Environmental Monitoring Report

For

20 MW Ground Mounted Solar Power Plant Project Connected to Taungdawgwin Substation

(Operation Phase)

(5th Time)

(September, 2024 - February, 2025)

Proposed by

Green Power Energy Co., Ltd.

Prepared by

E Guard Environmental Services

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INTRODUCTION

The proposed project is developed by Green Power Energy Co., Ltd. is located on an 80.9-hectare site southeast of Kyaukse, Myit Thar Township, Mandalay Region, Myanmar. Its coordinate points are 21° 26' 31.62" N, 96° 17' 10.63" E and the average altitude of the site is 0 m. is the second mega-scale solar PV project by Gold Energy Company Limited (the first being the 30-MW Thapyay Wa project – also in Manadalay district). Taungdawgwin involved a foundation of 6,807 piles to enable solar tracking so as to maximize PV energy captured by 45,980 solar panels. The project can generate 25.1 MW of direct current, or 22.9 MW of alternating current, per year. About 14% of the energy generated will go towards the nearby Kyaukse town, while the remainder will be linked to the Thapyay Wa substation and connected to the national grid via 6.05 miles of 33-kV transmission line, also built by GPE.With domestic energy consumption forecast to grow between 15-17% per year, solar power has been identified as a potentially significant source of renewable energy. While solar PV energy had been introduced for several years in Myanmar it accounted for about 1% of the country's installed energy generation capacity as at 2020.The solar PV tenders announced by MOEE form the country's largest-ever tender exercise for mega-scale solar projects (between 30 MW to 50 MW each) with a combined potential new capacity of 1.06 gigawatts (GW). However, the COVID-19 pandemic in 2020 and 2021 disrupted business travel and the supply and raised the costs of imported components such as PV panels and equipment. The operating environment was also affected by an economic slowdown and domestic issues. As a result, most of the 28 successful bidders did not complete their projects.Despite these immense challenges, Clean Power Energy Co., Ltd completed the Thapyay Wa (30 MW) project – the first among the 28 eventual bidders to do so.

Key Information

Project Details	Taungdawgwin
Location	Kyaukse, Myit Thar Township (Mandalay Division)
Capacity	20 MW
Nature of Project	BOO *
PPA #	20 years
Total Occupied Area	80.9 hectares
No. of panels	45,980
PV efficiency	545 Watts/panel (solar tracking capability)
Annual Generating Power	25.059 MW DC – 22.90 MW AC
Transmission Line	6.05 miles
Project Commencement	Dec-21
Project Commissioning	Nov-22
Commercial Operation Date	Nov-17-2022
Developer	Green Power Energy Limited

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, vibration 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 Digital Sound 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) (1hr, 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 Environmental Quality Measuring during Operation Period

	Air and noise quality measuring at Taungdawgwin Solar Power Project 15.01.2025 to 16.01.2025 (at source project site)

	Noise quality measuring at Taungdawgwin Solar Power Project 15.01.2025 to 16.01.2025 (at staff housing)

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. PRO Lab and Water Quality Laboratory of Forest Research Institute 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 parameters 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

Surface Water Parameters (1 location)	
Physical Parameter	Total Suspended Solids, Turbidity, Oil and Grease
Chemical Parameter	pH, EC, DO, TDS, Salinity, COD, Total Nitrogen, Total Phosphorus, Potassium
Biological Parameter	BOD
Ground Water Parameters (1 location)	
Physical Parameter	Total Suspended Solids, Turbidity, Oil and Grease
Chemical Parameter	pH, EC, DO, TDS, Salinity, COD, Total Nitrogen, Total Phosphorus, Potassium
Biological Parameter	BOD, Total Coliform Bacteria
Waste Water Parameters (1 location)	
Physical Parameter	Total Suspended Solids, Oil and Grease
Chemical Parameter	pH, COD, Total Nitrogen, Total Phosphorus
Biological Parameter	BOD, Total Coliform Bacteria

Water samplings are conducted using the following equipment as shown in figure (**Table 1.5**).

