

Six Monthly
***ENVIRONMENTAL
COMPLIANCE STATUS &
POLLUTION MONITORING
REPORT***

(July 2023 — December 2023)

Submitted To

To,
The Additional Principal Chief Conservator of Forests (C),
Ministry Of Environment Forest & Climate Change,
Regional Office (WCZ), Ground Floor, East Wing,
New Secretariat Building, Civil Lines,
Nagpur –440001.

Submitted By-



Evonith Value Steel Limited

(Formerly Uttam Value Steels Limited)

Bhugaon Link Road, Wardha – 442001 (MS)

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INTRODUCTION

M/s. Evonith Value Steel Limited (EVSL), formerly known as M/s Uttam Value Steels Limited, is one of the major steel manufacturers in India. The unit is located at Village Bhugaon, District Wardha in Maharashtra state. The steel unit has a capacity to manufacture Steel Products 1000000 MT/A hot rolled coils/sheets/plates, 18750 MT/M cold roll coils /sheets and 18750 MT/M galvanized coils/sheets.

The environmental clearance from MoEF is granted vide their letter No. J-11011/21/93-IA.II dated 09.12.1993 and for expansion vide No. J-11011/77/2005-IA II(I) dated 21.06.2005. The MPCB Consent to Operate (Renewal) for HRM Plant granted vide Consent No. Format 1.0 /CAC/UAN No. 0000113132/CR-2110000235, dated 06/10/2021, valid up to 30.06.2024, and Consent to Operate (Renewal) for CRM Plant granted vide Consent No. 1.0/CAC/UAN No.MPCB-CONSENT-0000111757/CR-2202000185,dated 02.02.2022, is valid up to 31.05.2024.

ENVIRONMENTAL COMPLIANCE STATUS REPORT

July 2023–December 2023

Memorandum No. J-11011/77/2005-I A II (I) Dated: 21st December 2005.

Sr. No.	CONDITION	COMPLIANCE
i	The gaseous emissions from various process units should conform to the load/mass based standards notified by this Ministry on 19 th November 1993 and standards prescribed from time to time. The state Board November specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are	Being maintained as per standards. All the emission parameters are maintained as prescribed by the state pollution control board. The state pollution control board also visits the plant and monitors the parameters on a regular basis. In the event of failure of any pollution control system, the respective unit is kept closed until the control systems are rectified to achieve the desired efficiency.

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	rectified to achieve the desired efficiency.	
ii	There shall be no discharge of process effluent. As reflected in the EIA/EMP report, the company shall recycle the treated waste water through Reverse Osmosis plant. The company shall undertake water conservation measures by recycling the cooling water blow down and reuse in the process. The boiler blow down shall be used for coal pile spray. The domestic waste water after treatment in STP should be used for green belt development.	<p>The process effluent is treated in ETP, and the treated water is recycled to the maximum extent and the balance quantity is used for gardening, green belt development, and sprinkling.</p> <p>The domestic wastewater, after treatment in STP, is entirely used for gardening in the plant and colony.</p> <p>Boiler blow down - NA</p>
iii	In plant control measures for checking fugitive emission for spillage/raw materials handling Should be provide. Further specific measures like provisions of dust extraction and dust suppression system for product and raw material handling, water sprinkling system at the waste disposal area to control the fugitive emissions shall be provided. Data on fugitive emission shall be regularly monitored and records maintained.	<p>A water sprinkling tanker is deployed for sprinkling water on internal roads.</p> <p>Water sprinklers have also been installed at internal transport roads.</p> <p>An annual contract is given to M/s. Mahabal Enviro Eng Pvt. Ltd. a MoEF approved agency for environmental monitoring. Data on fugitive emissions is being regularly monitored, and records are maintained.</p>
iv	The project authorities shall ensure the control of fugitive emissions from the electric arc furnace and sinter plant during charging of scrap and tapping by provision of fume extractor system	<p>Being ensured.</p> <p>The air pollution control system followed by bag filters is installed to EAF system.</p> <p>Sinter plant -NA</p>
v	The company shall provide gas cleaning system. The waste gas from blast furnace shall be passed through the dust catcher. The waste gases from the mini blast furnace and coke oven plant shall be used in waste heat recovery steam generators to recover heat/energy. The burnt waste gases shall be passed through electrostatic precipitator to control the particulate emissions shall be controlled by installation of ESP.	<p>Not Applicable.</p> <p>Blast furnace and coke oven plant are not part of this unit.</p>
vi	The company shall undertake measures for installation of continuous ambient air quality monitoring stations and data sent electronically to SPCB/Central Pollution Control Board.	<p>Being Complied as per the locations finalized by MPCB.</p> <p>Data has been sent to SPCB/CPCB control board.</p>

vii	Solid waste would be generated in the form of slag and sold to cement manufacturers. The mill scale. Machine returns and flue dust shall be used as raw material in sinter plant. Fly ash shall be utilized as per Government Of India guidelines. The bottom ash shall be used for brick manufacturing and levelling of low lying area and road making. The used oil will be sold to authorized recyclers.	1. Slag sold to bricks and slag reclamation units and also used for filling low-lying areas and making roads. 2. Fly ash – NA 3. Used Oil sending to authorized pre-processors.
viii	The company shall raise green belt in an area of 50 ha. In addition to 40 ha. Of area already afforested as per the CPCB guidelines.	Green belt developed as per the consent condition and CPCB guidelines. We have developed around 84 hectares of land under the green belt.
ix	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 workers is carried out regularly as per the Factory Act.
x	Recommendations made in the Corporate Responsibility for Environment Protection (CREP) should be implemented.	Being implemented.

B. GENERAL CONDITIONS

Sr. No	CONDITION	COMPLIANCE
i	The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board and the State Government.	We are strictly complying with stipulations made by Govt. of Maharashtra and MPCB.
ii	No further expansion or modification in the plant should be carried out without prior approval of the Ministry Of Environment and Forests.	Being adhered to.
iii	At least ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO ₂ and NO _x are anticipated in consultation with the State Pollution Control Board. Data on ambient air quality and stack emission should be regularly submitted to this ministry including its regional Office at Bhopal and the State Pollution Control Board/ Central Pollution Control Board once in six months.	CAAQMS has been installed as per the locations finalized by the Maharashtra State Pollution Control Board. We are submitting data regularly to the MOEF&CC, MPCB and CPCB.
iv	Industrial waste water shall be properly collected treated so as to conform to the standards prescribed under GSR 422 (E) dated	Industrial wastewater is treated in ETP and the treated effluent is used for gardening, green belt development, and sprinkling.

