Environmental Monitoring Report

For

30 MW Ground Mounted Solar Power Plant Project Connected to Thapyaywa Substation

(Operation Phase)

(October 2024 – March 2025)

(5th Time)

Proposed by

Clean Power Energy Co., Ltd.

Prepared by

E Guard Environmental Services

April, 2025

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Introduction

This Environmental Management Plan (EMP) report is for the 30 MW Ground Mounted Solar Power Plant Project Connected to Thapyaywa Substation, which is proposed by Clean Power Energy Co., Ltd. The project proponent, Clean Power Energy Co., Ltd., is formed by the consortium with these two members: Gold Energy Co., Ltd. (95 share percentage) and Universal Energy Co., Ltd. (5 share percentage) for the proposed project. The project proponent won tender from the Ministry of Electricity and Energy and obtained permit for construction and electricity generation from solar energy of the proposed project. The proposed project will contribute to fulfill a goal for achieving universal access to electricity by 2030 as per Myanmar National Electrification Plan (NEP). Myanmar has one of the lowest rates of electrification in Southeast Asia; almost 50 percent of households in Myanmar have access to electricity and electricity consumption per capita is among the lowest in the world, therefore, development of electricity generation projects, especially for electricity generation from renewable energy projects are urgently required in Myanmar.

The proposed project is located at Thapyaywa Village Tract, Thazi Township, Meiktilar District, Mandalay Region, Myanmar. Its coordinate points are 20° 58' 39.33" N, 96° 0' 45.20" E and the average altitude of the site is 167 m. The construction of the proposed project includes box transformer foundation, supporting bracket and foundation of solar power station, multiple-use building and outdoor equipment foundation construction as well as construction and stringing of 33 kV overhead transmission line. The construction processes of the proposed project will take about 6 months and then operation processes to generate electricity from solar energy and distribute to the Thapyaywa Substation will take 20 years (lifespan of the project). The total capacity of capacity of AC side of the proposed project is 31.45 MW and DC side is 37.27 MW, including five photovoltaic power generation units. The photovoltaic power station is connected to the 33 kV bus side of the 230 kV main transformer in the Thapyaywa Substation. Total land area of solar power plant is 133.44 acres (54 hectares) and the annual average horizontal global radiation and diffuse radiation are 1,850.5 kWh/m2 and 833.69 kWh/m2 respectively, therefore, annual total solar radiation level of the project site is rich. The direct radiation amount takes a large proportion of the total radiation and the project site has a good development prospect, where is suitable for the construction of large-scale grid connected photovoltaic power station.

Environmental quality monitoring team included U Aung Moe Oo, U Ye Chit Zaw and U Khin Zaw Min. The environmental quality monitoring report includes air, water and noise. Air quality monitoring was carried out in one location as source (Project Site) and also water quality test was carried out in two places as ground water (GW- project site) and waste water (WW- Outlet of waste water cannel from the project site). Noise are also measured in two locations as source (Project Site) and receptor (staff housing). Most of the environmental monitoring results (air, water and noise) are within the guidelines.

1. METHODOLOGY

Baseline environmental parameters and sampling locations were defined according to the objectives for environmental impact assessment, and monitoring purposes. Locations for sampling and analysis of water quality, ambient air quality and noise level of the project site were identified by e Guard Environmental Services Co., Ltd.

1.1 Ambient Air Quality

The emissions of dust particles and gases were measured for 24hrs continuously at the selected sites using the Environmental Perimeter Air Station (EPAS). The results were compared with National Environmental Quality Guidelines NEQG, American Conference of Governmental Industrial Hygienists (ACGIH) and National Ambient Air Quality Standards (NAAQS). EPAS provides direct readings in real time with data-logging capabilities. Air quality is composed of dust and gas emissions of the ambient air.

Table 1. 1 Ambient Air Quality Measurement

Ambient Air Quality (1 location)	
Gas Emission	CO, CO_2, SO_2, NO_2
Dust Emission	PM_{10}, $PM_{2.5}$

1.2 Ambient Noise

Noise level LAeq (dBA) will be measured at the selected locations that can reflect the exposure of the nearest local community and sensitive locations. Duration and frequency were measured for 24hrs continuously at the selected site using the Sound Pressure Level Meter.

The monitoring procedures, data analysis and interpretation were carried out in accordance with the instrument's manufacture and National Environmental Quality (Emission) Guidelines, World Health Organization (WHO) and International Finance Corporation (IFC) guidelines in order to be in line with Environmental Conservation Department, Ministry of Natural Resources and Environment Conservation (MONREC). "National Environmental Quality (Emission) Guidelines" for Myanmar was also presented the value of noise level as LAeq (dBA).

Table 1. 2 Noise level monitoring

Noise monitoring (2 locations)	
Noise Emission	LAeq (dBA) (1hrs, 24 hrs.)

Table 1. 3 Equipment used to measure ambient air and noise measurement

Davis Vantage Pro2 Wireless Weather Station Provides detailed current weather conditions and expanded forecasts - all at a glance The Vantage Pro2 uses a frequency-hopping spread spectrum radio from 902 MHz to 928 MHz to transmit and receive data up to 1,000' (300m) line of sight. In addition, the weather station features a bubble level, improved anemometer base, redesigned wind cups, and factory-calibrated wind direction. The integrated sensor suite combines	

temperature and humidity sensors, rain collector with an aluminum-plated tipping bucket, and anemometer into one package for easy setup. Measure inside and outside temperature and humidity, heat index, barometric pressure, dew point, rainfall, wind direction and speed, and wind chill.	
Haz-Scanner EPAS PM_{10}, PM $_{2.5}$, NO_2, SO_2, CO, CO_2, Temperature, and Relative Humidity	
Digital Sound Level Meter Noise	

Figure 1. 1 Air Quality Measuring during Operation Period

	Air, Noise quality measuring at Thapyaywa Solar Power Project 12.01.2025 to 13.01.2025 (at source project site)
	Noise quality measuring at Thapyaywa Solar Power Project 12.01.2025 to 13.01.2025 (at source project site)

1.3 Water Quality

Water samples were collected on site with appropriate sampling equipment and procedures. The sampling team has pre-arranged with the labs in Yangon for analysis and logistic arrangement made to reach the preserved samples with unique IDs to the designated labs within 48hrs.

The sampling and survey team has a list of local laboratories providing analytical services for ground water, waste water and surface water quality analysis. Up to this date, there is no laboratory having accredited certification for water quality testing (environmental analysis) in Myanmar. SGS (Myanmar), ISO (Myanmar). Laboratories have used for water quality analysis among the list of laboratories. These laboratories have been recognized as a long-term establishment in Myanmar and employed qualified technical staffs.

The following laboratories were used for analysis of water and parameter shown in the **Table 1. 4.**

1. PRO Lab, No. (9), Sabae Housing, Pyi Htaung Su Road, (26) Ward, South Dagon Tsp, Yangon, Myanmar. Tel: 09 893 767424
2. Water Quality Laboratory, Forest Research Institute, Yezin, Nay Pyi Taw. Tel: 09 430 19169, 09 420 705131

Table 1. 4 Environmental Quality Parameters for Water quality

Waste Water Parameters (1 location)	
Physical Parameter	Total Suspended Solids
Chemical Parameter	BOD, COD, pH
Biological Parameter	Total Coliform Bacteria
Nutrients	Total Nitrogen, Total Phosphorus
Compounds	Oil & grease
Ground Water Parameters (1 location)	
Physical Parameter	Total Suspended Solids, Color, Turbidity
Chemical Parameter	BOD, COD, pH, EC, Total Alkalinity
Biological Parameter	Total Coliform Bacteria
Metal	Iron, Manganese
Nutrients	Total Nitrogen, Total Phosphorus, Chloride
Compounds	Oil & grease

Water samplings are conducted using the following equipment as shown in Table 1. 5.

