

Environmental Monitoring Report
For
30 MW Ground Mounted Solar Power Plant Project
Connected to Thapyaywa Substation
(Operation Phase)
(April 2025 – September 2025)
(6th Time)

Proposed by



Clean Power Energy Co., Ltd.

Prepared by



E Guard Environmental Services

October, 2025

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1. 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 Myint Myat, U Aung Moe Oo, U Ye Chit Zaw and U Wanna Zaw. 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.

Table 1. 1 Monitoring Study Team and their Responsibilities

Sr.	Name	Position	License No.	Expertise
1	U Aung Myint Myat	Team Member	EIA-C 008/2023	1. Ecology and Biodiversity, 2. Noise and Vibration
2	U Aung Moe Oo	Deputy Team Leader	EIA-AC 010/2023	1. Air Pollution Monitoring, 2. Solid Waste and Hazardous Waste Management
3	U Aung Myint Myat	Supporting Team Member	-	1. Air Pollution Prevention and Control 2. Water Pollution Prevention, Control, Monitoring and Prediction of Impacts
4	U Aung Moe Oo	Supporting Team Member	-	1. Air Pollution Prevention and Control 2. Water Pollution Prevention, Control, Monitoring and Prediction of Impacts
5	U Ye Chit Zaw	Supporting Team Member	-	1. Noise and Vibration
6	U Wanna Zaw	Supporting Team Member	-	1. Environmental Quality Surveyor

Environmental Monitoring Plan for EMP Approved Report

C. Operation Phase						
1.	Air quality	PM ₁₀ , PM _{2.5} , CO, CO ₂ , SO ₂ , NO ₂	Twice a year	In front of power station	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.

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No.	Environmental Concerns	Parameters	Frequency	Location	Estimated Cost	Responsible Party
2.	Groundwater quality	pH, Color (true), Turbidity, Conductivity, Total Alkalinity, Iron, Chloride, Manganese, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Oil and Grease, Total Coliform Bacteria, Total Nitrogen, Total Phosphorus, Total Suspended Solids	Twice a year	An outlet from a tube well within the project site	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.
3.	Discharged water quality	pH, Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Oil and Grease, Total Coliform Bacteria, Total Nitrogen, Total Phosphorus, Total Suspended Solids	Twice a year	At final outlet of drainage system	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.
4.	Discharged water quality	pH, Conductivity, Total Dissolved Solids, Temperature	Monthly	At final outlet of drainage system	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.
5.	Noise level	Equivalent Noise Level dB (A)	Twice a year	In front of power station and staff quarter	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.
6.	Waste Quantity	Amount of domestic solid waste and hazardous waste disposal	Quarterly	All operation area	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.

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No.	Environmental Concerns	Parameters	Frequency	Location	Estimated Cost	Responsible Party
7.	Environmental auditing	Assess the compliances with this EMP as well as laws, rules, policies and regulations	Once a year	At the project office	Already included in cost estimation for EMP	Clean Power Energy Co., Ltd.

စည်းကမ်းချက်များသတ်မှတ်ခြင်း

၂။ အောက်ဖော်ပြပါ ရည်ရွယ်ချက်များ ရရှိနိုင်ရေးအတွက် ဤသက်သေခံလက်မှတ်၏ နောက်ဆက်တွဲပါ စည်းကမ်းချက်များကို လိုက်နာဆောင်ရွက်ရန် သတ်မှတ်ထားခြင်းဖြစ်ပါသည်။

- (က) ပတ်ဝန်းကျင်နှင့် လူမှုဆိုင်ရာ ဆိုးကျိုးသက်ရောက်မှုများကို ကြိုတင်ကာကွယ်ရေး၊ အနိမ့်ဆုံးဖြစ်စေရေးနှင့် ထိခိုက်မှုများကို ပြန်လည်ကုစားရေး ဆောင်ရွက်ပေးရန်၊
- (ခ) စီမံကိန်းအဆိုပြုသူ၏ စီမံကိန်းဆိုင်ရာ ကတိကဝတ်များနှင့် လိုက်နာထမ်းဆောင်ရမည့် တာဝန်များကို သတ်မှတ်ရန်၊
- (ဂ) လက်ခံနိုင်သော ပတ်ဝန်းကျင်အရည်အသွေး ဖြစ်စေရေးအတွက် စံချိန်စံညွှန်းများနှင့် အရည်အသွေးတိုင်းတာရေးနည်းလမ်းများ သတ်မှတ်ရန်၊
- (ဃ) စောင့်ကြပ်ကြည့်ရှုခြင်းနှင့် အစီရင်ခံခြင်းတို့ကို ပုံမှန်ဆောင်ရွက်စေရန်၊
- (င) စီမံကိန်းတွင် စဉ်ဆက်မပြတ် ဆောင်ရွက်သွားရမည့် ပတ်ဝန်းကျင်စီမံခန့်ခွဲရေး အစီအမံတစ်ရပ်ကို ရေးဆွဲဆောင်ရွက်ရန်။



(လှမောင်သိန်း)

အမြဲတမ်းအတွင်းဝန်

သယံဇာတနှင့်သဘာဝပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန

2. Environmental Quality Measurement and Results (April 2025 – September 2025)

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.

2.1 Ambient Air Quality (April 2025 – September 2025)

2.1.1 Methodology for 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 2. 1 Ambient Air Quality Measurement

Ambient Air Quality (1 locations)	
Gas Emission	CO, CO ₂ , SO ₂ , NO ₂
Dust Emission	PM ₁₀ , PM _{2.5}

Table 2. 2 Equipment used to measure ambient air and noise measurement

<p>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.</p>	
<p>Haz-Scanner EPAS PM₁₀, PM_{2.5}, NO₂, SO₂, CO, CO₂, Temperature, and Relative Humidity</p>	

2.1.2 Monitoring Location for Air Quality

Sampling locations were confirmed by environmental specialist on site before doing the sampling. 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.

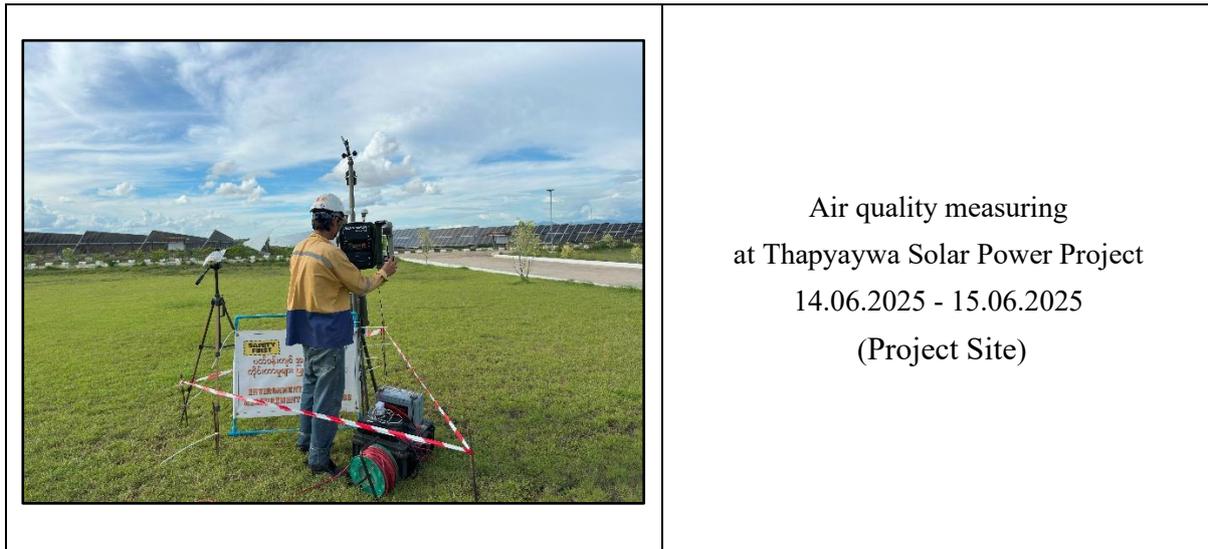


Figure 2. 1 Air Quality Monitoring Locations of Thapyaywa Solar Power Project

Table 2. 3 Locations of Environmental Quality sampling points

Locations No.	Points	Coordinate	Locations
Ambient Air Quality Monitoring Location			
1.	AQ	Lat - 20°58'30.73"N, Long - 96° 0'34.17"E	Project Site

Figure 2. 2 Air Quality Measuring during Operation Period



2.1.3 Measurement Results and Comparison for Air Quality

The air quality monitoring was done at selected locations during 14th to 15th June 2025. During this survey, these parameters were measured with adequate devices named Environmental Perimeter Air Station (EPAS) viz; Particulate Matters (PM₁₀ and PM_{2.5}) and gases CO₂, CO, SO₂ and NO₂ via 24-hour basis. The results and guidelines of all emission pollutants are shown in table.

