

Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Air Quality Monitoring Results

The daily average value of ambient air quality monitoring results of CO, CO₂, NO₂, PM_{2.5}, PM₁₀, Ozone and SO₂ are described in Table 1. Comparing with the guideline values of CO, NO₂, PM_{2.5}, PM₁₀, Ozone and SO₂ prescribed in final EIA report for JFE MYANMAR Coated Steel Co., Ltd. (referred to Section 2.2.1, Air Quality, Table 2.2-2).

There is no guideline value for CO₂ and no country has a specific rule for outdoor CO₂ levels for ambient air quality monitoring. The average global CO₂ level is usually between 400 and 420 ppm (719.84 and 755.83 mg/m³). International groups like the World Meteorological Organization (WMO) and the National Oceanic and Atmospheric Administration (NOAA) monitor these levels. Countries agree to reduce CO₂ emissions to mitigate climate change through the Paris Agreement, instead of setting standards for ambient CO₂. 24 hours average concentration of CO₂ at the monitoring point was lower than the average global CO₂ level.

24 hours average concentration of CO, CO₂, NO₂, PM_{2.5}, PM₁₀, Ozone and SO₂ were lower than the target value and WHO guideline value (Interim Target Value).

Table 1 Ambient Air Quality Survey Result (Daily Average)

Date 12 ~13 August, 2024	CO	CO ₂	NO ₂	PM _{2.5}	PM ₁₀	Ozone	SO ₂
	mg/m ³	mg/m ³	mg/m ³				
Result	0.015 (24-hr Avg)	5.425 (24-hr Avg)	0.092 (24-hr Avg)	0.009 (24-hr Avg)	0.017 (24-hr Avg)	0.016 (8-hr Max)	0.018 (24-hr Avg)
Target Value ²⁾	10.26 (24-hr Avg)	NG	0.1 (24-hr Avg)	0.025 (24-hr Avg)	0.05 (24-hr Avg)	0.1 (8-hr Max)	0.02 (24-hr Avg)
WHO ³⁾ (Interim Target Value)	-	NG	-	0.050 (24-hr Avg)	0.100 (24-hr Avg)	-	0.050 (24-hr Avg)

Note:

1) Target value is referred to the final EIA report for JFE MYANMAR Coated Steel Co., Ltd (Oct, 2019)

a. (Ozone, mg/m³) = 8-hr maximum duration for Ozone concentration is from 5:00 to 13:00 and 6:00 to 14:00.

2) WHO (AQG) - World Health Organization Air Quality Guideline, 2021

The target value of CO, CO₂, NO₂ and SO₂ were converted from ppm units to mg/m³. The conversion equation are as follows;

a. (CO, mg/m³) = (CO, ppm) * (Molecular Weight of CO (28)) / 24.45 at 25°C and 1 atm condition.

b. (CO₂, mg/m³) = (CO₂, ppm) * (Molecular Weight of CO₂ (44)) / 24.45 at 25°C and 1 atm condition.

c. (NO₂, mg/m³) = (NO₂, ppm) * (Molecular Weight of NO₂ (46)) / 24.45 at 25°C and 1 atm condition.

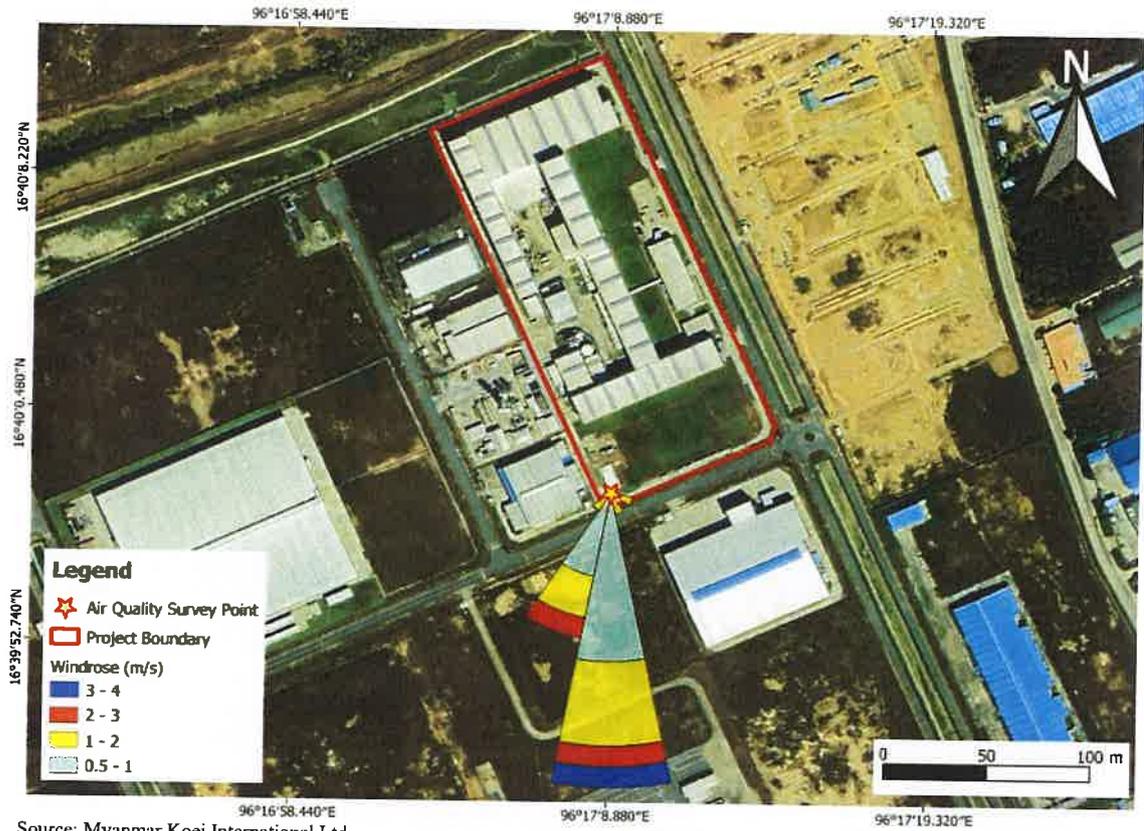
d. (SO₂, mg/m³) = (SO₂, ppm) * (Molecular Weight of SO₂ (64)) / 24.45 at 25°C and 1 atm condition.

Source: Myanmar Koei International Ltd.

Wind direction and wind speed were measured at AQ-1. Hourly average values of measured wind direction and wind speed data are described in Appendix-1. Frequency of wind direction at AQ-1 and its wind rose diagram are described in Figure 1 and Figure 2. According to the wind rose analysis, the prevailing wind direction during monitoring was South (S) and the least frequency wind direction was East-Southeast (ESE). During the monitoring period, while the maximum wind speed was 3.05 m/s, the average speed is 1.14 m/s. The calm wind is 4 %, whereas the calm wind is defined below 0.5 m/s. As the average wind speed is higher than the defined calm wind, it is assumed that the wind was light air during the monitoring period.