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	19 th November 1993 and 31 st December 1993 or as amended form time. The treated waste water should be utilized for plantation purpose.	
v	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under EPA Rules 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime)	Industry is taking adequate precautions to control noise levels within the specified limit as per EPA Rule 1989. Preventative maintenance is carried out regularly. Advanced technology and sophisticated instruments are used to maintain noise levels within prescribed standards.
vi	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. Education programmers, drinking water supply and health care etc.	These activities are implemented regularly. Regular CSR activities are carried out every year in the surrounding villages.
vii	The project authorities will provide adequate funds both recurring and non recurring to Implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implantation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	The adequate funds are provided specifically for environmental protection and control of pollution. The funds provided are not diverted for any other purposes.
viii	The regional office of this Ministry Bhopal/Central Pollution Control Board/State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitoring data along with statistical interpretation should be submitted to them regularly.	We are strictly complying with the stipulated conditions made by CPCB/SPCB. The six-monthly compliance reports and the monitoring data reports are regularly submitted.
ix	The project proponent should inform the public that the project has been in accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and November also be seen at website of the Ministry of Environment and Forest at http://envr.or.nic.in the should be advertised within seven days form the date of issue of the clearance letter, at least in two local newspapers the area widely circulated in the	This is being adhered to. Advertisement has been given for the clearance letter in two local newspapers widely circulated in the region, in the local languages of Marathi and English.

	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.	
x	The project authorities should 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.	Accepted

1. POLLUTION CONTROL

1.1. Pollution Control Measures

Evonith Value Steels is well-versed in its corporate responsibilities and is very keen on undertaking various steps to control pollution from different environmental attributes, viz air, noise, and water, etc.

1.2. Air Pollution Control

For removal of dust from the EAFs fuel gas, a high-efficiency APC system called ACGC is installed, and the system is interlocked with the steel melting shop. Scrubbers installed at pickling & ARP for control of source emissions are interlocked with the process, respectively. Water sprinklers are provided for the suppression of fugitive emissions.

1.3. Green Belt Development

- A comprehensive plan is envisaged for the development of a Green Belt around the perimeter and inside the plant. An experienced horticulturist has been engaged to carry out the plantation programmers.
- The Green belt development helps in controlling dust emissions as well as acts as barriers for reducing noise levels.
- Dense tree belts, Lawns & Gardens are developed in and around the plant and colony.
- Trees have been planted on either side of the inside roads used for transportation to arrest the air born dust.

1.4. Noise Pollution Control

Other than regular maintenance of various equipment, the ear plugs & ear muffs are provided to all employees working close to noise-generating units. Apart from this, the following steps have been undertaken for the reduction of noise levels:

- Frequent lubrication of pumps.
- Encasement of noise-generating equipment.
- Provided noise-proof cabins to operators.

2. ENVIRONMENTAL DATA ANALYSIS

2.1. Meteorology

Meteorological data were collected from the online meteorological system installed in the premises. Wind speed, wind direction, relative humidity, and temperatures were recorded at hourly intervals continuously.

2.2. Methodology of Sampling

Micro-meteorological data were observed for wind direction, wind speed, temperature, and relative humidity from the online system.

2.3. Observations on Primary Data

The site-specific data is presented in Table 2.1 and is discussed below.

TABLE – 2.1
SUMMARY OF THE METEOROLOGICAL DATA GENERATED AT SITE
(July 2023– December 2023)

Month	Temperature (°C)		Relative Humidity (%)	
	Max.	Min.	Max.	Min.
July -2023	31.72	25.39	90.02	64.35
August-2023	29.73	24.42	90.20	69.96
September -2023	29.92	25.02	90.36	56.58
October -2023	32.75	25.79	77.14	20.6
November -2023	27.06	18.97	88.83	54.43
December -2023	25.49	19.64	86.77	53.84

2.4. Temperature

It was observed that the temperature ranged from 18.97°C to 32.75°C. The maximum temperature was recorded in the month October 2023 as 32.75°C and minimum temperature was recorded in the month of November 2023 as 18.97°C. The monthly variations in temperature are presented in Table 2.1.

2.5. Relative Humidity

During the period of observation, the relative humidity recorded was moderately low to high and ranged from 20.6% to 90.36%. The maximum humidity, 90.36%, was observed in September 2023. The lowest, 20.6%, was recorded in the month of October. The monthly variation in relative humidity is presented in Table 2.1.

2.6. Wind Speed / Direction

The predominant winds, along with wind speeds, during the study period are discussed below:

- Wind Pattern during July 2023**

The wind speed observed during the period is in the range from calm to 2.26 m/s. The

predominant wind directions were SSW for 55 % of the total time.

- **Wind Pattern during August 2023**

The wind speed observed during the period is in the range from calm to 2.62 m/s. The predominant wind direction was SSW for 55 % of the total time.

- **Wind Pattern during September 2023**

The wind speed observed during the period is in the range from calm to 2.17 m/s. The predominant wind direction was SSW for 73 % of the total time.

- **Wind Pattern during October 2023**

The wind speed observed during the period is in the range from calm to 1.52 m/s. The predominant wind direction was SSE for 48 % of the total time.

- **Wind Pattern during November 2023**

The wind speed observed during this period is in the range from calm to 1.63 m/s. The predominant wind direction was SSE for 53 % of the total time.

- **Wind Pattern during December 2023**

The wind speed observed during this period is in the range from calm to 1.97 m/s. The predominant wind direction was SSE for 67 % of the total time.

3. AMBIENT AIR QUALITY

The ambient air quality with respect to the study zone around the plant forms the baseline information. All the sampling locations fall within a 10 km radial distance from the plant. To assess the effect of plant activities on the air, environmental parameters such as Particulate Matter (PM₁₀), (PM_{2.5}), Sulphur Dioxide (SO₂) and Nitrogen Dioxide (NO₂) were monitored. The results of the monitoring carried out during the study period from **July 2023 to December 2023** are presented. The details of the sampling locations with respect to the plant are given in Table –2.2 (A)

TABLE-2.2 (A)
AMBIENT AIR QUALITY SAMPLING LOCATIONS

Sampling Code	Locations	Sampling Height (mt)	Location Details
AAQ1	Administrative Building	8.0	Represents Core zone air quality
AAQ2	Near Bapukuti Sewagram Village	8.0	Represents air quality
AAQ3	Selukate Village	8.0	Represents air quality
AAQ4	Chitoda Village	8.0	Represents air quality

3.1. Methodology of Sampling

Sampling was carried out twice a week at each station during the study period using pre-calibrated respirable dust samplers. At each of the earmarked stations, samples were collected for SO₂, NO₂, Particulate Matter (PM₁₀) & (PM_{2.5}). Samples were collected at twenty-four-hour intervals and sent to the laboratory for analysis.

3.2. Analytical Procedure

WHATMAN GF/A filter paper was used in the High-volume sampler and weighed on an electronic balance and computed as per standard methods.

Ambient Air samples were analyzed for SO₂ concentration levels using the Improved West-Gaeke method with a preprogrammed HACH spectrophotometer at a wavelength of 560 nm. NO_x concentration levels were estimated using the Jacob and Hocheiser modified (Na-As) method using preprogrammed HACH spectrophotometer at a wavelength of 540 nm.

The survey results of all the sampling locations are presented in Table-2.2 C to E. Various statistical parameters, such as maximum and minimum values, have been computed from the observed raw data for all AAQ monitoring stations. The summary of these results for all locations is presented in Table 2.2 (B). These are compared with the standards prescribed by the Central Pollution Control Board (CPCB).