Table 1. 5 Equipment for water sampling

HORIBA U-50, Multiparameter Water Quality Meter Multiple sensors allow for the measurement of 11 parameters simultaneously. (pH, pH(mv), ORP, DO, Salinity, TDS, Seawater Specific Gravity, Temperature, Turbidity, Water depth) Patented auto-calibration features provide hassle free calibration of pH, dissolved oxygen, conductivity and turbidity. Ultra-sensitive Turbidity Sensors (Models U-50) Precision has been improved over conventional instruments. Improved stability of the dissolved oxygen sensor has been achieved with a new 3 electrode design for fast response and polarographic sensor for ease of maintenance. pH and ORP electrodes can be replaced individually to reduce replacement costs.	

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 3 sampling locations (SWQ: from Myo Gyi Dam Channel, GWQ: from the project site and WWQ: from the discharge water channel of the project site). Air quality was monitored at the selected 1 location; in front of the office in the project site of Taungdawgwin Solar Power project site that can get results of the existing ambient air quality. Noise level was monitored at two selected locations (N1: in front of the office in the project site of Taungdawgwin Solar Power project site as source and N2: near the labor camp as receptor).

Figure 1. 2 Air Quality Monitoring Location of Taungdawgwin Solar Power Project

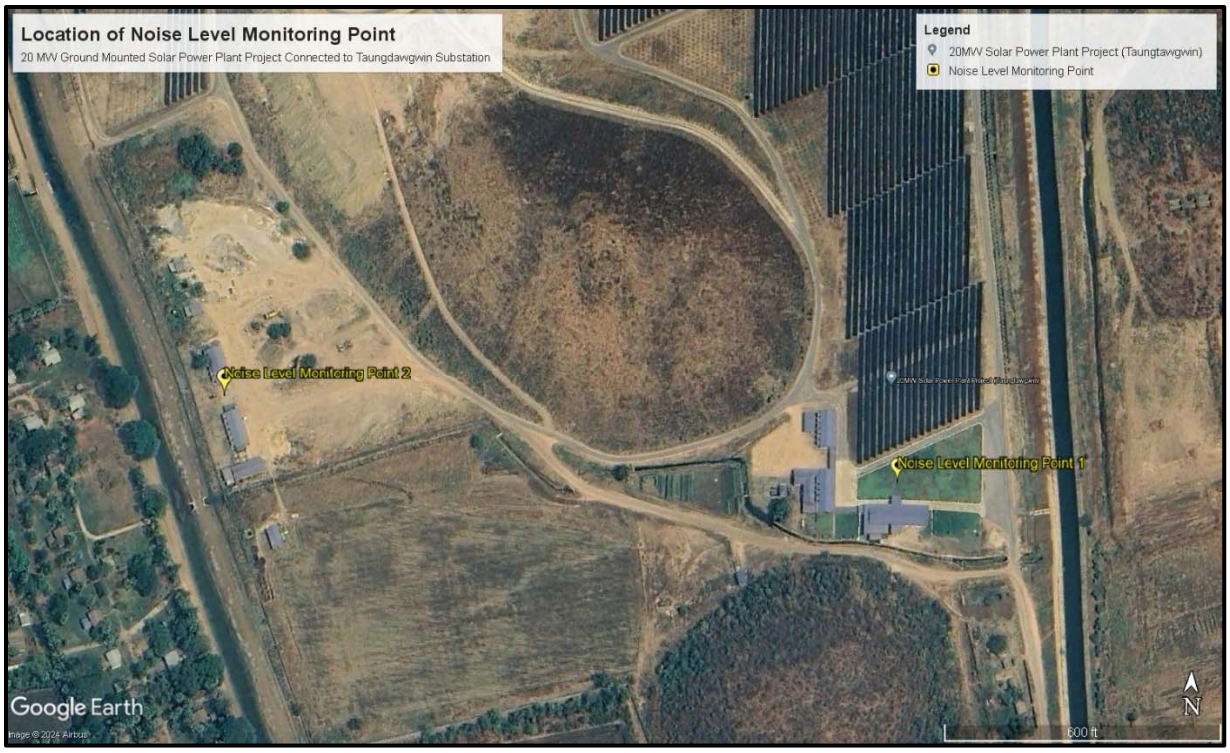

Figure 1. 3 Noise Level Monitoring Locations of Taungdawgwin Solar Power Project

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

Table 1. 6 Locations of Environmental Quality sampling points

Locations No.	Points	Coordinate	Locations
Ambient Air Quality Monitoring Location			
1.	AQ	Lat - 21°26'31.90"N Long - 96°17'11.29"E	in front of the office in the project site of Taungdawgwin Solar Power project site
Noise Level Monitoring Locations			
1.	N1	Lat - 21°26'32.52"N Long - 96°17'10.79"E	in front of the office in the project site of Taungdawgwin Solar Power project site
2.	N2	Lat - 21°26'33.83"N Long - 96°16'55.30"E	near the labor camp as receptor
Water Quality Monitoring Location			
1.	SWQ	Lat - 21°26'54.43"N Long - 96°17'12.94"E	from Myo Gyi Dam Channel
2.	GWQ	Lat - 21°26'34.49"N Long - 96°16'55.23"E	from the project site
3.	WWQ	Lat - 21°26'31.92"N Long - 96°17'7.54"E	from the discharge water channel of the project site

AQ = Air Quality

N = Noise

SWQ = Surface Water Quality

GWQ = Ground Water Quality

WWQ = Waste Water Quality

2. ENVIRONMENTAL QUALITY

2.1 Ambient Air Quality

The air quality monitoring was done at selected locations during 15th to 16th 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.

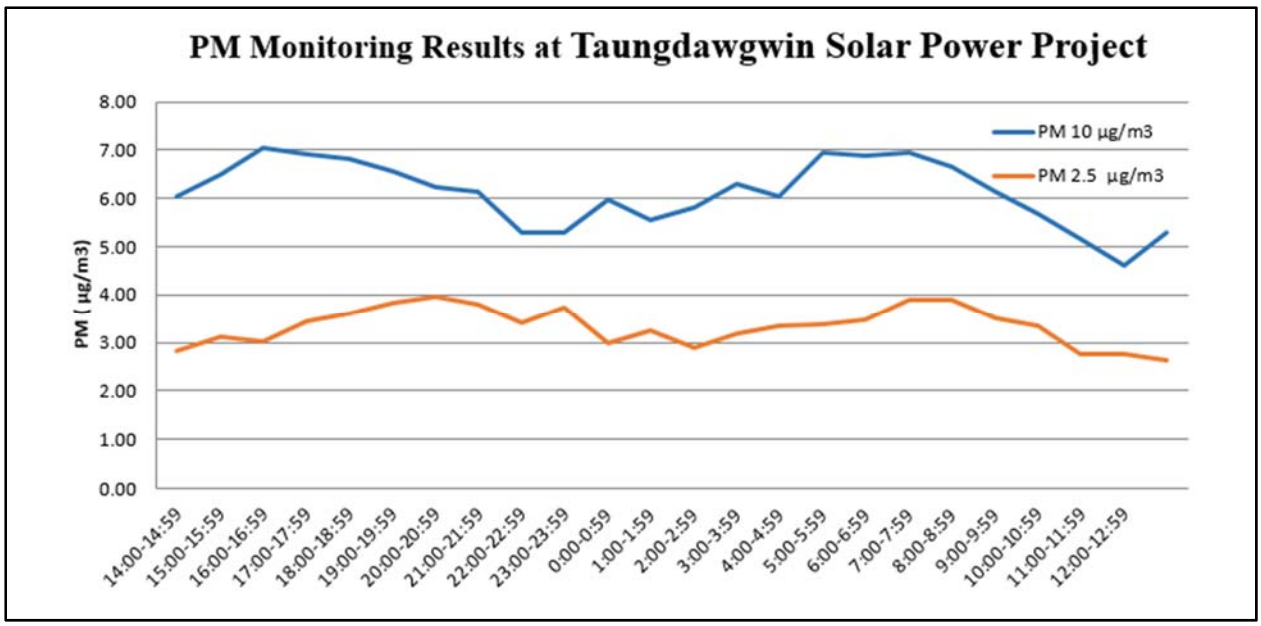

Figure 2. 1 Fluctuation of Particulate Matters during diel cycle (15th to 16th January 2025)