Table 1. 5 Equipment for Water Sampling

Water Sampling Bottle	

1.4 Monitoring and Sampling Locations

Sampling locations were confirmed by environmental specialist on site before doing the sampling. Water quality sampling locations consist of one waste water locations (WWQ: outlet of waste water cannel from the project site) and one ground water location (GWQ: Project Site) which is situated near the project site). Air quality was monitored at the selected one location (Thapyaywa solar power project site (source) that can get results of the existing ambient air quality.

Figure 1. 2 Air Quality Monitoring Locations of Thapyaywa Solar Power Project

Figure 1. 3 Noise Quality Monitoring Locations of Thapyaywa Solar Power Project

Figure 1. 4 Water Quality Sampling Locations of Thapyaywa Solar Power Project

Table 1. 6 Locations of Environmental Quality sampling points

Locations No.	Points	Coordinate	Locations
Ambient Air Quality Monitoring Location			
1.	AQ1	Lat - 20°58'30.73"N, Long - 96° 0'34.17"E	Project Site
Noise Quality Monitoring Locations			
1.	NQ1	Lat - 20°58'30.73"N, Long - 96° 0'34.17"E	Project Site
2.	NQ2	Lat - 20°58'36.06"N, Long - 96° 0'45.24"E	Project Site (Receptor)
Waste Water Quality Monitoring Location			
1.	WWQ	Lat - 20°58'29.10"N, Long - 96° 0'34.42"E	Outlet of waste water cannel from the project site
Ground Water Quality Sampling Location			
1.	GWQ	Lat - 20°58'35.36"N, Long - 96° 0'45.74"E	Project Site

2. ENVIRONMENTAL QUALITY

2.1 Ambient Air Quality

The air quality monitoring was done at selected locations during 12th to 13th January 2025. During this survey, these parameters were measured with adequate devices named Environmental Perimeter Air Station (EPAS) viz; Particulate Matters (PM_{10} and $PM_{2.5}$) and gases CO_2, CO, SO_2, NO_2 via 24-hour basis. The results and guidelines of all emission pollutants are shown in table.

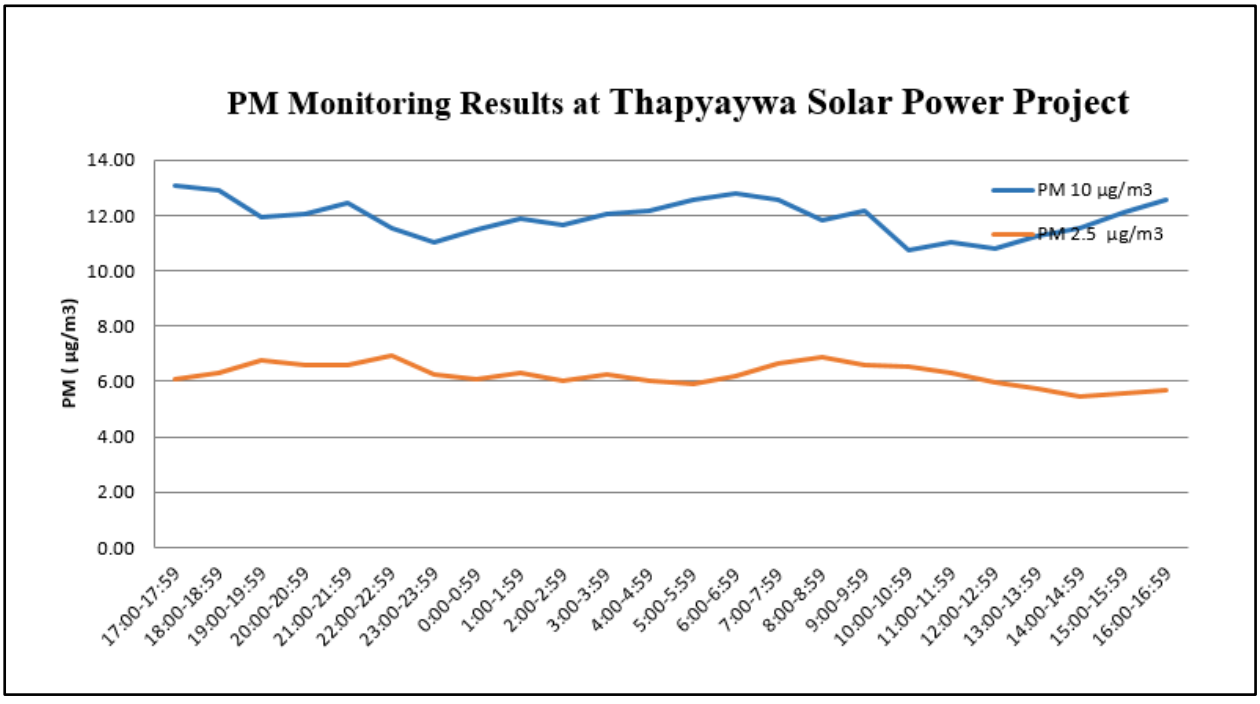

Figure 2. 1 PM Monitoring Results at Thapyaywa Solar Power Project

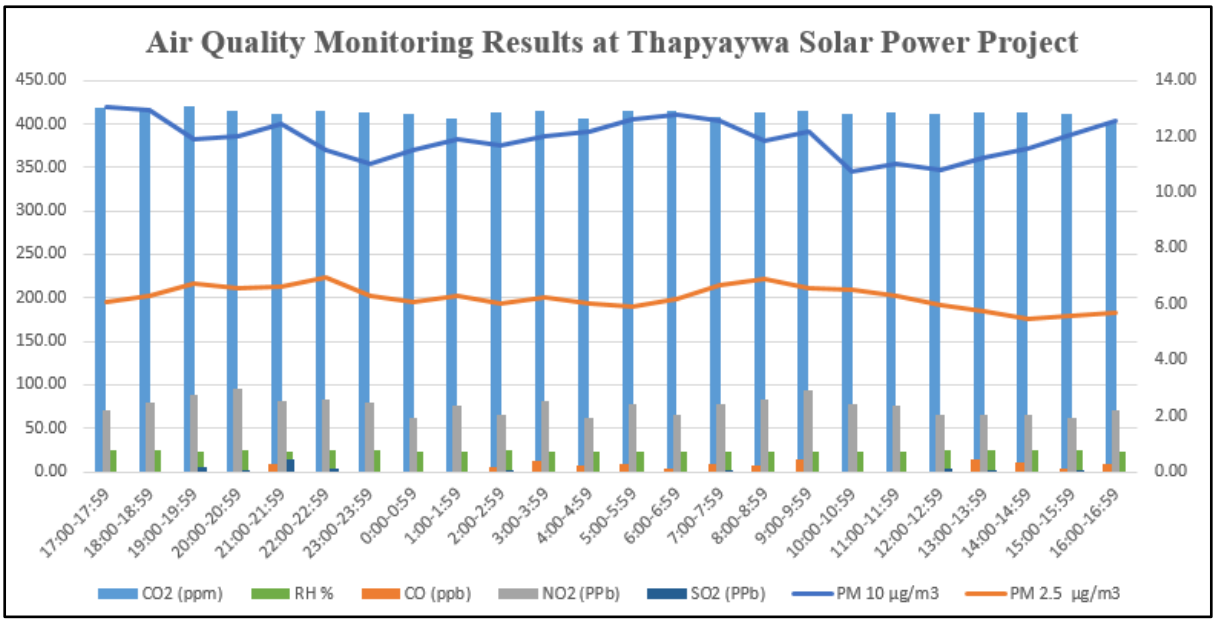

Figure 2. 2 Fluctuation of Air Pollutants during Dial Cycle at Thapyaywa Solar Power Project

Particulate matters (PM_{10} and $PM_{2.5}$) results are with in guideline values as shown in table. Atmospheric particulate matters such as PM_{10} and $PM_{2.5}$ have their ability to reach the deepest part of lungs and so affect respiratory process. In this air quality survey of the project site, the surveyed results of these particulate matters gathered from EPAS. The results with one-hour interval are shown in the following table.

