

In absence of fire and Security Officer, Unit commander of Hired Security agency will take over the responsibilities.

#### **SECURITY TEAM (TOTAL PERSONNELS. 34)**

- a) Main Gate and Plant Gate to restrict the unauthorised entry.
- b) To bar entry of unauthorized persons.
- c) To permit, with minimum delay, the entry of authorized personnel and outside agencies, vehicles, etc., who have come to extend their help in emergency?
- d) To allow the ambulance/evacuation vehicles, etc. to go through gates without normal checks.

#### **2.6 TELEPHONE OPERATOR**

Shift In-charge (Security) will act as Telephone Operator. On hearing the emergency alarm, he will immediately contact Site Controller and on his advice call the local fire brigade or mutual-aid scheme members. In case the PAS internal / external telephone system becomes inoperative, he shall inform the Communication Officer through a messenger. In case fire is detected and the alarm is not in operation, he shall receive information about location from the person who detected the fire and thereafter immediately consult the Incident Controller and make announcement on PAS or telephone communicating staff about location of the incident and to evacuate to their assembly point. He will continue to operate the switch

Board advising the callers that staff are not available and pass all calls connected with the incident to the communication officer.

#### **2.7 DEPARTMENTAL HEADS**

The Departmental Heads will reach the affected area immediately after hearing telephone or alarm. They will assist the Emergency team / Incident Controller as required.

#### **2.8 ELECTRICAL ENGINEER**

Shift In-charge (E&I) works as a Electrical Engineer. He will assist and act according to Incident Controller. He will arrange for substitute power supply in emergency and arrange for shutting down of plant if required.





**2.9 MEDICAL OFFICER**

The Medical Officer of PIL Occupational Health Centre will work as Medical Officer. He will arrange all possible help to victim at hospital and refer those to Any Hospital at Samakhiyali / Bahcau/Gandhidam as he thinks fit. He has to preserve minimum quantity of medicine and medical equipment to meet the requirement at the time of emergency for immediate relief.

**2.10 FIRE PUMP ATTENDANT**

The Shift Operator of Pump House will act as Fire Pump Attendant. On hearing the fire alarm they will immediately proceed to the pump house to ensure that pumps are operating and stand by to maintain continuous supply of fire water pumps are ready. At the end of emergency they will be relieved of their duty by the fire and security officer.

**2.11 FIRST AID TEAMS**

The Administrative Manager keeps the roll call lists for the Fire and First Aid team on duty. Roll call leaders and first aiders are appointed by each Departmental Head for his shift team. Roll call leaders shall check their rolls as members of services and report for emergency duty. Names of unaccounted persons or absentees are informed to the Fire & Security Officers. Members of the First-Aid teams report to the Incident Controller on hearing the alarm and follow his directions.



**CHAPTER – 7****1.0 Action Flow Chart in-case Organisation meets any Emergency**

If any emergency like fire, incident/accident etc. happens in the plant, the same has to be immediately informed to Security at Main Gate (Phone No9377578038) for blowing the emergency siren. Shift In-Charge – Security/Receptionist will inform key personnel. The Emergency alarm will be blown for 10 seconds and off for 5 seconds, to be repeated 3 times by security personnel at plant gate. On hearing telephone or alarm, the key personnel will act as per responsibilities. All clear alarm will be blown by security staff at plant gate for 30 seconds after getting message from Site Controller.

**INCIDENT SITE**

↓  
**Message to be Plant Gate (Security) from site to blow the emergency siren and Reception for communication to key persons**

↓  
**After getting the communication Ambulance along with medical crew team (1-2) persons and fire fighting team of plant gate (5-6) persons will reach the site**

↓  
**The other members like Director/ HOD's of the incident area/ Sr.GM (HR & PA), EHS Head, Concern Area In-charge, In-charge Utility will reach the site for smooth action**

↓  
**Security in-charge along-with Safety Officers will cordon off the area of incident, if required**

↓  
**The Fire crew and medical crew teams will work along-with such area team depending upon the emergency size to overcome from the emergency including people of the area sent to safe place (assembly point), fire fighting and shifting of persons to dispensary and hospital etc.**

↓  
**Manager PA will act as Administrative Officer, stationed at the main entrance of Plant (Plant gate) during the emergency. He will, under the direction of the Site Controller, handle Police, Press and other inquiries, receive reports from roll-call leaders from assembly points and pass on the absentee information to the Incident Controller. His responsibilities shall be:**

- To ensure that casualties receive adequate attention / to arrange additional help if required and inform relatives,
- To control traffic movements inside the factory and ensure that alternative transport is available when need arises.
- When emergency is prolonged, arrange for the relief of personnel and organize refreshments / catering facility.
- In absence of Administrative Officer, Communication Officer (In-charge –HR & PA) will take over the responsibilities.

↓  
**After the emergency is successful overcome In-Charge Security will inform plant gate for raising all clear siren**

**This system will be followed up for entire plant**





## 1.0 ACTION IN EMERGENCY AND POST EMERGENCY

### EMERGENCY ALARM SYSTEM

If any emergency like fire arises, incident/accident etc. in the plant, the same has to be immediately informed to Security (Main gate/Plant gate, telephone 7574845722. Shift In-Charge – Security will inform key personnel consequently inform all concerned through telephone/Mobile and to blow the Alarm at Security Main Gate. The Emergency alarm will blow for 10 seconds and off for 5 seconds, to be repeated 3 times by security personnel at plant gate. On hearing telephone or alarm, the key personnel will act as per responsibilities. All clear alarm will be blown by security staff at plant gate for 30 seconds after getting message from site controller. The procedure for all the emergency situation as mentioned.

AGENCIES TO BE INFORMED	Contact Nos.
SECTIONAL IN CHARGE	
➤ DRI	7574821683
➤ POWER PLANT	757484753
➤ SMS	9375921970
➤ ROLLING MILL	7574845769
➤ PROJECT	7574845788
➤ MMG	7574845703
➤ STORE	9374597821
➤ SLAG CRUSHER	7574845738
OCCUPIER	9374597821
VICE PRESIDENT	7574845759
GM- HR & ADM	7574845221
MANAGER - P & A	9327734470
IN-CHARGE SECURITY	7574845722/23
OCCUPATIONAL HEALTH CENTRE	7574845733

## 2.0 DISSEMINATION OF INFORMATION

2.1 The Site Controller in coordination with HOD (HR & PA) makes decision regarding release of information to the news media.

The information is released if it is determined that:

- It is in the public interest
- News of the incident is likely to be distorted by employees or external workers at site
- News of the incident is likely to be circulated among community with misleading impression
- Company concern for the Environment, Health & Safety and their willingness to restore conditions in original state.

## 2.2 RESPONSIBILITIES TO THE MEDIA

2.2.1 Receive the news media at the plant entrance

2.2.2 Permit reporters & photographers to enter the plant during emergency unless safety precaution preclude it.

2.2.3 Promptly handle all requests for information to the news media all the principle facts of the situation.

## 2.3 OUTSIDE AGENCY

In case, any help sought from outside agency, the concerned agency is contacted immediately.

## 3.0 POST EMERGENCY ACTIONS

The incident controller checks the area thoroughly for possible hazards such as toxic fume or live wires after emergency and will inform site controller accordingly.

The key personnel meet to evaluate their individuals and overall performance in responding to situation after the emergency is over the review shall determine -

- Effectiveness of emergency response plan
- Performance of Plant Personnel





- Any need for updating or revision of the emergency response plan
- Suitable arrangements to restart the Plant
- Rehabilitate evacuated area
- Adopt measures to prevent similar recurrence.

#### **OTHER EXTERNAL EMERGENCY**

Hazard is an existing or potential condition in the work place, which by itself or by interacting with other variables, can result in unwanted effects of death, injuries, property damage and other losses. Alternatively hazard may be defined as the result of a departure from the normal situation, which has the potential to cause injury, damage or loss.

The type of incidents that can lead to disaster scenarios in a Steel Plant due to Natural Calamities are:-

- Earthquake
- Cyclone
- Act of War
- Floods

These risks of an accident can be however reduced to a great extent by good design, operation, maintenance and inspection of the plant. But there is always a chance for an accident-taking place. Absolute safety is not achievable and hence emergency planning is an essential part of major hazard control programme. It aims at, controlling the emergency and generally mitigating the adverse effects effectively of a major incident. The above mentioned emergency handling system can be practices in-case of any natural calamities like assemble in safe area, follow wind direction, communication to the authorities, obtain help from the external agencies etc.



**EMERGENCY PLANNING FOR FOOD POISONING AND FOR FIRST AID CASES**

**What is food poisoning?**

This may be caused by eating food that is contaminated, either by bacteria or by toxins produced by bacteria that were present in the food at same stage.

**Types of food poisoning**

Bacterial food poisoning is often caused by the salmonella group of bacteria (associated with farm animals, particularly poultry). Symptoms may appear within a few hours, or be delayed for a day or so.

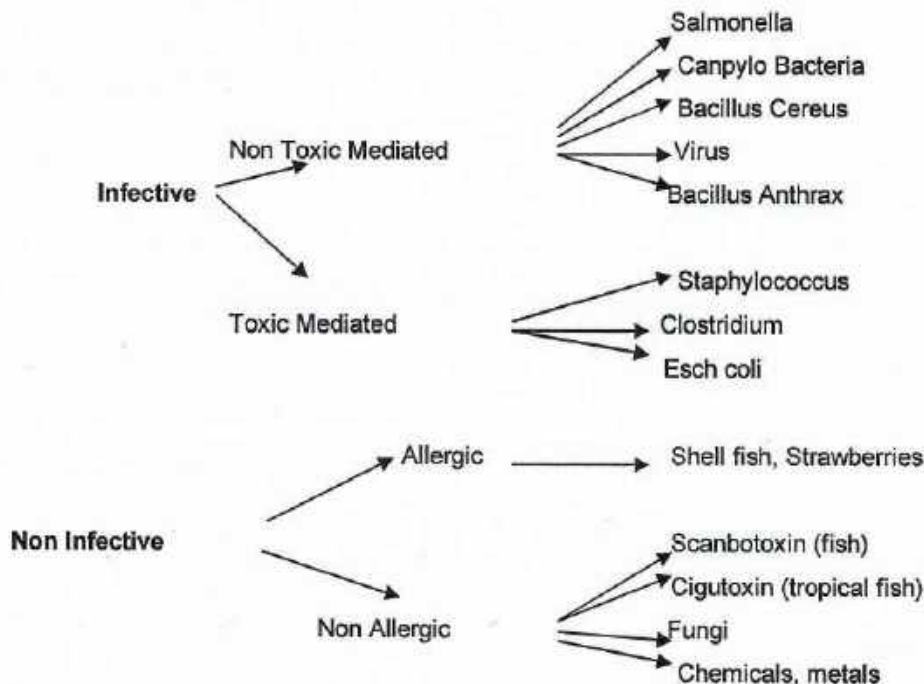
Toxic food poisoning is frequently caused by toxins produced by the bacteria group staphylococcus. Symptoms usually develop rapidly – possibly within two to six hours of consumption.

**RECOGNITION**

There may be:

- Nausea and vomiting.
- Cramping abdominal pains.
- Diarrhoea (possibly bloodstained).
- Headache.
- Fever.
- Features of shock.
- Collapse.

It is classified in to infective and non-infective.



**Purpose**

To establish a system for minimizing the severity due to food poisoning on employees after eating food in canteen and to establish smooth treatment for faster recovery.

**Scope**

Applicable to employees developing symptoms such as nausea, vomiting, headache, stomach-ache, diarrhoea after eating food in canteen.

**Responsibility**

Welfare officer will initiate actions as site controller till Factory Manager or his Deputy arrives at site.

**Activities**

On hearing the information of symptoms of food poisoning welfare officer will have to order canteen supervisor to stop serving food and to stop all others eating food further.