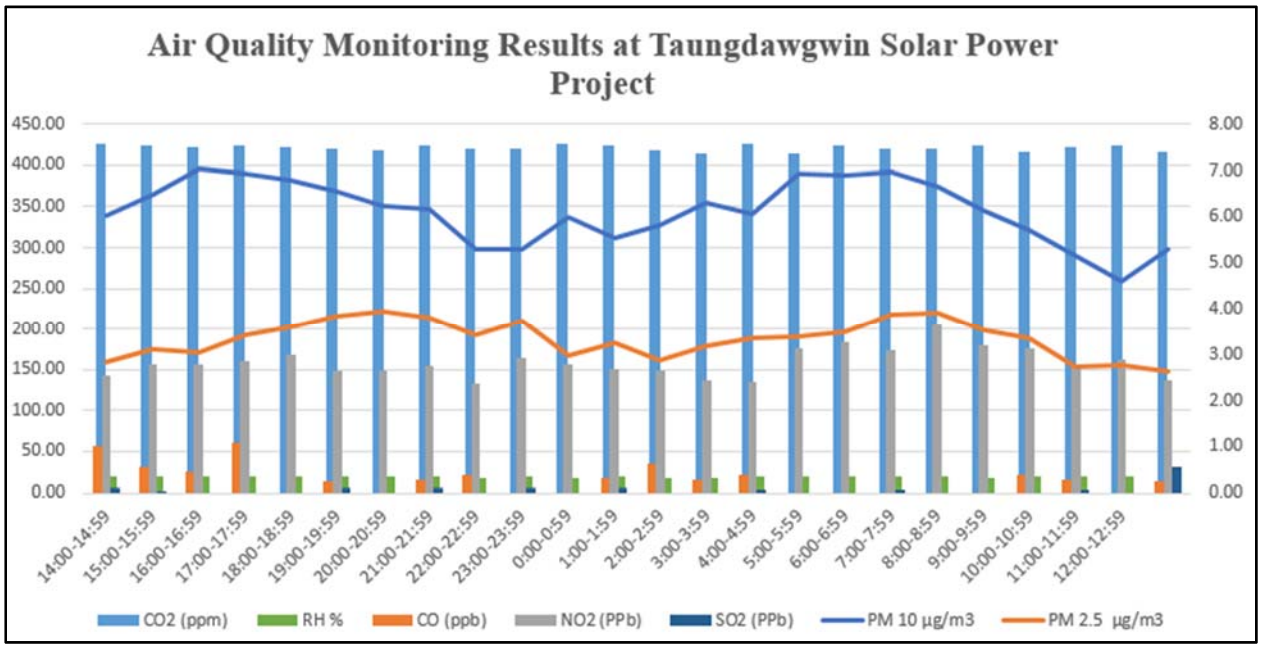

Figure 2. 2 Fluctuation of Air Pollutants during diel cycle (15th to 16th January 2025)

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.

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.

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 (Taungdawgwin Solar Power Project) (15th to 16th January 2025)