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

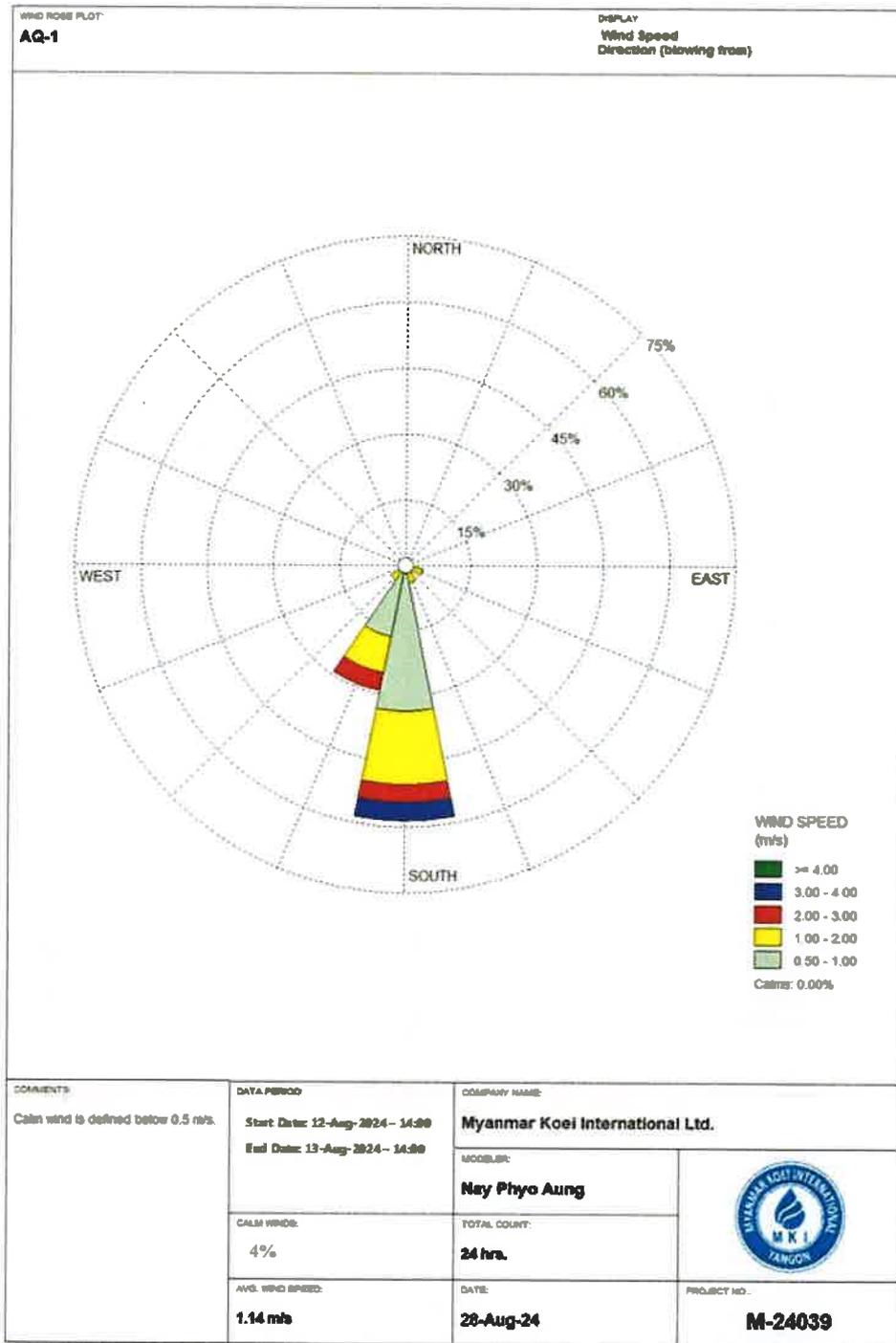


Source: Myanmar Koei International Ltd.

Figure 1 Wind Status at AQ-1



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)



Source: Myanmar Koei International Ltd.

Figure 2 Wind Rose Diagram of AQ-1



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Noise Level Monitoring Results

Table 2 Results of Outdoor Noise Level (L_{Aeq}) Monitoring at NV-1

Date	(Commercial and Industrial areas) Equivalent Noise Level (L _{Aeq} , dB)		
	Day Time (7:00 AM – 7:00 PM)	Evening Time (7:00 PM – 10:00 PM)	Night Time (10:00 PM – 7:00 AM)
12 August 2024 - 13 August 2024	58	57	57
Target Value	70	65	60

Note: Target value is referred to the final EIA report for JFE MYANMAR Coated steel Co., Ltd.
Source: Myanmar Koci International Ltd.

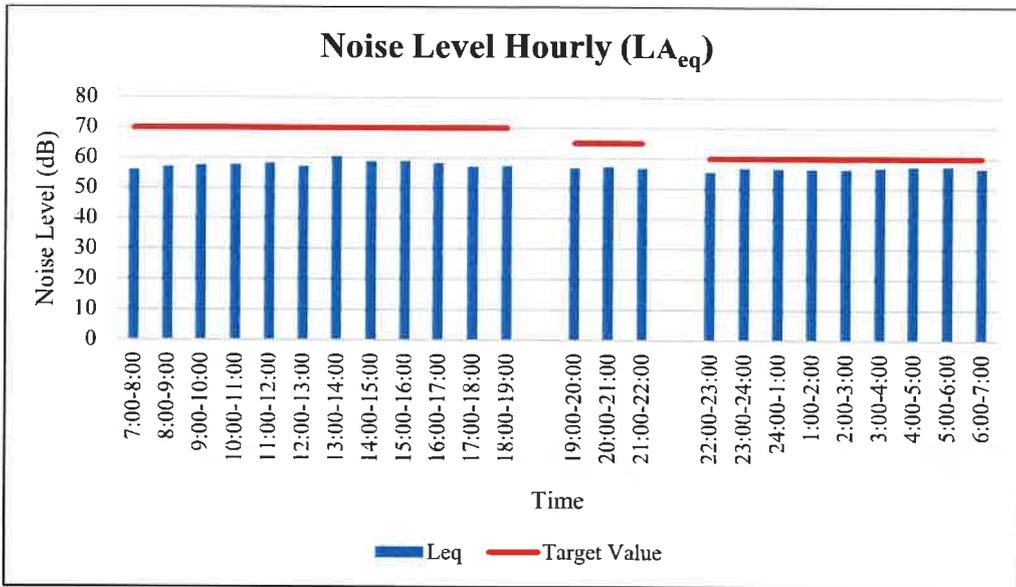
Table 3 Hourly Outdoor Noise Level (L_{Aeq}) Monitoring Results at NV-1

Date	Time	Hourly Result L _{Aeq} (dB)	Interval Result L _{Aeq} (dB)	Target Value L _{Aeq} (dB)
12 August 2024 – 13 August 2024	7:00-8:00	56	58	70
	8:00-9:00	57		
	9:00-10:00	58		
	10:00-11:00	58		
	11:00-12:00	58		
	12:00-13:00	57		
	13:00-14:00	61		
	14:00-15:00	59		
	15:00-16:00	59		
	16:00-17:00	58		
	17:00-18:00	57		
	18:00-19:00	57		
	19:00-20:00	57	57	65
	20:00-21:00	57		
	21:00-22:00	57		
	22:00-23:00	56	57	60
	23:00-24:00	57		
	24:00-1:00	57		
	1:00-2:00	56		
	2:00-3:00	56		
	3:00-4:00	57		
	4:00-5:00	57		
	5:00-6:00	57		
	6:00-7:00	57		

Source: Myanmar Koci International Ltd.



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)



Source: Myanmar Koei International Ltd.

Figure 3 Results of Outdoor Noise Level (LAeq) Monitoring at NV-1

Vibration Level Monitoring Results

Table 4 Results of Outdoor Vibration Level (Lv10) Monitoring at NV-1

Date	(Office, Commercial facilities, and Factories) Equivalent Vibration Level (Lv10, dB)		
	Day Time (7:00 AM – 7:00 PM)	Evening Time (7:00 PM – 10:00 PM)	Night Time (10:00 PM – 7:00 AM)
	12 August 2024 - 13 August 2024	28	25
Target Value	70	65	60

Note: Target value is referred to the final EIA report for JFE MYANMAR Coated Steel Co., Ltd.
Source: Myanmar Koei International Ltd.