1. Inform Dispensary.





2. Medical Officer to inform, Manager P&A, Occupier and other HODs.
3. welfare officer, P&A official & safety effected immediately to dispensary for necessary First Aid.
4. Summon Factory medical officer and First Aiders to attend on victim.
5. Canteen supervisor should see that the evidences of possible contaminations are not lost and is preserved.
6. Canteen supervisor should inform Factory Medical Officer about the possible source of food poisoning
7. welfare officer will collect information from victims and canteen supervisor about the type of food that has caused the illness and inform the findings to Factory Medical Officer, Sr.G.M ( HR & PA) and Occupier.

**Site Controller**

Manager PA & Welfare on hearing the information will come to clinic and take charge from shift in-charge. He will assess the situation in consultation with medical officer decide and order for shifting of victims to outside hospitals for immediate treatment or call out side Doctors for help. He will also inform the situation DMC members at least one DMC member over phone.

**Factory Medical Officer**

Medical Officer on arrival to clinic discuss with canteen supervisor about the food served and asses the condition of victims with para medical team and if necessary give immediate correction of dehydration either by oral dehydration fluid or by intravenous fluids.

Antibiotics therapy if the poisoning is due to infective food material. He will also alert Doctors in nearby hospitals for keeping beds and medicines ready for immediate treatment. He will also appraise the conditions to site controller and advice for shifting of victims to different hospitals or call other doctors to extend help in our clinic.

**Factory Accountant**

To provide required transport facility in consultation with site controller for shifting the victim from the factory to out side nursing homes. He will receive orders from site controller.

**Manager - P & A.**

To liase with outside hospitals, police and district authorities for necessary immediate help and to inform statute authorities like Inspector of factories and inspector of police in case of serious incidents.

**Security Officer**

To control traffic and see that the rail gate is kept open for traffic till the situation comes under control. He will control all unwanted elements entering the factory during the emergency.

**EHS Head**

Co-ordinate with welfare officer and canteen supervisor to search for possible evidences and to collect samples of food and raw material for further analysis if required.

**All Other HOD's**

Will assemble near dispensary along with first aiders to help site controller for shifting victims to hospitals and informing the family members of victims.

**Medical Management**

1. Immediate correction of dehydration either by oral dehydration fluids or by intravenous fluids.
2. Antibiotic therapy if the poisoning is due to infective material.

**EMERGENCY PLANNING FOR FIRST AID CASES FIRST - AID**

First-aid is the immediate care given to the victim of an accident or sudden illness before the arrival of a qualified expert. The purpose of First-aid is to preserve life, assist recovery, prevent aggravation and minimize complications at a later date with the help of such material as may be available.

**ARTIFICIAL RESPIRATION**

- Mouth to Mouth: This is appropriate and effective technique for emergency artificial respiration.
- Keep the head slightly backward and open the jaw.
- Seal the casualty's nose to prevent escape of air by pinching with thumb and index finger.
- Take a deep breath, open your mouth widely, place it over the victim's mouth and make a tight seal.
- Quickly blow the full breath into the mouth of victim.
- Remove your mouth from the victim and allow him to exhale passively.
- Repeat the procedure 12 to 15 times per minute, till medical aid is arranged.
- Arrange immediate medical aid.





**Cautionary Note**

- Do not give mouth to mouth resuscitation during CPR in the presence of toxins such as cyanide, hydrogen sulphide, corrosives and organo-phosphates. Ventilate the casualty by using a face mask or bag/valve/mask assembly.
- Avoid mouth to mouth resuscitation if there is possibility of transmission of infection between the victim and the rescuer, such as HIV, Hepatitis-B, Tuberculosis, Shigellosis, Meningococcal meningitis, Herpes simplex virus and Salmonella. Use an interpositional airway device which must function effectively in both its resuscitation and protective roles, and be immediately available at all times.

**CONTROL OF BLEEDING**

- Apply direct pressure by thumb or finger.
- Apply dressing – gauze pad and bandage.
- Apply indirect pressure on pressure points.
- Apply tourniquet.
- Remove the injured to the hospital.

**FRACTURES**

- ✓ Signs of Fracture: Pain, Tenderness, Swelling, Loss of Power, Deformity
- ✓ Do not move the injured unless the life is endangered from other causes.
- ✓ Deal with the haemorrhage and breathing difficulties.
- ✓ Immobilise the fracture by using suitable splints.
- ✓ Immobilisation should include one joint above and one joint below the fracture.
- ✓ Remove the injured to the hospital.

**BURNS**

- Pour running cold water on the affected part.
- Do not apply ointments or oils or any other substance.
- Cover the wound with sterilized cloth.
- Give artificial respiration, if needed.
- Prevent shock.
- Arrange immediate medical aid.

**SHOCK**

- Lay the patient on his back.
- Stop bleeding, if any.
- Relieve pain by supporting the injured part.
- Keep the patient comfortable.
- Do not cause sweating.
- Fluids may be given by mouth in small amounts, if the patient is conscious.
- Reassure the patient.
- Arrange immediate medical aid.

**WOUNDS**

- Stop the bleeding, if any.
- Avoid touching the wounds.
- Cover the wound with sterilized cloth.
- Arrange immediate medical aid.

**EYE INJURIES**

- Removal of foreign body should not be attempted.
- Do not apply oil or ointment.
- Apply sterile pad and loose bandage.
- Send the patient to the hospital.

**ABDOMINAL WOUNDS**

- No time should be lost in sending the patient to the hospital.
- Keep the patient flat on his back.
- Give nothing by mouth.
- Maintain warmth.
- If intestines protrude from the wound, do not attempt to touch or replace them.



- Apply sterile dressing and binder on the wound.
- Provide immediate transportation to the hospital.

**BACKBONE FRACTURE**

- Fracture of backbone may lead to paralysis of limbs. Hence, victim should be handled with great care.
- Transport on a rigid frame, which may be improvised by using available board.
- The rigid frame is to be placed on a stretcher for transportation.
- Immediate hospitalization is needed.

**HEAT STROKE**

- Make the patient lie down.
- Remove all clothings except the underwear.
- Keep the patient under the fan.
- Pour cold water on the body repeatedly.
- Wash the head thoroughly with cold water and dry it with towel.
- Record body temperature falls up to 38°C stop pouring water.
- Give plenty of cold water with a pinch of common salt in each glass of water to drink.
- Send the patient to the hospital.

**BLEEDING NOSE**

- Make the patient sit on a Chair with head downward.
- Pinch the nose with fingers and thumb.
- Apply ice or cold compression.
- Do not plug the nostrils.
- Do not put water or any medicine through the nostrils.
- Send for medical aid immediately.

**FOREIGN BODY IN THE NOSE**

- Do not try to remove the solid object.
- Ask the patient to breathe through mouth.
- Send the patient to the hospital.

**BLEADING EAR**

- Lay the patient with the head slightly raised.
- Incline the head to the affected side and apply a dry dressing over the ear with loose bandage.
- Do not plug the ear.
- Apply pressure in front of the ear.
- Send for medical aid immediately.

**FOREIGN BODY IN THE EAR**

- Solid – Do not try to remove, scratch or probe it.
- Insects – Put a few drops of water in the ear and turn the head so that affected ear points upwards.
- Keep the head in that position for 5 minutes, then turn the head downwards so that the water flows out.
- Arrange immediate medical aid.

**SNAKE BITE**

- Reassure the patient
- Do not allow the person to run or walk
- Apply a ligature above the wound (in between the heart and the wound) if the bite is in the leg or hand.
- Wash the wound with potassium permanganate solution or with soap and water.
- Allow free bleeding.
- Never suck the blood from the wound.
- Treat for shock.
- Arrange immediate hospitalization, by transporting the patient in a lying down position.

**DOG BITE**

- Clean the wound immediately with water.
- Then wash with antiseptic soap and water.
- Do not try to stop bleeding.
- Do not cover the wound.
- Send the patient to hospital for treatment.



**INSECT BITE**

- The sting bite should be pulled out.
- Apply cold compression.
- Apply vinegar diluted with water.
- Soda-bicarbonate paste should be applied at the site.
- Prevent shock.
- Send for medical aid immediately.

**CHEMICAL BURNS OF THE EYES**

- Immediate washing of the eye with clean water at least for fifteen minute or longer.
- Apply sterile dressing over the eye.
- Neutralising agents or ointments should not be used.
- Send the patient to the hospital.

**SUFFOCATION**

- Remove the patient from the source
- Clean the airways.
- Restore breathing by artificial respiration.
- Send the patient to the hospital.

**ELECTRIC SHOCK / INJURIES**

- Do not touch the casualty while he is still in contact with electricity.
- Switch off the current at once.
- Do not attempt first aid until the contact has been broken.
- Make the air passage clear and clean.
- Restore breathing Artificial respiration and external cardiac massage, if needed.
- Call for immediate medical aid.
- Send the patient to the hospital.

**POISONING**

- Find the nature of the poison
- Give universal antidote mixture as given below to drink
- Charcoal Powder – 2 table spoons, Coffee Powder – 2 table spoons, Chalk Powder – 1 table spoon
- Add it to a glass of warm water and mix well
- Send the patient immediately to the hospital

**UNCONSCIOUSNESS**

- Make the patient lie down on his belly with head turned to one side.
- Check breathing and pulse.
- Loosen tight clothing's.
- Clean the air-way.
- Give artificial respiration and external Cardiac Massage, if needed.
- Transport the patient to the hospital.





**DETAILS OF FIRE PREVENTION AND FIRE FIGHTING**
**1.0 FIRE PREVENTION AND FIGHTING**

We have the following arrangements for prevention and fighting the fire:

- a) Main Reservoir : Three
- b) Diesel Pump : One
- c) Overhead tank : One.
- d) Fire Fighting Installations : Every Division

At following points the hydrants are provided:

- 1. Power Plant
- 2. DRI
- 3. Switch Yard

**e) Fire Extinguishers:**

SR. NO	UNIT NAME	TYPES OF FIRE EXTINGUISHERS.								
		FIRE BUCKET	CO <sub>2</sub>		A B C / DCP				M F	
			4.5 KG	22.5 KG	1KG	5 KG	10KG	50KG	50 L	9 L
	<b>ROLLING MILL</b>									
1	ROLLING MILL COOLING TOWER PANEL		1							
2	ROLLING MILL PANEL ROOM (VEGA)		2							
3	ROLLING MILL PANEL ROOM (GEMCO)		1							
4	ROLLING MILL PANEL ROOM (NEW CONTINUOUS MILL PANEL)		2							
5	NEAR ROLLING MILL COMPRESSOR		1			0				
6	AREA BETWEEN PANEL ROOM & LATHE WORKSHOP		1				1			
7	ROLLING WORKSHOP		1			1				1
12	ROLLING MILL NEW PULVERISER AREA	5					1			
13	ROLLING MILL GAS PLANT						1			
	<b>SUM</b>	<b>5</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>0</b>	<b>1</b>
	<b>TOTAL NO OF FIRE EXTINGUISHERS IN ROLLING MILL</b>					<b>22</b>				
	<b>SMS</b>									
1	S. M. S CONTROL ROOM		2							
2	S. M. S TRANSFORMER (1)						2			
3	S. M. S TRANSFORMER (2 & 3)			2				2		
4	S. M. S PANEL ROOM 1						4			
5	FURNACE PUMP HOUSE		2				1			
6	S.M.S LAB						1			
7	S. M. S TRANSFORMER (4 & 5)							2		