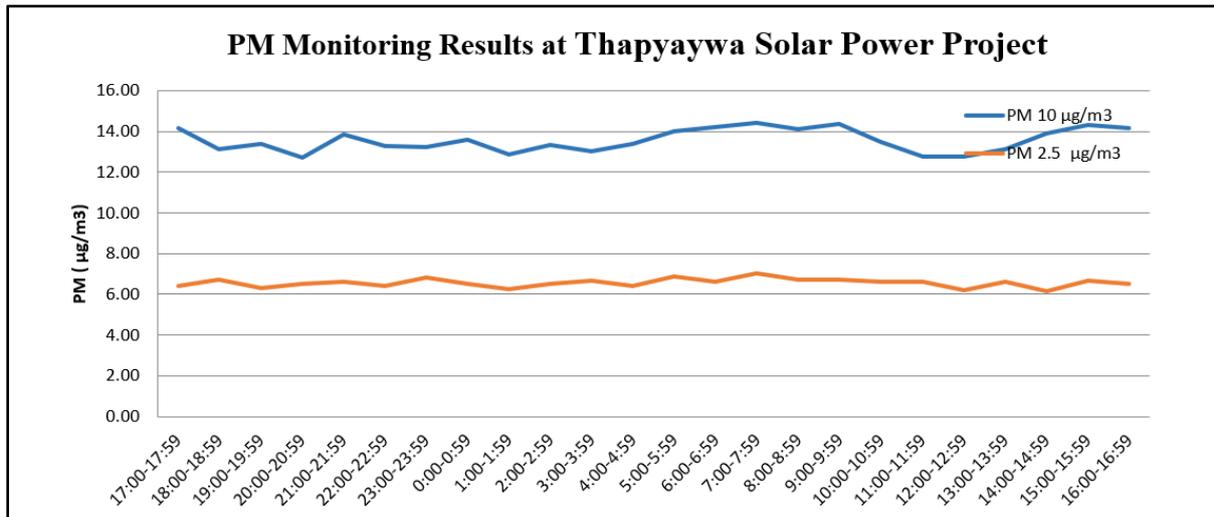


Figure 2. 3 PM Monitoring Results at Thapyaywa Solar Power Project

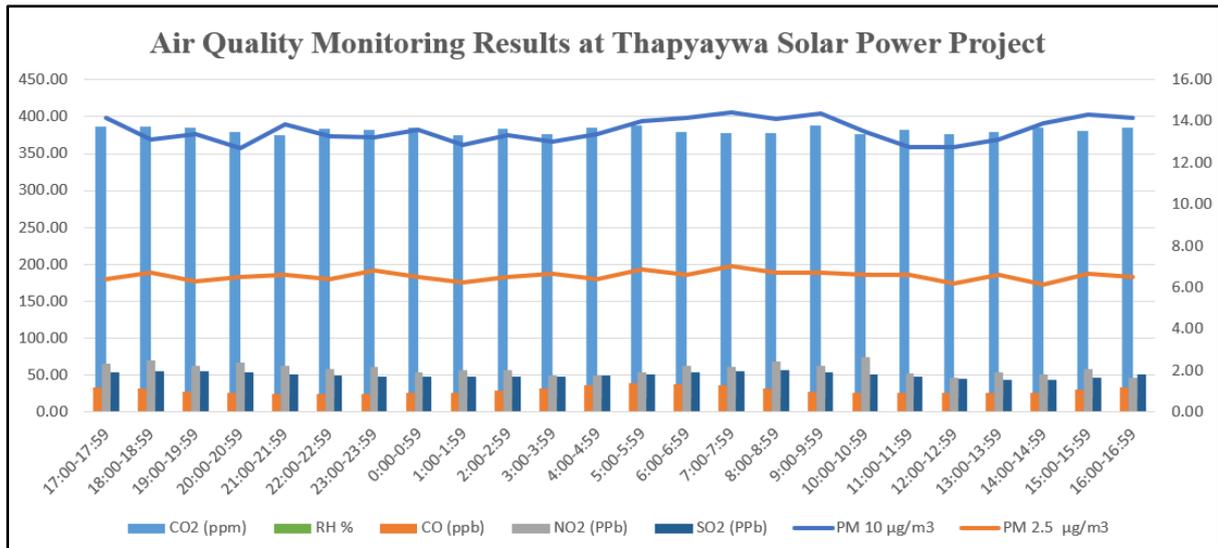


Figure 2. 4 Fluctuation of Air Pollutants during Dial Cycle at Thapyaywa Solar Power Project

Particulate matters (PM₁₀ and PM_{2.5}) results are within guideline values as shown in table. Atmospheric particulate matters such as PM₁₀ 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 (SO₂) 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 SO₂. SO₂ 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 (NO₂) and nitrous oxide (N₂O). NO₂ is formed by chemical reaction of NO and ozone. The main sources of NO₂ are combustion of fuel and on-road and off-road vehicles. NO₂ 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 SO₂ reduction.

Likewise, **Carbon Monoxide (CO) and Carbon dioxide (CO₂)** have the same emission sources and mitigation measures for SO₂ and NO₂. They are poisonous gas and cause damage to the respiratory organ. Guidelines 2013, adopted threshold limit values of CO₂ is 5,000 ppm for 8-hour, time-weighted average. Thus, it can be concluded that the existing CO₂ 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. 4 Air Monitoring Results (Project Site)

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)
14.06.2025	17:00-17:59	Average	386.79	1.18	2.34	14.18	6.43	19.61	1.91
14.06.2025	18:00-18:59	Average	386.42	1.12	2.49	13.13	6.72	20.53	1.99
14.06.2025	19:00-19:59	Average	384.88	1.01	2.22	13.40	6.29	19.61	1.98
14.06.2025	20:00-20:59	Average	379.81	0.94	2.41	12.73	6.49	18.96	1.94
14.06.2025	21:00-21:59	Average	375.47	0.90	2.22	13.85	6.63	20.51	1.84
14.06.2025	22:00-22:59	Average	384.03	0.90	2.08	13.27	6.41	19.45	1.75
14.06.2025	23:00-23:59	Average	382.50	0.90	2.19	13.23	6.83	19.05	1.73
15.06.2025	0:00-0:59	Average	384.88	0.92	1.93	13.60	6.50	19.44	1.70
15.06.2025	1:00-1:59	Average	375.01	0.94	2.02	12.89	6.25	18.67	1.70
15.06.2025	2:00-2:59	Average	383.48	1.03	2.02	13.33	6.52	18.81	1.71
15.06.2025	3:00-3:59	Average	377.24	1.13	1.74	13.02	6.64	19.05	1.71
15.06.2025	4:00-4:59	Average	386.02	1.29	1.78	13.37	6.41	18.96	1.78
15.06.2025	5:00-5:59	Average	388.72	1.40	1.94	14.00	6.86	18.98	1.83
15.06.2025	6:00-6:59	Average	379.47	1.37	2.26	14.19	6.60	18.81	1.92
15.06.2025	7:00-7:59	Average	378.34	1.27	2.18	14.41	7.01	18.73	1.97
15.06.2025	8:00-8:59	Average	378.06	1.13	2.45	14.11	6.74	19.13	2.00
15.06.2025	9:00-9:59	Average	388.71	1.01	2.25	14.38	6.73	19.20	1.92
15.06.2025	10:00-10:59	Average	376.14	0.95	2.63	13.50	6.60	19.62	1.84
15.06.2025	11:00-11:59	Average	381.70	0.95	1.88	12.78	6.60	19.60	1.72
15.06.2025	12:00-12:59	Average	376.39	0.93	1.68	12.75	6.21	19.50	1.60
15.06.2025	13:00-13:59	Average	378.78	0.93	1.94	13.10	6.61	20.09	1.53
15.06.2025	14:00-14:59	Average	385.73	0.94	1.82	13.90	6.16	20.49	1.53
15.06.2025	15:00-15:59	Average	380.50	1.07	2.08	14.30	6.67	19.00	1.65
15.06.2025	16:00-16:59	Average	385.86	1.18	1.65	14.19	6.53	19.67	1.80
Average			381.87	1.06	2.09	13.57	6.56	19.39	1.79
1 hour Minimum			375.01	0.90	1.65	12.73	6.16	18.67	1.53

