GMR WARORA ENERGY LIMITED

Stack Emission Concentration

Table – 1: Emission Concentration (mg/Nm3)

Emission Parameters	2020 – 21	2021 – 22	2022 – 23	2023 – 24
NOx	260	276	304	335
SOx	1110	1135	1121	1123
Dust Emission	38	37	36.2	35
Direct Mercury Emission	0.0012	0.0013	0.0025	0.0036

Above Emission parameters are reported in Environment Statement (Form V) to Maharashtra Pollution Control Board. compliance with statutory requirement Unit of measurement used here was mg/Nm3.

AS per CSA questionnaire we converted this into Metric Ton (MT)/Annum as follows:

1. **Identify the flow rate**: Determine the flow rate of the gas in Nm3/day by multiply with 24 with flow rate (Nm3/hr). Flow rate is being calculate from Iso – kinetic stack monitoring in (Nm3/hr).

2**. Convert mg to kg**: Since 1 kg = 1,000,000 mg, we convert mg to kg divided by 1000000.

3. **Average Flow Rate for FY 2023 – 24 is 59639616 Nm3/day**.

$$\text{Emission Concentration (kg/day)} = \left[\frac{\text{Emission Concentration (mg/Nm3)} \times 24}{1{,}000{,}000}\right] \times \text{Flow Rate (Nm3/hr)}$$

$$\text{Emission Concentration (MT/Annum)} = \frac{\text{Emission Concentration (kg/day)}}{1000} \times \text{Avg. Generation Running Days of FY}$$

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FY 2020 – 21

1. NOx (MT/Annum) = {[260/1,000,000] x (59639616)}/1000 x 307.57 = **4769.20**
2. SOx (MT/Annum) = {[1110/1,000,000] x (59639616)}/1000 x 307.57 = **20360**
3. Dust Emission (MT/Annum) = {[38/1,000,000] x (59639616)}/1000 x 307.57 = **697.04**
4. Mercury (MT/Annum) = {[0.0012/1,000,000] x (59639616)}/1000 x 307.57 = **0.02**

FY 2021 – 22

1. NOx (MT/Annum) = {[276/1,000,000] x (59639616)}/1000 x 288.77 = **4753.31**
2. SOx (MT/Annum) = {[1135/1,000,000] x (59639616)}/1000 x 288.77 = **19547.12**
3. Dust Emission (MT/Annum) = {[37/1,000,000] x (59639616)}/1000 x 288.77 = **637.22**
4. Mercury (MT/Annum) = {[0.0013/1,000,000] x (59639616)}/1000 x 288.77 = **0.022**

FY 2022 – 23

1. NOx (MT/Annum) = {[304/1,000,000] x (59639616)}/1000 x 326.31 = **5916.05**
2. SOx (MT/Annum) = {[1121/1,000,000] x (59639616)}/1000 x 326.31 = **21815.45**
3. Dust Emission (MT/Annum) = {[36.2/1,000,000] x (59639616)}/1000 x 326.31 = **704.48**
4. Mercury (MT/Annum) = {[0.0025/1,000,000] x (59639616)}/1000 x 326.31 = **0.05**

FY 2023 – 24

1. NOx (MT/Annum) = {[335/1,000,000] x (59639616)}/1000 x 341.48 = **6829.61**
2. SOx (MT/Annum) = {[1123/1,000,000] x (59639616)}/1000 x 341.48 = **22894.50**
3. Dust Emission (MT/Annum) = {[35/1,000,000] x (59639616)}/1000 x 341.48 = **713.54**
4. Mercury (MT/Annum) = {[0.0036/1,000,000] x (59639616)}/1000 x 341.48 = **0.07**

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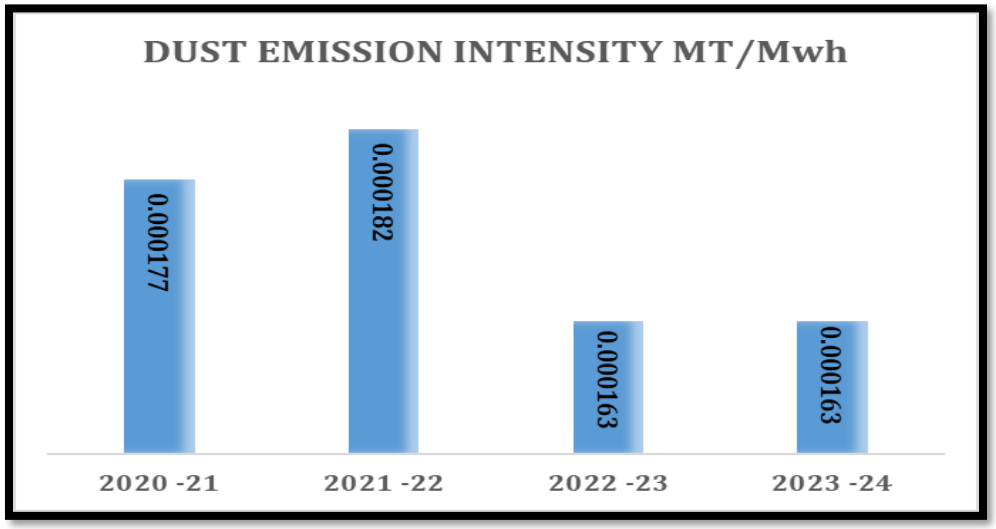
Table – 2: Comparison Emission Concentration (mg/Nm3 Vs. MT/Annum)

Emission Parameters	2020 – 21		2021 – 22		2022 – 23		2023 – 24	
	Mg/Nm3	MT/Annum	Mg/Nm3	MT/Annum	Mg/Nm3	MT/Annum	Mg/Nm3	MT/Annum
Nox	260	4769.20	276	4753.31	304	5916.05	335	6829.61
Sox	1110	20360.79	1135	19547.12	1121	21815.45	1123	22894.50
Dust Emission	38	697.04	37	637.22	36.2	704.48	35	713.54
Direct Mercury Emission	0.0012	0.02	0.0013	0.022	0.0025	0.05	0.0036	0.07



Remark: Environment Statement (Form – V) is an annual reporting summery of Environmental monitoring parameters to Statutory Authority Every Year. Emission monitoring is one of the annual reporting criteria in the Environmental Statement. GWEL submitted Environmental Statement to Maharashtra Pollution Control Board Every financial year.

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