	SUM		4	2	0	0	8	4	0	0
	TOTAL NO OF FIRE EXTINGUISHERS IN SMS		18							
	CCM									
1	CCM LADLE STAND TOP FLOORE		1							
2	CCM CASTING UNIT (SECOND FLOORE)		1				2			
3	CCM CASTING UNIT (FIRST FLOORE)					1	1			
4	CCM GROUND FLOORE						1			
5	CCM CONTROL ROOM						1			
	SUM		2	0	0	1	5	0	0	0
	TOTAL NO OF FIRE EXTINGUISHERS IN CCM		8							
	STORE									
1	STORE ENTRANCE									2
2	NEAR WEIGHT MACHINE									
3	NEAR STORE RACK						1			
4	KERP SIDE DIESEL PUMP	4								
	SUM		0	0	0	0	1	0	0	2
	TOTAL NO OF FIRE EXTINGUISHERS IN STORE		3							
	SWITCH YARD/DG									
1	DG ROOM		1			1	1		1	
2	SWITCH YARD		3			1				
	SUM		4	0	0	2	1	0	1	0
	TOTAL NO OF FIRE EXTINGUISHERS IN STORE		8							
	CPP PLANT									
1	COMPRESSOR ROOM (Ground Floor)	4	2			1				2
2	MAIN OIL TANK (First Floor)	4				1	1		1	1
3	HT LT SWITCH ROOM/MCC ROOM (First Floor)		3	1						
4	BATTERY ROOM (Turbine Floor)		2							
5	DRIVE ROOM/ELECTRICAN ROOM (Turbine Floor)		2							
6	CONTROL ROOM/CCR (Turbine Floor)		2							
7	TURBINE FLOOR		2				2			
8	FCS ROOM (Electrical Panel)(Turbine Floor)		1							
9	BOILER DRUM		2							
10	TRANSFORMERS (Back side of Ground Floor)							1		
11	PROJECT OFFICE (Back side of control room)				2					
12	COAL YARD					1				4
	SUM	8	16	1	2	3	3	1	1	7
	TOTAL NO OF FIRE EXTINGUISHERS IN CPP		41							



DM PLANT									
1	D.M PLANT (Ground Floor)		2			1			
2	DEORATION STORES (Near DM Plant)								2
3	CENTRAL LAB/SPONGE LAB (NEAR DM Plant)			2		1			1
	SUM		2	0	2	1	1	0	0
TOTAL NO OF FIRE EXTINGUSHERS IN DMP			9						
SPONGE IRON PLANT									
1	NEW PRODUCTION HOUSE					1	1		
2	OLD PRODUCTION HOUSE					1	1		
3	STOCK HOUSE					2	1		
4	MECHINAL ROOM		1		1				
5	MCC ROOM		3	2					
6	CONTROL ROOM		1	1	1				
7	MAIN OIL TANK								1
8	KILLAN 1-2						4		
9	KILLAN 3-4		3			4	2		
10	ABC					1	1		
11	DSC					1	1		
12	ABC PLATFORM		2						
13	TRANSFORMER							1	
	SUM		10	3	2	10	11	1	1
TOTAL NO OF FIRE EXTINGUSHERS IN SPONGE			38						
MAIN GATE									
1	Gate Office						2		
	SUM		0	0	0	0	2	0	0
TOTAL NO OF FIRE EXTINGUSHERS IN MAIN GATE			2						
ADMIN BUILDING									
1	OUTSIDE ADMIN BUILDING PARKING SIDE								
2	OUTSIDE ADMIN BUILDING GARDEN SIDE						1		
3	GUEST HOUSE					1			
4	ADMIN BUILDING FIRST FLOORE						1		
	SUM		0	0	0	1	2	0	0
TOTAL NO OF FIRE EXTINGUSHERS IN ADMIN			3						

All the above fire appliances are approved by ISI.

## 2.1 MOCK FIRE DRILLS:-

The Mock fire drills are carried out in every Six months and the records are maintained by Safety dept.





<b>EXTERNAL AGENCIES – CONTACT DETAILS</b>	
<b>DESIGNATION</b>	<b>OFFICE</b>
District Collector office Bhuj	022832- 250024
Sp office Gandhidam	02836 - 227936
Factory Inspector	02836 - 260020
Police Station Samakhiyali	02837 - 283542
Police Station, Bachau	02837 - 224036
Fire Brigade, Bahau	02837 - 224028
Fire Brigade, Gandhidam	02836 - 231610
CMO, Bachau ( Govt. Hospital )	02837 - 224034
Wagad Well fare Hospital , Bachau	02837 - 224041/61
Govt. Hospital Gandhidam	02836 - 261626
Fire Brigade, Gail India. -Fire Officer .	9712212685
Regional Officer, Gujarat Environment Conservation Board, Bhuj. .	02832 - 250620
Medical Officer Mahim Hospital, Samakhiyali.	02837 - 283528
Tab Hospital, Gandhidam.	02836 - 261393
Thakar Hospital , Bchau.	02837 -224140
Electrotherm India Limited. Samkhiyali (Mr.R.P.Singh )	9684673996
A.S.R. Multi metals, Samakhiyali. ( Mr.Anil Sharma )	9979895108



CIVIL POPULATION AROUND 10.00 KM OF GML			
SL NO.	VILLAGE NAME:	POPULATION (APPROX.)	DISTANCE IN KM (APPROX)
01	SAMAKHIYALI	7500	3
02	LALIYANA	2500	6
03	JUNGI	3500	9
04	LAKHPAT	2500	8
05	CHHADWARA	2000	9
06	AMALIYARA	2000	12
07	GHARAMA	2000	5
08	VIJAPASAR	2500	7



## **ANNEXURE J**

### **COPY OF HEAT STRESS REPORT**



# Industrial Hygiene Exposure Assessment Report of “HEAT STRESS”

Period: December 2020



*Client:*

**M/s. Gallantt Metal Ltd**  
**Survey No. 175/1,**  
**Nr. Samakhiyali Toll Tax,**  
**Village: Samakhiyali,**  
**Taluka: Bhachau,**  
**Dist. Kutch – 370 150.**  
**Gujarat.**

*Prepared By.*



## **Royal**

**Environment Auditing & Consultancy Service**

303-304, Shivalik-7, B/s. Bal Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com





# Royal

## Environment Auditing & Consultancy Service

303-304, Shivalik-7, B/s. Bai Adalat, Gondal Road, RAJKOT - 360 002.

Ph.: +91 281 2360695 ■ E-mail: royaleenvironment@live.com ■ admin@royalconsultancy.com

**Date:** December 21, 2020

To,

**Gallantt Metal Ltd.**

Village: Samakhyali, Taluka: Bhachau,

Dist.: Kutch – 370150,

Gujarat

**Sub: Heat Stress Assessment Study Report – December 2020**

Dear Sir,

Royal Environment Auditing & Consultancy Service is pleased to provide you Industrial Hygiene Quantitative Exposure Assessment Report for “**Heat Stress**”. The assessment was conducted at Gallantt Metal Ltd., Samakhyali, on **December 8, 2020**.

We have taken all due considerations follow standard procedures and used defined instruments for monitoring. Based on information, observations, and result, we have given our conclusion and recommendation for sustenance and further improvement.

Wish REACS will be involved in same or other IH&S related services for your organization!

**Royal Environment Auditing & Consultancy Service**



**Digvijay Jadeja**

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## 1. INTRODUCTION

Gallantt Metal Ltd is a steel manufacturing unit located at samakhyali-kutchh. During steel manufacturing process metal scrap materials is melt in the heating furnace. To maintain parameters during process a additional scrap is charged manually to furnace. During process slag generated at top of furnace is being removed manually.

During above two activities of additional scrap charging and slag removal the workers are exposed to high temperature zone.

To take care of occupational health all workers exposed to high temperature area and as per Condition no. “VIII. Public Hearing & Human Health Issues (ii)” of Environment Clearance (EC) F.No. J-11011/52/2013-IA.II(I) Dated: 17/06/2019 the company has decided to carry out Quantitative Exposure Assessment for Heat Stress by *Royal Environment Auditing & Consultancy Service (REACS)*. Survey was carried out on 8<sup>th</sup> December 2020.

## 2. PRINCIPLE SURVEYORS FROM REACS:

- Mr. Parth Godhani, Technical Head.
- Mr. Jagdish Makavana, Field Executive.

## 3. PURPOSE:

The purpose of the assessment for area *Heat Stress Exposure* undertaken is to assist the client to notify the exposures to health hazards to take necessary precautions at site.

## 4. ASSUMPTIONS

Following assumptions limitations have been considered while conducting the area and personal heat stress assessment at Gallanttt Metal Ltd., Samakhyali.

- The information provided by Gallanttt Metal Ltd. is accurate.
- All the processes are the same on any other common working day.
- All equipment's are in operation at the best of their capabilities and



same as on any other common working day.

- Uncertainty towards variation of job size, job duration and job work are not considered.
- The people involved in respective onsite jobs are the same as on any other common working day.

## 5. DECLARATION

- This report provides insight towards existing exposure of Heat Stress as on the day, date and time when the monitoring was conducted.
- The quantitative exposure assessment is made based on the area. locations made available/ considered by site.
- The information gathered during quantitative exposure assessment will be restricted to site, premises and will not be shared with anyone else / any other industry.

## 6. USE OF THIS REPORT

The report is based upon the application of scientific principles, professional judgment, and experience. Nothing contained in this report regarding the exposure levels, shall be used as the confirmative statements, data for either onset or existing occupational diseases within the work area. Professional judgment from the qualified occupational health physician should be acquired for the in repetition of the onset or existing occupational diseases, if any. This report does not provide any confirmatory base-data / base-line to words the health of the employees on which the exposure assessment was conducted.

## 7. STANDARDS AND GUIDELINES

Following standards and guidelines were followed to conduct the monitoring of Heat Stress, and for comparing with suggested National. International Standards/Guidelines.

- Occupational Health and Safety Administration [OSHA]
- American Conference of Governmental Industrial Hygienists [ACGIH]
- National Institute of Occupational Safety & Health [NIOSH]
- The Factories Act, 1948





Industrial Hygiene Exposure Assessment Report – "HEAT STRESS" : December-20  
Gallantt Metal Limited, Samakhya – Kutch.

**Threshold Limit Values.**

Analyte	TLV	Guidelines [OSHA/NIOSH/ACGIH/ The Factory Act, 1948]
Heat Stress	30 °C	The Factories Act, 1948, OSHA, ACGIH

**8. HEAT STRESS STANDARD AS PER "THE GUJARAT FACTORIES ACT  
– 1948. [for reference]**

***Rule 18-A. Ventilation and Temperature.***

***[1] Limit of temperature and air movement:***

*In any factory, the maximum wet bulb temperature of air in a workroom at a height of 1.5(meter) above the floor level shall not exceed 30°C (80°F) and adequate air movement of at least 30 meter per minute shall be provided, and in relation to dry bulb temperature the wet bulb temperature in the work-room at the said height shall not exceed that, shown in the following schedule, or as regards a dry-bulb reading intermediate between the two dry-bulb reading that specified in relation to the higher of these two dry-bulb readings :*

***SCHEDULE***

<b><i>Dry -Bulb Temperature</i></b>	<b><i>Wet-Bulb temperature</i></b>
30°C to 34°C	29°C
35°C to 39°C	28°C
35°C to 47°C	28°C
45°C to 47°C	27°C

Provided that if the temperature measured with the thermometer inserted in the hollow globe of 15cm. diameter coated mat black outside an kept in the environment for not less than 20 minutes exceed the dry bulb temperature of air, the temperature so recorded by the globe thermometer shall be taken in place of the dry bulb temperature:

Provided further that when the reading of the wet-bulb temperature outside the shade exceeds 27°C (80° 6 °F), the value of wet bulb temperature allowed in the schedule for a given dry bulb temperature may be corresponding increased to the same extent:





Provided also that this requirement shall not apply in respect of factories covered by section 15 and in respect of factories where the nature of work carried on involves production of excessively high temperature referred to in clause (ii) of sub-section (1) or section 13 to which workers are exposed for short periods of time not exceeding one hour followed by an interval of sufficient duration in thermal environments not exceeding those otherwise laid down in this rule.

## 9. SAMPLING PROCEDURE

Heat Stress Monitoring:

- Sample Collection was done based on job selection for monitoring.
- Area Heat Stress was monitored by Wet Bulb Glob Thermometer.
- Area Heat Stress was monitored by keeping the instrument in respective area of high heat for minimum 20 mins.
- The equipment was allowed to stabilize completely for 20 mins and then the readings were recorded on field.