Sulfur Dioxide (SO_2) is generated from combustion of fuels such as oil and coal, and as by-product from some chemical production or wastewater treatment processes. On-road and off-road vehicles are also emission source of SO_2. SO_2 irritates the respiratory tract, injures lung tissues and reduces visibility and level of sunlight. The emission can be controlled by implementation of manufacturer recommended engine maintenance programs, good driving practices, installing and maintaining emissions control devices, and implementing a regular vehicle maintenance and repair program.

Nitrogen Oxides (NO_X) in the ambient air consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O). NO_2 is formed by chemical reaction of NO and ozone. The main sources of NO_2 are combustion of fuel and on-road and off-road vehicles. NO_2 decreases lung function and resistance to infection. The gas emission can be monitored by combustion modification, flue gas recirculation, water/ steam injection and the same measures for SO_2 reduction.

Likewise, **Carbon Monoxide (CO) and Carbon dioxide (CO_2)** have the same emission sources and mitigation measures for SO_2 and NO_2. They are poisonous gas and cause damage to the respiratory organ. Guidelines 2013, adopted threshold limit values of CO_2 is 5,000 ppm for 8-hour, time-weighted average. Thus, it can be concluded that the existing CO_2 level is acceptable for human health.

Detail results and variation patterns with one-hour interval of pollutants are shown in tables and figures below. Results of average, peak and minimum of a day are calculated in the table.

Table 2. 1 Air Pollutants Emission Results (Thapyaywa Solar Power Project)

Date	Time		CO_2 (ppm)	CO (ppb)	NO_2 (ppb)	PM_{10} µg/m^3	$PM_{2.5}$ µg/m^3	RH %	SO_2 (ppb)
12.01.2025	17:00-17:59	Average	417.99	0.00	2.21	13.05	6.08	24.02	0.00
12.01.2025	18:00-18:59	Average	416.79	0.00	2.50	12.92	6.29	24.74	0.00
12.01.2025	19:00-19:59	Average	420.78	0.00	2.73	11.92	6.76	23.87	0.15
12.01.2025	20:00-20:59	Average	414.49	0.00	2.96	12.03	6.59	24.13	0.08
12.01.2025	21:00-21:59	Average	411.04	0.25	2.52	12.43	6.60	23.68	0.47
12.01.2025	22:00-22:59	Average	414.31	0.00	2.60	11.54	6.96	24.58	0.10
12.01.2025	23:00-23:59	Average	413.14	0.00	2.48	11.03	6.27	24.09	0.00
13.01.2025	0:00-0:59	Average	412.27	0.00	1.92	11.50	6.07	23.69	0.00
13.01.2025	1:00-1:59	Average	405.71	0.00	2.34	11.88	6.30	23.95	0.00
13.01.2025	2:00-2:59	Average	414.09	0.17	2.06	11.66	6.01	24.16	0.05
13.01.2025	3:00-3:59	Average	414.69	0.36	2.52	12.03	6.26	23.21	0.00
13.01.2025	4:00-4:59	Average	406.97	0.23	1.93	12.18	6.05	23.54	0.00
13.01.2025	5:00-5:59	Average	414.16	0.30	2.39	12.59	5.93	22.78	0.00
13.01.2025	6:00-6:59	Average	414.65	0.14	2.02	12.79	6.17	23.30	0.00
13.01.2025	7:00-7:59	Average	408.13	0.30	2.40	12.58	6.67	22.42	0.07
13.01.2025	8:00-8:59	Average	413.08	0.20	2.60	11.82	6.89	23.32	0.00
13.01.2025	9:00-9:59	Average	414.64	0.47	2.91	12.19	6.57	23.76	0.00
13.01.2025	10:00-10:59	Average	410.75	0.00	2.45	10.76	6.52	22.89	0.00
13.01.2025	11:00-11:59	Average	412.46	0.00	2.39	11.01	6.32	23.78	0.00
13.01.2025	12:00-12:59	Average	411.21	0.00	2.03	10.81	5.98	24.26	0.14
13.01.2025	13:00-13:59	Average	413.55	0.46	2.04	11.24	5.72	24.40	0.02
13.01.2025	14:00-14:59	Average	413.76	0.34	2.02	11.55	5.46	24.75	0.00
13.01.2025	15:00-15:59	Average	411.70	0.14	1.93	12.08	5.56	23.98	0.07
13.01.2025	16:00-16:59	Average	402.68	0.26	2.18	12.58	5.71	23.75	0.00
Average			412.63	0.15	2.34	11.92	6.24	23.79	0.05
1 hour Minimum			402.68	0.00	1.92	10.76	5.46	22.42	0.00
1 hour Maximum			420.78	0.47	2.96	13.05	6.96	24.75	0.47

Table 2. 2 Air Emission Levels (Standard)

No.	Parameter	Unit	Maximum Concentration	
			National	Average Period
1.	Carbon monoxide	mg/m^3	9	8-hour
2.	Carbon dioxide	ppm	5000	8-hour
3.	Sulfur dioxide	$\mu g/m^3$	20 500	24-hour 10-minute
4.	Nitrogen dioxide	$\mu g/m^3$	40 200	1 year 1 hour
5.	Particulate matter PM_{10}	$\mu g/m^3$	20 50	1-year 24-hour
6.	Particulate matter $PM_{2.5}$	$\mu g/m^3$	10 25	1-year 24-hour

Source: Myanmar National Environmental Quality (Emission) Guidelines, National Ambient Air Quality Standards (NAAQS), American Conference of Governmental Industrial Hygienists (ACGIH).

Detail results with one-hour interval of pollutants are shown in **Table 2. 1**. The average, peak and minimum values of results per day are calculated. All results are under the Myanmar National Environmental Quality (emission) Guidelines.

Table 2. 3 Observed Ambient Air Quality Results from Selected Points

Parameters	Observed Values	4th Monitoring Results	Baseline Results	NEQG Guidelines Value	ACGIH Guidelines Value	NAAQS Guidelines Value	Unit	Averaging Period
PM_{10}	11.92	6.74	27.11	50	-	-	$\mu g/m^3$	24hrs
$PM_{2.5}$	6.24	3.40	9.00	25	-	-	$\mu g/m^3$	24hrs
CO	0.00021	0.00001	0.01	-	-	9	ppm	8hrs
CO_2	415.10	493.66	496.32	-	5000	-	ppm	8hrs
SO_2	0.13	0.011	3.92	20	-	-	$\mu g/m^3$	24hrs
NO_2	5.56	5.35	58.97	200	-	-	$\mu g/m^3$	1hrs

2.2 Ambient Noise

Ambient noise level for the proposed project was measured with Digital Sound Level Meter at the project site. The noise level measurement is conducted at Thapyaywa solar power project points: these points are nearly the air monitoring points and staff housing on 12th to 13th January 2025. Measuring period is 24 hours continuously. The observed values are described in **Table 2. 4** and **Table 2. 5** and the following figures are noise level measurement at the proposed project.