3.3. Observation based on Primary Data

AAQ1: Administrative Building

The values for PM₁₀ ranged from 28 µg/m³ to 87 µg/m³ and PM 2.5 ranged from 5.9 µg/m³ to 32 µg/m³ during the study period. Similarly, SO₂ and NO₂ levels were recorded in the range of 3.4 to 19.9 µg/m³ & 10.4 to 25.4 µg/m³ respectively.

AAQ2: Bapukuti (Sewagram Village)

The values for PM₁₀ ranged from 24 µg/m³ to 75 µg/m³ and PM 2.5 ranged from 11 µg/m³ to 40 µg/m³ during the study period. Similarly, SO₂ and NO₂ levels were recorded in the range of 2.6 to 13.6 µg/m³, and 5.8 to 17.7 µg/m³ respectively.

AAQ3: Selukate Village

The values for PM₁₀ ranged from 19 to 74 µg/m³ and PM 2.5 ranged from 6 µg/m³ to 35 µg/m³ during the study period. Similarly, SO₂ and NO₂ levels were recorded in the range of 4.6 to 21.4 µg/m³ & 8.3 to 28.1 µg/m³ respectively.

AAQ4: Chitoda Village

The values for PM₁₀ ranged from 34 to 76 µg/m³ and PM 2.5 ranged from 4.8 µg/m³ to 34 µg/m³ during the study period. Similarly, SO₂ and NO₂ levels were recorded in the range of 4.6 to 21.4 µg/m³ & 10.3 to 21.3 µg/m³ respectively.

TABLE – 2.2 (B)
SUMMARY OF AMBIENT AIR QUALITY RESULT
(July 2023– December 2023)

Location	PM10		PM2.5		SO ₂		NO ₂	
	Max	Min	Max	Min	Max	Min	Max	Min
Administrative Building	87	28	32	5.9	19.9	3.4	25.4	10.4
Bapukuti (Sewagram Village)	75	24	40	11	13.6	2.6	17.7	5.8
Selukate Village	74	19	35	6	21.4	4.6	28.1	8.3
Chitoda Village	76	34	34	4.8	21.4	4.6	21.3	10.3

Note: All values are expressed in µg/m³.

TABLE – 2.2 (C)
AMBIENT AIR QUALITY
LOCATION: PLANT BUILDING (ADMINISTRATION OFFICE)

Sr. No	Date of Monitoring	PM 10 (µg/m ³)	PM 2.5 (µg/m ³)	SO ₂ (µg/m ³)	NO ₂ (µg/m ³)
July 2023					
I	02/07/2023	85	32	8.4	12.6
	03/07/2023	64	25	6.7	18.5
II	11/07/2023	57	26	8.4	16.7
	12/07/2023	74	25	9.1	13.1
III	18/07/2023	68	23	7.7	15.3
	19/07/2023	77	30	6.9	12.6
IV	24/07/2023	74	15	7.8	21.2
	25/07/2023	69	22	5.4	11.7
V	28/07/2023	51	16	3.4	17.0
	29/07/2023	46	18	6.1	18.5
August 2023					
I	02/08/2023	34	12	9.4	17.3
	03/08/2023	28	11	7.6	18.4
II	09/08/2023	54	22	12.1	15.0
	10/08/2023	64	5.9	11.4	19.2
III	16/08/2023	38	13	7.0	18.0
	17/08/2023	40	15	19.9	17.6
IV	23/08/2023	56	9.8	6.2	20.5
	24/08/2023	84	16	11.7	25.4
V	30/08/2023	79	20	9.9	21.1
	31/08/2023	28	11	10.2	19.9

September 2023					
I	04/09/2023	44	14	7.3	10.4
	05/09/2023	37	9	8.4	19.7
II	11/09/2023	50	13	8.2	12.9
	12/09/2023	51	12	9.2	12.4
III	20/09/2023	39	10	8.0	11.8
	21/09/2023	61	21	9.6	13.4
IV	27/09/2023	53	19	10.5	12.8
	28/09/2023	49	24	15.4	17.6
October 2023					
I	02/10/2023	55	26	9.1	13.2
	03/10/2023	42	22	8.5	18.1
II	11/10/2023	61	17	8.0	10.3
	12/10/2023	53	28	9.4	13.2
III	16/10/2023	49	21	10.8	13.2
	17/10/2023	51	25	6.1	12.1
IV	23/10/2023	63	26	7.2	13.6
	24/10/2023	58	15	8.1	15.2
V	30/10/2023	60	23	7.1	12.2
	31/10/2023	67	21	8.7	12.4
November 2023					
I	08/11/2023	61	22	10.7	12.5
	09/11/2023	64	21	9.4	13.4
II	15/11/2023	47	31	7.8	12.9
	16/11/2023	67	24	9.4	14.2
III	22/11/2023	59	16	8.6	11.6
	23/11/2023	67	14	7.6	10.8
IV	28/11/2023	48	26	10.6	16.7
	29/11/2023	46	16	11.4	19.7
December 2023					
I	01/12/2023	52	21	13.1	15.2
	02/12/2023	46	23	16.2	17.3
II	06/12/2023	34	25	10.2	13.2
	07/12/2023	75	30	9.7	10.8
III	13/12/2023	87	25	14.2	17.9
	14/12/2023	65	14	12.1	14.3
IV	20/12/2023	45	13	11.6	13.4
	21/12/2023	34	20	10.4	12.3

V	27/12/2023	45	14	14.2	16.2
	01/12/2023	52	21	13.1	15.2
Limit		100	60	80	80

**** As per National Ambient Air Quality Standards – S.O. 384(E), Notification 11.4.1994 as amended 18.11.200**

TABLE – 2.2 (D)
AMBIENT AIR QUALITY
LOCATION: BAPUKUTI SEWAGRAM (On rooftop)

Sr. No	Date of Monitoring	PM 10 ($\mu\text{g}/\text{m}^3$)	PM 2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
July 2023					
I	02/07/2023	42	19	10.3	8.9
	03/07/2023	38	14	8.5	9.4
II	11/07/2023	49	24	7.9	12.5
	12/07/2023	31	18	7.2	11.6
III	18/07/2023	46	21	12.4	13.1
	19/07/2023	51	18	6.8	17.5
IV	24/07/2023	54	23	10.1	10.8
	25/07/2023	72	26	9.5	5.8
V	28/07/2023	55	18	8.4	8.2
	29/07/2023	68	21	7.9	14.3
August 2023					
I	02/08/2023	57	21	7.0	17.7
	03/08/2023	31	28	7.8	12.5
II	09/08/2023	34	19	11.6	13.7
	10/08/2023	33	19	6.9	13.0
III	16/08/2023	45	24	7.8	12.2
	17/08/2023	24	19	8.2	17.5
IV	23/08/2023	56	25	9.5	10.9
	24/08/2023	50	25	7.6	11.9
V	30/08/2023	70	14	10.5	12.2
	31/08/2023	35	11	7.7	13.3
September 2023					
I	04/09/2023	48	15	7.7	14.1
	05/09/2023	37	14	5.2	10.1
II	11/09/2023	59	16	10.4	14.0
	12/09/2023	45	13	11.3	13.2
III	20/09/2023	61	22	8.4	12.4
	21/09/2023	64	18	7.5	10.2