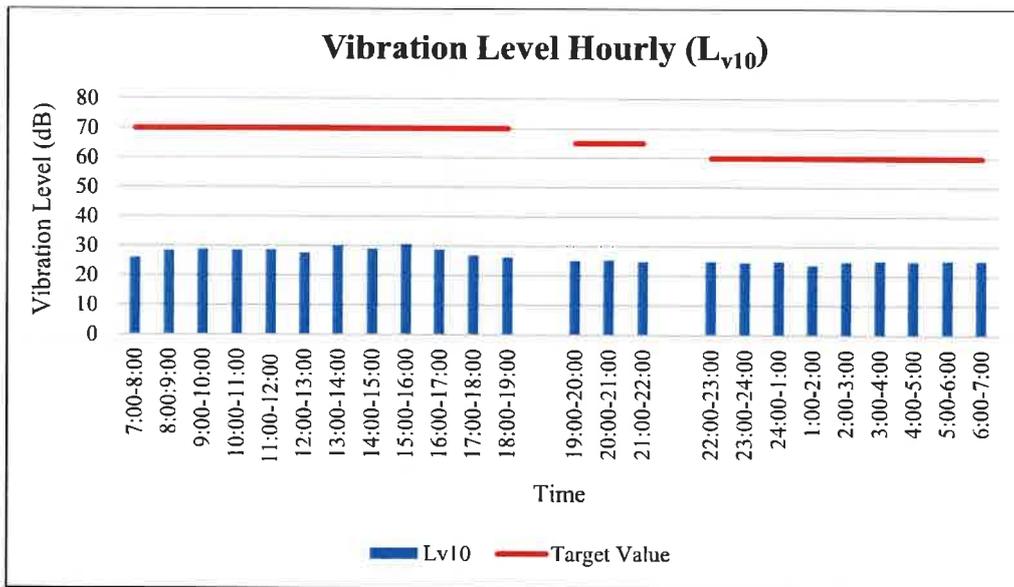


Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Table 5 Hourly Outdoor Vibration Level (L_{v10}) Monitoring Results at NV-1

Date	Time	Hourly Result L_{v10} (dB)	Interval Result L_{v10} (dB)	Target Value
12 August 2024 – 13 August 2024	7:00-8:00	26	28	70
	8:00-9:00	28		
	9:00-10:00	29		
	10:00-11:00	28		
	11:00-12:00	29		
	12:00-13:00	28		
	13:00-14:00	30		
	14:00-15:00	29		
	15:00-16:00	31		
	16:00-17:00	29		
	17:00-18:00	27		
	18:00-19:00	26	25	65
	19:00-20:00	25		
	20:00-21:00	25		
	21:00-22:00	25	25	60
	22:00-23:00	25		
	23:00-24:00	25		
	24:00-1:00	25		
	1:00-2:00	24		
	2:00-3:00	25		
	3:00-4:00	25		
4:00-5:00	25			
5:00-6:00	25			
6:00-7:00	25			

Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 4 Results of Outdoor Vibration Level (L_{v10}) Monitoring at NV-1



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Indoor Air Quality Monitoring Results

Table 6 Indoor Air Quality Results of PM_{2.5} and PM₁₀ (Two Hour Average)

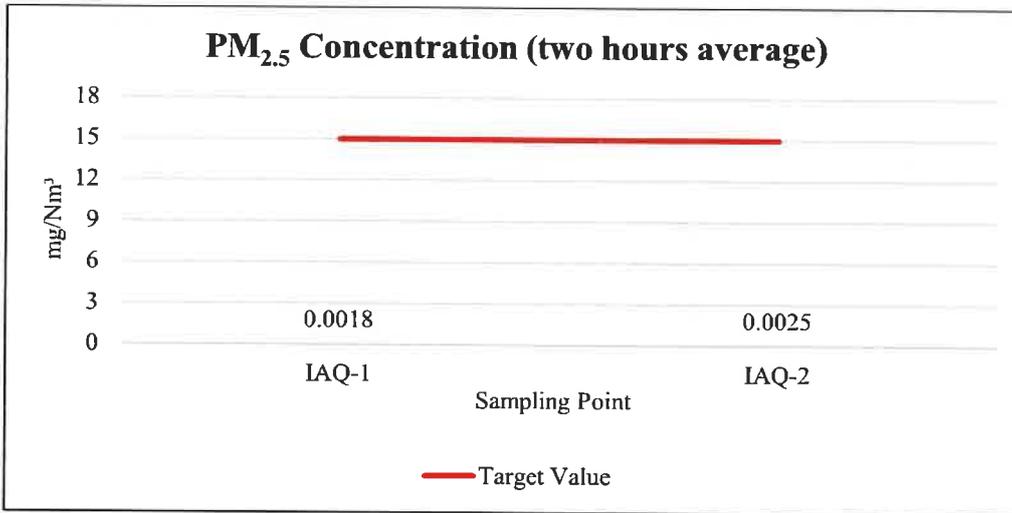
Date	Time	Survey Point	Survey Location	PM _{2.5}	PM ₁₀
				(mg/m ³)	(mg/m ³)
12 August, 2024	19:00 ~ 20:59	IAQ-1	Coater-A	0.0018	0.0038
12 August, 2024	21:15 ~ 23:14	IAQ-2	Coater-B	0.0025	0.0046
Target Value				15	15

Note:

- 1) The value of PM_{2.5} and PM₁₀ are two hours average. All results are lower than the target value.
- 2) The value of PM_{2.5} and PM₁₀ were converted to mg/m³ from µg/m³ at 25°C, 1 atm condition.
- 3) Target value is referred to the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), U.S.

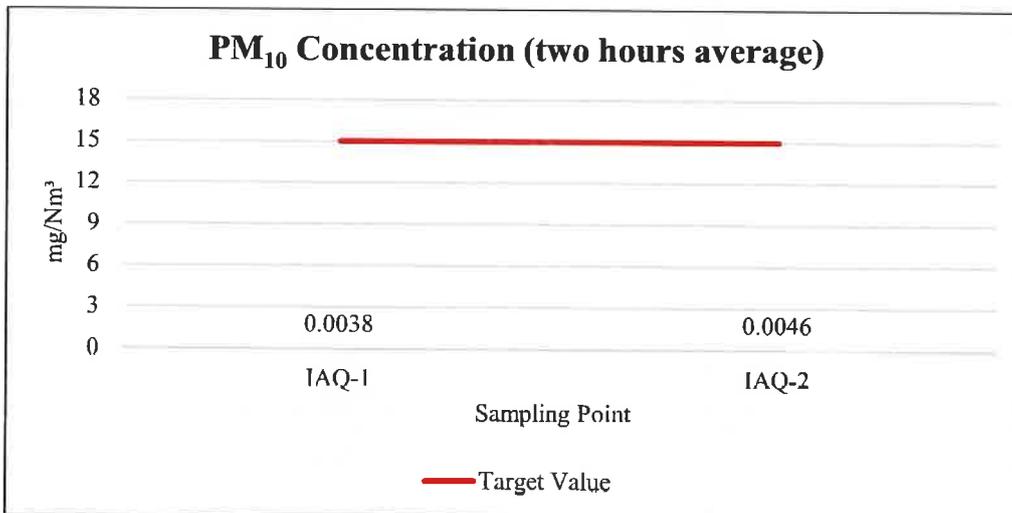
(Link: <https://www.cdc.gov/niosh/pe188/dusts.html>)

Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 5 Results of Indoor Air Quality Monitoring (PM_{2.5})



Source: Myanmar Koei International Ltd.