1 hour Maximum	388.72	1.40	2.63	14.41	7.01	20.53	2.00
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Table 2. 5 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	µg/m ³	20 500	24-hour 10-minute
4.	Nitrogen dioxide	µg/m ³	40 200	1 year 1 hour
5.	Particulate matter PM ₁₀	µg/m ³	20 50	1-year 24-hour
6.	Particulate matter PM _{2.5}	µg/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. 4**. 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. 6 Observed Ambient Air Quality Results from Selected Points

Parameters	6 th Time Monitoring Results	Previous Monitoring Results	EMP Baseline Results	NEQG Guidelines Value	ACGIH Guidelines Value	NAAQS Guidelines Value	Unit	Averaging Period
PM ₁₀	13.57	11.92	27.11	50	-	-	µg/m ³	24hrs
PM _{2.5}	6.56	6.24	9.00	25	-	-	µg/m ³	24hrs
CO	0.0012	0.00021	0.01	-	-	9	ppm	8hrs
CO ₂	383.10	415.10	496.32	-	5000	-	ppm	8hrs
SO ₂	4.70	0.13	3.92	20	-	-	µg/m ³	24hrs
NO ₂	4.94	5.56	58.97	200	-	-	µg/m ³	1hrs

2.2 Ambient Noise (April 2025 – September 2025)

2.2.1 Methodology for 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 2. 7 Noise level monitoring

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

Table 2. 8 Equipment used to measure ambient noise measurement

<p>Digital Sound Level Meter Noise</p>	
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2.2.2 Monitoring Location for Noise

Sampling locations were confirmed by environmental specialist on site before doing the sampling. Noise quality was monitored at the selected two locations as source as NQ 1- Project Site and NQ 2- staff housing that can get results of the existing noise.

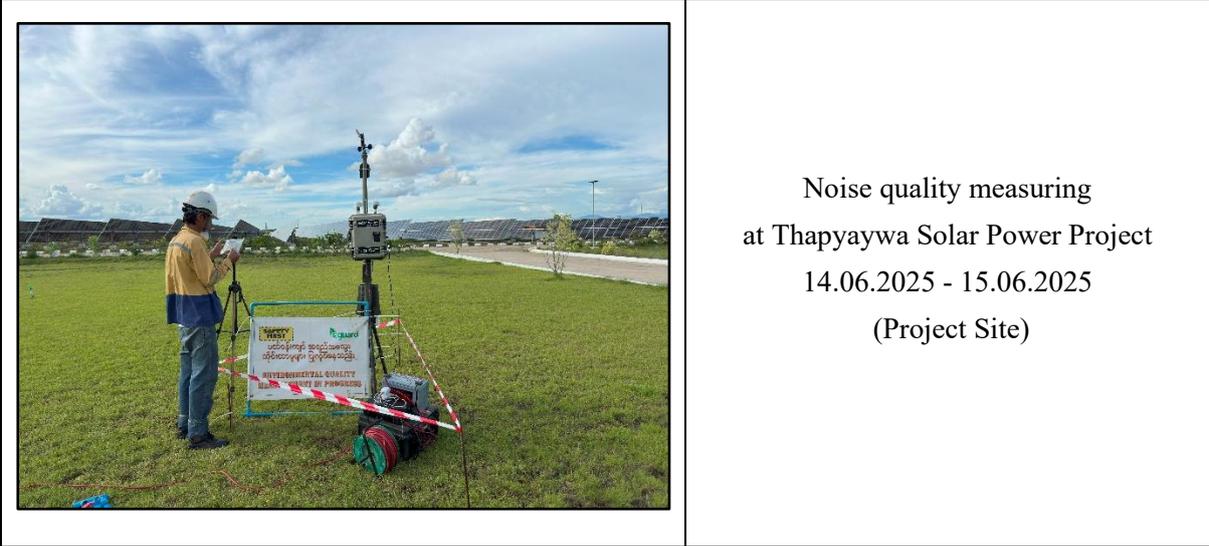


Figure 2. 5 Noise Quality Monitoring Locations of Thapyaywa Solar Power Project

Table 2. 9 Locations of Environmental Quality sampling points

Locations No.	Points	Coordinate	Locations
Noise Monitoring Location			
1.	N1	Lat - 20°58'30.73"N, Long - 96° 0'34.17"E	Project Site
2.	N2	Lat - 20°58'36.06"N, Long - 96° 0'45.24"E	Project Site (Receptor)

Figure 2. 6 Noise Quality Measuring during Operation Period



Noise quality measuring
 at Thapyaywa Solar Power Project
 14.06.2025 - 15.06.2025
 (Project Site)



Noise quality measuring
at Thapyaywa Solar Power Project
14.06.2025 - 15.06.2025
(Staff Housing)

2.2.3 Measurement Results and Comparison for 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 14th to 15th June 2025. Measuring period is 24 hours continuously. The observed values are described in Table 2. 10 and Table 2. 11 and the following figures are noise level measurement at the proposed project.

Table 2. 10 Observed Values of Noise Level Measurement at Project Site

No.	Date	Time	Observed Mean Value (Source)	Weight	Day/Night	Average
1	15.06.2025	7:00:45-7:59:45	50.80	A	Day	44.52
2	15.06.2025	8:00:45-8:59:45	51.78	A	Day	
3	15.06.2025	9:00:45-9:59:45	51.05	A	Day	
4	15.06.2025	10:00:45-10:59:45	50.86	A	Day	
5	15.06.2025	11:00:45-11:59:45	50.54	A	Day	
6	15.06.2025	12:00:45-12:59:45	50.70	A	Day	
7	15.06.2025	13:00:45-13:59:45	50.40	A	Day	
8	15.06.2025	14:00:45-14:59:45	51.21	A	Day	
9	15.06.2025	15:00:45-15:59:45	50.12	A	Day	
10	15.06.2025	16:00:45-16:59:45	51.38	A	Day	
11	14.06.2025	17:00:45-17:59:45	30.31	A	Day	
12	14.06.2025	18:00:45-18:59:45	32.86	A	Day	
13	14.06.2025	19:00:45-19:59:45	30.43	A	Day	
14	14.06.2025	20:00:45-20:59:45	29.98	A	Day	
15	14.06.2025	21:00:45-21:59:45	35.35	A	Day	
16	14.06.2025	22:00:45-22:59:45	36.11	A	Night	37.67
17	14.06.2025	23:00:45-23:59:45	36.43	A	Night	

18	15.06.2025	0:00:45-0:59:45	35.84	A	Night	
19	15.06.2025	1:00:45-1:59:45	36.35	A	Night	
20	15.06.2025	2:00:45-2:59:45	35.96	A	Night	
21	15.06.2025	3:00:45-3:59:45	35.76	A	Night	
22	15.06.2025	4:00:45-4:59:45	35.53	A	Night	
23	15.06.2025	5:00:45-5:59:45	35.78	A	Night	
24	15.06.2025	6:00:45-6:59:45	51.23	A	Night	
Average			41.95			