IV	27/09/2023	41	11	9.0	11.4
	28/09/2023	55	21	9.1	15.2
October 2023					
I	02/10/2023	75	32	5.8	11.4
	03/10/2023	51	26	4.6	10.1
II	11/10/2023	65	20	8.0	10.5
	12/10/2023	48	26	6.4	9.7
III	16/10/2023	67	40	4.7	9.8
	17/10/2023	46	18	7.1	10.6
IV	23/10/2023	54	31	2.6	11.2
	24/10/2023	61	21	6.4	9.4
V	30/10/2023	68	19	9.4	12.6
	31/10/2023	71	24	4.8	11.6
November 2023					
I	08/11/2023	57	24	9.7	14.0
	09/11/2023	67	24	8.7	12.4
II	15/11/2023	48	34	8.9	13.5
	16/11/2023	59	21	7.4	12.3
III	22/11/2023	57	23	9.9	14.5
	23/11/2023	64	34	8.6	13.7
IV	28/11/2023	53	24	8.1	16.9
	29/11/2023	43	26	10.1	15.6
December 2023					
I	01/12/2023	57	24	13.6	14.2
	02/12/2023	64	23	12.4	15.4
II	06/12/2023	71	24	12.4	13.6
	07/12/2023	59	26	10.7	13.5
III	13/12/2023	60	22	13.4	15.5
	14/12/2023	48	21	11.2	14.2
IV	20/12/2023	67	31	12.1	16.4
	21/12/2023	54	31	10.4	13.4
V	27/12/2023	63	25	10.9	15.2
	28/12/2023	61	26	11.1	13.7
Limit		100	60	80	80

**** As per National Ambient Air Quality Standards – S.O. 384(E), Notification 11.4.1994 as amended 18.11.200**

TABLE – 2.2 (E)
AMBIENT AIR QUALITY
LOCATION: SELUKATE VILLAGE (ON ROOF TOP)

Sr. No	Date of Monitoring	PM 10 ($\mu\text{g}/\text{m}^3$)	PM 2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)
July 2023					
I	02/07/2023	48	31	5.8	14.5
	03/07/2023	51	31	6.2	28.1
II	11/07/2023	70	22	8.4	8.9
	12/07/2023	42	23	6.8	10.2
III	18/07/2023	64	35	4.9	13.7
	19/07/2023	69	34	9.1	15.7
IV	24/07/2023	57	29	10.5	12.4
	25/07/2023	48	24	8.1	12.8
V	28/07/2023	29	19	8.7	8.4
	29/07/2023	53	23	11.6	13.0
August 2023					
I	02/08/2023	19	12	6.2	11.6
	03/08/2023	27	6	11.1	12.4
II	09/08/2023	44	20	9.5	12.8
	10/08/2023	37	7	7.1	10.7
III	16/08/2023	28	10	5.9	22.1
	17/08/2023	63	9	8.6	18.1
IV	23/08/2023	57	9	6.2	11.6
	24/08/2023	40	18	5.9	14.2
V	30/08/2023	28	7	7.6	9.0
	31/08/2023	27	11	5.7	8.3
September 2023					
I	04/09/2023	54	16	11.6	15.1
	05/09/2023	62	21	21.4	23.2
II	11/09/2023	51	14	10.7	15.3
	12/09/2023	46	11	10.7	14.2
III	20/09/2023	34	9	12.2	16.4
	21/09/2023	38	17	18.1	21.3
IV	27/09/2023	26	12	16.1	17.8
	28/09/2023	42	16	14.2	16.7

October 2023					
I	02/10/2023	55	26	9.1	13.2
	03/10/2023	42	22	8.5	18.1
II	11/10/2023	61	17	8.0	10.3
	12/10/2023	53	28	9.4	13.2
III	16/10/2023	49	21	10.8	13.2
	17/10/2023	51	25	6.1	12.1
IV	23/10/2023	63	26	7.2	13.6
	24/10/2023	58	15	8.1	15.2
V	30/10/2023	60	23	7.1	12.2
	31/10/2023	67	21	8.7	12.4
November 2023					
I	08/11/2023	49	20	7.8	11.3
	09/11/2023	57	31	6.8	13.4
II	15/11/2023	56	23	8.4	12.5
	16/11/2023	54	22	9.1	21.1
III	22/11/2023	74	31	4.6	21.3
	23/11/2023	61	25	10.5	16.4
IV	28/11/2023	66	33	6.4	14.5
	29/11/2023	45	24	9.4	13.4
December 2023					
I	01/12/2023	54	26	14.6	15.5
	02/12/2023	64	24	13.4	14.3
II	06/12/2023	67	22	15.2	16.2
	07/12/2023	74	31	14.2	15.5
III	13/12/2023	40	20	11.5	15.7
	14/12/2023	46	16	12.1	13.2
IV	20/12/2023	47	24	11.0	14.2
	21/12/2023	53	22	11.1	13.2
V	27/12/2023	56	19	9.9	12.1
	28/12/2023	40	17	8.4	13.0
Limit		100	60	80	80

** As per National Ambient Air Quality Standards – S.O. 384(E), Notification 11.4.1994 as amended 18.11.2009

TABLE – 2.2 (F)
AMBIENT AIR QUALITY
LOCATION: CHITTODA VILLAGE (ON ROOF TOP)

Sr. No	Date of Monitoring	PM 10 ($\mu\text{g}/\text{m}^3$)	PM 2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)
July 2023					
I	02/07/2023	47	28	6.8	11.2
	03/07/2023	56	22	5.7	19.3
II	11/07/2023	68	26	7.6	12.3
	12/07/2023	49	21	8.4	12.6
III	18/07/2023	51	23	6.8	13.0
	19/07/2023	72	27	9.5	21.1
IV	24/07/2023	62	25	4.8	17.5
	25/07/2023	54	20	6.8	12.7
V	28/07/2023	58	25	7.7	13.7
	29/07/2023	70	28	10.1	14.3
August 2023					
I	02/08/2023	38	13	16.6	11.5
	03/08/2023	50	17	13.7	12.4
II	09/08/2023	35	17	13.4	15.6
	10/08/2023	42	23	18.1	12.2
III	16/08/2023	58	8.9	13.0	13.5
	17/08/2023	68	6.6	17.0	13.2
IV	23/08/2023	34	11	9.4	10.4
	24/08/2023	41	4.8	9.8	12.5
V	30/08/2023	65	18.6	10.4	13.2
	31/08/2023	73	21.1	18.9	12.7
September 2023					
I	04/09/2023	62	21	15.1	10.5
	05/09/2023	48	14	21.4	11.1
II	11/09/2023	43	12	7.9	13.6
	12/09/2023	34	10	12.1	12.3
III	20/09/2023	55	12.5	10.9	11.8
	21/09/2023	56	16.4	12.3	14.7
IV	27/09/2023	60	24	10.1	15.4
	28/09/2023	51	21	9.8	13.2