Taungdawgwin Solar Power Project Air Results									
Date	**Time**		**CO_2 (ppm)**	**CO (ppm)**	**NO_2 (µg/m3)**	**PM_{10} µg/m^3**	**$PM_{2.5}$ µg/m^3**	**RH %**	**SO_2 (µg/m3)**
15.01.2025	14:00-14:59	Average	425.77	1.01	2.54	6.04	2.84	19.94	0.11
15.01.2025	15:00-15:59	Average	424.81	0.56	2.78	6.49	3.12	19.89	0.04
15.01.2025	16:00-16:59	Average	421.30	0.44	2.79	7.05	3.04	20.17	0.00
15.01.2025	17:00-17:59	Average	423.50	1.09	2.84	6.92	3.43	19.35	0.00
15.01.2025	18:00-18:59	Average	421.55	0.00	3.00	6.81	3.61	19.73	0.00
15.01.2025	19:00-19:59	Average	419.82	0.24	2.63	6.56	3.83	19.52	0.11
15.01.2025	20:00-20:59	Average	417.68	0.00	2.63	6.25	3.96	19.58	0.00
15.01.2025	21:00-21:59	Average	424.12	0.28	2.74	6.15	3.79	19.03	0.09
15.01.2025	22:00-22:59	Average	419.36	0.38	2.36	5.29	3.41	18.67	0.00
15.01.2025	23:00-23:59	Average	419.50	0.00	2.93	5.29	3.74	19.63	0.12
16.01.2025	0:00-0:59	Average	425.21	0.00	2.79	5.99	2.98	18.44	0.00
16.01.2025	1:00-1:59	Average	424.69	0.33	2.69	5.54	3.25	18.72	0.12
16.01.2025	2:00-2:59	Average	418.88	0.62	2.64	5.80	2.88	17.55	0.00
16.01.2025	3:00-3:59	Average	414.57	0.26	2.44	6.32	3.19	18.30	0.00
16.01.2025	4:00-4:59	Average	425.80	0.38	2.38	6.06	3.34	19.12	0.09
16.01.2025	5:00-5:59	Average	413.86	0.00	3.11	6.95	3.37	18.84	0.00
16.01.2025	6:00-6:59	Average	424.92	0.00	3.26	6.90	3.48	19.40	0.00
16.01.2025	7:00-7:59	Average	419.84	0.00	3.10	6.96	3.88	19.84	0.09
16.01.2025	8:00-8:59	Average	420.53	0.00	3.65	6.64	3.90	19.31	0.00
16.01.2025	9:00-9:59	Average	423.34	0.00	3.19	6.14	3.51	18.69	0.00
16.01.2025	10:00-10:59	Average	416.78	0.39	3.12	5.70	3.36	18.74	0.00
16.01.2025	11:00-11:59	Average	421.35	0.29	2.74	5.18	2.75	19.50	0.09
16.01.2025	12:00-12:59	Average	423.33	0.00	2.87	4.61	2.75	20.09	0.00
16.01.2025	13:00-13:59	Average	415.40	0.25	2.44	5.28	2.62	20.31	0.55
Average			421.08	0.27	2.82	6.12	3.33	19.26	0.06
1 hour Minimum			413.86	0.00	2.36	4.61	2.62	17.55	0.00
1 hour Maximum			425.80	1.09	3.65	7.05	3.96	20.31	0.55

Table 2. 2 Observed Values of ambient air quality results from selected point

Parameters	EMP Baseline Results	Values from Previous Monitoring	Observed Values	NEQG	ACGIH	NAAQS	Unit	Averaging Period
PM_{10}	25.13	6.02	6.12	50	-	-	$\mu g/m^3$	24hrs
$PM_{2.5}$	10.84	2.98	3.33	25	-	-	$\mu g/m^3$	24hrs
CO	0.04	0.00	0.00045	-	-	9	ppm	8hrs
CO_2	451.72	489.78	422.32	-	5000	-	ppm	8hrs
SO_2	0.14	0.007	0.15	20	-	-	$\mu g/m^3$	24hrs
NO_2	28.97	4.81	6.87	200	-	-	$\mu g/m^3$	1hrs

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. As per above table 2.2, it can be seen that all parameters measured are within the National Environmental Quality (Emission) Guideline (NEQEG), American Conference of Governmental Industrial Hygienists (ACGIH) and National Ambient Air Quality Standards (NAAQS).