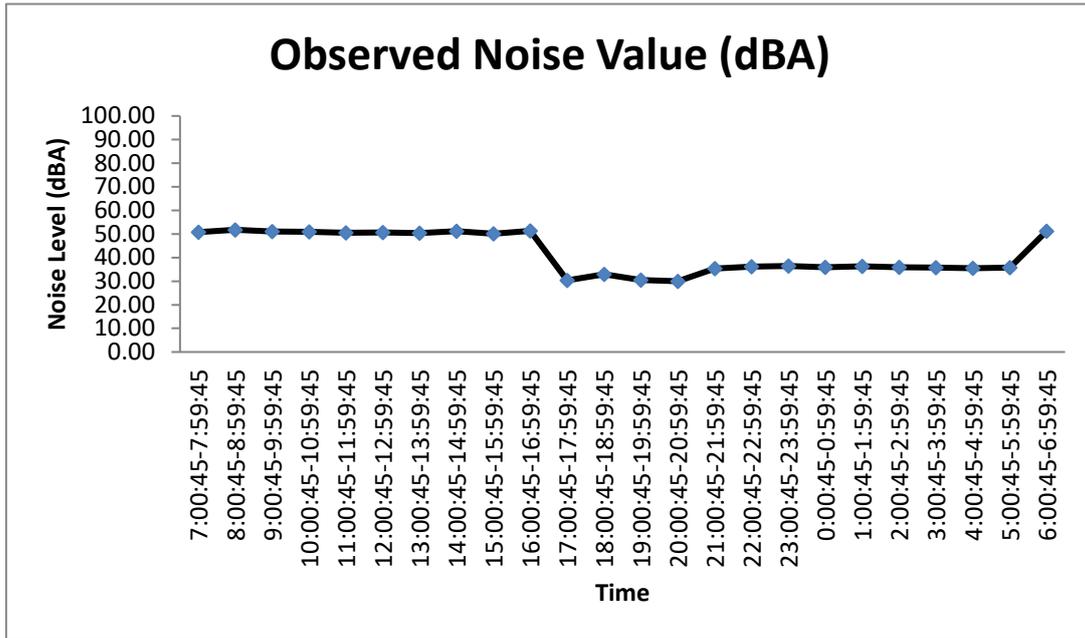


Figure 2. 7 Noise Level at Project Site

Table 2. 11 Observed Values of Noise Level Measurement at Staff Housing

No.	Date	Time	Observed Mean Value (Source)	Weight	Day/Night	Average
1	15.06.2025	7:00:53-7:59:53	40.05	A	Day	48.24
2	15.06.2025	8:00:53-8:59:53	41.13	A	Day	
3	15.06.2025	9:00:53-9:59:53	42.17	A	Day	
4	15.06.2025	10:00:53-10:59:53	47.17	A	Day	
5	15.06.2025	11:00:53-11:59:53	51.67	A	Day	
6	15.06.2025	12:00:53-12:59:53	50.70	A	Day	
7	15.06.2025	13:00:53-13:59:53	50.40	A	Day	
8	15.06.2025	14:00:53-14:59:53	51.21	A	Day	
9	15.06.2025	15:00:53-15:59:53	50.12	A	Day	
10	15.06.2025	16:00:53-16:59:53	51.38	A	Day	
11	14.06.2025	17:00:53-17:59:53	58.89	A	Day	
12	14.06.2025	18:00:53-18:59:53	59.30	A	Day	

13	14.06.2025	19:00:53-19:59:53	42.72	A	Day	
14	14.06.2025	20:00:53-20:59:53	45.66	A	Day	
15	14.06.2025	21:00:53-21:59:53	41.09	A	Day	
16	14.06.2025	22:00:53-22:59:53	45.52	A	Night	41.38
17	14.06.2025	23:00:53-23:59:53	46.03	A	Night	
18	15.06.2025	0:00:53-0:59:53	40.03	A	Night	
19	15.06.2025	1:00:53-1:59:53	39.55	A	Night	
20	15.06.2025	2:00:53-2:59:53	38.36	A	Night	
21	15.06.2025	3:00:53-3:59:53	41.91	A	Night	
22	15.06.2025	4:00:53-4:59:53	40.45	A	Night	
23	15.06.2025	5:00:53-5:59:53	40.14	A	Night	
24	15.06.2025	6:00:53-6:59:53	40.43	A	Night	
Average			45.67			

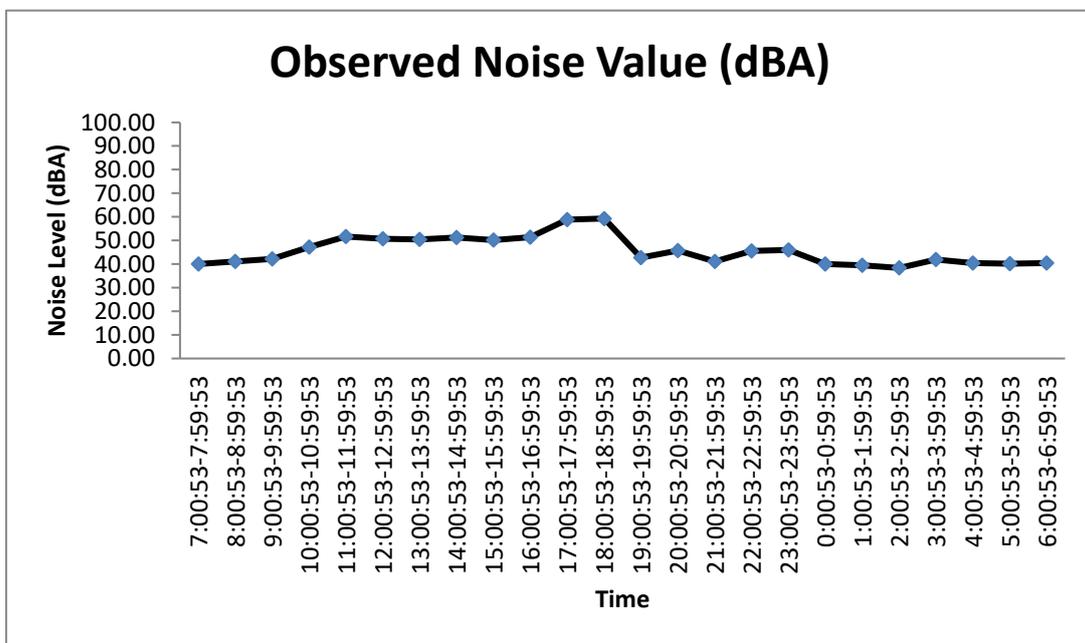


Figure 2. 8 Noise Level at Staff Housing

Table 2. 12 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 are compared with the National Environmental Quality (Emission) Guidelines as shown in Table 2. 13 which indicates the separate level for residential and industrial points.

Table 2. 13 Observed Ambient Noise Level Results from Selected Points

Point	Thapyaywa Solar Power Project	
	Day Time	Night Time
Project Site (Source)	44.52	37.67
Previous Monitoring Result (At Source)	46.97	46.48
EMP Baseline Results (Point 1)	49.11	42.40
Guideline Values for Industrial	70	70
Staff Housing (Receptor)	48.24	41.38
Previous Monitoring Result (At Receptor)	45.31	42.45
EMP Baseline Results (Point 2)	40.20	43.08
Guideline Values for Residential	55	45

The observed values of the proposed project for daytime at Thapyaywa Solar Power Project Site (source) and Staff Housing (Receptor) are 44.52 dB (A) and 48.24 dB (A). The observed values of the proposed project for nighttime at Thapyaywa Solar Power Project Site (source) and Staff Housing (Receptor) are 37.67 dB (A) and 41.38 dB (A). So, the observed daytime value and nighttime value for Thapyaywa Solar Power Project Site (source) and staff housing (receptor) are lower than the guideline value.