## 10. SAMPLING PHOTOGRAPHS:



Coal Bag Charging



Taking out sample to confirm parameters



Vessel tilt Panel Operator



Sampling Team with WBGT Meter



Raw material Charging



Removing Sludge/adding additives



**Industrial Hygiene Exposure Assessment Report – "HEAT STRESS" : December-20**  
**Gallantt Metal Limited, Samakhyaali – Kutch.**

**11. RESULTS**

**FURNACE AREA:**   **Above TLV**   **Safe Level**

Sr. No.	Location (Nr. Furnace area)	WBGT Meter				TLV (°c)	RH (%)	Dew
		Globe Temp T <sub>g</sub> (°C)	Wet Bulb Temp. T <sub>w</sub> (°C)	Dry Bulb Temp. T <sub>db</sub> (°C)	WBGT (°c)			
1.	Nr. Operating Panel	35.7	21.4	32.7	25.8	30	32.1	13.5
2.	Nr. Industrial Fan	37.7	20.8	31.7	25.7	30	31.7	13.3
3.	Nr. Furnace Vessel	38.4	20.6	31.6	25.5	30	30.6	13.4
4.	Nr. Removing Sludge Area	37.1	20.7	31.7	25.6	30	30.9	12.3
5.	Nr. (Vessel tilt) Panel Operator	37.4	21.7	33.0	26.2	30	30.2	13.3
6.	Between Two Furnace vessel	36.8	21.4	32.6	25.6	30	30.3	13.2





## 12. OBSERVATIONS

No of employees are working at furnace area: *12 nos.*

- *Tilt Vessel Panel Operator:* After melting raw material into furnace employee operates panel to tilt vessel and pour liquid metal into collection vessel. *One employee* was involved in this activity.
- *Helper:* During melting activity employee was involved in sample collection and was also charging coal fine material bags into furnace. *Four employees* were involved in this activity.
- *Berriman:* Employee was involved in removing sludge from induction furnace after charging sponge and raw material.
- *Melter:* After collecting sample from furnace induction employee inspected the quality of material and also gave instructions of sample removal and operation handling. *Two employees* were involved in this activity.
- *Shift In-Charge:* Employee was handling furnace operation and panel. He was managing manpower and give instructions to employees and observing process.

### Activity Durations:

8:00 Hrs. working duration and employees work in series of four work + four-hour rest + four-hour work.

### Existing Engineering Controls:

- High-Capacity Industrial Exhaust Fan + Suction Hood
- High-Capacity Industrial Fan (One fan each Furnace)

### Personal Protective Equipment:

Safety Helmet, Safety Shoes, Single Layer regular Cloths (Shirt and trouser)



### 13. SUGGESTIONS

- i. Periodical check-up should be done for the person/worker who is affected by heat in past or who may be exposed to high heat area as a part of job.
- ii. Use of shield to protect the person against direct radiant heat.
- iii. Wear lightweight, light colored, loose fitting cloths made of 70% cotton.



**ANNEXURE K**

**COPY OF HEALTH RECORD**





# SHREE MAA

## (HEALTH AND SAFETY)

Plot No. 476, Ward 5/B, Shop No. 01, Adipur-Kutch.

PRE

DATE : 18-10-2020

Date :

SR. no: 567

EMPLOYEE NAME: NARESH VANKAR

SEX: MALE

AGE: 20Y

EMPLOYEE CODE NO: 502464

DEPARTMENT: POWER PLANT

DOB: 27/02/01

DOJ: 6/24/2020

### GENERAL EXAMINATION

HEIGHT: 160 cm	PULSE: 74	
WEIGHT: 62 kg	B.P: 126/74mm/Hg	SPO2: 97%

CBC REPORT	HB: 12.8	BLOOD GROUP:	O+ POSITIVE
------------	----------	--------------	-------------

X-RAY:	AUDIOMETRY: AS PER REPORT
--------	---------------------------

URINE(ROUTINE): AS PER REPORT	ECG:
-------------------------------	------

### LIVER FUNCTION TESTS (LFT)

BILLURUBIN: 0.7U/L	DIRECT: 0.3mg/dl	INDIRECT: 0.4mg/dl
--------------------	------------------	--------------------

EYE VISION:	COLOR: NORMAL
-------------	---------------

REMARKS:

fit



DR. BALVANT P. KHADIYA  
M.B.B.S., M.S. (ORTHOPEDIC)  
Industrial Consultant  
Reg. No. G-11047

# GALLANT METAL LIMITED - SAMAKHIVALI

FORM NO. 32

(Prescribed under Rule 68-T and 102)

## Health Register

1. Serial Number : 567
2. Name of Worker: NARESH VANKAR
3. Sex: MALE
4. Date of birth: 27/02/01



POWER PLANT	1	Department Works	
NOISE, DUST, FUMES, ELECTRIC	2	Name of Hazardous process	
	3	Dangerous process/operation	
HELPER OPERATION	4	Nature of job or	
	5	Raw materials, products or By-products likely to be	
24-06-2020	6	Date of posting	
	7	Date of leaving/transfer to or transfer	
	8	Reasons for Discharge/ leaving or transfer	
15-10-2020	9	Date.	
	10	Signs and symptoms Observed during examination	
BP: 126/74 mmHg HT: 160cm HB: 12.8% VISION: NORMAL BG: D+ POSITIVE AUDIO: NORMAL	11	PULSE: 74/min WT: 62kg SpO2: 97% COLOR: NAD EYE -R: EYE -L:	
	12	Nature of tests & results thereof	
FIT	13	Result Fit/Unfit	
	14	Period of temporary Withdrawal from	
	15	Reasons for such withdrawal	
	16	Date of declaring him	
18-10-2020	17	Date of issuing fitness Certificate	
18-10-2020	18	Signature with date of the factory Medical Officer/ the Certifying Surgeon.	

Note:-

Separate page should be maintained for individual worker.

DR. BALVANT P. KHADYAR  
M.B.B.S. (P.D.)  
INDUSTRIAL MEDICINE  
CONSULTANT  
GALLANT METAL LIMITED  
G-11067

# GALLANT METAL LIMITED - SAMAKHIVALI

FORM NO. 32

(Prescribed under Rule 68-T and 102)

## Health Register

1. Serial Number : 567
2. Name of Worker: NARESH VANKAR
3. Sex: MALE
4. Date of birth: 27/02/01



POWER PLANT	1	Department Works	
NOISE, DUST, FUMES, ELECTRIC	2	Name of Hazardous process	
	3	Dangerous process/operation	
HELPER OPERATION	4	Nature of job or	
	5	Raw materials, products or By-products likely to be	
24-06-2020	6	Date of posting	
	7	Date of leaving/transfer to or transfer	
	8	Reasons for Discharge/ leaving or transfer	
15-10-2020	9	Date.	
BP: 126/74 mmHg HT: 160cm HB: 12.8% VISION: NORMAL BG: O+ POSITIVE AUDIO: NORMAL	10	Signs and symptoms Observed during examination	Medical examination Results therefore.
	11	Nature of tests & results thereof	
FIT	12	Result Fit/Unfit	
	13	Period of temporary Withdrawal from	If declared unfit for work
	14	Reasons for such withdrawal	
	15	Date of declaring him	
18-10-2020	16	Date of issuing fitness Certificate	
18-10-2020	17	Signature with date of the factory Medical Officer/ the Certifying Surgeon.	

Note:-

Separate page should be maintained for individual worker.

DR. BALVANT P. KHADKE  
M.B.B.S. (M.D.) D.O.A.F. (M)  
Industrial Consultant  
Reg. No. G-11067



## **ANNEXURE L**

### **COPY OF CORPORATE ENVIRONMENT RESPONSIBILITY POLICY**

**GALLANTT METAL LIMITED**  
**CORPORATE ENVIRONMENTAL SOCIAL RESPONSIBILITY POLICY**



### The Vision

Our vision is to full fill all commitments related to environmental requirements, to maintain quality productivity, legal complies & improve management performance.

We will achieve this through an integrated Environment Management approach which focuses on technology and Best Practices and is supported by management Commitment as the prime driver.

### Environment Policy

**GML** is committed to meeting the needs of customers in an environmentally sound manner, through continuous improvement in environmental performance in all our activities. Management at all levels , jointly with employees, is responsible and will be held accountable for company's environmental performance.

Accordingly,GML aims to:

- Ensure safety of its products and operations for the environment by using standards of environmental safety, which are scientifically sustainable and commonly acceptable.
- Develop,introduce and maintain environmental management system across the company to meet the company standards as well as statutory requirements for environment. Verify compliance with these standards through regular auditing.
- Assess environmental impact of all its activities and set continual improvement objectives and targets along with periodic review to meet with target & making efforts to reduce waste, conserve energy and explore opportunities for reuse and recycle.
- Involve all employees in the implementation of this policy and provide appropriate training.





- Encourage suppliers and service providers to develop and employ environmentally superior processes and ingredient and co operate with other members of the supply chain to improve overall environmental performance.
- Work in partnership with external bodies and Government agencies to promote environmental care, increase understanding of environmental issues and disseminate good practices.

### **Corporate Environmental & Social responsibility Policy (CESR)**

The Director of the Company is responsible for the Compliance of the Policy. The Director may constitute a Committee called as Corporate Environment & Social responsibility committee. The committee is committed to conduct the company operations in an environmentally sound manner With commitment of social responsibility . The committee will :

- Set standards and establish environmental improvement objective and targets for units, and ensure these are included in the annual operation plans.
- Formally review CESR performance of the company once every quarter
- Review environment performance when visiting units and recognize exemplary performance.
- Nominate a unit head or senior employee as coordinator for compliance of environmental performance at the site.

The committee, through the nominated coordinator will :

- Ensure implementation of Policy on environment and compliance with the Company's environmental standard and the standards stipulated under relevant national / local legislation. where appropriate, apply more stringent criteria than those required by law.
- Assess environmental impact of GML operations and establish strategies for sound environment management and key implementation steps.



- Establish system for appropriate training in implementation of Environment management system at work.
- Ensure that all employees are made aware of individual and collective responsibilities towards environment.
- Participate, where possible, with appropriate industry and Government bodies advising on environmental legislation and interact with national and local authorities concerned with protection of environment.

**The corporate social responsibility Objectives and activates area : -**

Strive for economic development that positively impacts the society at large to Promote well being of the communities effected by its operations and enhance the quality of life in such communities through activities on education healthcare, environment and rural development for all customers and society.

Encourage employee participation at all level and recognize its employees for volunteering with the sprit of serving and sharing with the community.

**CSR Rules**

The CSR activities shall include the activities in accordance with the requirements under the schedule VII of the companies Act, 2013, but not restricted to such activities only. the focus areas shall be on education, health care, environment and rural development.





## INDIVIDUAL UNITS RESPONSIBILITIES

The overall responsibility for environment management at each unit will rest with the unit head or senior employee, who will ensure implementation of Policy on environment at unit level and report to Director or Committee as the case may be. Concerned line managers / heads of departments are responsible for environmental performance at department levels.

In order to fulfill the requirements of the policy at each site, the Unit Head will:

- Designate a unit environment who will be responsible for coordinating environmental activities at unit, collecting environmental data and providing / arranging for expert advice.
- Agree with the coordinator responsible for the unit specific environmental improvement objectives and targets for the units and ensure that these are incorporated in the annual objectives of the concerned managers and officers and are reviewed periodically.
- Ensure that the unit complies with GML's environmental standards and the relevant national and state regulations with respect to environment.
- Ensure formal environmental risk assessment to identify associated environmental aspects and take appropriate steps to control risks at acceptable levels.
- Ensure that all new operations are subjected to a systematic and formal analysis to assess environmental impact. Findings of such exercises should be implemented prior to commencement of the activity.
- Manage change in people, technology and processes through a planned approach base on training, risk assessment, pre-commissioning audits and adherence to design norms.
- Regularly review environment performance of the unit against set objectives and targets and strive for continual improvement.





- Sustain a high degree of environmental awareness through regular promotional campaigns and employee participation through training, safety committees, emergency drills etc.
- Ensure dissemination of relevant information on environment within the unit and to outside bodies, and regularly interact with Government authorities concerned for protection of environment.
- Maintain appropriate emergency procedures consistent with available technologies to prevent / control environmental incidents.
- Provide appropriate training to all employees.
- Ensure periodic audits to verify compliance with environment management systems.
- Also ensure periodic 3rd party environment audits through certification bodies to check efficacy of the Environment Management Systems.
- Report environmental performance to committee on a monthly basis.