October 2023					
I	02/10/2023	55	26	9.1	13.2
	03/10/2023	42	22	8.5	18.1
II	11/10/2023	61	17	8.0	10.3
	12/10/2023	53	28	9.4	13.2
III	16/10/2023	49	21	10.8	13.2
	17/10/2023	51	25	6.1	12.1
IV	23/10/2023	63	26	7.2	13.6
	24/10/2023	58	15	8.1	15.2
V	30/10/2023	60	23	7.1	12.2
November 2023					
I	08/11/2023	49	20	7.8	11.3
	09/11/2023	57	31	6.8	13.4
II	15/11/2023	56	23	8.4	12.5
	16/11/2023	54	22	9.1	21.1
III	22/11/2023	74	31	4.6	21.3
	23/11/2023	61	25	10.5	16.4
IV	28/11/2023	66	33	6.4	14.5
	29/11/2023	45	24	9.4	13.4
December 2023					
I	01/12/2023	54	13	12.0	14.6
	02/12/2023	56	24	13.4	15.7
II	06/12/2023	76	11	13.5	16.4
	07/12/2023	45	23	12.6	16.7
III	13/12/2023	42	18	12.2	14.4
	14/12/2023	67	31	10.4	13.4
IV	20/12/2023	74	34	11.9	15.9
	21/12/2023	54	15	11.5	13.4
V	27/12/2023	46	24	10.4	14.2
	28/12/2023	74	26	14.6	16.4
Limit		100	60	80	80

** As per National Ambient Air Quality Standards – S.O. 384(E), Notification 11.4.1994 as amended 18.11.2009

4. SOURCE EMISSION MONITORING

There are 13 No. of stacks at various sections to control particulate and gaseous emissions. The technical details are tabulated in Table No. 2.3 (A)

TABLE 2.3 (A)
Details of Stack and Control Equipments

1	Stack Attached to.	Re-Heating Furnace New	Re-Heating Furnace old	Continuous Caster Mill	Stackel Mill	Plate Mill	Picking	ARP	Aquatherm
2	Stack height	80 mt	60 mt	37 mt	35 mt	35 mt	30 mt	30 mt	30 mt
3	Stack diameter	4.8 mt	3.0 mt	2.0 mt	2.0 mt	2.0 mt	0.8 mt	0.4 mt	0.6 mt
4	Material Of Construction	RCC	M.S.	M.S.	M.S.	M.S.	FRP	FRP	M.S.
5	Type of fuel	COG	COG	No fuel	COG	L.D.O	No fuel	COG	COG
6	Consumption of Fuel	257480 m ³ /day.	2059.4 m ³ /day	-	12000 m ³ /day	0.68 KL/day	--	700 m ³ /hr	320 kg/hr
7	Control Equipment	Air Recuperator System	Air Recuperator System	Stack	-	-	Scrubber	Scrubber	Stack
8	Nature of Pollutants likely to be present	SO ₂ , NO _x , TPM	SO ₂ , NO _x , TPM	--	SO ₂ , NO _x , TPM	TPM, SO ₂ , NO _x	Acid Mist	Acid Mist	TPM, SO ₂ , NO _x
9	Remark		Furnace not in use	Only low temp Steam discharge		Not in regular operation	-	-	Not in regular operation

Note: - DG set, Galvanizing section, & re-heating furnace (old) are not in regular operation. Chimneys of Mill-1 & Mill-2 are for the ventilation system only.

4.1. Methodology of Sampling

The stack sampling was carried out using the **ISO-KINATIC METHOD** with a pre-calibrated stack kit. Cellulose and Glass Fiber thimbles were used for collecting particulate matter. Sulphur Dioxide is estimated as per IS: 11255 Part –II. NO_x is estimated as per IS: USEPA (PDSA Method).

4.2. Result and Discussions

Stack emission monitoring was carried out. The emission rates meet the limits prescribed by MPCB and the results are tabulated in **Table-2.3 (B) to (G)**.

TABLE - 2.3 (B)
MONTH: - July - 2023
STACKS ATTACHED TO THE SECTIONS OF HRM & CRM

Sr. No.	Location	SPM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NO _x (mg/Nm ³)		Acid Mist (mg/Nm ³)	
		NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL
1.	RE HEATING FURNACE (New)	50	25	-	22	-	51	-	-
2.	ARP - 1	-	-	-	-	-	-	35	10.9
3.	ARP - 2	-	-	-	-	-	-	35	7.8
4.	PICKLING	-	-	-	-	-	-	35	11.1
5.	AQUATHERM	150	17	-	19	-	47	-	-
6.	DG Set 1000kVE	-	23	-	-	-	81	-	-

Note: Norms as per MPCB Consent

TABLE - 2.3 (C)
MONTH: - August 2023
STACKS ATTACHED TO THE SECTIONS OF HRM & CRM

Sr. No.	Location	SPM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NO _x (mg/Nm ³)		Acid Mist (mg/Nm ³)	
		NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL
1.	RE HEATING FURNACE (New)	50	20	-	56	-	33	-	-
2.	ARP - 1	-	-	-	-	-	-	35	7.7
3.	ARP - 2	-	-	-	-	-	-	35	10.5
4.	PICKLING	-	-	-	-	-	-	35	11.8
5.	AQUATHERM	150	18	-	44	-	37	-	-
6.	DG Set 1000kVE	-	25	-	-	-	78	-	-

Note: Norms as per MPCB Consent

TABLE - 2.3 (D)
MONTH – September 2023
STACKS ATTACHED TO THE SECTIONS OF HRM & CRM

Sr. No.	Location	SPM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NOx (mg/Nm ³)		Acid Mist (mg/Nm ³)	
		NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL
1.	RE HEATING FURNACE (New)	50	25	-	50	-	27	-	-
2.	ARP - 1	-	-	-	-	-	-	35	14.5
3.	ARP - 2	-	-	-	-	-	-	35	12.7
4.	PICKLING	-	-	-	-	-	-	35	13.3
5.	AQUATHERM	150	20	-	44	-	37	-	-
6.	DG Set 1000kVE	-	26	-	-	-	71	-	-

Note: Norms as per MPCB Consent

TABLE - 2.3 (E)
MONTH – October 2023
STACKS ATTACHED TO THE SECTIONS OF HRM & CRM

Sr. No.	Location	SPM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NOx (mg/Nm ³)		Acid Mist (mg/Nm ³)	
		NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL
1.	RE HEATING FURNACE (New)	50	14	-	44	-	30	-	-
2.	ARP - 1	-	-	-	-	-	-	35	8.2
3.	ARP - 2	-	-	-	-	-	-	35	8.8
4.	PICKLING	-	-	-	-	-	-	35	11.6
5.	AQUATHERM	150	18	-	46	-	35	-	-
6.	DG Set 1000kVE	-	25	-	28	-	53	-	-