2.3 Weather Condition (April 2025 – September 2025)

2.3.1 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 14th to 15th June 2025 respectively. According to the data, the wind direction is following Figure 2. 9 and Figure 2. 10.

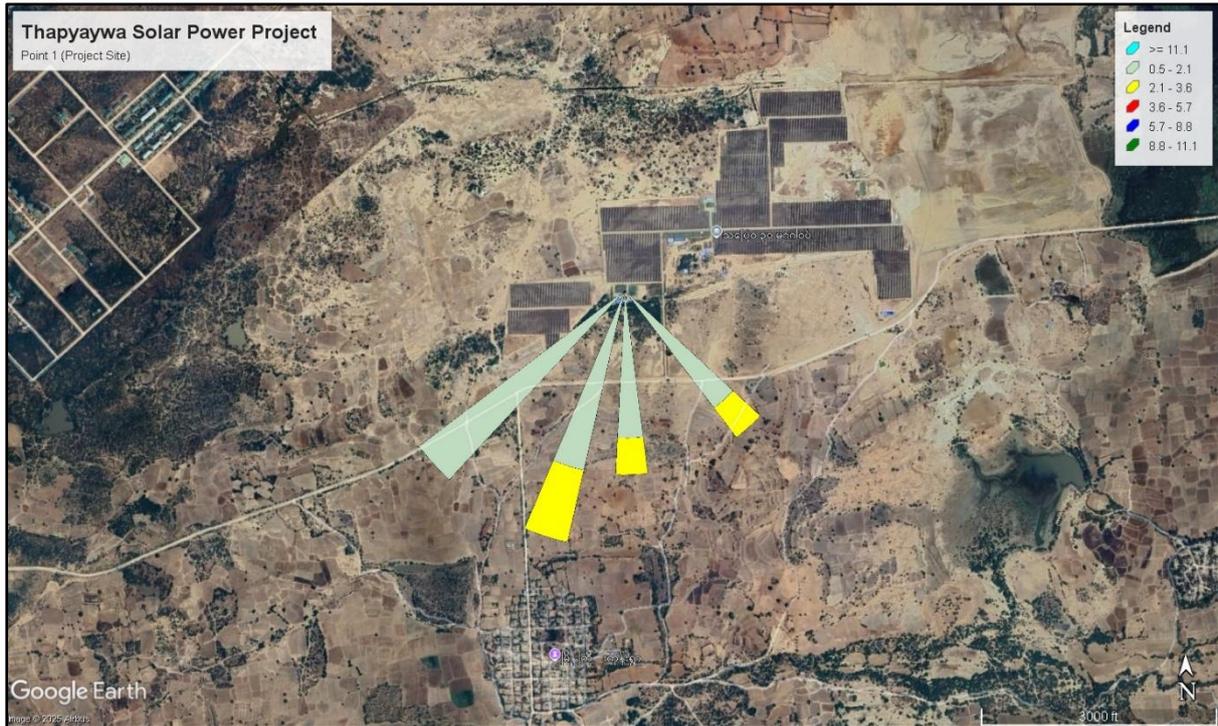


Figure 2. 9 Wind Speed and Wind Direction (Blowing From) at Project Site

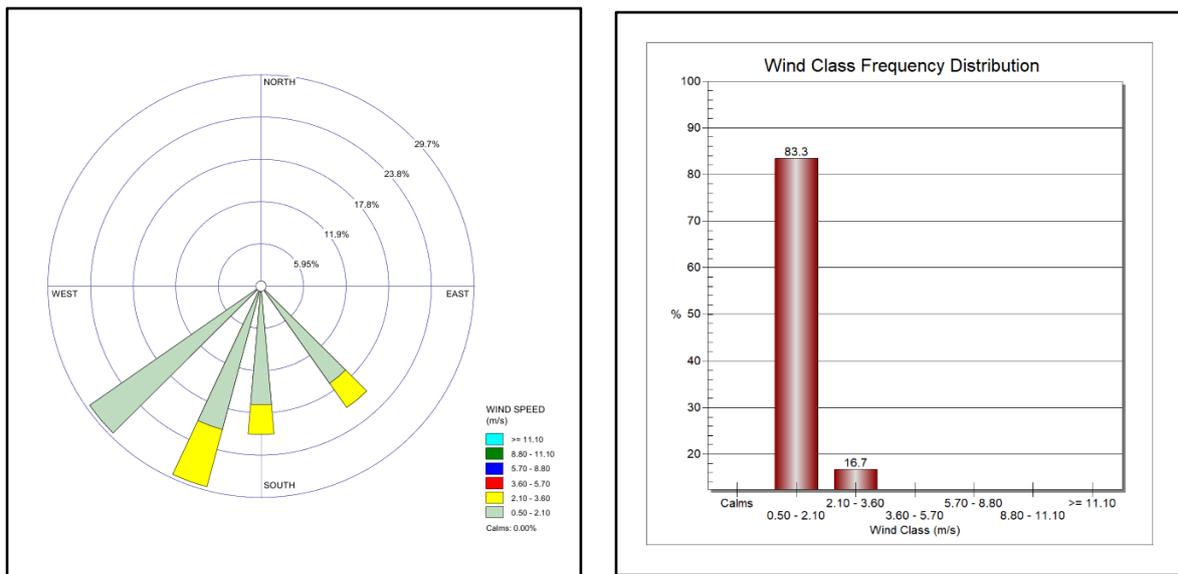


Figure 2. 10 Wind Class Frequency Distribution at Project Site

2.3.2 Significant natural or manmade disaster (April 2025 – September 2025)

Flooding

The aftermath of Typhoon Yagi caused unprecedented flooding and landslides, considered the worst central Myanmar had seen in six decades. Mandalay Region was significantly affected, with 53,972 people impacted. Specifically, four villages in Myit Thar Township remained flooded, leaving over 5,000 residents urgently needing food, clean water, and resources as of

mid-September. During the monitoring period, there is no flooding in Myit Thar Township from April 2025 – September 2025.

Earthquake

A massive 7.7-magnitude earthquake struck near Mandalay, causing widespread destruction across central Myanmar.

In the Mandalay Region:

- Approximately 3,325 people were killed, and 2,642 injured across multiple townships—but Myit Thar is not explicitly named among them.
- Infrastructure damage was extensive: collapsed bridges, damaged railways, university buildings, mosques, temples, and more.

The region’s emergency response was overwhelmed, with relief operations severely hampered by damaged infrastructure and ongoing aftershocks.

Myit Thar Township may have experienced effects like tremors, possible damage to structures, and disruption of services due to its location in Mandalay Region, but specific reports for Myit Thar are not documented.

A severe earthquake in 1839 caused catastrophic damage in the Inwa (Ava) area, including Mandalay surroundings: collapsed pagodas, liquefaction, chasms, and even reversal of river flow. While not recent, this event underscores the long-standing seismic vulnerability of the region.

Aftershocks / seismic activity in April 2025

A notable aftershock (USGS M5.5) was recorded 13 April 2025 about ~34 km NNE of Meiktila (shaking alert / local reports). That aftershock occurred during your requested period and would have contributed to local damage/instability and continuing risk in April.

During the monitoring period, there is earthquake in Myit Thar Township from April 2025 – September 2025.

2.4 Water Quality (April 2025 – September 2025)

2.4.1 Methodology for 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 and wastewater quality analysis. Up to this date, there is no laboratory having accredited certification for water quality testing (environmental analysis) in Myanmar. PRO Lab (Myanmar), Water Quality Laboratory (Forest Research Institute). 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.