Table 2. 4 Observed Values of Noise Level Measurement at Thapyaywa Solar Project Site (Source)

No.	Date	Time	Observed Mean Value (Source)	Weight	Day/Night	Average
1	13.01.2025	7:00:28-7:59:28	47.39	A	Day	46.97
2	13.01.2025	8:00:28-8:59:28	49.39	A	Day	
3	13.01.2025	9:00:28-9:59:28	56.24	A	Day	
4	13.01.2025	10:00:28-10:59:28	47.72	A	Day	
5	13.01.2025	11:00:28-11:59:28	44.13	A	Day	
6	13.01.2025	12:00:28-12:59:28	42.72	A	Day	
7	13.01.2025	13:00:28-13:59:28	44.63	A	Day	
8	13.01.2025	14:00:28-14:59:28	45.97	A	Day	
9	13.01.2025	15:00:28-15:59:28	52.27	A	Day	
10	13.01.2025	16:00:28-16:59:28	56.67	A	Day	
11	12.01.2025	17:00:28-17:59:28	42.40	A	Day	
12	12.01.2025	18:00:28-18:59:28	41.75	A	Day	
13	12.01.2025	19:00:28-19:59:28	43.46	A	Day	
14	12.01.2025	20:00:28-20:59:28	44.52	A	Day	
15	12.01.2025	21:00:28-21:59:28	45.29	A	Day	
16	12.01.2025	22:00:28-22:59:28	44.26	A	Night	46.48
17	12.01.2025	23:00:28-23:59:28	52.41	A	Night	
18	13.01.2025	0:00:28-0:59:28	47.05	A	Night	
19	13.01.2025	1:00:28-1:59:28	44.80	A	Night	
20	13.01.2025	2:00:28-2:59:28	44.67	A	Night	
21	13.01.2025	3:00:28-3:59:28	44.84	A	Night	
22	13.01.2025	4:00:28-4:59:28	48.32	A	Night	
23	13.01.2025	5:00:28-5:59:28	45.72	A	Night	
24	13.01.2025	6:00:28-6:59:28	46.24	A	Night	
Average			**46.79**			

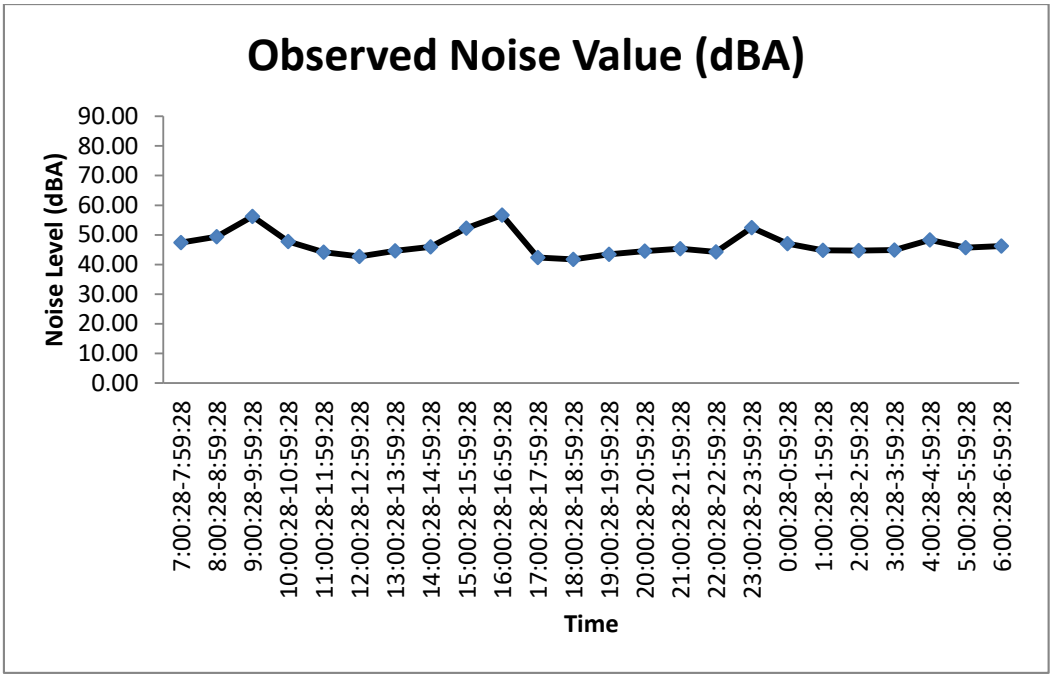

Figure 2. 3 Noise Level at Thapyaywa Solar Project Site (Source)

Table 2. 5 Observed Values of Noise Level Measurement at Staff Housing (Receptor)

No.	Date	Time	Observed Mean Value (Source)	Weight	Day/Night	Average
1	13.01.2025	7:00:28-7:59:28	48.65	A	Day	45.31
2	13.01.2025	8:00:28-8:59:28	42.89	A	Day	
3	13.01.2025	9:00:28-9:59:28	41.57	A	Day	
4	13.01.2025	10:00:28-10:59:28	52.73	A	Day	
5	13.01.2025	11:00:28-11:59:28	49.14	A	Day	
6	13.01.2025	12:00:28-12:59:28	50.38	A	Day	
7	13.01.2025	13:00:28-13:59:28	45.98	A	Day	
8	13.01.2025	14:00:28-14:59:28	46.05	A	Day	
9	13.01.2025	15:00:28-15:59:28	50.56	A	Day	
10	13.01.2025	16:00:28-16:59:28	41.17	A	Day	
11	12.01.2025	17:00:28-17:59:28	42.61	A	Day	
12	12.01.2025	18:00:28-18:59:28	40.93	A	Day	
13	12.01.2025	19:00:28-19:59:28	39.13	A	Day	
14	12.01.2025	20:00:28-20:59:28	42.94	A	Day	
15	12.01.2025	21:00:28-21:59:28	44.91	A	Day	
16	12.01.2025	22:00:28-22:59:28	41.18	A	Night	42.45
17	12.01.2025	23:00:28-23:59:28	39.93	A	Night	
18	13.01.2025	0:00:28-0:59:28	42.41	A	Night	
19	13.01.2025	1:00:28-1:59:28	40.14	A	Night	
20	13.01.2025	2:00:28-2:59:28	39.83	A	Night	
21	13.01.2025	3:00:28-3:59:28	43.64	A	Night	

22	13.01.2025	4:00:28-4:59:28	44.75	A	Night	
23	13.01.2025	5:00:28-5:59:28	39.74	A	Night	
24	13.01.2025	6:00:28-6:59:28	50.39	A	Night	
Average			**44.23**			

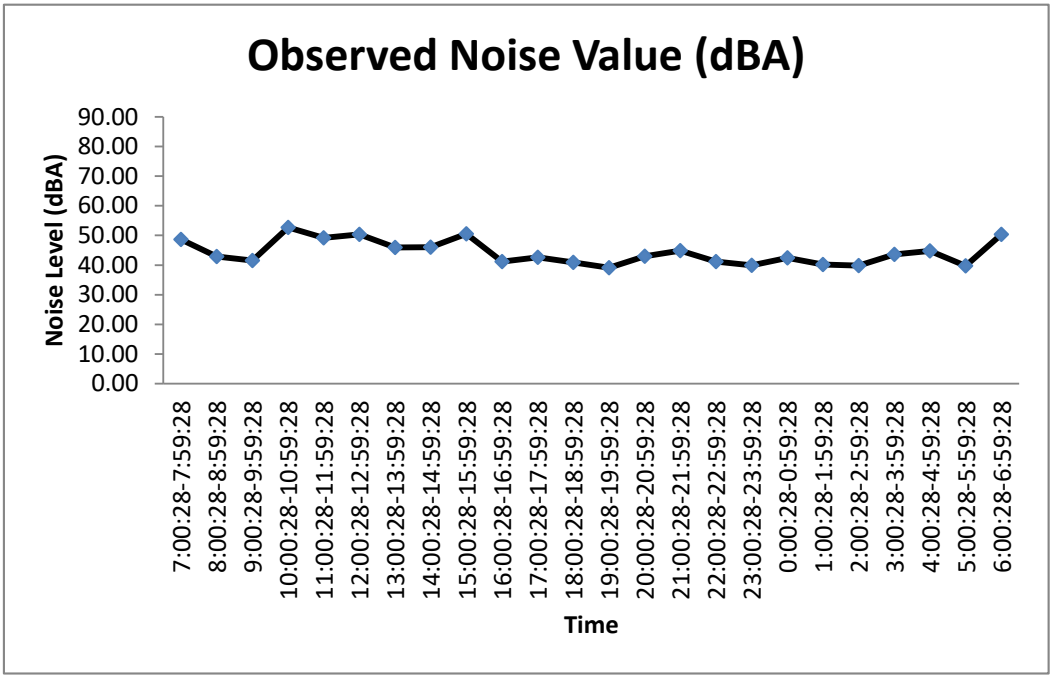

Figure 2. 4 Noise Level at Staff Housing (Receptor)