X

For GALLANTT METAL LTD.

Director



## **ANNEXURE M**

### **PROPOSED EXPENDITURE FOR 21-22 TOWARDS EMP**

**Annexure-M**

<b>Proposed expenditure Environment Protection Measures for financial year 2021-22</b>		
<b>S.No</b>	<b>SUB HEAD</b>	<b>Proposed Cost(Capital +Recurring) in Lac</b>
1	Air Pollution Control/Noise Control	40
2	Water Pollution Control	3
3	Environmental Monitoring and Managment	15
4	Green Belt Development	6
5	Occupational Health	5
<b>TOTAL</b>		<b>69</b>





**ANNEXURE N**

**NEWS PAPER CLIPPING COPY**

## PUBLIC NOTICE

### Environmental Clearance of proposed Coal based Captive Power Plant

The main object of this advertisement is to inform the public that the ministry of Environment & Forests, Government of India has accorded Environment Clearance for our proposed Coal based Captive Power Plant for the 12 MW Coal based Power Plant at Survey No. 175/1, Vill. Samakhiyali, Ta. Bhachau, Dist, Kutch. This Environmental Clearance has been given vide letter No. j-13011/37/2007-IA.II (T) dated 28<sup>th</sup> September, 2007 and copy of clearance letter is available with the Gujarat Pollution Control Board, Gandhinagar and also at web site of the Ministry of Environment & Forests at <http://envfor.nic.in>

Gallantt Metal Ltd, 175/1, Vill. Samakhiyali, Ta, Bhachau, Kutch (Gujarat)



## PUBLIC NOTICE

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Gallantt Metal Ltd, 175/1, Vill. Samakhiyali, Ta, Bhachau, Kutch (Gujarat)





## **ANNEXURE O**

### **COPY OF EC SENT TO DIFFERENT AUTHORITIES**

જી.નં. ૧૩૪૬/૭ જી. તા. ૧૭/૭/૯૮

મો. ૯૯૭૮૧ ૦૭૦૫૧, ૯૯૭૯૭ ૯૭૬૨૧



# શ્રી વાગડ માનવ વિકાસ ટ્રસ્ટ - ગાગોદર

(કચ્છ શાખા)



શુ.:

ધો.:

તાલુકો:

જિલ્લો:

જાવક નં.

તારીખ:

મુખ્ય કાર્યાલય :- ગાગોદર, તા. રાપર - કચ્છ.

પ્રમુખ  
ભરવાડ ધારાભાઈ કલાભાઈ

પ્રવૃત્તિઓ :-

❖ લોક જાગૃતિ સંગઠન

❖ શોષણ અન્યાય સામે  
અહિંસક સંઘર્ષ

❖ ખેતી પશુ પાલન વિકાસ

❖ મહિલા, બાળ વિકાસ

❖ જળ, જંગલ, જમીન,  
સંરક્ષણ અને વિકાસ

❖ દુરસ્તી સંશોધનો દ્વારા  
ગ્રામ વિકાસ

❖ સહકારી પ્રવૃત્તિ

❖ જાહેર વિતાર્થ

સંબંધિત કુલપત્ર નં. F.નં  
J-૨૭૦૧૧/૫૨/૨૦૨૩ - IA II (I) તા. ૨૬/૦૫/૨૦૨૩ ની નકલ ગેલેરી  
મંજૂર લાભાર્થી આમળીયાદિ તરફથી  
મળેલ છે

13/6/16  
શ્રી વાગડ માનવ વિકાસ ટ્રસ્ટ  
મુ. પો. અ. નં. ૧૩૪૬/૭ તા. ૧૭/૭/૯૮

"વિના સહકાર નહીં ઉદ્યોગ"

# શ્રી ઘરાણા ગ્રામપંચાયત

મુ. ઘરાણા. તા.ભચાઉ-કચ્છ.

જાવક નં.

તારીખ :-

સાહેબાચશીમેન્ટેલ કુલીયક્ષ્મ નં. F. નં.  
J- ૧૧૦૧૨/ખ૨/૨૦૨૩ - IA II (I) તા.શિખ  
૧૮/૦૫/૨૦૨૩ ની નકલ ગૌલેન્ટ મેટલ લામીટ્ડ  
સાહેબાચાચી તરફથી મળેલ છે.

સાહેબાચાચી મેટલ લામીટ્ડ  
સરપંચશ્રી 12/06/16  
ઘરાણા ગ્રામ પંચાયત





ટ્રસ્ટ નોંધણી નંબર : ગુજ/૨૫૩૩/૮૨૭.  
સાર્વજનિક ટ્રસ્ટ અ.નં. એફ/૨૭૧૩/૮૨૭.

મો. ૮૦૦૦૭ ૩૨૭૫૧૬

# પ્રગતિ એજ્યુકેશન ચેરીટેબલ ટ્રસ્ટ

જંગી રોડ, સામંજીયારી, તા. ભચાઉ-૬૨૭.

જાપક નં.

તારીખ :

એન્ડાઇમન્ટેડ કલિયરન્સ નં. F. નં.

T- ૧૧૦૧૧/૫૨/૨૦૧૩ TA II (I) તારીખ

૧૯/૦૫/૨૦૧૬ ની મુદત ટેલેન્ટ મેટર નામનાં

સામંજીયારી તરફથી મળેલ છે.



*[Signature]*  
પ્રમુખ  
પ્રગતિ એજ્યુકેશન ચેરીટેબલ ટ્રસ્ટ  
સામંજીયારી ૧૬/૫/૧૬



मानव कल्याण पर्यावरण एवं सुरक्षा मंडल  
**HUMAN WELFARE, ENVIRONMENT &  
SEAFTY ASSOCIATION**  
(NATIONAL LEVEL N.G.O.)  
KUTCH DISTRICT SECRETORY

Regd. office : 7, Gajanand Society, Ankleshwar - 393 001  
Dist. Bharuch (Gujarat)  
Kutch Office : D/102 Gayatri Kunj, Shakti Nagar, Gandhidham  
& Bus Station, Lakadiya - 370 145  
E-mail: dineshrana912@gmail.com

Dinesh Rana (Bhil)  
Phone : 9978627480  
9714627480

Regd. No. F/1027/BHARUCH (1960)  
GUJ/1038/BHARUCH (1960)

Ref.

Date :

Received Copy of Environment  
Cleaner No F.No J-11011/52/2013-14  
dated 19.05.16 from Callant  
Mehar Limited. Samatkalji-Kutch

*Omashankar*

12/6/16

*[Signature]*

**ANNEXURE P**

**COPY OF COMPLIANCE OF ISSUES  
RAISED DURING PUBLIC HEARING  
DATED 31/07/2018**



# Revised Public hearing Action Plan

Annexure-IV

S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
1	Shri Ramju Chhakra, Vill.: Samakhiali, Ta.: Bhachau, Dist.: Kutch.	<ul style="list-style-type: none"> <li>He represented that, what steps will be taken by the company to control the pollution to be spread due to establishment of plant of the company?</li> </ul>	<ul style="list-style-type: none"> <li>Company's representative replied that, company will install latest technology tools i.e. bag filter and E.S.P. as mentioned in presentation as a steps to control the pollution cause due to the production procedure of raw-material. Online monitoring system has been installed by this unit which will help to GPCB/CPCB in monitor the level of pollutants release by company. The level of pollution at present are according to the rules and regulations of the GPCB and the same will be maintained in future.</li> <li>This unit is at present zero liquid discharge and will be the same in future also. So no polluted water will be released from this unit. Industries polluted waste water and domestic waste water will be treated and re-used within the plant.</li> </ul>	<ul style="list-style-type: none"> <li>Online monitoring for stack has already been installed for existing stack to ensure the emission level are restricted well within the prescribed limit by CPCB and the same will be installed for proposed expansion.</li> <li>For proposed expansion Air pollution Control Equipment i.e. ESP and Bag filter with adequate stack height is proposed at CPP (95m existing stack), Induction furnace(48m), Rolling Mill(48m).</li> <li>ESP will be provided to DRI Kilns to bring down the particulate emission to less than 100 mg/Nm<sup>3</sup></li> <li>ESP will be provided to Power plant to bring down the particulate emission to less than 30 mg/Nm<sup>3</sup></li> <li>To control dust emission - bag filters will be installed, water sprinkling will be carried out.</li> <li>Fume Extraction &amp; Cleaning system with bag filters will be provided to SMS and Reheating Furnace to bring down the particulate matter emission to less than 100 mg/Nm<sup>3</sup>.</li> <li>All conveyor will be covered with GI sheets to control the dust emission</li> </ul>



S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
		<ul style="list-style-type: none"> <li>• Company will use lakhs of liter of water daily. Then where and in what way the polluted water emerges from company will be released?</li> </ul>		<ul style="list-style-type: none"> <li>• Our plant is zero discharge plant (in existing as well as proposed expansion), so there will be not being any discharge from our plant. Company will use 343 KL of fresh water from GWIL (Gujarat Water Infrastructure Limited) for the above expansion. Out of which 75 KL of effluent will be generated in form of Cooling Tower blow down, Boiler blow down, D.M. Plant regeneration water. This will be treated in Effluent Treatment Plant and after ensuring compliance with GPCB norms, it will be utilized for dust suppression, ash conditioning and for greenbelt. Domestic Sewage will be treated in Sewage treatment plant and after ensuring compliance with GPCB norms, it will be utilized for green belt development.</li> <li>• No ground water is envisaged for the existing project as well as proposed expansion project.</li> <li>• Online Continuous effluent Monitoring System for waste water has already been installed to monitor the parameter such as flow, webcam prescribed by CPCB.</li> <li>• All these environmental protection systems will be installed and operated to comply with the norms.</li> </ul>





S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
2	<p><b>Shri Abdul Rauna, Member representative of Samakhiali Gram Panchayat, Vill.: Samakhiali, Ta.: Bhachau, Dist.: Kutch.</b></p>	<ul style="list-style-type: none"> <li>• He represented that, as mentioned in presentation what effect will be there due to emission and what provisions have been done to control same?</li> </ul>	<ul style="list-style-type: none"> <li>• Company's representative replied that, we are willing to contribute towards Sujlam Suflam scheme, rain water harvesting, school schemes, health, education, green belt, social skill scheme, etc. under CSR. We have applied for the status of ITI for our company. When we will not get skilled ITI labour we will provide education and training to willing and proper person and will employ them in our company. CSR activity will be carried out as per the suggestions of the representative as they are aware about the need of the village.</li> </ul>	<ul style="list-style-type: none"> <li>• The unit existing unit emissions from stack is well within the norms and the GLC's from the proposed plant also well within the norms. There is continuous monitoring of air emissions and the same will continue for expansion.</li> <li>• The unit is presently marinating ZLD and same will continue for future.</li> <li>• The air modeling carried out clearly depicts GLC's towards upwind and downwind, the resulting concentration is far below the norms and the cross wind areas/ villages will have insignificant fallout. The villages towards upwind and downwind 0.98 to 0.25 micrograms/ Nm<sup>3</sup></li> <li>• Company has proposed fund of Appx Rs 3.12Cr. in CER for next three years for nearby villages namely Samakhiali, Gharana, Adhoi, Vondh, Gorasar etc. It will include Desilting / Pond Reclamation, Rain water recharging well, Health and Medical camp, Green belt development in nearby villages, Education and Infrastructure development, Skill development, Social Measures to Animal Husbandry and guidance to improve soil fertility etc. For details</li> </ul>