TABLE - 2.3 (F)
MONTH- November 2023
STACKS ATTACHED TO THE SECTIONS OF SMS AND HRM

Sr. No.	Location	SPM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NOx (mg/Nm ³)		Acid Mist (mg/Nm ³)	
		NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL	NORMS	ACTUAL
1.	RE HEATING FURNACE (New)	50	18	-	44	-	32	-	-
2.	ARP - 1	-	-	-	-	-	-	35	8.7
3.	ARP - 2	-	-	-	-	-	-	35	9.0

4.	PICKLING	-	-	-	-	-	-	35	11.0
5.	AQUATHERM	150	16	-	44	-	33	-	-
6.	DG Set 1000kVE	-	24	-	28	-	246	-	-

TABLE - 2.3 (G)
MONTH – December 2023
STACKS STACKS ATTACHED TO THE SECTIONS OF HRM & CRM

STACKS ATTACHED TO THE SECTION OF HRM & CRM									
Sr. No.	Sections	SPM (mg/Nm ³)		SO ₂ (mg/Nm ³)		NO _x (mg/Nm ³)		Acid Mist (mg/Nm ³)	
		NORMS	ACTUAL	NORMS	ACTUAL (mg/Nm ³)	NORMS	ACTUAL	NORMS	ACTUAL
1.	RE HEATING FURNACE (New)	50	22	-	39	-	36	-	-
2.	ARP - 1	-	-	-	-	-	-	35	11.4
3.	ARP - 2	-	-	-	-	-	-	35	9.1
4.	PICKLING	-	-	-	-	-	-	35	10.6
5.	AQUATHERM	150	20	-	39	-	34	-	-
6.	DG Set 1000kVE	-	24	-	28	-	240	-	-

5. WATER QUALITY

Water samplings (groundwater) from three locations were collected to assess the chemical quality. The sampling locations were within a 10 km radial distance from the plant. Three (03) effluent samples were collected from the plant premises.

Samples were collected as per the procedures stipulated in IS: 2488. Parameters like Electrical Conductivity, pH and TDS, Chlorides, Sulphate, Alkalinity and total hardness were analyzed. Samples were collected by taking suitable precautions.

TABLE - 2.4
WATER SAMPLING LOCATIONS

Sample Code	Locations	Source
Ground Water		
GW1	Village Inzapur	Ground Water(Bore well)
GW2	Village Borgaon	Ground Water(Bore well)
GW3	Village Chitoda	Ground Water(Bore well)
Waste Water (Effluents)		
E1	Domestic Effluent (STP Treated)	Effluent 1
E2	Trade Effluent (ETP 1 Treated)	Effluent 2
E3	Trade Effluent (ETP 2 Treated)	Effluent 3

5.1. Methodology of Sampling

Water samples were collected for physical, chemical, and bacteriological parameters, taking suitable precautions. Temperature, pH, Dissolve Oxygen and Electrical Conductivity were measured in the field while collecting the samples.

Sterilized bottles were used to collect samples for bacteriological analysis, stored in the ice and transported to the central laboratory.

5.2. Analytical Procedure

Ground and surface water samples were analyzed as per IS: 10500 (1991), whereas wastewater samples were analyzed as per MPCB Standards. The analytical methods mentioned in IS: 3025 and Standard Methods published by APHA were followed.

5.3. Results and discussions

Ground water collected at three locations within a 10 Km radial distance of plant was analyzed as per IS 10500 to assess the quality of water for portability.

The summary of analyzed parameters is shown in Table 2.4 (A) to (F).

Table - 2.4 (A)
July - 2023

Sr. No	PARAMETER	Concentration (mg/l)		
		GW1 (Village Inzapur)	GW2 (Village Borgaon)	GW3 (Village Chitoda)
1.	pH	7.5	7.4	7.7
2.	TDS	806	766	938
3.	Chloride	129	135	133
4.	Alkalinity	364	354	512
5.	Sulphate	128	86	90.5
6.	Total Hardness	370	386	498

Table - 2.4 (B)
August- 2023

Sr. No	PARAMETER	Concentration (mg/l)		
		GW1 (Village Inzapur)	GW2 (Village Borgaon)	GW3 (Village Chitoda)
1.	pH	7.6	7.5	7.6
2.	TDS	645	746	776
3.	Chloride	100	141	105
4.	Alkalinity	340	324	404
5.	Sulphate	84.8	99.2	85.0
6.	Total Hardness	382	524	388

Table - 2.4 (C)
September – 2023

Sr. No	PARAMETER	Concentration (mg/l)		
		GW1 (Village Inzapur)	GW2 (Village Borgaon)	GW3 (Village Chitoda)
1.	pH	7.3	7.0	7.3
2.	TDS	624	718	720
3.	Chloride	86	90	87
4.	Alkalinity	352	412	422
5.	Sulphate	43	45.2	60.4
6.	Total Hardness	418	432	432

Table-2.4 (D)
October – 2023

Sr. No	PARAMETER	Concentration (mg/l)		
		GW1 (Village Inzapur)	GW2 (Village Borgaon)	GW3 (Village Chitoda)
1.	PH	7.2	7.1	7.2
2.	TDS	857	804	621
3.	Chloride	198	162	88
4.	Alkalinity	284	312	330
5.	Sulphate	152	118	61.6
6.	Total Hardness	394	396	360

Table -2.4 (E)
November – 2023

Sr. No	PARAMETER	Concentration (mg/l)		
		GW1 (Village Inzapur)	GW2 (Village Borgaon)	GW3 (Village Chitoda)
1.	PH	7.3	7.2	7.4
2.	TDS	647	703	541
3.	Chloride	126	133	65
4.	Alkalinity	258	296	314
5.	Sulphate	101	100	47.2
6.	Total Hardness	364	382	332

Table -2.4 (F)
December – 2023

Sr. No	PARAMETER	Concentration (mg/l)		
		GW1 (Village Inzapur)	GW2 (Village Borgaon)	GW3 (Village chitoda)
1.	pH	7.2	7.1	7.2
2.	TDS	594	663	674
3.	Chloride	90.2	86.0	68
4.	Alkalinity	330	388	424
5.	Sulphate	38	45.8	51
6.	Total Hardness	402	424	446

5.4. Waste Water Quality

Discharges of effluents were found to conform to the limits prescribed by the MPCB. The metals concentrations were found to be well within the limits. Analysis results during the study period are shown in Table – 2.4 (G) (H) & (I).