Figure 6 Results of Indoor Air Quality Monitoring (PM₁₀)



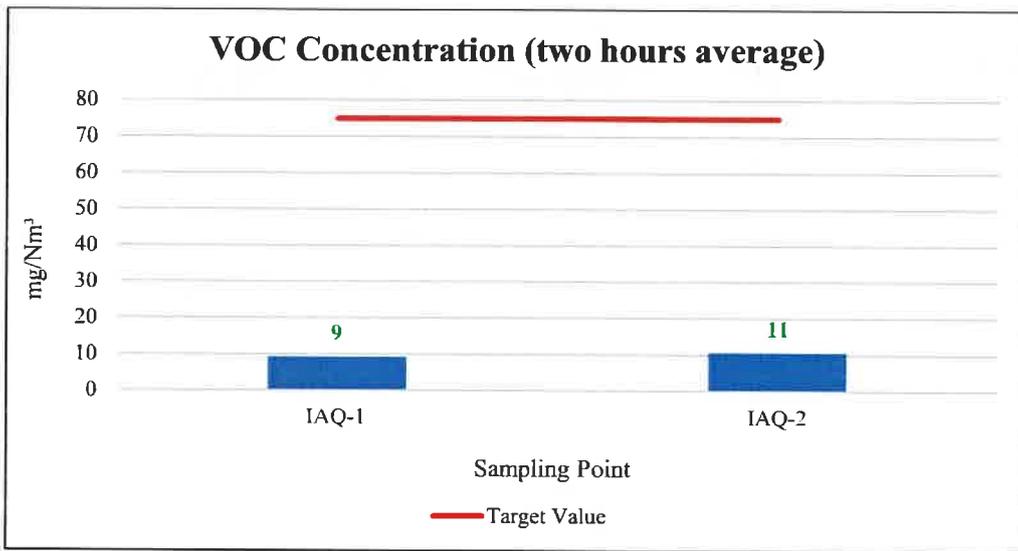
Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Table 7 Indoor Air Quality Results of VOC (Two Hour Average)

Date	Time	Survey Point	Survey Location	Relative Humidity	Temperature	VOC
				(%)	(°C)	(mg/Nm ³)
12 August, 2024	19:00 ~ 20:59	IAQ-1	Coater-A	73.4	32.4	9
12 August, 2024	21:15 ~ 23:14	IAQ-2	Coater-B	72.6	32.8	11
Target Value				-	-	75

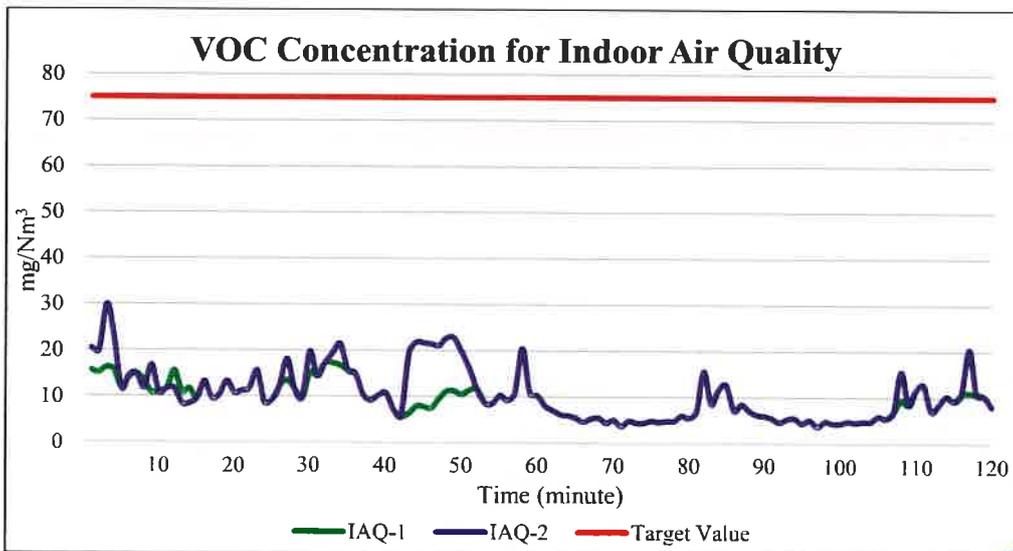
Note:

- 1) The value of VOC is two hours average. All results are lower than the target value.
 - 2) The value of VOC was converted to mg/Nm³ from ppm.
 - 3) Target value is referred to the final EIA report for JFE MYANMAR Coated Steel Co., Ltd.
- Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 7 Results of Indoor Air Quality Monitoring (VOC)



Source: Myanmar Koei International Ltd.

Figure 8 Results of Indoor Air Quality Monitoring (VOC)



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Workplace Noise Level Monitoring Results

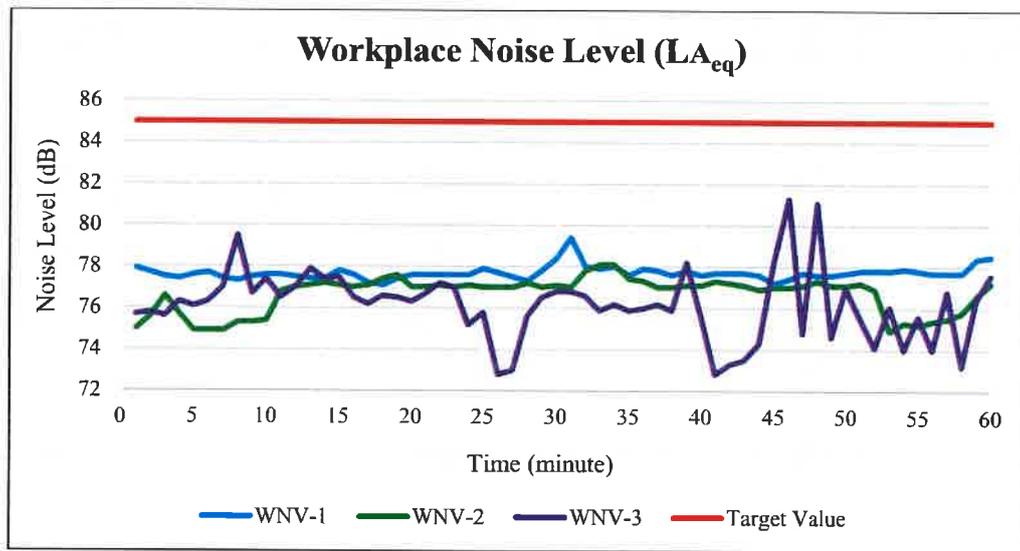
Table 8 Results of Workplace Noise Level (L_{Aeq}) Monitoring

Date	Time	Survey Point	Location	L _{Aeq} (dB)
12 August, 2024	15:00 ~ 15:59	WNV-1	Near Coater-A	78
12 August, 2024	16:15 ~ 17:14	WNV-2	Entry Accumulator	77
12 August, 2024	17:30 ~ 18:29	WNV-3	Near Quality Control Laboratory	76
Target Value				85

Note: 1) The value of L_{Aeq} is one hour average. All results are lower than the guideline value.

2) Target value is referred to the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), U.S.

Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 9 Results of Workplace Noise Level (L_{Aeq}) Monitoring

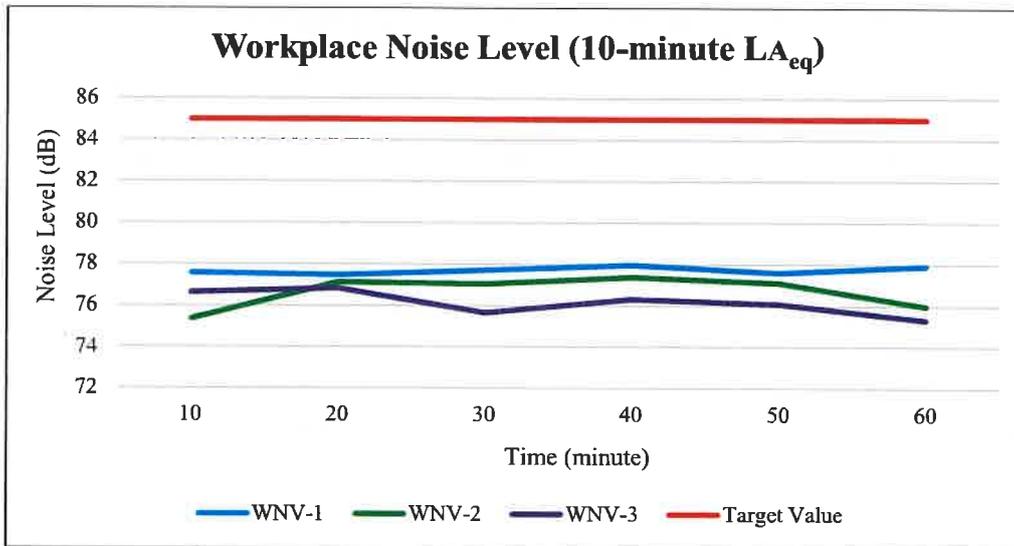


Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Table 9 Results of Workplace Noise Level (10-minute L_{Aeq}) Monitoring