S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
3	Shri Govind Ranabhai Bhana, Advocate, Vill.: Samakhiali, Ta.: Bhachau, Dist.: Kutch.	<p>new plant?</p> <ul style="list-style-type: none"> <li>• He represented that, my agricultural land is within 500 to 700 meter from this company. Operating plant of this company cause pollution and due to that the production capacity of the farm has been reduced.</li> <li>• Farming and animal husbandry is source of income of around 80% to 85% of the people of this area. So there is possibility of increase in loss to farmers, if the proposed plant will be operated. There will be continuous damage to the productivity of the land of around 500 acres besides Gharana</li> </ul>	<ul style="list-style-type: none"> <li>• Company's representative replied that, your point is very well taken. Any kind of loss to anyone is not justified in any form. We have installed best technology APCM in our units. We ensure to maintain the same in future. We will resolve it discussing about the same in future also. We will resolve it discussing about the same along with agriculture department</li> </ul>	<p>please refer CER action plan.</p> <ul style="list-style-type: none"> <li>• Representative is having 0.72(hect.) of land at a distance of 1.37 KMs at Survey No. 153/1/Palki2 situated in North East direction of our plant.</li> <li>• The air quality prediction shows minimal incremental load resulting into 80.9-68.4microgram/Nm<sup>3</sup> of emission for both existing as well as proposed expansion. The results in no circumstances will exceed the prescribed norms.</li> <li>• The soil analysis undertaken during the baseline predicts no abnormalities affecting the soil quality in the area contributed by the plant. However, detailed elaborative study from time to time to assess the impact on soil quality will be undertaken.</li> <li>• As a part of CER the unit will proposed training programme for organic manure and copy of letter from representative is attached as <b>Appendix 1</b> for the reference which reflects that there is no significant impact impact on crop yield due to emission from the plant.</li> </ul>



S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
4	<p>Shri Jadeja Jujarsinhjiaba, Vill.: Laliyada, Ta.: Bhachau, Dist.: Kutch.</p>	<p>village due to the plant So proper compensation for the same to be provided to the farmers.</p> <p>• He represented that, 70% of the people in this area are farmer. The productivity of the farm has been reduced since the company established here. Quality of the land has also reduced.</p>	<p>• Company's representative replied that, you are complaining to GPCB against us since 2015 and every GPCB raids in our company during receipt of complaint. But till now our company has not been found violating rules. We have fixed digital display of all the stakes on the gate of our company and we receive message, when we reach to the fixed level. We cannot violate it</p>	<p><b>FIRST POINT:</b> Representative Village is appx 8.2 KM in south east direction of our plant. The wind rose depicts predominant wind direction towards NE- SW. The village stated is in SE direction at a distance of 8.2Km. Apart from this the AAQI carried out also depicts GLC's very well within the norms.</p>





S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN																				
5	Shri Mahavirsinh Dhiruba Jadeja, Dy. Sarpanch, Vill.: Laliyada, Ta.: Bhachau, Dist.: Kutch.	<p>• I have submitted many complaints to you and no reply has been given of the same till now. So state whether there will be control of pollution or not?</p> <p>• He represented that, employment to the local people should be provided in the company. Company should take steps to control the pollution in nearby villages. Misbehaving workers should be suspended and good people with required qualification should be employed.</p>	<p>• Company's representative replied that, there are 290 vacancies in the project of our company. We will provide employment to people willing to work having qualification of mechanical, electrical, metrological engineer and ITI plumber, welder and fitter diploma holder.</p>	<p>• As per company's policy, priority has been given to local people based on their skill, experience and qualifications. Employment Policy of the company is given in Appendix 2 for reference. Employment data for the existing and proposed plant is given in the table below:</p> <table border="1"> <thead> <tr> <th>CATEGORY</th><th>EXISTING</th><th>EXISTING</th><th>PROPOSED</th><th>PROPOSED</th></tr> <tr> <th></th><th>NG MANPO WER</th><th>GLOCAL MANPO WER</th><th>SED MANPO WER</th><th>DLOCAL MANPO WER</th></tr> </thead> <tbody> <tr> <td>Permanent Staff</td><td>355</td><td>28</td><td>70</td><td>20</td></tr> <tr> <td>Skilled Workers</td><td>225</td><td>93</td><td>60</td><td>30</td></tr> </tbody> </table>	CATEGORY	EXISTING	EXISTING	PROPOSED	PROPOSED		NG MANPO WER	GLOCAL MANPO WER	SED MANPO WER	DLOCAL MANPO WER	Permanent Staff	355	28	70	20	Skilled Workers	225	93	60	30
CATEGORY	EXISTING	EXISTING	PROPOSED	PROPOSED																				
	NG MANPO WER	GLOCAL MANPO WER	SED MANPO WER	DLOCAL MANPO WER																				
Permanent Staff	355	28	70	20																				
Skilled Workers	225	93	60	30																				
				<p><b>SECOND POINT:</b></p> <p>Company is being inspected by GPCB at regular intervals and based on complaint received from nearby local peoples. Reply to all queries / observations are being timely submitted to GPCB.</p>																				



S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
6	Shri Bhanji bhai Dungariya, Secretary, Bahujan Mukti Party, Kutch District Committee, Vill.: Samakhiali, Ta: Bhachau, Dist: Kutch.	<ul style="list-style-type: none"> <li>He represented that, I have sent complaint to collector and Bhachau Taluka Development Officer on 21/07/2018 from Samakhiali but it is not yet received to Regional Office. As per the advertisement published in daily local newspaper "Kutch Mitra" on dated 28/06/2018 this is Environmental Public</li> </ul>	<ul style="list-style-type: none"> <li>Company's representative replied that, storm water line has been installed beside the company in which only rain waters are released. No other waters are released in that line. Latest technology tools i.e. bag filter and ESP will be installed to control pollution and will under GPCB monitoring through online monitoring system. So if level of any pollutants will increase, steps will be taken by government. Ecological studies regarding birds have been carried out in which no details regarding</li> </ul>	<p>• INR 15,00,000/- are allocated for three years in Skill development as per CER plan and hence Livelihood Promotion / Job Creation will be developed.</p> <p><b>FIRST POINT:</b> Point was replied by RO, GPCB, Gandhidham.</p> <p><b>SECONDPOINT:</b> The Company is maintaining / and will maintain ZLD. The unit will install RWH structures to cater the capture of storm water runoff effectively based on peak intensity run off, the same will be approved by CGWA prior to implementation.</p> <p><b>THIRD POINT:</b> As already explained in point no. 2 and 3, that there will be no significant impact on environment in nearby areas due to emission from the plant. Thus, the impact will be insignificant.</p> <p><b>FOURTH POINT:</b> Solid and hazardous waste is being disposed/sold to various approved agencies as per the norms prescribed by GPCB. Details of mode of disposal</p>



S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN																				
		<p>Hearing of this company. Application has also been made along with documentary proof regarding storm water to Collector and TDO, Bhachau. Pollution damage to environment through rain water. There are adverse effects on body of the people and skin disease cause to the people due to pollution, there is damage to farming and many birds have been extincted. Poisonous rays come out from the slag of the unit. So it is suggestion that, pollution from existing plant should be controlled and after</p>	<p>migration of birds have been obtained. There is no possibility of spread of dust particles through air as level of air pollution are under our control. Officially slag is used for landfill and we have prior permission for the same from Government. So the people who need slag from land filling are taking from us.</p> <ul style="list-style-type: none"><li>Company's representative replied that, no legal action has been taken on our company under safety act till now. On behalf of my unit I assure that safety rules are being followed and will be followed in future also.</li><li>Regional officer asked to submit the copy of written representation of 21/07/2018 if available. So that it can be included into proceeding and forwarded to Govt. of India.</li></ul>	<p>of the solid and Hazardous waste is given in table below:</p> <p><b>FIFTH POINT:</b></p> <p>Safety norms are being followed as per factory act only.</p> <table><tr><th>S. No.</th><th>Solid &amp; Hazardous waste</th><th>Disposal</th><th>Authorized Vendor</th></tr><tr><td>1.</td><td>Fly Ash</td><td>Send to TSDF site for use as binding material</td><td>M/S Saurashtra Enviro Pvt. Ltd.</td></tr><tr><td>2.</td><td>Slag</td><td>Used for road making</td><td>-</td></tr><tr><td>3.</td><td>Used oil and Resin</td><td>100% disposed for incineration</td><td>M/S Saurashtra Enviro Pvt. Ltd.</td></tr><tr><td>4.</td><td>Used Oil</td><td></td><td>M/S Hindustan oil Ltd.</td></tr></table>	S. No.	Solid & Hazardous waste	Disposal	Authorized Vendor	1.	Fly Ash	Send to TSDF site for use as binding material	M/S Saurashtra Enviro Pvt. Ltd.	2.	Slag	Used for road making	-	3.	Used oil and Resin	100% disposed for incineration	M/S Saurashtra Enviro Pvt. Ltd.	4.	Used Oil		M/S Hindustan oil Ltd.
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		<p>that new plant to be established. Wastes emerging out from company are disposed at some place which causes loss.</p> <ul style="list-style-type: none"> <li>Company doesn't take into mind about the issues relating to safety.</li> </ul>												
7.	<p>Shri BabubhaiKachrabhaiVaghela, Social activist, Vill.: Samakhiyali, Ta.: Bhachau, Dist.: Kutch.</p>	<ul style="list-style-type: none"> <li>He represented that, an officer to be appointed by the Government and survey regarding the loss to farmers should be carried out together with village people.</li> <li>When we come to company regarding meeting to company's officers, they didn't allow us to enter into company and didn't meet us. Company should provide</li> </ul>	<p>----</p>	<p><b>FIRST POINT:</b> Company has appointed qualified person from HR team who will coordinate with the villagers and will help in implementing the needs.</p> <p><b>SECOND POINT:</b> As per company policy, priority has been given to local people based on their skill, experience and qualifications. Employment Policy of the company is given in <b>Appendix 2</b> for reference. Employment data for the existing and proposed plant is given in the table below:</p> <table border="1"> <thead> <tr> <th>CATEGORY</th><th>EXISTING</th><th>EXISTING LOCAL</th><th>PROPOSED</th><th>PROPOSED LOCAL</th></tr> </thead> <tbody> <tr> <td></td><td>NG MANPOWER</td><td>G LOCAL MAN POWER</td><td>SED MAN POWER</td><td>D LOCAL MANPOWER</td></tr> </tbody> </table>	CATEGORY	EXISTING	EXISTING LOCAL	PROPOSED	PROPOSED LOCAL		NG MANPOWER	G LOCAL MAN POWER	SED MAN POWER	D LOCAL MANPOWER
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S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN																									
		<p>employment to youngsters of nearby villages. There is no benefit to the nearby villages by the CSR activity carried out by company.</p> <ul style="list-style-type: none"><li>• Employment to the local should be provided and care of environment should be taken. It is our demand that survey to be carried out keeping with those 10 to 12 people from affected village who have issue regarding health and agriculture.</li></ul>		<table><tr><td>Permanent Staff</td><td>355</td><td>28</td><td>70</td><td>20</td></tr><tr><td>Skilled Workers</td><td>225</td><td>93</td><td>60</td><td>30</td></tr><tr><td>Semi-Skilled worker</td><td>130</td><td>66</td><td>50</td><td>35</td></tr><tr><td>Unskilled worker</td><td>250</td><td>151</td><td>110</td><td>85</td></tr><tr><td>Total</td><td>960</td><td>338</td><td>290</td><td>170</td></tr></table>	Permanent Staff	355	28	70	20	Skilled Workers	225	93	60	30	Semi-Skilled worker	130	66	50	35	Unskilled worker	250	151	110	85	Total	960	338	290	170
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<div></div>				<p>INR 15,00,000/- are allocated for three years in Skill development as per CER plan and hence Livelihood Promotion / Job Creation will be developed.</p> <p><b>THIRD POINT:</b></p> <p>Company has proposed fund of Appx. Rs 3.12 cr in CER for next three years for nearby villages namely Samakhiali, Gharana, Adhoi, Vondh, Gorasar etc. It will include Desilting / Pond Reclamation, Rain water recharging well, Health and Medical camp, Green belt development in nearby villages, Education and infrastructure development, Skill development, Social</p>																									