TABLE – 2.4 (G)
WASTE WATER QUALITY – DOMESTIC EFFLUENT
TREATED EFFLUENT FROM STP

Parameters	July 2023	August 2023	September 2023	October 2023	November 2023	December 2023	Limits as per MPCB
Total Suspended Solids (mg/l)	BQL (LOQ : 5)	7	8	9	7.9	8	50 mg/l
BOD(3 days at 27 °C) (mg/l)	8.0	9.6	7.3	7	9.6	9.3	30 mg/l
COD	28	32	24	24	32	32	100 mg/l

TABLE – 2.4 (H)
WASTE WATER QUALITY – EFFLUENT TREATMENT PLANT- 1 (OUTLET)

Parameters	July 2023	August 2023	September 2023	October 2023	November 2023	December 2023	Limits as per MPCB
pH	7.8	8.2	8.3	8.1	8.3	8.1	5.5-8.5
Suspended Solids	BQL (LOQ : 5)	BQL (LOQ : 5)	11	84	94	22	100
Total Dissolve Solids	1915	1898	1942	1895	1936	1912	2100
BOD (3 days at 27 °C)	6.2	6.8	8.7	8.7	12.5	24	30
C.O.D	20	24	156	38	64	46	250
Oil & Grease	BQL (LOQ : 1)	BQL (LOQ : 1)	BQL (LOQ : 2)	BQL (LOQ : 2)	BQL (LOQ : 2)	BQL (LOQ : 2)	10
Chlorides (as Cl)	552	498	524	496	478	561	600
Sulphate (as SO ₄)	237	456	258	282	326	379	1000
Total Chromium (as Cr)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	2.0
Iron (as Fe)	0.471	1.44	0.270	0.234	2.4	0.032	3.0
Zinc (as Zn)	0.025	BQL (LOQ:0.02)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	1.72	5.0

TABLE – 2.4 (I)
WASTE WATER QUALITY – EFFLUENT TREATMENT PLANT- 2 (OUTLET)

Parameters	July 2023	August 2023	September 2023	October 2023	November 2023	December 2023	Limits as per MPCB
pH	6.9	7.9	8.1	8.0	8.2	8	5.5-8.5
Suspended Solids	BQL (LOQ : 5)	9	7	BQL (LOQ : 5)	7	5	100
Total Dissolve Solids	1865	1952	1916	1907	1948	1852	2100
BOD (3 days at 27 °C)	10.1	8.2	18	5.9	17	12	30
C.O.D	56	28	60	20	56	40	250
Oil & Grease	BQL (LOQ : 1)	BQL (LOQ : 1)	BQL (LOQ : 2)	BQL (LOQ : 2)	BQL (LOQ : 2)	BQL (LOQ : 2)	10
Chlorides (as Cl)	465	521	497	575	546	548	600
Sulphate (as SO ₄)	184	164	107	165	173	217	1000
Total Chromium (as Cr)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	BQL (LOQ : 0.01)	2.0
Iron (as Fe)	< 1.0	1.40	0.590	1.63	0.963	1.76	3.0
Zinc (as Zn)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	BQL (LOQ:0.02)	5.0

BQL: Below Quantification Limit; LOQ: Limit Of Quantification.

6. NOISE LEVELS

Noise levels vary depending on the various equipment in the plant such as EAF - I, EAF - II, Compressor Room, and Hot Rolling Mill. Accordingly, noise levels were recorded at four locations to assess the noise levels due to the plant equipment in the work zone like operator's cabin and 4.0 mt from the machinery. The ambient noise levels were also measured at four locations viz. Southern, Northern, Eastern & Western Boundary, during the study period (July 2023 to December 2023). The details of the noise sampling locations are given in Table - 2.5 A & B

6.1. Methodology of Sampling

Noise levels measurements were recorded at 4.0 m away from the noise-generating sources. The noise monitoring was carried out continuously on an hourly basis over a period of one day at each location. The noise levels monitoring was carried out using an analog noise level meter.

6.2. Analytical Procedure

A spot noise level was recorded in Decibels dB (A) for all the plant equipment and operations at the distance of 4.0 m from each equipment using a precision noise level meter. Ambient Noise levels were measured at 4 locations.

TABLE- 2.5 (A)
NOISE LEVEL MONITORING LOCATIONS INSIDE THE PLANT

Sample Code	Locations
NL 1	Inside of SMS-1
NL 2	Inside of SMS-2
NL 3	Re-Heating Furnace
NL 4	Hot Rolling Mill
NL 5	CRM-1
NL 6	CRM-2
NL 7	QC Workshop
NL 8	DG Set (1000KVA)

TABLE- 2.5 (B)
AMBIENT NOISE LEVEL MONITORING LOCATIONS

Sample Code	Locations
NL 9	Southern Boundary
NL10	Northern Boundary
NL11	Eastern Boundary
NL12	Western Boundary

6.3. Result and Discussions

The noise levels recorded at different locations around the plant during the study period (July – December 2023) are given in Table 2.5 C to H and Table 2.5 I & J

6.3.1. Day time Noise Levels (L day)

Industrial Zone: The daytime noise levels In all the industrial locations were observed to be in the range of 67.9 dB(A) to 74.8 dB(A). The lowest 67.9 dB(A) was observed at Eastern Boundary in the month of November, while the maximum level of 74.8 dB(A) was recorded at the Eastern Boundary in the month of October. The noise levels are within the permissible limits of 75 dB(A) during the study period.

6.3.2. Night time Noise Levels (L Night)

Industrial Zone: The night noise levels in all the industrial locations were observed to be in the range of 61.9 dB (A) to 67.8 dB (A). The lowest, 61.9 dB(A) was observed at the Southern Boundary in the month of August, while the maximum, 67.8 dB(A) was recorded at the Western boundary in the month of October.

6.4. Work Zone Noise Levels:

The noise levels recorded at the different workplaces in the plant are given in Table-2.5 (I & J). Noise levels near the work zone, measured at a 4.0 m distance from the machinery, were found

to be in the range of 70.6 to 88.4 dB(A), against the OSHA prescribed limit of 90 dB(A) for 8 Hrs. exposure. Max 88.4 dB(A) observed in the month of July and Min 70.6 dB(A) observed in the month of December. However, workers at the work zone near the machinery are provided with earmuffs.

6.5. Insertion loss:

The insertion losses measured near D.G 1000 kVA are given in Table-2.4(K). Max 26.9 dB(A) insertion loss observed in the month of July, while Min 26.3 dB(A) observed in the month of December.

TABLE – 2.5 (C) NOISE LEVELS
July 2023

Locations	Noise Level dB(A)			
	Day Time	Standards	Night Time	Standards
Eastern Boundary	70.1	75	62.8	70
Western Boundary	70.2	75	63.2	70
Northern Boundary	69.8	75	65.2	70
Southern Boundary	68.6	75	63.5	70

Standards as per the Noise Pollution (Regulation and Control) Rules, 2000

TABLE – 2.5 (D) NOISE LEVELS
August 2023

Locations	Noise Level dB(A)			
	Day Time	Standards	Night Time	Standards
Eastern Boundary	67.9	75	62.6	70
Western Boundary	70.3	75	64.9	70
Northern Boundary	68.4	75	63.7	70
Southern Boundary	69.6	75	61.9	70

Standards as per the Noise Pollution (Regulation and Control) Rules, 2000

TABLE – 2.5 (E) NOISE LEVELS
September 2023

Locations	Noise Level dB(A)			
	Day Time	Standards	Night Time	Standards
Eastern Boundary	69.8	75	63.9	70
Western Boundary	71.8	75	65.3	70
Northern Boundary	72.4	75	66.3	70
Southern Boundary	70.6	75	65.1	70