Date	Time (minute)	10-minute Result L_{Aeq} (dB)		
		WNV-1	WNV-2	WNV-3
12 August, 2024	00 ~ 10	78	75	77
	11 ~ 20	77	77	77
	21 ~ 30	78	77	76
	31 ~ 40	78	77	76
	41 ~ 50	78	77	76
	51 ~ 60	78	76	75
Target Value		85	85	85

Note: 1) The value of L_{Aeq} is 10-minute average. All results are lower than the guideline value.
 2) Target value is referred to the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC), U.S.
 Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 10 Results of Workplace Noise Level (L_{Aeq}) Monitoring



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Workplace Vibration Level Monitoring Results

Table 10 Results of Workplace Vibration Level (L_{v10}) Monitoring

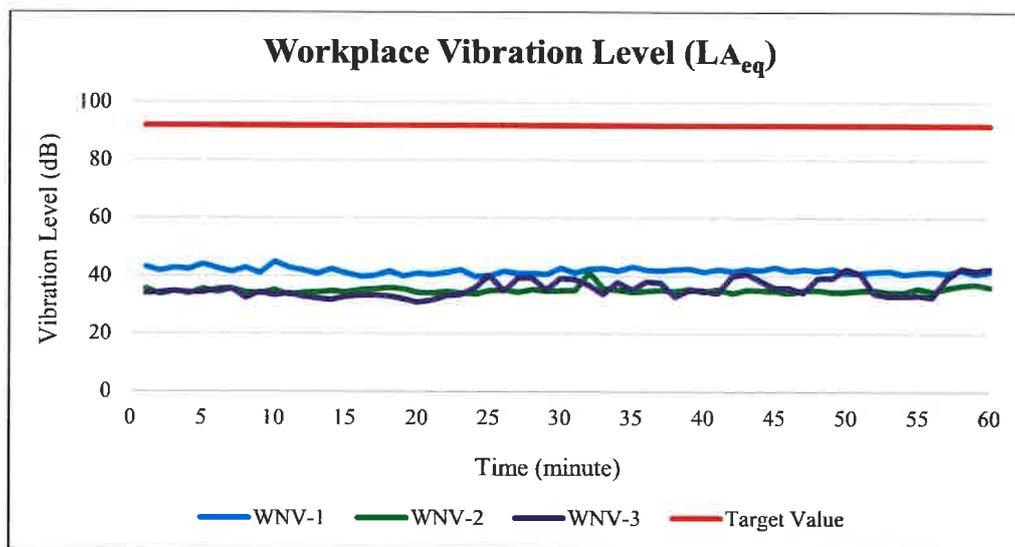
Date	Time	Survey Point	Location	L_{v10} (dB)
12 August, 2024	15:00 ~ 15:59	WNV-1	Near Coater-A	42
12 August, 2024	16:15 ~ 17:14	WNV-2	Entry Accumulator	35
12 August, 2024	17:30 ~ 18:29	WNV-3	Near Quality Control Laboratory	36
Target Value				92

Note:

- 1) The value of L_{v10} is one hour average. All results are lower than the guideline value.
- 2) Target value is referred to the Australia Technical Guideline Value.

(Link: [Assessing vibration: a technical guideline \(nsw.gov.au\)](https://www.nsw.gov.au/assessing-vibration-a-technical-guideline))

Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 11 Results of Workplace Vibration Level (L_{v10}) Monitoring



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Table 11 Results of Workplace Vibration Level (10-minute L_{v10}) Monitoring

Date	Time (minute)	10-minute Result L_{v10} (dB)		
		WNV-1	WNV-2	WNV-3
12 August, 2024	00 ~ 10	43	35	34
	11 ~ 20	41	35	33
	21 ~ 30	41	35	36
	31 ~ 40	42	36	36
	41 ~ 50	42	35	38
	51 ~ 60	41	36	37
Target Value		92	92	92

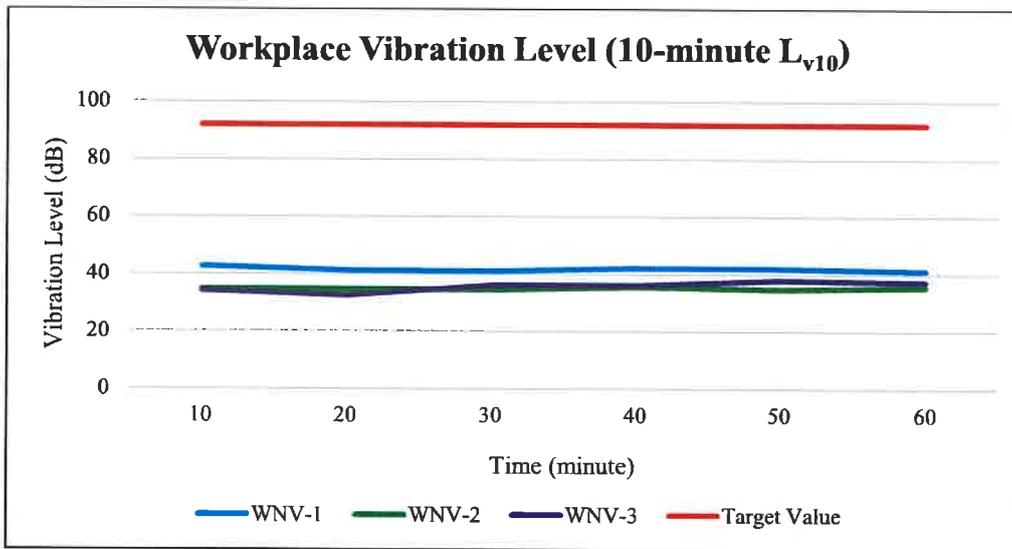
Note:

1) The value of L_{v10} is 10-minute average. All results are lower than the guideline value.

2) Target value is referred to the Australia Technical Guideline Value.

(Link: [Assessing vibration: a technical guideline \(nsw.gov.au\)](https://www.nsw.gov.au/assessing-vibration-a-technical-guideline))

Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 12 Results of Workplace Vibration Level (L_{v10}) Monitoring



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

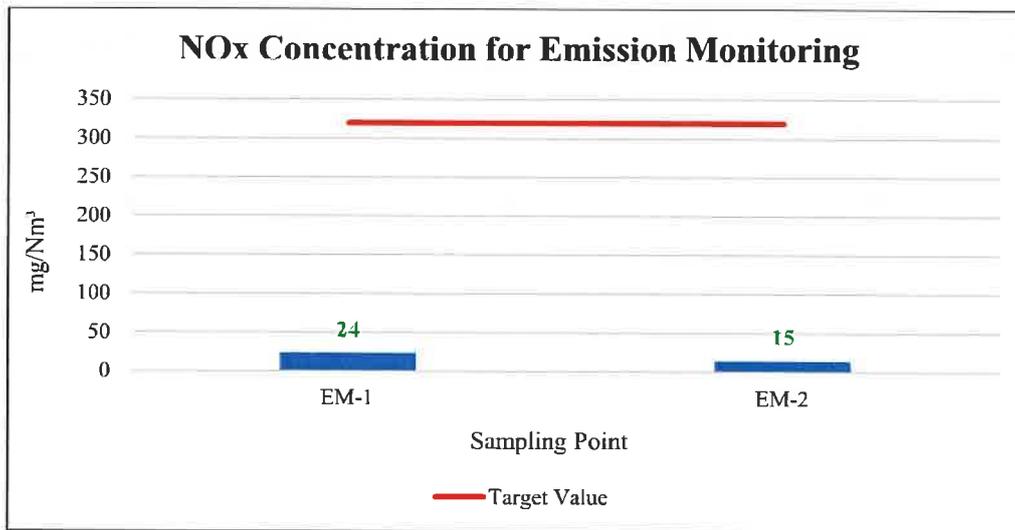
Emission Monitoring

Table 12 Emission Monitoring Results of NOx

Date	Time	Survey Point	Location	Temperature	NOx
				(°C)	(mg/Nm ³)
12 August, 2024	21:40 ~ 22:39	EM-1	Regenerative Thermal Oxidizer (RTO) Stack	204.9	24
12 August, 2024	19:15 ~ 20:14	EM-2	Chemical Drier Stack	185.5	15
Target Value				-	320