Table 2. 3 Air Emission Levels (Standard)

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

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

2.2 Ambient Noise Level

Ambient noise level for the proposed project was measured with Digital Sound Level Meter at two locations: one point was set in front of the main office as source point and one point was set near the labor camp as receptor point, on 15th to 16th 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 in Front of the Main Office (Source)

No.	Date	Time	Observed Mean Value (Source)	Weight	Day/Night	Average
1	16.01.2025	7:00:56-7:59:56	48.15	A	Day	
2	16.01.2025	8:00:56-8:59:56	45.74	A	Day	
3	16.01.2025	9:00:56-9:59:56	48.15	A	Day	
4	16.01.2025	10:00:56-10:59:56	45.18	A	Day	
5	16.01.2025	11:00:56-11:59:56	48.60	A	Day	
6	16.01.2025	12:00:56-12:59:56	45.21	A	Day	
7	16.01.2025	13:00:56-13:59:56	48.45	A	Day	
8	15.01.2025	14:00:56-14:59:56	38.56	A	Day	46.07
9	15.01.2025	15:00:56-15:59:56	42.81	A	Day	
10	15.01.2025	16:00:56-16:59:56	48.70	A	Day	
11	15.01.2025	17:00:56-17:59:56	44.56	A	Day	
12	15.01.2025	18:00:56-18:59:56	48.70	A	Day	
13	15.01.2025	19:00:56-19:59:56	44.84	A	Day	
14	15.01.2025	20:00:56-20:59:56	48.60	A	Day	
15	15.01.2025	21:00:56-21:59:56	44.83	A	Day	
16	15.01.2025	22:00:56-22:59:56	48.60	A	Night	
17	15.01.2025	23:00:56-23:59:56	44.89	A	Night	
18	16.01.2025	0:00:56-0:59:56	46.76	A	Night	
19	16.01.2025	1:00:56-1:59:56	47.43	A	Night	
20	16.01.2025	2:00:56-2:59:56	46.86	A	Night	46.88
21	16.01.2025	3:00:56-3:59:56	47.36	A	Night	
22	16.01.2025	4:00:56-4:59:56	46.85	A	Night	
23	16.01.2025	5:00:56-5:59:56	47.36	A	Night	
24	16.01.2025	6:00:56-6:59:56	45.83	A	Night	
Average			**46.37**			

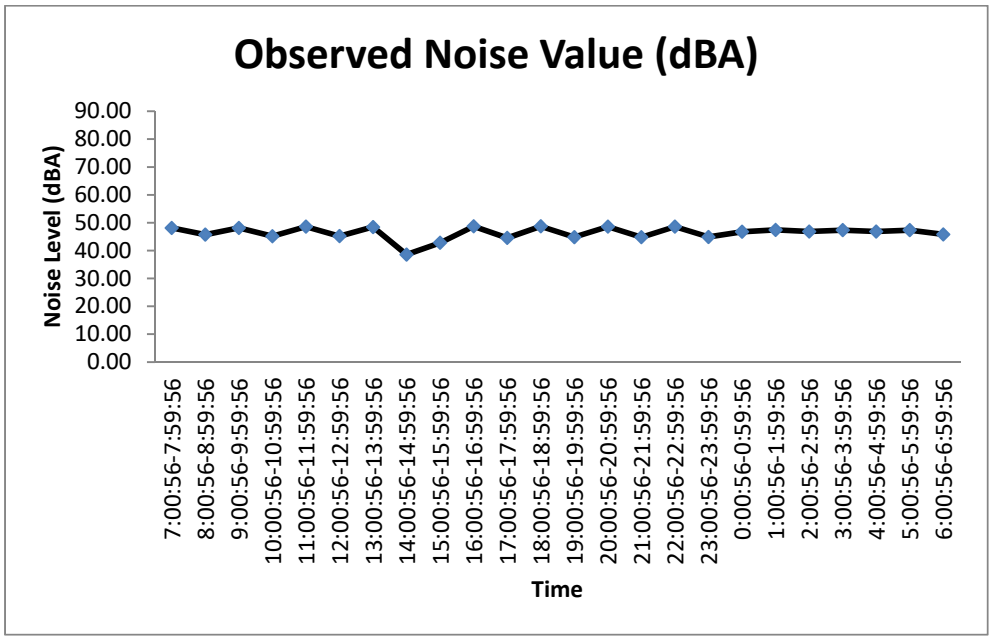

Figure 2. 3 Noise Level at Point 1 (In Front of the Main Office)