S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
				Measures to Animal Husbandry and guidance to improve soil fertility etc. For details please refer CER action plan.
8	Shri Khetsinh Maru, Information Right Committee, Kutch, Ta.: Bhachau, Dist.: Kutch.	<ul style="list-style-type: none"> <li>He represented that, in which newspapers and at what places advertisement regarding Public Hearing were published and circulate respectively? How many company's complaint has been received to GPCB and form that how much are declared pollution free company?</li> </ul>	<ul style="list-style-type: none"> <li>Regional Officer informed that, advertisement regarding this Public Hearing was published in Gujarati local daily news paper 'Kutch Mitra' and English daily news paper 'The Indian Express' one month before on dated 28/06/2018. Other than this, copies of advertisement were circulated in effected villages. No certificate regarding pollution free company is issued by Government.</li> </ul>	<p>The public hearing notice was done as per the norms stipulated by MOEF&amp;CC and there is no deviation in regards to this.</p>
	Shri Jadeja IndrajitsinhMa nuba, Vill.: Amliyara, Ta.: Bhachau, Dist.: Kutch.	<ul style="list-style-type: none"> <li>He represented that, lake overflows during rainy season and after that around one and half month later water of the village gets polluted and is not of</li> </ul>	<p>-----</p>	<ul style="list-style-type: none"> <li>Overflow of the lake is natural phenomenon during rainy season.</li> <li>However we have proposed Desilting/Pond Reclamation in our CER activities based on discussion with Gram Panchayat/ Local people from the nearby Villagers. An amount of INR 6,00,000/- per year for three years i.e. in total</li> </ul>






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		drinkable condition. Animals didn't eat their food due to polluted food.		<p>18,00,000/- is allocated for Pond Reclamation / Desilting activity.</p> <ul style="list-style-type: none"> <li>Also Amliyara village is appx 8 km in south direction of the company.</li> <li>As already explained in point no. 2 and 3, that there will be no significant impact on environment in nearby areas due to emission from the plant.</li> </ul>
10	<b>Shri</b> <b>KishanRajgor,</b> <b>Vill.:</b> <b>Samakhiyali,</b> <b>Ta.: Bhachau,</b> <b>Dist.: Kutch.</b>	<ul style="list-style-type: none"> <li>He asked that, what will be the further process after this Public Hearing and how will the people get acknowledgement regarding the decision of their representation?</li> </ul>	<ul style="list-style-type: none"> <li>Regional Officer informed that, all the objections, suggestions and representation recorded will be forwarded to the Government of India for further proceedings. Minutes will be prepared and uploaded on GPCB web-site.</li> <li>Company's representative giving his mobile number in public replied that, any person can contact me anytime for his issue.</li> </ul>	<p><b>First point:</b> is related with public hearing procedure and is explained by Regional Officer, GPCB.</p> <ul style="list-style-type: none"> <li>Public hearing proceeding is submitted to EAC committee of MoEF&amp;CC, Delhi along with final EIA report for further proceeding and grant of environment clearance.</li> <li>Approved Public Hearing MOM will be distributed to following places.</li> </ul> <ol style="list-style-type: none"> <li>The District Collector, Bhuj, District Kutch,</li> <li>District Development Office, Bhuj, District Kutch,</li> <li>Taluka Development Office, Bhachau, District Kutch,</li> <li>GPCB, Gandhidham, Kutch</li> </ol> <ul style="list-style-type: none"> <li>MOM of public hearing will also be uploaded on GPCB Portal with following link: <a href="https://gpcb.gujarat.gov.in/webcontroller/page/public-hearing-schedule-&amp;-mom#">https://gpcb.gujarat.gov.in/webcontroller/page/public-hearing-schedule-&amp;-mom#</a>.</li> </ul>





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		<ul style="list-style-type: none"> <li>A person should be appointed by the company to whom small issues of the village should be represented.</li> </ul>		<p><b><u>Second point:</u></b></p> <p>Company has appointed qualified person from HR team who will coordinate with the villagers and will help in implementing the needs.</p>
11	<b>Shri Suresh Chauhan,</b> <b>Vill.: Gharana,</b> <b>Ta.: Bhachau,</b> <b>Dist.: Kutch.</b>	<ul style="list-style-type: none"> <li>He represented that; these kinds of programmes of any company should be organized in public area, so that people can aware of the same. A committee should be organized to collect the representation and issues of the affected people and forward it to company.</li> </ul>		<p><b><u>FIRST POINT:</u></b></p> <p>Location decided for the Public Hearing is as per the guideline of the board.</p> <p><b><u>SECOND POINT:</u></b></p> <p>Company has appointed qualified person from HR team who will coordinate with the villagers and will help in implementing the needs.</p>
12	<b>Shri Vibha bhai Rabari,</b> <b>Vill.: Amliyara,</b> <b>Ta.: Bhachau,</b> <b>Dist.: Kutch.</b>	<ul style="list-style-type: none"> <li>He represented that, before the operation of the company, it should carry out the activity as per the rules and if not</li> </ul>	<ul style="list-style-type: none"> <li>Company's representative replied that, to control the air pollution latest technology tools i.e. bag filter and ESP have been installed due to which dust particle released by company are</li> </ul>	<p><b><u>FIRST POINT:</u></b></p> <p>Company follows the rules and regulation laid down by the different authority and the same will be followed in future also.</p>



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		<p>done same action to be taken against the company.</p> <ul style="list-style-type: none"> <li>In company melting of iron and making of iron rod are carried out. During melting of iron large numbers of small dust spreads and chemical waste emerges from the same and provision for the disposal of such waste are not made as per the rules. And the disposal of the dust particles, gas and chemical water are carried out as per company's decision. Dust particles form the company and smoke from the continuous transportation of the company vehicle</li> </ul>	<p>under the level fixed for the same. So there is negligible chance of pollution. Hazardous wastes generated from our company are sent to the TSDF site fixed by GPCB. So no hazardous wastes are released by our company. No polluted waters are released from our plant.</p>	<p><b>SECOND POINT:</b> Solid and hazardous waste is being disposed/sold to various approved agencies as per the norms prescribed by GPCB. Details of mode of disposal of the solid and Hazardous waste is given in table below:</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Solid &amp; Hazardous waste</th> <th>Disposal</th> <th>Authorized Vendor</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Fly Ash</td> <td>Send to TSDF site for use as binding material</td> <td>M/S Saurashtra Enviro Pvt. Ltd.</td> </tr> <tr> <td>2.</td> <td>Slag</td> <td>Used for road making</td> <td>-</td> </tr> <tr> <td>3.</td> <td>Used oil and Resin</td> <td>100% disposed for incineration</td> <td>M/S Saurashtra Enviro Pvt. Ltd.</td> </tr> <tr> <td>4.</td> <td>Used Oil</td> <td></td> <td>M/S Hindustan oil Ltd.</td> </tr> </tbody> </table> <p><b>THIRD POINT:</b> Rain gun and water sprinkling system provided at coal storage yard, dump hoppers and conveyors to control</p>	S. No.	Solid & Hazardous waste	Disposal	Authorized Vendor	1.	Fly Ash	Send to TSDF site for use as binding material	M/S Saurashtra Enviro Pvt. Ltd.	2.	Slag	Used for road making	-	3.	Used oil and Resin	100% disposed for incineration	M/S Saurashtra Enviro Pvt. Ltd.	4.	Used Oil		M/S Hindustan oil Ltd.
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		<p>spreads into nearby farming land. Tank is not prepared into land for chemical water due to which farming cannot be carried out in nearby villages. Farmers are suffering an undetermined financial loss. Our village is 6 to 7 km away from the company. Pollutants released from the company enter into our village in high level every year. As the wind flows in north direction in winter there are heavy loss to our winter crops i.e. jowar, mung, math, cotton, and castor. It also affect to the fodders of the animals due to which</p>	<p>Company's representative replied that, at this time we do not have list but as I remember three persons of the abovementioned village are working with me. Before someday two unemployed engineer approached to me regarding employment, we employed them immediately.</p>	<p>the fugitive emission generated during screening, loading, unloading, handling and storage of raw materials. The vehicles are transported in securely covered trucks to reduce the emission. Also a vehicle with valid PUC is allowed inside the plant. Water sprinkling is being done regularly via tanker on road connecting from Main gate of the company to the Highways in order to further control the fugitive emission. Also, as already explained in point no. 2 and 3, that there will be no significant impact on environment in nearby areas due to emission from the plant.</p> <p><b>FOURTH POINT:</b> Discussed at point no. 4</p>





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		animals didn't eat them. Due to pollution sale of jowar and other crops are at half rate.		
13	Shri Pradip Vaniya, Chairman, Bharat Mukti Morcha, Ta.: Bhachau, Dist.: Kutch.	<p>• He represented that, earlier employment fair was organized on behalf of Gujarat Government at ITI Bhachau for apprentice and unemployed persons. No person of this company was present in that fair. Documents have been given by many persons to your company regarding employment but they have yet not received any call from the company regarding same.</p>	<p>• Company's representative replied that, it is intimated to the village representative to send proper qualified persons who are willing to work in the company. Many persons approached the company and they were employed.</p>	<p><b>FIRST POINT:</b> Company has participated in the questioned employment fair organized by District Employment Officer, Bhuj and at Government ITI, Bhachau dated 14/05/2018 and 6 Fresh Engineers were selected as per the requirement and nature of the work and will continue same procedure in future also.</p> <p><b>SECOND POINT:</b> Company has its own policy of providing employment to the local as per their education, qualification, experience and the skill based on the vacancy(ies) generated because of either expansion of the plant or because of replacement. Company is also giving Advertisement related with vacancies as and when required in the local newspaper and will continue same procedure in future also.</p>
14	Shri Dinesh Rana,	• He represented that, I have complaint earlier	----	<u>Point</u> is related with the activities carried out by the company and doesn't warrant any action



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	<p>Manav Kalyan Paryavaran Suraksha Mandal Trust, Vill.: Lakadiya, Ta.: Bhachau, Dist.: Kutch.</p>	<p>against the nearby companies regarding employment and pollution issues. When I have approached the company regarding employment they have stated to provide employment to ITI holders.</p> <ul style="list-style-type: none"> <li>This company has carried out CSR activity of Rs. 3.5 Crore instead of Rs. 2 crore. Company has given report regarding the same to me.</li> <li>Pollution control machines not with other company are with this company, which can be seen at company's gate which is controlled by CPCB.</li> </ul>		<p>further.</p>







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		<p>operation. GPCB accepts that, dust particles are spread by the company. The person of aged around 25 to 30 years needs pumping treatment for lumb. Dust particles of this unit spread to our farm due to which productivity has been reduced. Company is trying to divert the people of Kutch towards Nakshalwad. Government should take care of farmers of Kutch and Narnada River in which there is lack of water but not of company. When there were no such companies at that time also we were getting</p>		<p>nearby local peoples. Reply to all recommendation is being timely submitted to GPCB. Further to this we have been not issued any closure notice till date.</p>



S. No	Name and Address of the Representative	Points Represented	Reply given by the Company Representative of the Project Proponent	REVISED ACTION PLAN
		our livelihood. These types of companies should be 50 km far away from human dwellings.		
16	Shri Neel Lijoda Vill.: Lakadiya, Ta.: Bhachau, Dist.: Kutch	<p>• He asked that, how many cases of accident have been occurred in company and to how many victim company has compensated?</p> <p>• Company should make some necessary changes in the rules of contract given by company so that people from other categories can get the contract which will resolve 80% of issues.</p> <p>• Government should make a committee so that people should not have to represent</p>	<p>• Company's representative replies that, we are operating this industry since 2005. Since that time only 4 fatal has been occurred due to human error. Company has send the body of the deceased with dignity to their village. Company compensated over and above the court order.</p> <p><b>FIRST POINT:</b> Total no. of accidental cases reported so far is 26. Out of which 4 fatal has been occurred due to human error. Company has sent the body of the deceased with dignity to their village. Company compensated over and above the court order.</p> <p><b>SECOND POINT:</b></p> <p>• Company has employed the maximum no of local contractors in existing project and same will be done in proposed project also.</p> <p>• Company has already given contract related with the plant activities to locals only. Some of the details are given below:</p> <p>• Transportation of raw materials in Trucks (appx 167 Nos of vehicles per day (existing + proposed)</p> <p>• Transportation of finished product in trucks (appx 65 nos of vehicle per day(existing + proposed)</p>	



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		aggressively and company should discuss with the village representatives and victims about their issues.		<ul style="list-style-type: none"> <li>Vehicles required related with production are also hired from local. (appx 22 nos of vehicles deployed per day)</li> <li>Labour contract wherever required. (total no of unskilled local labour employed 250 nos in existing)</li> </ul> <p><b>THIRD POINT:</b></p> <ul style="list-style-type: none"> <li>Company has appointed its representative for the issues related with nearby villagers. So any one can approach to him for any issue.</li> </ul>
17	Shri Narendradang adhavi, Member of Taluka Panchayat, Vill.: Samakhiyali, Ta.: Bhachau, Dist.: Kutch	<ul style="list-style-type: none"> <li>He represented that, people has opposed pollution for the first time. CSR fund should be utilized only in affected areas. More and more local people should be employed for the convenient work.</li> </ul>	<ul style="list-style-type: none"> <li>Company's representative replies that, all the contractor, transporter, dealer and commission agent of the company are local.</li> </ul>	<ul style="list-style-type: none"> <li>Company has proposed fund of Appx. Rs 3.12 cr. in CER for next three years for nearby affected villages namely Samakhiali, Gharana, Adhoi, Vondh, Gorasar etc.</li> <li>For the local employment please refer point No.7</li> </ul>





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18	Shri KarshaubhaiBecharbhaiAhir, Vill.: Samakhiyali, Ta.: Bhachau, Dist.: Kutch	• He represented that, I am approaching the company with my file since last 3 years but the company doesn't allow me to enter into the company.	----	• Company has appointed qualified person from HR team who will coordinate with the villagers and will help in implementing the needs.