Table 2. 6 Observed Ambient Noise Level Results from Selected Points

Point	Thapyaywa Solar Power Project	
	Day Time	Night Time
Project Site (Source)	**46.97**	**46.48**
4th Monitoring Results	**53.31**	**48.81**
Baseline Results	**49.11**	**42.40**
Guideline Values for Industrial	**70**	**70**
Staff Housing (Receptor)	**45.31**	**42.45**
4th Monitoring Results	**47.22**	**37.86**
Baseline Results	**40.20**	**43.08**

Guideline Values for Residential	**55**	**45**

The observed values are compared with the National Environmental Quality (Emission) Guidelines as shown in **Table 2. 6** except receptor point, which indicates the separate level for residential and industrial points.

Table 2. 7 National Environmental Quality (Emission) Guidelines Values for Noise Level

Receptor	**One Hour LAeq (dBA)**	
	Daytime 07:00 - 22:00 (10:00 - 22:00 for Public Holidays)	**Nighttime 22:00 - 07:00 (22:00 - 10:00 for Public Holidays)**
Residential, institutional, educational	55	45
Industrial, commercial	70	70

The observed values of the proposed project for daytime at Thapyaywa Solar Power Project Site (source) and Staff Housing (Receptor) are 46.97 dB (A) and 45.31 dB (A). The observed values of the proposed project for nighttime at Thapyaywa Solar Power Project Site (source) and Staff Housing (Receptor) are 46.48 dB (A) and 42.45 dB (A). So, the observed daytime value and night time value for Thapyaywa Solar Power Project Site (source) and Staff Housing (Receptor) are lower than the guideline value.

2.3 Wind Speed and Direction

The following figures describe the wind speed and wind direction of the proposed project site (Thapyaywa Solar Power Project Site at source) on 12th to 13th January 2025 respectively. According to the data, the wind direction is following **Figure 2. 5** and **Figure 2. 6**.

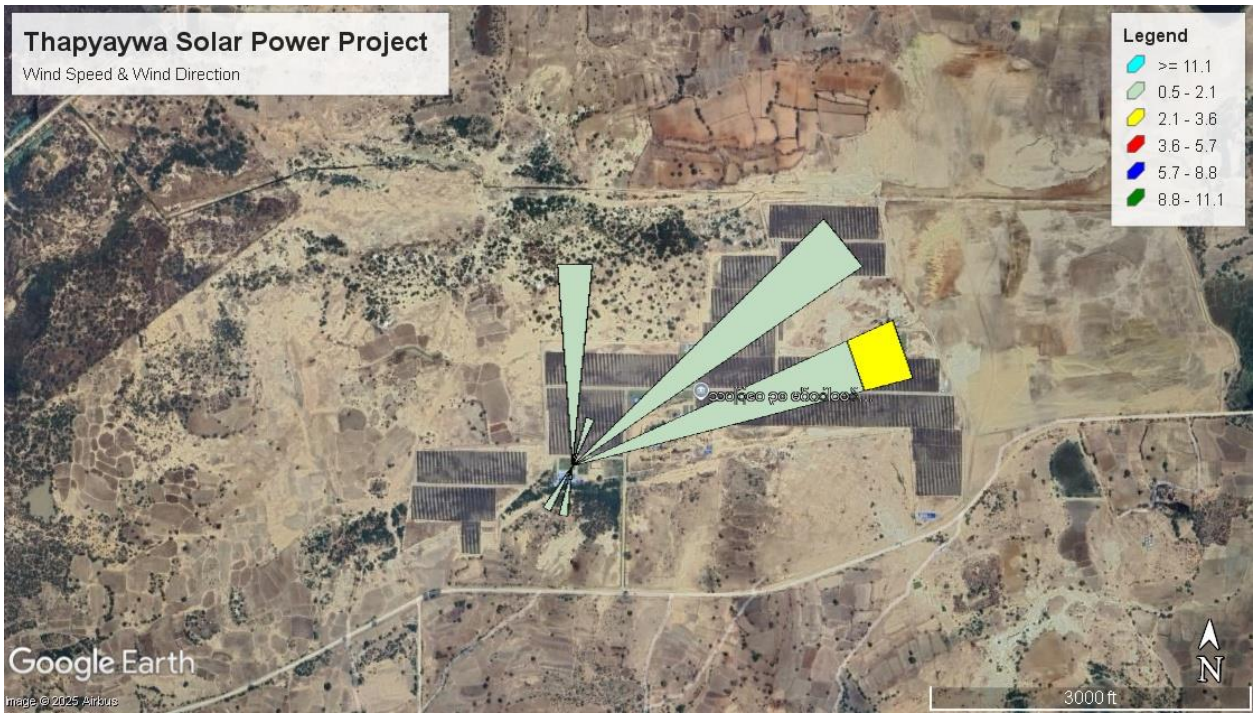

Figure 2. 5 Wind Speed and Wind Direction (Blowing From) at Thapyaywa Solar Power Project Site

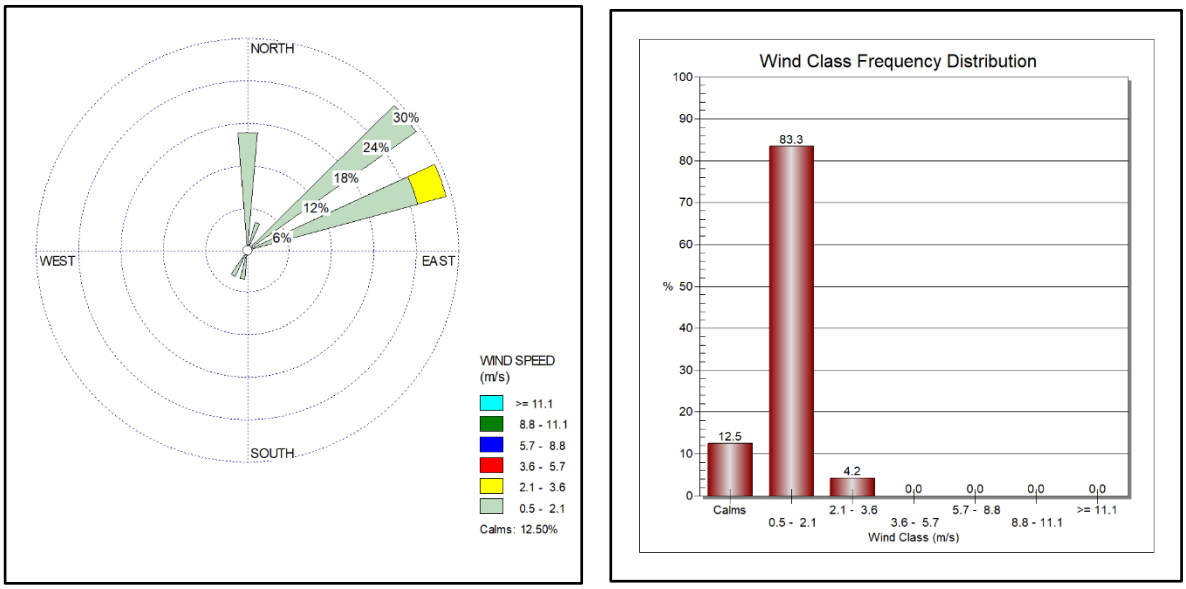

Figure 2. 6 Wind Class Frequency Distribution at the Thapyaywa Solar Power Project Site

2.4 Water quality

The project proponent is responsible for ensuring the drainage or runoff from the project or its related activities do not deteriorate the existing waste water and ground water quality before

the project implementation. Waste water and ground water quality were recorded by laboratory analysis at two selected locations systematically. The field surveys for environmental quality monitoring and sampling were done during 13th January 2025. The field surveys for monthly sampling were done on 1st October 2024, 1st November 2024, 1st December 2024, 1st January 2025, 10th February 2025 and 20th March 2025.