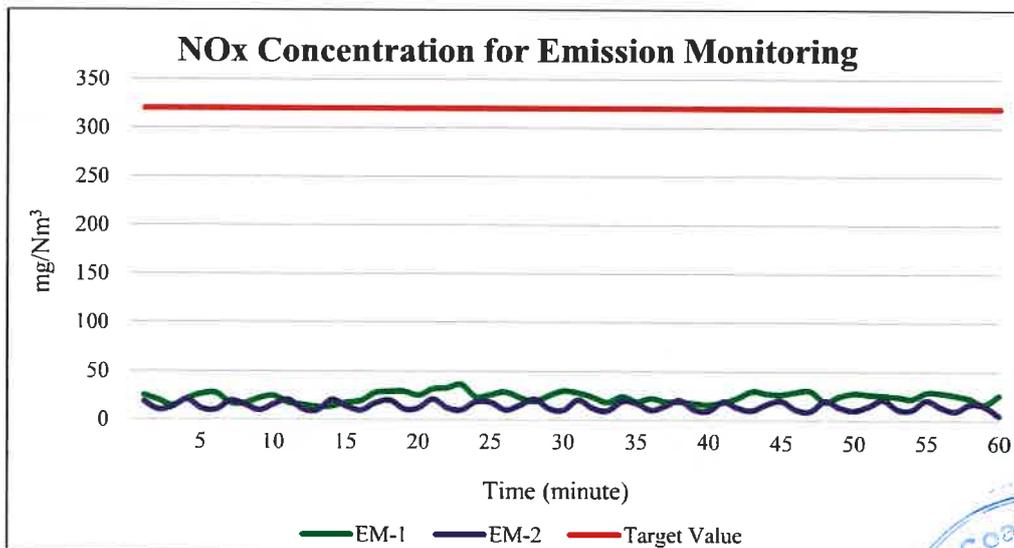
Note:

- 1) The value of NOx is one hour average. All results are lower than the guideline value.
 - 2) The value of NOx was converted to mg/Nm³ from ppm.
 - 3) The target value is referenced to the Final EIA report for JFE MYANMAR Coated Steel Co., Ltd.
- Source: Myanmar Koei International Ltd.



Source: Myanmar Koei International Ltd.

Figure 13 Results of Emission Monitoring



Source: Myanmar Koei International Ltd.

Figure 14 Results of Emission Monitoring



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)



Figure 15 Location of Ambient Air Quality Monitoring Point



Figure 16 Location of Outdoor Noise and Vibration Level Monitoring Point



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)



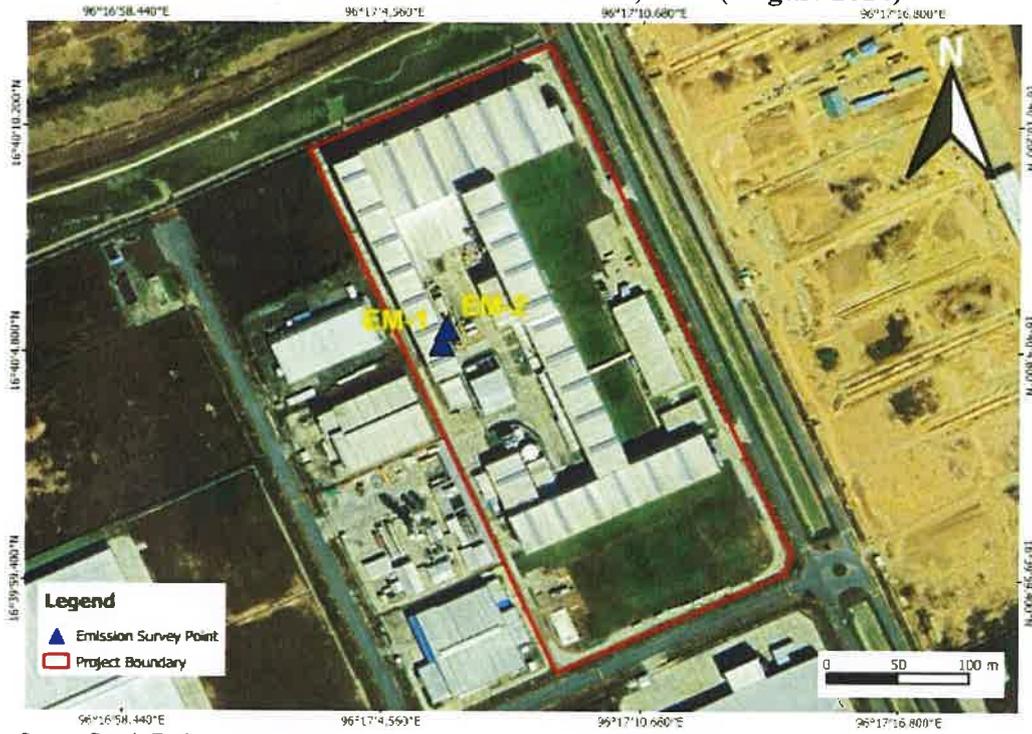
Figure 17 Location of Indoor Air Quality Monitoring Point



Figure 18 Location of Workplace Noise and Vibration Level Monitoring Point



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)



Source: Google Earth

Figure 19 Location of Emission Monitoring Point



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

Field Survey Photos



Figure 20 Status of Ambient Air Quality Monitoring Point at AQ-1



Figure 21 Status of Outdoor Noise and Vibration Level Monitoring at NV-1



Figure 22 Status of Indoor Air Quality Monitoring at Coater-A



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)

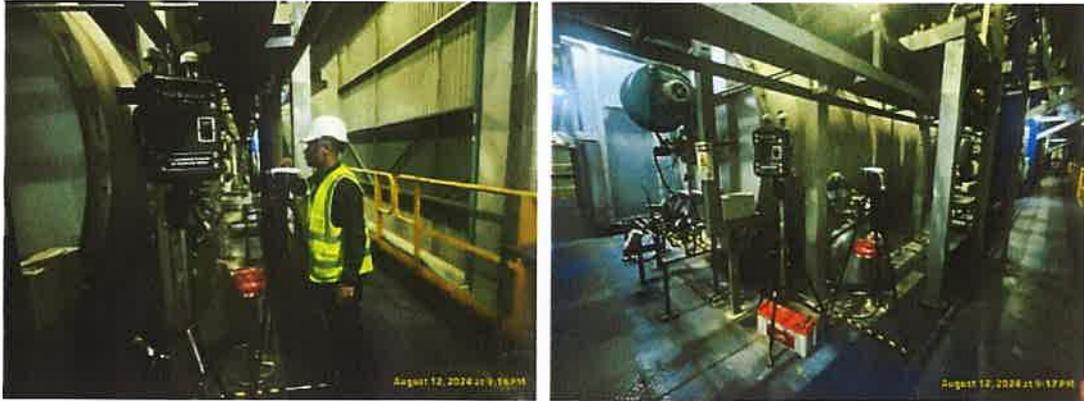


Figure 23 Status of Indoor Air Quality Monitoring at Coater-B



Figure 24 Status of Workplace Noise and Vibration Level Monitoring at Near Coater-A



Figure 25 Status of Workplace Noise and Vibration Level Monitoring at Entry Accumulator



Ambient Air Quality, Noise and Vibration Level, Indoor Air Quality, Workplace Noise and Vibration Level and Emission Monitoring Results for JFE MYANMAR Coated Steel Co., Ltd. (August-2024)