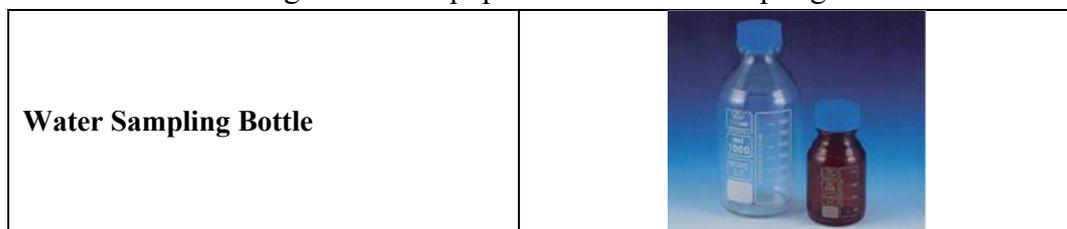
1. PRO Lab, No. (9), Sabae Housing, Pyi Htaung Su Road, (26) Ward, South Dagon Tsp, Yangon, Myanmar. Tel: 09 893 767424
2. Water Quality Laboratory, Forest Research Institute, Yezin, Nay Pyi Taw. Tel: 09 430 19169, 09 420 705131

Water samplings are conducted using the following equipment as shown in figure.

Table 2. 14 Environmental Quality Parameters for Water quality

<i>Wastewater Parameters (1 location)</i>	
Physical Parameter	Total Suspended Solids
Chemical Parameter	BOD, COD, pH
Biological Parameter	Total Coliform Bacteria
Nutrients	Total Nitrogen, Total Phosphorus
Compounds	Oil & grease
<i>Ground Water Parameters (1 location)</i>	
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

Figure 2. 11 Equipment for Water Sampling



2.4.2 Monitoring and Sampling Locations

Sampling locations were confirmed by environmental specialist on site before doing the sampling. Water quality sampling locations consist of 2 sampling locations (GWQ: from the project site and WWQ: from the discharge water channel of the project site).



Figure 2. 12 Water Quality Sampling Locations of Thapyaywa Solar Power Project

Table 2. 15 Locations of Environmental Quality sampling points

Locations No.	Points	Coordinate	Locations
Ground Water Quality Monitoring Location			
1.	GWQ	Lat - 20°58'35.36"N, Long - 96° 0'45.74"E	Project Site
Waste Water Quality Monitoring Location			
1.	WWQ	Lat - 20°58'29.10"N, Long - 96° 0'34.42"E	Outlet of wastewater canal from the project site

Figure 2. 13 Water Quality Measuring during Operation Period

	<p>Ground Water Quality Sampling at Thapyaywa Solar Power Project 14.06.2025 (from the project site)</p>
	<p>Waste Water Quality Sampling at Thapyaywa Solar Power Project 14.06.2025 (from the discharge water channel of the project site)</p>

2.4.3 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 ground water, and wastewater quality before the project implementation. Ground water and wastewater quality were recorded by laboratory analysis at two selected locations systematically. The field surveys for environmental quality monitoring and sampling were done during 14th June 2025.

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

Table 2. 16 Ground Water Quality of Thapyaywa Solar Power Project

Item	Unit	6 th Monitoring Results (GW)	5 th Monitoring Results	Baseline Results	WHO Drinking Water Guideline
Biological Oxygen Demand (BOD)	mg/l	0.35	0.59	6	-
Chemical Oxygen Demand (COD)	mg/l	6	2	32	-
Chloride	mg/l	17.79	19.75	-	-
Electrical Conductivity (On-site)	mS/m	1.03	1.07	1.39	-
pH	-	8.75	8.6	7.36	6.5-8.5
Oil & Grease	mg/l	10	Nil	<5	-
Turbidity (On-site)	FNU	0.0	2.2	5.3	-
Total Alkalinity	mmol/l	726.17	8.61	-	-
Total Nitrogen	mg/l	1.40	1.12	0.84	-
Total Phosphorus	mg/l	0.02211	0.01414	0.012	-
Total suspended solid (TSS)	mg/l	1	1.4	28	-
Total coliform bacteria	MPN/ml	240	<0.3	4.5	Not detected
Iron	mg/l	Nil	Nil	-	-
Manganese	mg/l	0.7	0.6	-	-

Table 2. 17 Wastewater Quality of Thapyaywa Solar Power Project

Item	Unit	6 th Monitoring Results (WW)	5 th Monitoring Results	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Biological Oxygen Demand (BOD)	mg/l	0.43	0.6	30
Chemical Oxygen Demand (COD)	mg/l	6.4	2.8	125
pH	-	8.68	8.53	6-9
Total Nitrogen	mg/l	1.54	3.37	10
Total Phosphorus	mg/l	0.02114	0.03594	2
Oil and grease	mg/l	3	Nil	10
Total suspended solid (TSS)	mg/l	7	0.7	50
Total coliform bacteria	CFU/100ml	93	9.3	400

Table 2. 18 Monthly Wastewater Quality of Thapyaywa Solar Power Project (April)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	3117	-
pH	-	8.68	6-9
Temperature	°C	25.3	-
Total Dissolved Solids	mg/l	2024	-

Table 2. 19 Monthly Wastewater Quality of Thapyaywa Solar Power Project (May)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	3106	-
pH	-	8.66	6-9
Temperature	°C	25.5	-
Total Dissolved Solids	mg/l	2019	-

Table 2. 20 Monthly Wastewater Quality of Thapyaywa Solar Power Project (June)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	3062	-
pH	-	8.6	6-9
Temperature	°C	25.5	-
Total Dissolved Solids	mg/l	1985	-

Table 2. 21 Monthly Wastewater Quality of Thapyaywa Solar Power Project (July)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	89.51	-
pH	-	8.37	6-9
Temperature	°C	25.62	-
Total Dissolved Solids	mg/l	428	-

Table 2. 22 Monthly Wastewater Quality of Thapyaywa Solar Power Project (August)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	90.90	-
pH	-	8.32	6-9
Temperature	°C	25.71	-
Total Dissolved Solids	mg/l	419	-

Table 2. 23 Monthly Wastewater Quality of Thapyaywa Solar Power Project (September)

Item	Unit	Waste Water	National Environmental Quality (Emission) Guideline for Electric Power Transmission and Distribution
Electrical Conductivity	mS/m	90.49	-
pH	-	8.46	6-9
Temperature	°C	25.73	-
Total Dissolved Solids	mg/l	422	-

3. ENVIRONMENTAL MONITORING PLAN (April 2025 – September 2025)

3.1 Monitoring Records for Safety Plan (April 2025 – September 2025)

Monitoring Records for Safety Plan

Monthly Record					
Date	Place	Activity	Organization	Number of Attendees	Remark
April	PV Field	Hazard and Safety Training	Thapyaywa Solar Power Plant	25	
May	Working Area	Aware Training About PPE	Thapyaywa Solar Power Plant	30	
June	Power Station	Fire Safety Training	Thapyaywa Solar Power Plant	75	
July	Working Area	Electrical Safety Training	Thapyaywa Solar Power Plant	25	
August	Power Station	Provide PPE Safety Equipment	Thapyaywa Solar Power Plant	35	
September	Office Meeting Room	Health Care	Thapyaywa Solar Power Plant	75	

Monitoring Record for Occupational Safety Equipment

Date	Place	Type	Quantity	Inspected By	Supervisor	Remark
31-August-2025	Store	Safety Shoe	22	U Saw Paing Satt Naing	U Kyaw Lin	
31-August-2025	Store	Safety Helmet	22	U Saw Paing Satt Naing	U Kyaw Lin	
31-August-2025	Store	Safety Gloves	22	U Saw Paing Satt Naing	U Kyaw Lin	
31-August-2025	Store	Safety Belt	22	U Saw Paing Satt Naing	U Kyaw Lin	