Table 2. 5 Observed Values of Noise Level Measurement near the Labor Camp (Receptor)

No.	Date	Time	Observed Mean Value (Source)	Weight	Day/Night	Average
1	16.01.2025	7:00:56-7:59:56	48.62	A	Day	
2	16.01.2025	8:00:56-8:59:56	49.37	A	Day	
3	16.01.2025	9:00:56-9:59:56	48.91	A	Day	
4	16.01.2025	10:00:56-10:59:56	48.90	A	Day	
5	16.01.2025	11:00:56-11:59:56	48.50	A	Day	
6	16.01.2025	12:00:56-12:59:56	48.92	A	Day	
7	16.01.2025	13:00:56-13:59:56	49.70	A	Day	
8	15.01.2025	14:00:56-14:59:56	47.79	A	Day	48.87
9	15.01.2025	15:00:56-15:59:56	48.57	A	Day	
10	15.01.2025	16:00:56-16:59:56	48.62	A	Day	
11	15.01.2025	17:00:56-17:59:56	49.21	A	Day	
12	15.01.2025	18:00:56-18:59:56	48.90	A	Day	
13	15.01.2025	19:00:56-19:59:56	49.69	A	Day	
14	15.01.2025	20:00:56-20:59:56	48.90	A	Day	
15	15.01.2025	21:00:56-21:59:56	48.51	A	Day	
16	15.01.2025	22:00:56-22:59:56	44.92	A	Night	
17	15.01.2025	23:00:56-23:59:56	44.88	A	Night	
18	16.01.2025	0:00:56-0:59:56	43.10	A	Night	
19	16.01.2025	1:00:56-1:59:56	44.20	A	Night	44.35
20	16.01.2025	2:00:56-2:59:56	45.16	A	Night	
21	16.01.2025	3:00:56-3:59:56	44.51	A	Night	
22	16.01.2025	4:00:56-4:59:56	44.38	A	Night	

23	16.01.2025	5:00:56-5:59:56	42.69	A	Night	
24	16.01.2025	6:00:56-6:59:56	45.34	A	Night	
Average			**47.18**			

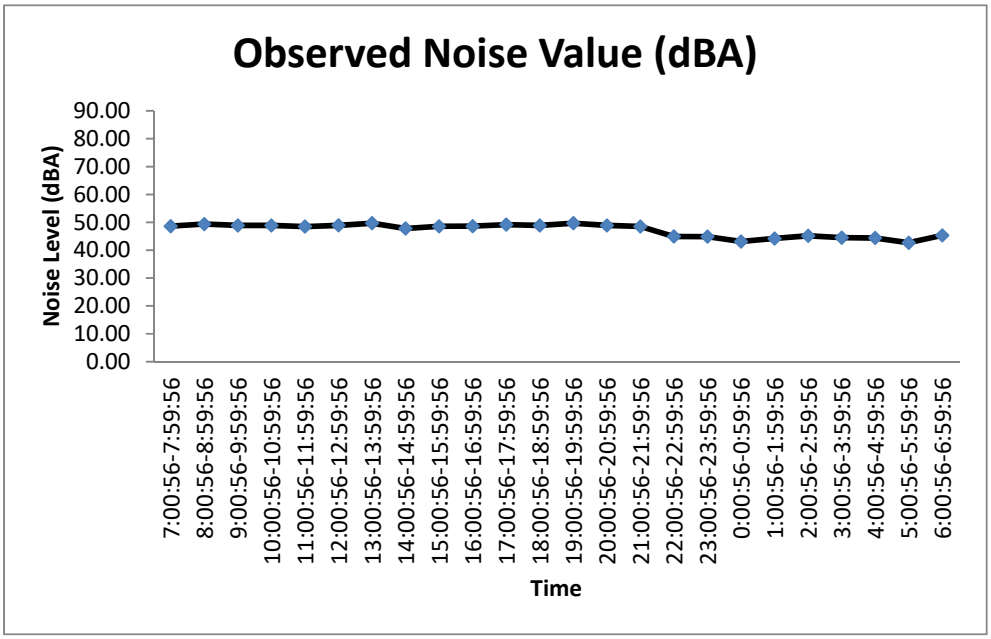

Figure 2. 4 Noise Level at Point 2 (Near the Labor Camp)