Objectives of the sampling and analysis of waste water and ground water is to understand the existing water quality at the selected locations and to monitor the impacts during operation period.

Table 2. 8 Ground Water Quality of Thapyaywa Solar Power Project

Item	Unit	5th Monitoring Results (GW)	4th Monitoring Results	Baseline Results	WHO Drinking Water Guideline
Biological Oxygen Demand (BOD)	mg/l	0.59	0.19	6	-
Chemical Oxygen Demand (COD)	mg/l	2	0.8	32	-
Chloride	mg/l	19.75	11.50	-	-
Electrical Conductivity (On-site)	mS/m	1.07	99.18	1.39	-
pH	-	8.6	8.19	7.36	6.5-8.5
Oil & Grease	mg/l	Nil	4	<5	-
Turbidity (On-site)	FNU	2.2	0.84	5.3	-
Total Alkalinity	mmol/l	8.61	16.75	-	-
Total Nitrogen	mg/l	1.12	0.84	0.84	-
Total Phosphorus	mg/l	0.01414	0.099	0.012	-
Total suspended solid (TSS)	mg/l	1.4	6	28	-
Total coliform bacteria	MPN/ml	<0.3	<0.3	4.5	Not detected
Iron	mg/l	Nil	0.03	-	-
Manganese	mg/l	0.6	0.3	-	-

Table 2. 9 Waste Water Quality of Thapyaywa Solar Power Project

Item	Unit	4th Monitoring Results (WW)	4th Monitoring Results	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Biological Oxygen Demand (BOD)	mg/l	0.6	1.05	30
Chemical Oxygen Demand (COD)	mg/l	2.8	5.6	125
pH	-	8.53	8.38	6-9
Total Nitrogen	mg/l	3.37	0.38	10
Total Phosphorus	mg/l	0.03594	0.033	2

Oil and Grease	mg/l	Nil	2	10
Total suspended solid (TSS)	mg/l	0.7	65.06	50
Total coliform bacteria	CFU/100ml	9.3	4.3	400

Table 2. 10 Monthly Waste Water Quality of Thapyaywa Solar Power Project (October)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	101.61	-
pH	-	8.69	6-9
Temperature	℃	26.32	-
Total Dissolved Solids	mg/l	2037	-

Table 2. 11 Monthly Waste Water Quality of Thapyaywa Solar Power Project (November)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	102.11	-
pH	-	8.69	6-9
Temperature	℃	26.52	-
Total Dissolved Solids	mg/l	2054	-

Table 2. 12 Monthly Waste Water Quality of Thapyaywa Solar Power Project (December)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	102.01	-
pH	-	8.716	6-9
Temperature	℃	26.12	-
Total Dissolved Solids	mg/l	2068	-

Table 2. 13 Monthly Waste Water Quality of Thapyaywa Solar Power Project (January)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	101.91	-
pH	-	8.73	6-9
Temperature	℃	26.14	-
Total Dissolved Solids	mg/l	2020	-

Table 2. 14 Monthly Waste Water Quality of Thapyaywa Solar Power Project (February)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	101.91	-
pH	-	8.7	6-9
Temperature	℃	26.27	-
Total Dissolved Solids	mg/l	2022	-

Table 2. 15 Monthly Waste Water Quality of Thapyaywa Solar Power Project (March)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	105.43	-
pH	-	8.42	6-9
Temperature	℃	28.32	-
Total Dissolved Solids	mg/l	674.75	-

Photo Record for Water Quality Sampling

	WWQ 1 (outlet from the project site)
	GWQ (from the project site)

3. ENVIRONMENTAL MONITORING PLAN

3.1 Monitoring Records for Safety Plan

Monitoring Record for Safety Plan

Monthly Record					
Date	**Place**	**Activity**	**Organization**	**Number of Attendees**	**Remark**
October, 2024	PV Field	Hazard and Safety Training	Thapyaywa Solar Power Plant	25	
November, 2024	Working Area	Aware Training About PPE	Thapyaywa Solar Power Plant	30	
December, 2024	Power Station	Fire Safety Training	Thapyaywa Solar Power Plant	75	
January, 2025	Working Area	Electrical Safety Training	Thapyaywa Solar Power Plant	25	
February, 2025	Power Station	Provide PPE Safety Equipment	Thapyaywa Solar Power Plant	35	
March, 2025	Office Meeting Room	Health Care	Thapyaywa Solar Power Plant	75	
October, 2024	Working Area	Electrical Safety Training	Thapyaywa Solar Power Plant	35	
November, 2024	PV Field	Hazard and Safety Training	Thapyaywa Solar Power Plant	30	
December, 2024	Working Area	Aware Training About PPE	Thapyaywa Solar Power Plant	25	
January, 2025	Power Station	Fire Safety Training	Thapyaywa Solar Power Plant	75	
February, 2025	Working Area	Electrical Safety Training	Thapyaywa Solar Power Plant	35	
March, 2025	Office Meeting Room	Health Care	Thapyaywa Solar Power Plant	75	

Monitoring Record for Occupational Safety Equipment

Date	Place	Type	Quality	Remark	Inspected By	Supervisor
31-January-2025	Store	Safety Shoe	22		U Aung Myo Min	U Saw Paing Satt Naing
31-January-2025	Store	Safety Helment	22		U Aung Myo Min	U Saw Paing Satt Naing
31-January-2025	Store	Safety Gloves	22		U Aung Myo Min	U Saw Paing Satt Naing
31-January-2025	Store	Safety Belt	22		U Aung Myo Min	U Saw Paing Satt Naing

Photo Records for Health and Safety Plan Activities

Emergency Contact List Attached in the Project Site

အရေးပေါ်အခြေအနေတုန့်ပြန်မှုအခြေအနေ			
စီမံကိန်းလုပ်ငန်းအတွင်းမှ အရေးကြီးဆက်သွယ်ရမည့် ဖုန်းနံပါတ်များ			
စဉ်	အမည်	ရာထူး	ဖုန်းနံပါတ်
၁	ဦးစည်သူဖြိုးဆွေ	စက်ရုံမှူး	09-777464755
၂	ဦးရာဇာထွန်း	ဒုစက်ရုံမှူး	09-402609848
၃	ဦးစောပိုင်ဆက်နိုင်	အန္တရာယ်ကင်းရှင်းရေးအရာရှိ	09-683120379
၄	ဦးတိုးတိုး	ကြီးကြပ်ရေးမှူး	09-978876757
၅	ဦးအောင်နိုင်	ရှေးဦးသူနာပြု	09-940844211
၆	ဦးသန်းဝင်းနိုင်	အရေးပေါ်အခြေအနေထိန်းချုပ်ရေးမှူး	09-766785118