Figure 26 Status of Workplace Noise and Vibration Level Monitoring at Near Quality Control Laboratory



Figure 27 Status of Emission Monitoring at Regenerative Thermal Oxidizer (RTO) Stack

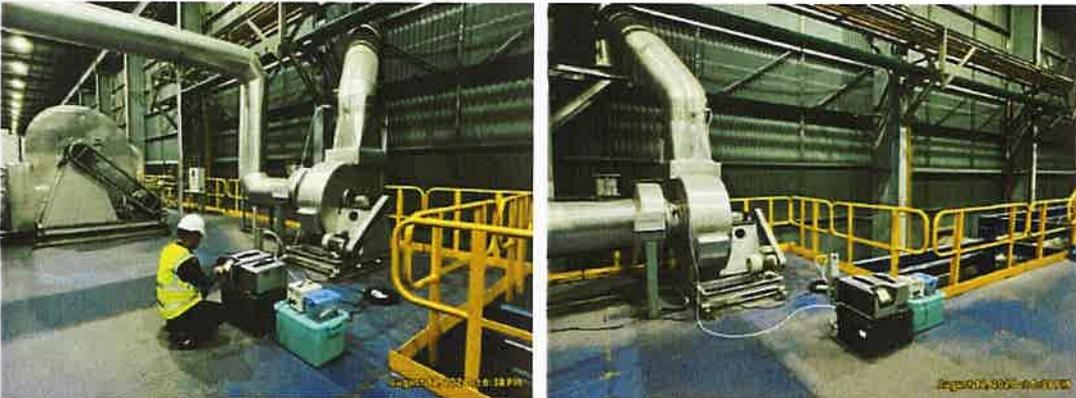


Figure 28 Status of Emission Monitoring at Chemical Drier Stack



APPENDIX-1 HOURLY AIR QUALITY RESULTS



Date	Time	CO	CO ₂	NO ₂	PM _{2.5}	PM ₁₀	O ₃	SO ₂	Wind Speed	Wind Direction	
		mg/m ³ Hourly	m/s Hourly	Deg. Hourly	Direction Hourly						
12 August, 2024	~ 14:59	0.202	5.339	0.032	0.008	0.018	0.026	0.025	1.54	164	SSE
12 August, 2024	~ 15:59	0.004	2.909	0.049	0.009	0.017	0.026	0.028	1.32	222	SW
12 August, 2024	~ 16:59	0.003	3.569	0.127	0.008	0.015	0.012	0.024	0.82	172	S
12 August, 2024	~ 17:59	0.004	3.449	0.136	0.011	0.017	0.009	0.021	0.75	179	S
12 August, 2024	~ 18:59	0.004	2.879	0.129	0.009	0.016	0.010	0.027	0.90	171	S
12 August, 2024	~ 19:59	0.004	4.139	0.125	0.008	0.019	0.011	0.022	0.90	172	S
12 August, 2024	~ 20:59	0.004	4.349	0.108	0.006	0.013	0.009	0.015	1.33	177	S
12 August, 2024	~ 21:59	0.004	4.169	0.121	0.010	0.017	0.010	0.010	1.00	174	S
12 August, 2024	~ 22:59	0.004	5.729	0.121	0.010	0.017	0.010	0.008	0.53	191	S
12 August, 2024	~ 23:59	0.004	3.629	0.109	0.009	0.017	0.010	0.011	0.53	197	SSW
13 August, 2024	~ 00:00	0.004	4.289	0.104	0.008	0.018	0.009	0.010	0.55	198	SSW
13 August, 2024	~ 01:00	0.004	4.019	0.098	0.011	0.019	0.010	0.011	1.00	201	SSW
13 August, 2024	~ 02:00	0.004	3.989	0.096	0.010	0.018	0.010	0.011	0.74	212	SSW
13 August, 2024	~ 03:00	0.010	3.779	0.093	0.009	0.017	0.010	0.013	0.50	178	S
13 August, 2024	~ 04:00	0.012	6.688	0.099	0.009	0.019	0.010	0.022	0.71	187	S
13 August, 2024	~ 05:00	0.056	6.509	0.104	0.008	0.015	0.010	0.025	0.69	190	S
13 August, 2024	~ 06:00	0.005	5.519	0.099	0.009	0.016	0.010	0.026	0.91	196	SSW
13 August, 2024	~ 07:00	0.003	6.928	0.087	0.007	0.018	0.008	0.026	1.07	199	SSW
13 August, 2024	~ 08:00	0.003	8.938	0.056	0.010	0.016	0.011	0.021	1.46	190	S
13 August, 2024	~ 09:00	0.004	8.458	0.027	0.007	0.017	0.025	0.013	1.88	187	S
13 August, 2024	~ 10:00	0.003	9.178	0.027	0.008	0.014	0.031	0.017	3.05	189	S
13 August, 2024	~ 11:00	0.004	5.309	0.063	0.009	0.014	0.017	0.022	2.12	170	S
13 August, 2024	~ 12:00	0.004	7.528	0.096	0.010	0.016	0.014	0.019	1.99	199	SSW
13 August, 2024	~ 13:00	0.004	8.908	0.098	0.012	0.017	0.012	0.014	1.14	105	ESE

Max	0.202	9.178	0.136	0.012	0.019	0.031	0.028
Avg	0.015	5.425	0.092	0.009	0.017	0.013	0.018
Min	0.003	2.879	0.027	0.006	0.013	0.008	0.008



APPENDIX-2 8-HOUR OZONE RESULTS



Date	Time	O ₃ (8-Hour)
		mg/m ³
12 August, 2024	14:00 ~ 21:59	0.014
12 August, 2024	15:00 ~ 22:59	0.012
12 August, 2024	16:00 ~ 23:59	0.010
12 August, 2024	17:00 ~ 00:59	0.010
12 August, 2024	18:00 ~ 01:59	0.010
12 August, 2024	19:00 ~ 02:59	0.010
12 August, 2024	20:00 ~ 03:59	0.010
12 August, 2024	21:00 ~ 04:59	0.010
12 August, 2024	22:00 ~ 05:59	0.010
12 August, 2024	23:00 ~ 06:59	0.010
13 August, 2024	00:00 ~ 07:59	0.010
13 August, 2024	01:00 ~ 08:59	0.010
13 August, 2024	02:00 ~ 09:59	0.012
13 August, 2024	03:00 ~ 10:59	0.014
13 August, 2024	04:00 ~ 11:59	0.015
13 August, 2024	05:00 ~ 12:59	0.016
13 August, 2024	06:00 ~ 13:59	0.016