### PUBLIC HEARING TIME BOUND ACTION PLAN

S. No.	Activities	Action Undertaken	Fund Allocation (INR In lacs)		Time schedule												
			Capital	Recurring													
1.	Air & Water Pollution control Measures	1. <b>Air Pollution Control Measures:</b> Unit has proposed the air pollution control Measures for the proposed plant as follows: <table><tr><th>S. No.</th><th>Particular</th><th>Pollution Control Measure</th></tr><tr><td>1.</td><td>Captive Power Plant (10MW)</td><td><ul style="list-style-type: none"><li>Stack(II) height- 95 m (Use of existing Stack)</li><li>ESP</li></ul></td></tr><tr><td>2.</td><td>Rotary Kiln No. 5</td><td><ul style="list-style-type: none"><li>Stack -II Height -48m</li><li>ESP</li></ul></td></tr><tr><td>3.</td><td>Induction Furnace No. 6</td><td><ul style="list-style-type: none"><li>Stack-III, Height- 48m</li><li>Bag House</li></ul></td></tr></table>	S. No.	Particular	Pollution Control Measure	1.	Captive Power Plant (10MW)	<ul style="list-style-type: none"><li>Stack(II) height- 95 m (Use of existing Stack)</li><li>ESP</li></ul>	2.	Rotary Kiln No. 5	<ul style="list-style-type: none"><li>Stack -II Height -48m</li><li>ESP</li></ul>	3.	Induction Furnace No. 6	<ul style="list-style-type: none"><li>Stack-III, Height- 48m</li><li>Bag House</li></ul>	600.0	40.0	Will be concurrent with expansion.
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		2. Water Pollution Control Measures: Unit is maintaining ZLD and the same practice will be followed for expansion phase. Effluent generated from STP and ETP is being/will treat with adequate capacities of ETP and STP. No waste water is discharged outside the premises.	30.0	4.0	Will be concurrent with expansion
2.	Employment opportunities	1. Local villagers will be given employment on the basis of their eligibility. However a training camp shall be provided when new recruitment is done to enable check and select from the local pool of applicability. 2. Unit has employment policy for recruitment of local people. 3. Advertisement of vacancy is being/will be published in local newspaper as and when required. 4. Skill development Programme under CER will be undertaken: a) Boiler Attendant (TT) b) Fitter (TT) c) Basic Computer course d) Tally accounting	40.0	3.0	As and When required.
3.	Farming and Animal Husbandry	1. Measure to be undertaken for Animal Husbandry under CER a) Organize training and meeting for community b) Donation to local Animal Husbandry institution in Gandhidham, Kutch, (Gujarat Livestock Development Board(GLDB) c) Donation to Local Agricultural Institute in Gandhidham, Kutch Directorate of Agriculture (Agriculture, Farmers welfare & Cooperation Department, Kutch) 2. Soil study for enzymatic performance & Microbial activity.	55.000	7.0	Will be executed within two years
4.	De siltation of Pond /Lake	De siltation of pond under Suflam Sujalam Yojana under CER	18.0	5.0	Every pre monsoon.
Total			773.0	59.0	



ગોવિંદ.આર.બાળા  
બી.એમ.એલ.બી.  
એડવોકેટ ગુજરાત હાઈકોર્ટ  
ઓફીસ : સામબીવાડી, ૪૫૩.  
મો.નં.૯૮૮૭૯૭ ૬૩૬૫૦



પ્રતિ,  
મેજેસ્ટ્રેટ મેજીસ્ટ્રેટ,  
સામબીવાડી, તા.મચાઈ-૨૦૨૦,

તી. ૦૫/૦૨/૨૦૨૦

**વિષય :- ઉલ્લંઘના કારણે જમીન કબજાપતા અને તેના પર થતી અસર બાબતે.**

સારાંશમાં,

હું ગોવિંદભાઈ સાહાબાઈ બાળા, એડવોકેટ, રહે. સામબીવાડી, તા.મચાઈ-૨૫૬ વાળા બોક્સનવાવડીની તા.૦૫/૦૨/૨૦૨૦ ના સંદર્ભે નિમિત્તે જણાવવાનું કે, અમારા દ્વારા બોક્સનવાવડી દરમિયાન કંપની તરફથી વળે પ્રદુષણ બાબતે લેવામાં આવેલ હતો.

ઉપરોક્ત કંપનીના પ્રદુષણથી અમારી ખેતીની જમીનની કબજાપતા થઈતી જાય છે. જે સંદર્ભે ઉપરોક્ત મેજેસ્ટ્રેટ મેજીસ્ટ્રેટ બી.બી. મધાવરણ ધોનિક સામાના સમ્મો (ટીમ) અમારી પાસે આવેલ હતી તેમજ તેઓએ અમાને તેમજ કારખાનામાં જાણવામાં આવેલ પ્રદુષણ નિયંત્રણ કરવા માટેના કાયદોની વિસ્તૃત સમજ આપી હતી. (જાણકારી આપી હતી) તેમજ મેજીસ્ટ્રેટ મેજીસ્ટ્રેટ મેજીસ્ટ્રેટ દ્વારા કારખાનામાં થઈ રહેલ કારખાનામાં થાંભલી ચીમની થોડી નિકળતી વાયુ બાબતે કંપની દ્વારા પ્રમાણમાં આવેલ ઓનલાઈન મોનીટરીંગ સીસ્ટમ ચાલે કે ચીમની થોડી નિકળતી વાયુ પર સલામ નહીં રાખતું હોય છે અને તે પ્રદુષણ નિયંત્રણ બોર્ડ સાથે કનેક્ટેડ થોડાક પ્રદાવનું હોય છે. જેનાથી પ્રદુષણ નિયંત્રણ બોર્ડના અધિકારીઓ પણ પ્રદુષણ પર નજર રાખી શકે છે તેની સંપૂર્ણ સમજ આપી. આ તમામ સંદર્ભે અમારે જાણા જામોને એમ લાગે છે કે, કંપનીના કારણે અમારી ખેતીની જમીનની કબજાપતામાં કોઈજ અસર થવાની શક્યતા નથી.

ત્યારબાદ અમારા અંગત ખેતીવાડી વિષયોને અમારે અમારી ખેતીની જમીન પર બોલાવી અમારી સમજ સંકેતથી અવગત કરતાં, તેમજ દ્વારા અમારી માલીકીની ખેતીની જમીનની માલીકી સંમ્મલ લેવામાં આવેલ તેમજ તેમજ દ્વારા ખેતી કરતા સમયે ઉપયોગમાં લેવામાં આવતી તમામ દવાઓ તેમજ વપરાતા બિયારણ તેમજ ખેતી કરવાની પદ્ધતિની જાણકારી લેવામાં આવેલ. જે બાબતે નિષ્કર્ષ દ્વારા ઉપરોક્ત વિષય પર અભ્યક્ત કરી અમાને જણાવેલ કે, અમારી માલીકીની ખેતીની જમીનની માલીકી કોઈ પણ પ્રકારનો પ્રદુષણની અસર નથી કે જમીનની કબજાપતા પર કંપનીની ચીમની થોડી નિકળતા વાયુની કોઈજ અસર પડેલ નથી. છેલ્લા ત્રણેમાં થઈતા જતા પાણી કારણે જમીનની કબજાપતામાં વસાવટિક બાબતની વપરાણની કારણે જમીનની કબજાપતામાં થતો થઈતા તેમજ વિન કાળના બિયારણની પડાઈ હતી. આમ ઉપરોક્ત વિનને મેજેસ્ટ્રેટ મેજીસ્ટ્રેટ બી. મેજીસ્ટ્રેટ દ્વારા કારણે જાણાવેલ નથી.



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**LOCAL RECRUITMENT POLICY OF GALLANTT METAL LIMITED**

**General:**

M/S Gallantt Metal limited, Samakhiyali , encourage the local employment. Local recruitment will be a strategic tool to ensure the availability of manpower in line with the strategic business & manpower plan of the organization. The endeavor is to attract and retain the best Local resources available to accomplish various tasks in the organization by placing the right person at the right job. The system would attempt to maintain an orderly, effective and timely method in the selection and recruitment of Local personnel.

**Process:**

The process of Selection would be based on merit, ability, competence, experience and potential. Recruitment action will be initiated in the following circumstances:

1. Resignation
2. Expansions
3. Reorganization
4. Restructuring

**Vacancy / New Position:**

Recruitment will only take place if there is approved head count / approval of Director/Management, in case of creation of new position.

**Job Descriptions & Competency Assessment Matrix:**

Human Resources (HR) will ensure that job descriptions for all unique positions across the Company are in place.

**Manpower Planning & Requisition:**

The concerned department head, where the vacancy exists as per the manpower budget, will ensure that the Manpower Requisition form be duly filled up and sent across to the Human Resources department on time.

**Interview & Documentation:**

HR would train and maintain a list of certified panel interviewers across functions.

Documentation of all potential candidates is to be retained for a period of 6 months for future vacancies in similar profile.

All the public communication related to recruitment activities, external or internal has to be managed by the HR department.



**Employment of Relations:**

The Company, also encourage hiring of employees' relatives to fulfill the manpower requirement.

**Sources of Local Recruitment:**

Gallantt Metal Limited will source its manpower requirements from the following:

- From The gathering at main gate.
- From reference of the Internal candidates
- Advertisements in Local News Paper
- Employment Exchange
- Through Job fairs time to time arranged by local Govt Bodies.
- Campus Interview at Local I.T.I or Technical institutes / colleges
- From the reference of Gram Panchayat / local villages.

**Short listing:**

HR Head will screen all applications received from any of the sources mentioned above.

Screened applications would be sent across to the Functional Head for further short listing of the candidates to be called for the interview.

Candidates will fill up the Application form before the interview process is initiated.

**Selection:**

Normally selections would be based on detailed and in depth interviews either through a panel/ board or one to one. However other techniques of selection like Group Discussions, Psychometric Tests, etc may be devised by the Human Resources function in consultation with the Department Heads to elicit the suitability of a candidate.(Based on requirements)

Interview assessment forms would be duly filled and signed off by the Interviewers before the finalization of any prospective candidate. Such records in case of successful candidates will form a part of his/ her personal file.

A detailed Reference and credentials check will be conducted and the candidate will provide the domicile certificate issued by the local authority. The police verification is also to be provided by the candidate to the Human Resources. After that a medical check will also be conducted of the candidates finalized for recruitment.

**Joining Formalities and On The Job Training :**

After selection candidates are invited for the joining in the company. Initially an Induction /safety training is provided to the new entrants by HR & safety department. after that the candidates are placed on the job training for a period of 15-30 days . After successful completion of the training the employees are placed on the regular job for which they have been recruited.

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