အရေးကြီးဆက်သွယ်ရမည့် ဒေသတွင်းဖုန်းနံပါတ်များ			
စဉ်	အမည်/ဌာန	အကြောင်းအရာ	ဖုန်းနံပါတ်
၁	မြို့နယ်မီးသတ်ဦးစီးဌာန	မီးလောင်ခြင်းအတွက်	09-402665664
၂	တိုက်နယ်ရဲစခန်း	လုံခြုံရေးကိစ္စရပ်များအတွက်	09-450337701
၃	အနီးဆုံးတိုက်နယ်ဆေးရုံ	ထိခိုက်ဒဏ်ရာရရှိသူများအတွက်	09-449872690
၄	မြို့နယ်လျှပ်စစ်ဌာန	လျှပ်စစ်မီးကိစ္စ	09-256592220
၅	မြို့နယ်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန	အထွေထွေအုပ်ချုပ်ရေးကိစ္စ	

Fire Extinguisher Check List

No.	Date	Description	Location	Existing	Unit
1	1.1.2025	Fire Extinguisher (50) kg	Power Station	1	nos
2	1.1.2025	Fire Extinguisher (3) kg	Power Station	3	nos
3	1.1.2025	Fire Extinguisher (3) kg	Briefing Hall	3	nos
4	1.1.2025	Fire Extinguisher (5) kg	Briefing Hall Office	1	nos
5	1.1.2025	Fire Extinguisher (5) kg	Briefing Hall Generator (65kVA)	1	nos
6	1.1.2025	Fire Extinguisher (4) kg	EP Generator (56kVA)	1	nos
7	1.1.2055	Fire Extinguisher (4) kg	6 Unit (1)	3	nos
8	1.1.2025	Fire Extinguisher (5) kg	6 Unit (2)	2	nos
9	1.1.2025	Fire Extinguisher (5) kg	6 Unit (3)	2	nos
10	1.1.2025	Fire Extinguisher (5) kg	6 Unit (4)	2	nos
11	1.1.2025	Fire Extinguisher (3) kg	Staff Office	2	nos
12	1.1.2025	Fire Extinguisher (5) kg	Construction Office	1	nos
13	1.1.2025	Fire Extinguisher (3) kg	Store	2	nos
14	1.1.2025	Fire Extinguisher (10) kg	Store	1	nos
15	1.1.2025	Fire Extinguisher (5) kg	Oil Farm	3	nos
16	1.1.2025	Fire Extinguisher (3) kg	Messing	2	nos
17	1.1.2025	Fire Extinguisher (5) kg	Main Gate	2	nos
18	1.1.2025	Fire Extinguisher (5) kg	Power Station Gate	2	nos
19	1.1.2025	Fire Extinguisher (5) kg	East Gate	2	nos
20	1.1.2025	Fire Extinguisher (5) kg	Kitchen Room	2	nos
21	1.1.2025	Fire Extinguisher (5) kg	Tower (1)	2	nos
22	1.1.2025	Fire Extinguisher (5) kg	Tower (2)	2	nos
23	1.1.2025	Fire Extinguisher (5) kg	Tower (3)	2	nos
24	1.1.2025	Fire Extinguisher (3) kg	Box X' mer 1	3	nos
25	1.1.2025	Fire Extinguisher (5) kg	Box X' mer 2	3	nos
26	1.1.2025	Fire Extinguisher (5) kg	Box X' mer 3	3	nos
27	1.1.2025	Fire Extinguisher (5) kg	Box X' mer 4	3	nos
28	1.1.2025	Fire Extinguisher (5) kg	Box X' mer 5	3	nos

4. Records for CSR activities

Records for CSR Activities

Month	2024 CSR Activities	2025 CSR Activities
October to November	ကျေးရွာဘုန်းကြီးကျောင်းများသို့ ဆွမ်းဆန်စိမ်းလောင်းလှူခြင်း	ပညာရေးစုံညီပွဲတော်အတွက်ရန်ပုံငွေလှူဒါန်းခြင်း
		ကျေးရွာဘုန်းကြီးကျောင်းများသို့ နေ့ဆွမ်းကပ်လှူခြင်း၊ ဝတ္ထုငွေဆက်ကပ်လှူဒါန်းခြင်း
		ဟံဇားဆေးရုံသို့ (၂၀၀၀)လီတာ ရေတိုင်ကီလှူဒါန်းခြင်း

Photo Records of CSR Activities

5. Records for GRM

Monitoring Records for GRM

Monthly Record					
Date	**Place**	**Issue**	**Organization Or Individual**	**Action Plan**	**Recorded by**
October, 2024	Thapyaywa Solar Power Plant	-	-	-	U Si Thu Phyo Swe
November, 2024	Thapyaywa Solar Power Plant	-	-	-	U Si Thu Phyo Swe
December, 2024	Thapyaywa Solar Power Plant	-	-	-	U Si Thu Phyo Swe
January, 2025	Thapyaywa Solar Power Plant	-	-	-	U Si Thu Phyo Swe
February, 2025	Thapyaywa Solar Power Plant	-	-	-	U Si Thu Phyo Swe
March, 2025	Thapyaywa Solar Power Plant	-	-	-	U Si Thu Phyo Swe

GRM Organization of Thapyaywa Solar Power Project Site

မကျေလည်မှုများ ဖြေရှင်းပေးရေးကော်မတီ			
စဉ်	အမည်	တာဝန်	ဌာန
၁	ဦးခင်မောင်တင့်	ဥက္ကဋ္ဌ	သပြေဝကျေးရွာ
၂	ဦးအောင်ကျော်ဦင်	အတွင်းရေးမှူး	CPE Co., Ltd
၃	ဦးမြင့်စိုး	အဖွဲ့ဝင်(၁)	သပြေဝကျေးရွာ
၄	ဦးချစ်ညို	အဖွဲ့ဝင်(၂)	သပြေဝကျေးရွာ
၅	ဦးပုတူး	အဖွဲ့ဝင်(၃)	CPE Co., Ltd

6. Records for Waste Disposal

Monitoring Records for Waste Disposal

Monthly Record				
Date	**Place**	**Type**	**Amount**	**Inspected by**
15-October, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	60 Kg	U Aung Myo Min
30-October, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	75 Kg	U Aung Myo Min
15-November, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	80 Kg	U Aung Myo Min
30-November, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	50 Kg	U Aung Myo Min
15-December, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	90 Kg	U Aung Myo Min
30-December, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	55 Kg	U Aung Myo Min
15-January, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	80 Kg	U Aung Myo Min
30-January, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	65 Kg	U Aung Myo Min
15-February, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	70 Kg	U Aung Myo Min
30-February, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	100 Kg	U Aung Myo Min
15-March, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	60 Kg	U Aung Myo Min
30-March, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	60 Kg	U Aung Myo Min

Photo Records for Waste Disposal


NO MOTORCYCLES
DO NOT LIGHT THE MATCH.
NO SMOKING.
NO FIRE
NO BETEL NUT SPITTING
DO NOT KILL ANIMALS.
DO NOT THROW GARBAGE.
DO NOT DRINK ALCOHOL.

Appendix 1 (Water Results)

PRO LAB
ANALYTICAL LABORATORY

Myanmar Innovation Group of Co., Ltd
Address : No. (9), Sabae Housing, Pyi Htaung Su Road,
(26) Ward, South Dagon Tsp, Yangon, Myanmar.
Tel : 09-893 767 424
E-mail : info@prolabmyanmar.com

LABORATORY ANALYSIS REPORT

1	Client Name	: Thapyaywa Solar Power Plant Project
2	Location	: Thazi
3	Type of Sample	: Ground Water
4	Sample No.	: 00064/2025
5	Contact Person	: Eguard Environmental Services
6	Phone No.	: 09-797005212
7	Date Received	: 15.01.2025
8	Date of Test Performed	: 15.01.2025
9	Date of Issued	: 24.01.2025
10	Result	:

No.	Parameter	Result	Unit	WHO STD 2018	Method
1	Iron	Nil	mg/L	0.3 mg/L	[a] 3500-F B, Phenanthroline Method
2	Manganese	0.6	mg/L	0.4 mg/L	Hach DR 3900 Spectrophotometer, USEPA Periodate Oxidation Method
3	Oil and Grease	Nil	mg/L	NA	[a] 5520D, Soxhlet Extraction Method
4	Total Coliform	< 0.3	MPN/ml	ND per 100 mL	FDA-BAM: MPN Method

Remark:
This certificate is issued only for the receipt of the test sample.
[a] American Public Health Association, Standard Methods for the Examination of Water and Wastewater.