Records Photo of Health and Safety Plan Activities



အရေးပေါ်အခြေအနေ တုန့်ပြန်မှု အခြေအနေ			
စီမံကိန်းလုပ်ငန်းအတွင်းမှ အရေးကြီးဆက်သွယ်ရမည့် ဖုန်းနံပါတ်များ			
စဉ်	အမည်	ရာထူး	ဖုန်းနံပါတ်
၁	ဦးစည်သူဖြိုးဆွ	စက်ရုံမှူး	09-777464755
၂	ဦးစောပိုင်ဆက်နိုင်	ဒုစက်ရုံမှူး	09-740886478
၃	ဦးကျော်လင်း	အန္တရာယ်ကင်းရှင်းရေးအရာရှိ	09-453124601
၄	ဦးဟိန်းမင်းထိုက်	ကြီးကြပ်ရေးမှူး	09-762693755
၅	ဦးပြည့်ဖြိုးသူ	ရှေးဦးသူနာပြု	09-681494045
၆	ဦးရှင်းသန်ကိုကို	အရေးပေါ်အခြေအနေထိန်းချုပ်ရေးမှူး	09-954464035
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	1.9.2025	Fire Extinguisher (50) kg	Power Station	1	nos
2	1.9.2025	Fire Extinguisher (3) kg	Power Station	3	nos
3	1.9.2025	Fire Extinguisher (3) kg	Briefing Hall	3	nos
4	1.9.2025	Fire Extinguisher (5) kg	Briefing Hall Office	1	nos
5	1.9.2025	Fire Extinguisher (5) kg	Briefing Hall Generator (65kVA)	1	nos
6	1.9.2025	Fire Extinguisher (4) kg	EP Generator (56kVA)	1	nos
7	1.9.2025	Fire Extinguisher (4) kg	6 Unit (1)	3	nos
8	1.9.2025	Fire Extinguisher (5) kg	6 Unit (2)	2	nos
9	1.9.2025	Fire Extinguisher (5) kg	6 Unit (3)	2	nos
10	1.9.2025	Fire Extinguisher (5) kg	6 Unit (4)	2	nos
11	1.9.2025	Fire Extinguisher (3) kg	Staff Office	2	nos
12	1.9.2025	Fire Extinguisher (5) kg	Construction Office	1	nos
13	1.9.2025	Fire Extinguisher (3) kg	Store	2	nos
14	1.9.2025	Fire Extinguisher (10) kg	Store	1	nos
15	1.9.2025	Fire Extinguisher (5) kg	Oil Farm	3	nos
16	1.9.2025	Fire Extinguisher (3) kg	Messing	2	nos
17	1.9.2025	Fire Extinguisher (5) kg	Main Gate	2	nos
18	1.9.2025	Fire Extinguisher (5) kg	Power Station Gate	2	nos
19	1.9.2025	Fire Extinguisher (5) kg	East Gate	2	nos
20	1.9.2025	Fire Extinguisher (5) kg	Kitchen Room	2	nos
21	1.9.2025	Fire Extinguisher (5) kg	Tower (1)	2	nos
22	1.9.2025	Fire Extinguisher (5) kg	Tower (2)	2	nos
23	1.9.2025	Fire Extinguisher (5) kg	Tower (3)	2	nos
24	1.9.2025	Fire Extinguisher (3) kg	Box X' mer 1	3	nos
25	1.9.2025	Fire Extinguisher (5) kg	Box X' mer 2	3	nos
26	1.9.2025	Fire Extinguisher (5) kg	Box X' mer 3	3	nos
27	1.9.2025	Fire Extinguisher (5) kg	Box X' mer 4	3	nos
28	1.9.2025	Fire Extinguisher (5) kg	Box X' mer 5	3	nos
	Total			59	

4. Records for CSR activities (April 2025 – September 2025)

Records for CSR Activities

စဉ်	နေရာ	အကြောင်းအရာ	မှတ်ချက်
၁	ဝမ်းသာရွှေကျောင်း	ဝမ်းသာရွှေကျောင်းဘုန်းတော်ကြီးသင် ပညာရေးကျောင်း ပညာရေးစုံညီပွဲတော်ကျင်းပရေး ရံပုံငွေ လှူဒါန်းခြင်း	
၂	ဟံဇေးဆေးရုံ	ဟံဇေးဆေးရုံအတွက်ရေတိုင်ကီလှူဒါန်းခြင်း	
၃	သပြေဝဓာတ်အားခွဲရုံ	သပြေဝဓာတ်အားခွဲရုံအတွက် အဲကွန်း 2 လုံး လှူဒါန်းခြင်း	
၄	ဟံဇေးဘုန်းကြီးကျောင်း	ဟံဇေးဘုန်းကြီးကျောင်းအသံမစဲပဌာန်းပွဲဆွမ်းကပ်လှူခြင်း	
၅	ဟံဇေးရွာ မိုကောင်းဘုရား	ဟံဇေးရွာ မိုကောင်းဘုရားဆွမ်းလောင်းပွဲ	
၆	သပြေဘုန်းကြီးကျောင်း	သပြေဘုန်းကြီးကျောင်းဆွမ်းလောင်းပွဲ ငွေပဒေသာပင်လှူဒါန်းခြင်း	
၇	သပြေ(၁) ဆိုလာစက်ရုံ	ဝန်ထမ်းများအား COVID ကာကွယ်ဆေးထိုးပေးခြင်း မှတ်တမ်း	
၈	မြို့ကြီးကုန်းရွာ	မြို့ကြီးကုန်းရွာစာကြည့်တိုက် ထပ်တိုးအဆောင်လှူဒါန်းခြင်း	
၉	<u>ထန်းကန်</u>	<u>ထန်းကန် ကန်ပေါင်ပြုပြင်ခြင်း</u>	
၁၀	ချောက်ခွဲကျေးရွာ	ချောက်ခွဲကျေးရွာ ရွာအဝင် ဆိုင်းဘုတ်လှူဒါန်းခြင်း	
၁၁	ကျောက်ပုံကုန်းကျေးရွာ	ကျောက်ပုံကုန်းကျေးရွာ ရွာအဝင် ဆိုင်းဘုတ်လှူဒါန်းခြင်း	

Photo Record for CSR Activities



ဝမ်းသာရွှေကျောင်း၊ ဘုန်းတော်ကြီးသင် ပညာရေးကျောင်း ပညာရေးစုံညီပွဲတော်ကျင်းပရေး ရံပုံငွေ လှူဒါန်းခြင်း



ဟံဇားဆေးရုံအတွက် ရေတိုင်ကီလှူဒါန်းခြင်း



ဟံဇားဘုန်းကြီးကျောင်းအသံမစဲပဌာန်းပွဲ



သပြေဝဘုန်းကြီးကျောင်းဆွမ်းလောင်းပွဲ ငွေပဒေသာပံ့လှူဒါန်းခြင်း



ဟံဇားရွာ မိုးကောင်းဘုရားဆွမ်းလောင်းပွဲ



မြို့ကြီးကုန်းရွာစာကြည့်တိုက် ထပ်တိုးအဆောင်လှူဒါန်းခြင်း



ချောက်ခွဲကျေးရွာ ရွာအဝင် ဆိုင်းဘုတ်လှူဒါန်းခြင်း



ကျောက်ပုံကုန်းကျေးရွာ ရွာအဝင် ဆိုင်းဘုတ်လှူဒါန်းခြင်း

5. Records for GRM (April 2025 – September 2025)

Monitoring Records for GRM

Monthly Record					
Date	Place	Issue	Organization or Individual	Action Plan	Recorded by
April-2025	<u>Thapyaywa</u> Solar Power Plant	-	-	-	U Si Thu <u>Phyo Swe</u>
May-2025	<u>Thapyaywa</u> Solar Power Plant	-	-	-	U Si Thu <u>Phyo Swe</u>
June-2025	<u>Thapyaywa</u> Solar Power Plant	-	-	-	U Si Thu <u>Phyo Swe</u>
July-2025	<u>Thapyaywa</u> Solar Power Plant	-	-	-	U Si Thu <u>Phyo Swe</u>
August-2025	<u>Thapyaywa</u> Solar Power Plant	-	-	-	U Si Thu <u>Phyo Swe</u>
September-2025	<u>Thapyaywa</u> Solar Power Plant	-	-	-	U Si Thu <u>Phyo Swe</u>

