

**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>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></p>	<p>All efforts are being made to reduce RSPM levels in the ambient air. On-line monitoring facilities for all six stacks (location and parameters with limit given in <b>Table1</b> below) has been provided and sufficient air pollution control devices (location and air pollution control devices installed details given in <b>Table2</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>Apr'17 to Sept'17</b> for all six stacks are given in the <b>Table 3</b> below &amp; copy of the same is attached as <b>Annexure A</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 <b>PM2.5, PM10, Sox &amp; Nox</b> in the ambient air from <b>Apr'17 to Sept'17</b> are given in the <b>Table 4</b> below &amp; copy of the same is attached as <b>Annexure B</b>.</p> <p>Copy of values of Environmental parameters as per Continuous monitoring reports</p>

transmitted to CPCB and GPCB from April 2017 to Sept 2017 for satch monitoring is attached as Annexure C.  
**Compliance Assured**

### List Of Online Monitoring Stations

**Table 1**

Location	Online Parameters	Limit in (mg/Nm <sup>3</sup> )
AFBC Boiler of Power Plant	SO <sub>x</sub> , Nox ,SPM	Sox-100,Nox-50,SPM-100
Rotary Kiln 1 & 2	SO <sub>x</sub> , Nox ,SPM	Sox-100,Nox-50,SPM-100
Rotary Kiln 3 & 4	SO <sub>x</sub> , Nox ,SPM	Sox-100,Nox-50,SPM-100
Induction Furnace 1 & 2	SO <sub>x</sub> , Nox ,SPM	Sox-100,Nox-50,SPM-50
Induction Furnace 3 & 4	SO <sub>x</sub> , Nox ,SPM	Sox-100,Nox-50,SPM-50
Reheating Furnace	SO <sub>x</sub> , Nox ,SPM	Sox-100,Nox-50,SPM-100

### Air Pollution Control Device

**Table 2**

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

2.	<p>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</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 Royal Environment Auditing &amp; Consultancy Service, Gujarat Pollution Control Board (GPCB) approved Schedule II Auditor having NABL accredited laboratory facility from Apr'17 to Sept'17 are given in the Table 5 below &amp; copy of the same is attached as Annexure A.</p> <p>Copy of values of particulate matter as per online Continuous monitoring reports transmitted to CPCB and GPCB from April 2017 to Sept 2017 is attached as Annexure C.</p> <p><b>Complied</b></p>
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**STACK EMISSION MONITORING REPORT**

**TABLE 5**

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

3	<p>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 Apr'17 to Sept'17 are given in the Table 6 below &amp; copy of the same is attached as Annexure B.</p> <p><b>Complied</b></p>
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### AMBIENT AIR QUALITY MONITORING REPORT

**TABLE 6**

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100 µg/m <sup>3</sup>			PM <sub>2.5</sub> Limit-60 µg/m <sup>3</sup>			Sox Limit-80 µg/m <sup>3</sup>			NO <sub>x</sub> Limit-80 µg/m <sup>3</sup>		
	Max.	Min.	Avg.	Max.	Min.	Avg.	max.	Min.	Avg.	Max.	Min.	Avg.
OFFICER COLONY	60	53	56.5	34	26	30	11.9	11.6	11.75	18.5	17.6	18.05
MAIN SECURITY GATE	58	55	56.5	38	29	33.5	10.7	10.2	10.45	18.4	17.6	18
B/H KILN 1 & 2	61	48	54.5	35	24	29.5	16.3	15.3	15.8	19.5	18.6	19.05
NR.FURNACE AREA	53	43	48	37	21	29	17.5	16.4	16.95	21.6	20.7	21.15

## STACK EMISSION MONITORING REPORT VALUES

### TABLE 3

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	62	56	59	24.6	18	21.30	22.1	19.7	20.9
Rotary Kiln 3 & 4	62	53	57.5	25.2	16.2	20.70	21.4	21.4	21.4
Power Plant	67	53	60	23.7	21.9	22.80	24.8	19.4	22.1
Induction Furnace F1 & F2	38	26	32	21.6	18.4	20.00	22.4	17.9	20.15
Induction Furnace F3 & F4	32	21	26.5	19.8	14.2	17.00	18.6	16.8	17.70
Rolling Mill	66	57	61.5	20.8	19.3	20.05	22.6	20.9	17.8

## AMBIENT AIR QUALITY MONITORING REPORT

### TABLE 4

Ambient Air Quality Station	PM 10 (µg/m <sup>3</sup> ) Limit-100 µg/m <sup>3</sup>			PM <sub>2.5</sub> (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>			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	60	53	56.5	34	26	30	11.9	11.6	11.75	18.5	17.6	18.05
MAIN SECURITY GATE	58	55	56.5	38	29	33.5	10.7	10.2	10.45	18.4	17.6	18
B/H KILN 1 & 2	61	48	54.5	35	24	29.5	16.3	15.3	15.8	19.5	18.6	19.05
NR.FURNACE AREA	53	43	48	37	21	29	17.5	16.4	16.95	21.6	20.7	21.15

4.	<p>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.</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. Copy of photo of display at main gate is attached as <b>Annexure D</b>.</p> <p><b>Complied</b></p>
5	<p>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.</p>	<p>All Guidelines/ Code of practice issued by CPCB has been implemented. The emission standards issued by the Ministry in May, 2008 for the sponge plants has been implemented.</p> <p><b>Compliance Assured.</b></p>
6	<p>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.</p>	<p>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.</p> <p>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.</p> <p>Regular water sprinkling is done on coal, raw material, conveyors and also in the unpaved areas. Either covered dumpers or truck</p>

		<p>covered through tarpaulin has been used to prevent dust emission during transportation. 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.</p> <p>Vehicles having valid Pollution Control Certificates (PUC) is only allowed inside the plant premises.</p> <p><b>Compliance Assured</b></p>
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 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.</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 transfer points, crusher house, screen house, product handling areas etc. Details of nos of bag filter with location given in <b>Table7</b> below.</li> <li>• Dry Fog System provided at coal circuit, coal injection and dolachar seperation area. Details of nos of Dry Fog system with location are given in <b>Table7</b> below</li> <li>• Heavy duty Industrial Vaccum Cleaner provided at product seperation 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 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>Table7</b> below</li> <li>• Erecting the walls high to act as wind shield</li> </ul>