Standards as per the Noise Pollution (Regulation and Control) Rules, 2000

TABLE – 2.5 (F) NOISE LEVELS
October 2023

Locations	Noise Level dB(A)			
	Day Time	Standards	Night Time	Standards
Eastern Boundary	74.8	75	67.2	70
Western Boundary	73.9	75	67.8	70
Northern Boundary	71.3	75	64.8	70
Southern Boundary	72.5	75	66.3	70

Standards as per the Noise Pollution (Regulation and Control) Rules, 2000

TABLE – 2.5 (G) NOISE LEVELS
November 2023

Locations	Noise Level dB(A)			
	Day Time	Standards	Night Time	Standards
Eastern Boundary	67.9	75	62.6	70
Western Boundary	70.3	75	64.9	70
Northern Boundary	68.4	75	63.7	70
Southern Boundary	69.6	75	61.9	70

Standards as per the Noise Pollution (Regulation and Control) Rules, 2000

TABLE – 2.5 (H) NOISE LEVELS
December 2023

Locations	Noise Level dB(A)			
	Day Time	Standards	Night Time	Standards
Eastern Boundary	69.8	75	63.6	70
Western Boundary	70.1	75	64.6	70
Northern Boundary	68.9	75	63.2	70
Southern Boundary	68.2	75	62.9	70

Standards as per the Noise Pollution (Regulation and Control) Rules, 2000

TABLE – 2.5 (I)
WORKPLACE NOISE LEVELS dB(A)

Sr. No.	Location	July 2023		August 2023		September 2023		Limit dB (A)
		Min.	Max.	Min.	Max.	Min.	Max.	
1	Inside of SMS-1	78.3	85.1	80.2	83.3	80.4	84.3	90
2	Inside of SMS-2	76.1	80.4	80.9	84.1	81.6	85.2	90
3	Re-Heating Furnace	82.7	88.4	83.2	86.4	83.8	87.1	90
4	Hot Rolling Mill	79.9	87.4	78.3	81.5	77.4	80.3	90
5	CRM-1	80.3	84.1	84.4	87.3	82.1	86.2	90
6	CRM-2	79.2	86.4	82.6	84.8	80.9	84.8	90
7	QC Workshop	70.9	76.3	74.5	77.6	72.9	77.3	90
8	DG Set (1000KVA)	71.4	82.6	79.8	82.1	79.4	83.8	90

TABLE – 2.5 (J)
WORKPLACE NOISE LEVELS dB(A)

Sr. No.	Location	October 2023		November 2023		December 2023		Limit dB (A)
		Min.	Max.	Min.	Max.	Min.	Max.	
1	Inside of SMS-1	79.6	84.1	79.3	84.1	79.3	83.9	90
2	Inside of SMS-2	80.2	83.6	81.9	85.6	79.6	82.8	90
3	Re-Heating Furnace	82.8	85.2	82.1	85.6	81.4	83.6	90
4	Hot Rolling Mill	79.8	82.6	78.5	83.4	78.7	84.3	90
5	CRM-1	82.8	85.9	80.8	80.8	80.1	84.6	90
6	CRM-2	80.4	83.8	81.4	81.4	77.3	83.4	90
7	QC Workshop	71.8	75.9	71.4	75.8	70.6	76.1	90
8	DG Set (1000KVA)	78.6	84.1	77.9	84.1	76.8	79.2	90

Max Limit as per The Factories Act, 1948. The Maharashtra Factory rules, 1963, Schedule XXIV

TABLE – 2.5 (k)
INSERTION LOSS MEASUREMENT dB(A)

MONTH	LOCATION	INSERTION LOSS
JULY-2023	D.G Set 1000 kVA	26.3 dB(A)
AUGUST-2023	D.G Set 1000 kVA	25.9 dB(A)
SEPTEMBER-2023	D.G Set 1000 kVA	26.7 dB(A)
OCTOBER-2023	D.G Set 1000 kVA	25.6 dB(A)
NOVEMBER-2023	D.G Set 1000 kVA	25.6 dB(A)
DECEMBER-2023	D.G Set 1000 kVA	26.9 dB(A)

Limit as per EPA Rule 1986:

a) For rated capacity more than 1000 kVA, insertion loss of Min. 25dB(A) or meeting the ambient noise standards whichever is on the higher side at different points at 0.5 m from the acoustic enclosure and averaged.

b) For rated capacity up to 1000 kVA, manufactured on or after the 1st July 2005, the maximum permissible sound pressure level shall be 75 dB(A) at 1 m from the enclosure surface.

ANNEXURE – 1

AMBIENT AIR MONITORING STATIONS

The ambient air quality is monitored for the parameters PM10, PM2.5, SO2 & NO2 at the following stations.

1. PLANT BUILDING
2. VILLAGE SEWAGRAM AT BAPUKUTI
3. VILLAGE SELUKATE
4. VILLAGE CHITTODA



RDS "Envirotech Model APM 460 BL & APM 411



CAAQMS installed

ANNEXURE - 2

LIST OF THE INSTRUMENTS AVAILABLE IN ENVIRONMENT LAB.

INSTRUMENT	PURPOSE
1. HIGH VOLUME SAMPLER	For measurement of S.P.M. and other gases in the ambient atmosphere.
2. PORTABLE COMBUSTION ANALYSIS COMPUTER.	For analysis of Furnace atmosphere and composition of flue gases.
3. PORTABLE OXYGEN ANALYSER	For measurement of Oxygen content in furnace and flue gas.
4. WATER ANALYSIS KITS :	
Chloride	For chloride content in water and effluent.
Iron	For Iron content in water and effluent.
Hardness	For Hardness content in water and effluent.
Sulphate	For Sulphate content in water and effluent.
Alkalinity	For Alkalinity measurement in water and effluent.
Acidity	For acidity measurement in water and effluent.
Chlorine	For chlorine content in water.
Chromium	For chromium content in water and effluent.
Zinc	For Zinc content in water and effluent.
Nickel	For Nickel content in water and effluent.
Cadmium	For Cadmium content in water and effluent.
Phosphate	For Phosphate content in water and effluent.
Nitrate	For Nitrate content in water and effluent.
B.O.D.	For B.O.D. measurement in water and effluent.
5. PORTABLE ELECTRONIC WATER ANALYSIS INSTRUMENT	For measurement of pH, TDS, Salinity, O.D., Temperature, Oxidation potential. Etc.
6. OIL ANALYSIS INSTRUMENTS	
a. Bomb Calorimeter	For calorific value measurement.
b. Abel flash point apparatus	For measurement of flash point.
c. Dean & Stark apparatus	For water content in oil.
d. Viscosity apparatus	For measurement of viscosity of oil
7. OTHER INSTRUMENTS AVAILABLE.	
e. Spectrophotometer	For measurement of SO ₂ , NO _x and other parameters in air and water analysis
f. pH meter	For pH measurement.
g. TDS meter	For measurement of dissolved solids in liquid.
h. Nephelometer	For measurement of turbidity.