GRM Organization of Thapyaywa Solar Power Project

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

6. Records for Waste Disposal (April 2025 – September 2025)

Records for Waste Disposal

Monthly Record				
Date	Place	Type	Amount	Inspected by
15-April-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	60 Kg	U Saw Paing Satt Naing
30-April-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	75 Kg	U Saw Paing Satt Naing
1-May-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	80 Kg	U Saw Paing Satt Naing
30-May-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	50 Kg	U Saw Paing Satt Naing
15-June-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	90 Kg	U Saw Paing Satt Naing
30-June-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	55 Kg	U Saw Paing Satt Naing
15-July-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	80 Kg	U Saw Paing Satt Naing
30-July-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	65 Kg	U Saw Paing Satt Naing
15-August-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	70 Kg	U Saw Paing Satt Naing
30-August-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	100 Kg	U Saw Paing Satt Naing
15-September-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	60 Kg	U Saw Paing Satt Naing
30-September-2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	60 Kg	U Saw Paing Satt Naing

Records Photo for Waste Disposal



Appendix 1 (Water Results) (April 2025 – September 2025)



ANALYTICAL LABORATORY

Myanmar Innovation Group of Co., Ltd
 Address : No. (9), Sabae Housing, Pyl 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 Project
- 2 Location : Thazi Township
- 3 Type of Sample : Ground Water
- 4 Sample No. : 00760/2025
- 5 Contact Person : Eguard Environmental Services
- 6 Phone No. : 09-797005212
- 7 Date Received : 16.06.2025
- 8 Date of Test Performed : 16.06.2025
- 9 Date of Issued : 24.06.2025
- 10 Result :

No.	Parameter	Result	Unit	WHO STD 2018	Method
1	Iron	Nil	mg/L	-	^(a) 3500-F B, Phenanthroline Method
2	Manganese	0.7	mg/L	-	Hach DR 3900 Spectrophotometer, USEPA Periodate Oxidation Method
3	Oil and Grease	10	mg/L	-	^(a) 5520D, Soxhlet Extraction Method
4	Total Coliform	240	MPN/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 : PHYO PHYO AUNG
 Position : Laboratory Technician
 Signature :

Approved By

Name : THEMAR WINT
 Position : Laboratory Manager
 Signature :



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/0368/2025
Date: 2-7-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**
Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-83-6	Sampling Location	Thazi Township
Sample name	GW	Sampling Date	
Sample type	Ground Water	Sample received date	15-6-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	0.35	mg/L	Potentiometric	YSI Pro DO Tester
Chemical Oxygen Demand	6	mg/L	Titrimetric	Titration
Chloride	17.79	mg /L	ISO 14911:1998	Ion Chromatography (Thermo Scientific, DIONEX AQUION)
Total Alkalinity	726.17	mg/L	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Total Phosphorus	22.11	µg /L	NS 4725	SFA(SKALAR SAN plus Analyzer)SA 3000/5000,SA 1100
Total Nitrogen	1.40	mg/L	Kjeldahl	Kjeldahl Digestion & Distillation Unit
Total Suspended Solid	1	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System

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
Research Officer

LABORATORY ANALYSIS REPORT

- 1 Client Name : Thapyaywa Solar Power Project
- 2 Location : Thazi Township
- 3 Type of Sample : Waste Water
- 4 Sample No. : 00761/2025
- 5 Contact Person : Eguard Environmental Services
- 6 Phone No. : 09-797005212
- 7 Date Received : 16.06.2025
- 8 Date of Test Performed : 16.06.2025
- 9 Date of Issued : 24.06.2025
- 10 Result :

No.	Parameter	Result	Unit	WHO STD 2018	Method
1	Oil and Grease	3	mg/L	-	^(a) 5520D, Soxhlet Extraction Method
2	Total Coliform	93	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 : PHYO PHYO AUNG
Position : Laboratory Technician
Signature :

Approved By

Name : THEMAR WINT
Position : Laboratory Manager
Signature :





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/0369/2025
Date: 2-7-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**
Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-83-7	Sampling Location	Thazi Township
Sample name	WW	Sampling Date	
Sample type	Waste Water	Sample received date	15-6-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	0.43	mg/L	Potentiometric	YSI Pro DO Tester
Chemical Oxygen Demand	6.4	mg/L	Titrimetric	Titration
pH	8.68	-	Potentiometric	HACH HQ40d Multiparameter Field Case
Total Phosphorus	21.14	µg /L	NS 4725	SFA(SKALAR SAN plus Analyzer)SA 3000/5000,SA 1100
Total Nitrogen	1.54	mg/L	Kjeldahl	Kjeldahl Digestion & Distillation Unit
Total Suspended Solid	7	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System

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
Research Officer



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Department of Forest
Forest Research Institute
Water Quality Laboratory, Yezin



Ref: WQL/0372/2025
Date: 18-4-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**
Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-83-10	Sampling Location	Thapyaywa
Sample name	WW	Sampling Date	
Sample type	Waste Water	Sample received date	15-4-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.68	-	Potentiometric	HACH HQ40d Multiparameter Field Case
Temperature	25.3	°C	Potentiometric	HACH HQ40d Multiparameter Field Case
Conductivity	3117	uS/cm	Potentiometric	Multi-parameter field instrument
Total Dissolved Solid	2024	mg/L	Potentiometric	Multi-parameter field instrument

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
Research Officer



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Department of Forest
Forest Research Institute
Water Quality Laboratory, Yezin

Ref: WQL/0371/2025
Date: 18-5-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**
Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-83-9	Sampling Location	Thapyaywa
Sample name	WW	Sampling Date	
Sample type	Waste Water	Sample received date	15-5-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.66	-	Potentiometric	HACH HQ40d Multiparameter Field Case
Temperature	25.5	°C	Potentiometric	HACH HQ40d Multiparameter Field Case
Conductivity	3106	uS/cm	Potentiometric	Multi-parameter field instrument
Total Dissolved Solid	2019	mg/L	Potentiometric	Multi-parameter field instrument

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
Research Officer



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Forest Research Institute
Water Quality Laboratory, Yezin



Ref: WQL/0370/2025
Date: 18-6-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**
Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-83-8	Sampling Location	Thapyaywa
Sample name	WW	Sampling Date	
Sample type	Waste Water	Sample received date	15-6-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.6	-	Potentiometric	HACH HQ40d Multiparameter Field Case
Temperature	25.5	°C	Potentiometric	HACH HQ40d Multiparameter Field Case
Conductivity	3062	uS/cm	Potentiometric	Multi-parameter field instrument
Total Dissolved Solid	1985	mg/L	Potentiometric	Multi-parameter field instrument

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
Research Officer



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Ministry of Natural Resources and Environmental Conservation



Department of Forest
Forest Research Institute
Water Quality Laboratory, Yezin

Ref: WQL/0660/2025
Date: 30-7-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**

Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-156-1	Sampling Location	Thazi Township
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	28-7-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.37	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Temperature	25.62	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Electrical Conductivity	89.51	uS/cm	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Total Dissolved Solid	428	mg/L	Potentiometric	TDS & EC meter (hold) PROZOR®

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
Research Officer



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Ministry of Natural Resources and Environmental Conservation



Department of Forest
Forest Research Institute
Water Quality Laboratory, Yezin

Ref: WQL/0661/2025
Date: 30-8-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**

Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-156-2	Sampling Location	Thazi Township
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	28-8-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.32	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Temperature	25.71	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Electrical Conductivity	90.90	uS/cm	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Total Dissolved Solid	419	mg/L	Potentiometric	TDS & EC meter (hold) PROZOR®

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
Research Officer



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Ref: WQL/0662/2025
Date: 30-9-2025

ANALYTICAL TEST REPORT

Project Name: **Thapyaywa Solar Power Project**

Customer Address: **Ko Aung Moe Oo**

Assignment number	2025-156-3	Sampling Location	Thazi Township
Sample name	WW	Sampling Date	-
Sample type	Waste Water	Sample received date	28-9-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
pH	8.46	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Temperature	25.73	°C	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Electrical Conductivity	90.49	uS/cm	NS-ISO 7888:1993	ManTech Conductivity, Model 4510 Conductivity/TDS meter
Total Dissolved Solid	422	mg/L	Potentiometric	TDS & EC meter (hold) PROZOR®

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
Research Officer