Max	0.016
Min	0.010



APPENDIX-3 CERTIFICATE OF CALIBRATION



Calibrate Report

Product	Air Quality Monitoring Station	Model	AQM-09
Quantity	1 pc	Call Date	30/05/2024
Device No.	OC20200624484529		
Appearance	<input type="checkbox"/> Clean <input type="checkbox"/> Non Corrosive <input type="checkbox"/> No Damage		
Gas Type	O ₂ : ppb NO ₂ : ppb, SO ₂ : ppb, CO ₂ : ppm, CO: ppm, TVOC: ppm PM10: µg/m ³ , PM2.5: µg/m ³ , TSP: µg/m ³ Wind veloci: m/s Wind direct: ° Atmospheric: hpa Temperature and humidity: °C/%RH		
Accuracy	± 3%F.S		
Resolution	1 ppb 0.1ppm		
Response Time	≤ 30S		
Survey Range	O ₂ : 0-2000ppb, NO ₂ : 0-2000ppb, SO ₂ : 0-2000ppb, CO ₂ : 0-2000ppm CO: 0-2000ppm, TVOC: 0-50 ppm PM2.5: 0-1000 µg/m ³ , PM10: 0-1000 µg/m ³ , TSP: 0-1000 µg/m ³ Wind veloci: m/s Wind direct: ° Atmospheric: hpa Temperature and humidity: °C/%RH		
Signal Output Mode	RS485 Modbus or 4G LTE		
Detection Method	Diffusion or Pumping Type		
Power Supply Voltage	AC 220V/50Hz		
Power Dissipation	≤ 20W		
Testing Condition	Temperature : 32.7°C Humidity : 64%RH		
Calibration Gas	O ₂ , NO ₂ , SO ₂ , CO ₂ , CO, TVOC		
Call Gas Test	1.	O ₂ : Cali gas concentration: <u>2000ppb</u>	Inspect concentration: <u>1992ppb</u>
	2.	NO ₂ : Cali gas concentration: <u>1260ppb</u>	Inspect concentration: <u>1262ppb</u>
	3.	SO ₂ : Cali gas concentration: <u>1200ppb</u>	Inspect concentration: <u>1201ppb</u>
	4.	CO ₂ : Cali gas concentration: <u>421ppm</u>	Inspect concentration: <u>280ppm</u>
	5.	CO: Cali gas concentration: <u>100ppm</u>	Inspect concentration: <u>97.8ppm</u>
	6.	PM2.5: measured value: <u>47µg/m³</u>	PM10: measured value: <u>50µg/m³</u>
	7.	Air PR	<u>1005 hpa</u>
	8.	TSP measure value:	<u>12µg/m³</u>
	9.	Win speed measured value: <u>1.4ms</u>	Wind direction measured value: <u>312</u>
Test Result	Qualified		
Remark			

Quality Judgment :

Company : **Hehan Oceanus Import & Export Co., Ltd**

Date : 30/05/2024



SYSTEM HEALTH CHECK REPORT

Information

Instrument----- Haz-scanner
 Model----- EPAS
 Serial number----- 918189
 Unit Sensor----- CO,NO2,O3,NO,SO2,PM10
 PM2.5.T & RH,WS/WD,SLRR
 Customer----- Myanmar Koei International LTD.
 Date----- 2024 April

Check List

Physical Check----- OK
 Supply Voltage Check----- OK
 PM 10.PM2.5 Air Flow Check----- OK
 SLRR.T & RH,WS/WD sensor Check----- OK
 NO,SO2 Sensor Health Check----- Moderate
 CO,NO2,O3 Sensor Health Check----- Still Good
 Lithium Battery Voltage Check----- OK
 Data Logging Check----- OK
 Data Downloading Check----- OK

Recommend

To replace new acid gas scrubber every 6 months.
 To replace internal filters every 6 months.
 To perform factory calibration or in-field calibration every 12 months.



Performed by
 Phoe Saw Htoo
 Technical Service Engineer
 NANOVA CO.,LTD



Approved by
 Myo Oo
 Technical Service Manager
 NANOVA CO.,LTD

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MYANMAR KOEI INTERNATIONAL LTD.
Consulting Engineers

No. 105, 1st Floor, United Phlo Base Condo,
Phu Thau, Yangon, Myanmar.
Myanmar. Tel: +65 1 9548814

Calibration Record

Project Name: JFE Myanmar Coated Steel (M24039)

Calibration Date: August 9, 2024

No.	Instrument (Brand, Model)	Sensor/Probe	Calibration Equipment	Unit	Calibration Index	Before Calibration	After Calibration	Remark
1.	Sound Level Meter (RION NL-43) Sr.No.00230104	Sound Level	NC-74 Sound Calibrator	dB	94	93.3	94.0	Completed.
2.	Sound Level Meter (RION NL-42) Sr.No.00546217	Sound Level	NC-74 Sound Calibrator	dB	94	92.9	94.0	Completed
3.	Vibration Level Meter (RION VM-53A) Sr.No.00546766	Vibration Level	-	-	-	-	-	Service Report (June 7, 2024)
4.	Vibration Level Meter (RION VM-55) Sr.No.00627370	Vibration Level	-	-	-	-	-	The date of manufacturer certification (June 2023) *

* As factory calibration is not feasible, parallel monitoring of the vibration meters VM53A (Sr.No.00546766) and VM55 (Sr.No.00627370) was performed. The difference between the results is less than 1 dB and hence VM55 (Sr.No.00627370) can be functioned well.

Calibrated by

Ye Tun Oo
Environmental Expert

Checked by

Thura Aung
Environmental & Social Expert





RION 3-20-41 Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
RION Co.,Ltd. Phone:+81-42-359-7898 <https://www.rion.co.jp>

To Myanmar Koei International Ltd.

Issuing Date: June 7, 2024

Service Report

Dear Sir/Madame,

We are glad to inform you that following check/adjustment, repair and calibration have been carried out on your instrument:

VM-53A, Vibration level meter
Serial Number: 00546766
Option: PV-83C (S/No.: 49854)

Your Declaration: Calibration with test report, calibration certificate, and traceability flow chart is required.

Our Judgement: It was time to replace the backup battery.
The sub LCD was blurred.

Our Treatment: Replacement of the backp battery and the sub LCD.
Check and calibration.
Attachment of test report, calibration certificate, and traceability flow chart.

The instrument works well now, the followings show the check results:

Check & adjustment: Good
General: Good

RION CO., LTD.



Manager





Aeroqual Limited

460 Rosebank Road, Avondale, Auckland 1026, New Zealand.

Phone: +64-9-623 3013 Fax: +64-9-623 3012

www.aeroqual.com

Calibration Certificate No. 71693

Calibration Date: 27 Feb 2024 09:08

Model: VOC 0-25 ppm

Serial No: VM-2305102-056

Environmental Conditions

Temperature 26.5 °C

Relative Humidity 31.9 %

Measurements

Calibration Standard /ppm	0.0	10.0	20.0	0.0
AQL Sensor (Mean) /ppm	0.0	10.0	19.5	0.0
AQL Sensor (Std. Dev) /ppm	0.000	0.000	0.000	0.000

*The Mean and Standard Deviation are calculated from three consecutive readings.

Calibration Standard

This sensor was calibrated against a certified mixture of isobutene in synthetic air diluted with zero air using mass flow controllers with calibrations traceable to the National Institute of Standards and Technology (NIST).

QC Approval: Takao Yamasaki

Date: 27 Feb 2024





AMTT Co., Ltd.

Solutions for Medical, Science & Laboratory Technology

CALIBRATION CERTIFICATE

Equipment Data		Date : 09/08/2024			
Equipment	Portable Gas Analyzer				
Model	PG-350				
Serial No.	36EG0SYR				
Manufacturer	Horiba Co., Ltd				
Customer Record					
Country/City :	Myanmar / Yangon				
customer Address:	Myanmar Koel International Ltd				
Telephone No:					
Testing Program					
Test Parameter	Display	Status	Remark		
Initialization	Good	OK	-		
Operation and Functioning	Good	OK	-		
Calibration					
Ambient Temp & Humidity	25°C / 60%				
Calibrator Gas	SO ₂ - 2400ppm, CO ₂ - 24%, O ₂ - 16%, NO _x - 2000ppm, CO - 4000ppm				
Linearity (+2.0%)	Calibration Parameter				
	NO _x (ppm)	SO ₂ (ppm)	CO (ppm)	CO ₂ (%)	O ₂ (%)
	1999.9	2399.0	3999.9	23.6	15.6
	2001.0	2398.0	4001.0	23.8	15.9
	2003.0	2398.0	4002.0	23.6	16.1
AVG	2001.3	2398.3	4001.0	23.7	15.9
Repeatability (CV%)	0.0008	0.0002	0.0003	0.0049	0.0159
Accuracy	-0.6496	0.0695	-0.0242	1.4085	0.8403
Accessories	1. User Manual				
Calibration Procedure	(1) Zero calibration with (N ₂) (2) Span calibration with (Standard calibration gas)				
Judgement	PASS <input checked="" type="checkbox"/>		FAIL <input type="checkbox"/>		
This is to certify that the above Portable Gas Analyzer has been calibrated on 09/08/2024 and it should again on 09/08/2025 .					
Performed By Htein Lin Han Date 09.08.2024			Checked By Mar Mar Khaing Date 09.08.2024		

Head Office

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