Tested By
Name : NAW EH THA KU
Position : Laboratory Technician
Signature :.....

Approved By
Name : THEMAR WINT
Position : Laboratory Manager
Signature :.....

Myanmar Innovation Group of Co., Ltd. PRO LAB

LAB-FO-024-00

PRO LAB
ANALYTICAL LABORATORY

Myanmar Innovation Group of Co., Ltd
Address : No. (9), Sabae Housing, Pyi Htaung Su Road,
(26) Ward, South Dagon Tsp, Yangon, Myanmar.
Tel : 09-893 767 424
E-mail : info@prolabmyanmar.com

LABORATORY ANALYSIS REPORT

1	Client Name	: Thapyaywa Solar Power Plant Project
2	Location	: Thazi
3	Type of Sample	: Waste Water
4	Sample No.	: 00065/2025
5	Contact Person	: Eguard Environmental Services
6	Phone No.	: 09-797005212
7	Date Received	: 15.01.2025
8	Date of Test Performed	: 15.01.2025
9	Date of Issued	: 24.01.2025
10	Result	:

No.	Parameter	Result	Unit	WHO STD 2018	Method
1	Oil and Grease	Nil	mg/L	-	[a] 5520D, Soxhlet Extraction Method
2	Total Coliform	9.3	MPN/ml	-	FDA-BAM: MPN Method

Remark:

This certificate is issued only for the receipt of the test sample.

Dispose treated waste water according to state and local regulations.

[a] American Public Health Association, Standard Methods for the Examination of Water and Wastewater.

Tested By
Name : NAW EH THA KU
Position : Laboratory Technician
Signature :.....

Approved By
Name : THEMAR WINT
Position : Laboratory Manager
Signature :.....

Myanmar Innovation Group of Co., Ltd. PRO LAB

LAB-FO-024-00

The Government of the Republic of the Union of Myanmar

Ministry of Natural Resources and Environmental Conservation

Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref: WQL/0012/2025

Date: 23-1-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Plant Project**

Customer Address: **U Ye Chit Zaw**

Assignment number	2025-4-1	Sampling Location	Thazi
Sample name	**GW**	Sampling Date	-
Sample type	**Ground Water**	Sample received date	15-1-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	0.59	mg/L	Potetiometric	YSI Pro DO Tester
Chemical Oxygen Demand	2	mg/L	Titrimetric	Titrator
Chloride	19.75	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
pH	8.6	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Alkalinity	8.61	mg/L	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Color	ND	mg Pt/l	ISO 7887:2011	ManTech Robot (UV mini - 1240)
Total Suspended Solid	1.4	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System
Total Phosphorus	14.14	ug/L	NS 4725	SFA (SKALAR SAN plus Analyzer) SA 3000/5000, SA 1100
Total Nitrogen	1.12	mg/L	Kjeldahl Method	Kjeldahl Digestion and Distillation Unit

*ND - Not Detected

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature:

Name: Dr. Thida Cho
Assistant Research Officer

Approved by

Signature:

Name: Dr. Thida Swe
Assistant Research Officer

The Government of the Republic of the Union of Myanmar

Ministry of Natural Resources and Environmental Conservation

Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref: WQL/0013/2025

Date: 23-1-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Plant Project**

Customer Address: **U Ye Chit Zaw**

Assignment number	2025-4-2	Sampling Location	Thazi
Sample name	**WW**	Sampling Date	-
Sample type	**Waste Water**	Sample received date	15-1-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	0.6	mg/L	Potetiometric	YSI Pro DO Tester
Chemical Oxygen Demand	2.8	mg/L	Titrimetric	Titrator
Conductivity	95.02	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
pH	8.53	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Temperature	26.06	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Suspended Solid	0.7	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System
Total Phosphorus	35.94	ug/L	NS 4725	SFA (SKALAR SAN plus Analyzer) SA 3000/5000, SA 1100
Total Nitrogen	3.37	mg/L	Kjeldahl Method	Kjeldahl Digestion and Distillation Unit
Total Dissolved Solid	1835	mg/L	Potentiometric	Aquuameter & Aquaprobe AP.2000

*ND - Not Detected

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature:

Name: Dr. Thida Cho
Assistant Research Officer

Approved by

Signature:

Name: Dr. Thida Swe
Assistant Research Officer

The Government of the Republic of the Union of Myanmar

Ministry of Natural Resources and Environmental Conservation

Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref : WQL/0039/2025

Date: 10.2.2025

ANALYTICAL TEST REPORT

Project Name **- Thapyaywa Solar Power Project**

Customer Address -Ko Aung Thiha

Assignment number	WL/2025-12-1	Sampling Location	သာစည်
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	1.2.2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.7	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Dissolved Solid	2022	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Conductivity	101.91	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Temperature	26.27	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature :

Name : Dr. Thida Cho
Assistant Research Officer

Approved by

Signature :

Name : Dr. Thida Swe
Assistant Research Offic

The Government of the Republic of the Union of Myanmar

Ministry of Natural Resources and Environmental Conservation

Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref : WQL/0040/2025

Date: 10.2.2025

ANALYTICAL TEST REPORT

Project Name **- Thapyaywa Solar Power Project**

Customer Address - Ko Aung Thiha

Assignment number	WL/2025-12-2	Sampling Location	သာစည်
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	1.1.2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.73	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Dissolved Solid	2020	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Conductivity	101.91	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Temperature	26.14	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)

Remark: This certificate is issued only for the receipt of the test sample.

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Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref : WQL/0041/2025

Date: 10.2.2025

ANALYTICAL TEST REPORT

Project Name **- Thapyaywa Solar Power Project**

Customer Address -Ko Aung Thiha

Assignment number	WL/2025-12-3	Sampling Location	သာစည်
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	1.12.2024
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.716	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Dissolved Solid	2068	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Conductivity	102.01	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Temperature	26.12	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)

Remark: This certificate is issued only for the receipt of the test sample.

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Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref : WQL/0042/2025

Date: 10.2.2025

ANALYTICAL TEST REPORT

Project Name **- Thapyaywa Solar Power Project**

Customer Address -Ko Aung Thiha

Assignment number	WL/2025-12-4	Sampling Location	သာစည်
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	1.11.2024
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.69	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Dissolved Solid	2054	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Conductivity	102.11	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Temperature	26.52	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

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Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref : WQL/0043/2025

Date: 10.2.2025

ANALYTICAL TEST REPORT

Project Name **- Thapyaywa Solar Power Project**

Customer Address - Ko Aung Thiha

Assignment number	WL/2025-12-5	Sampling Location	သာစည်
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	1.10.2024
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.69	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Dissolved Solid	2037	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Conductivity	101.61	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Temperature	26.32	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature :

Name : Dr. Thida Cho
Assistant Research Officer

Approved by

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Department of Forest

Forest Research Institute

Water Quality Laboratory, Yezin

Ref: WQL/0113/2025

Date: 20-3-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyawa Solar Power Project**

Customer Address: U Aung Moe Oo

Assignment number	2025-39	Sampling Location	Tharsi
Sample number	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	20-3-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.42	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Temperature	28.32	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Conductivity	105.43	mS/m	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Total Dissolved Solid	674.75	mg/L	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter

Remark: This certificate is issued only for the receipt of the test sample.

Tested by

Signature:

Name: Dr. Thida Cho
Assistant Research Officer

Approved by

Signature:

Name: Dr. Thida Swe
Assistant Research Officer