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

Point	Taungdawgwin Solar Power Project	
	Day Time	Night Time
At source (In front of the main office)	**46.07**	**46.88**
Guideline Values for Industrial	**70**	**70**
At receptor (Near the labor camp)	**48.87**	**44.35**
Guideline Values for Residential	**55**	**45**
Baseline Results at Point 1 (Project Site)	52.92	41.55
Baseline Results at Point 2 (Project Site)	54.22	40.64
Previous Monitoring Result (At Source)	49.82	40.79
Previous Monitoring Result (At Receptor)	47.40	39.70

The observed values are compared with the National Environmental Quality (Emission) Guidelines as shown in **Table 2.6,** which indicates the separate level for industrial and residential points.

The observed noise values of daytime and night time at the project site point 1 (in front of the main office) (source) are 46.07 dB (A) and 48.87 dB (A). The observed noise values of daytime and night time at the project site point 2 (near the labor camp) (receptor) are 46.88 dB (A) and 44.35 dB (A). The observed daytime value and night time values for both point 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 on 15th to 16th January 2025. According to the data, the wind direction is as per following Figure 2. 5 and Figure 2. 6.

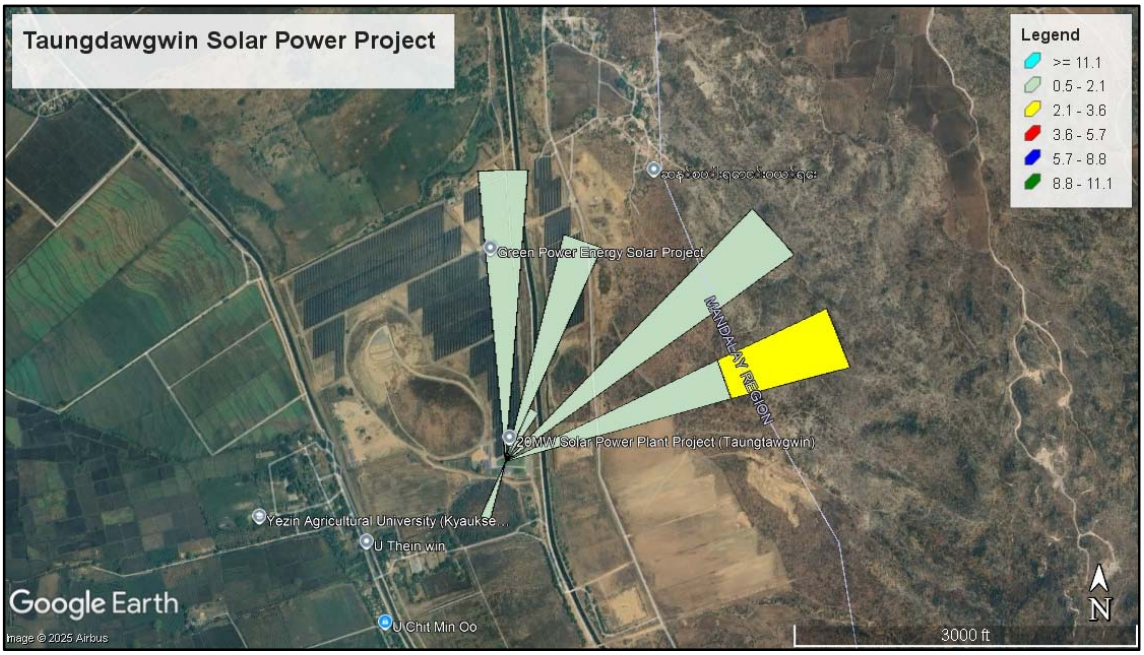

Figure 2. 5 Wind Speed and Wind Direction (Blowing From) at Taungdawgwin Solar Power Project Site (15th to 16th January 2025)

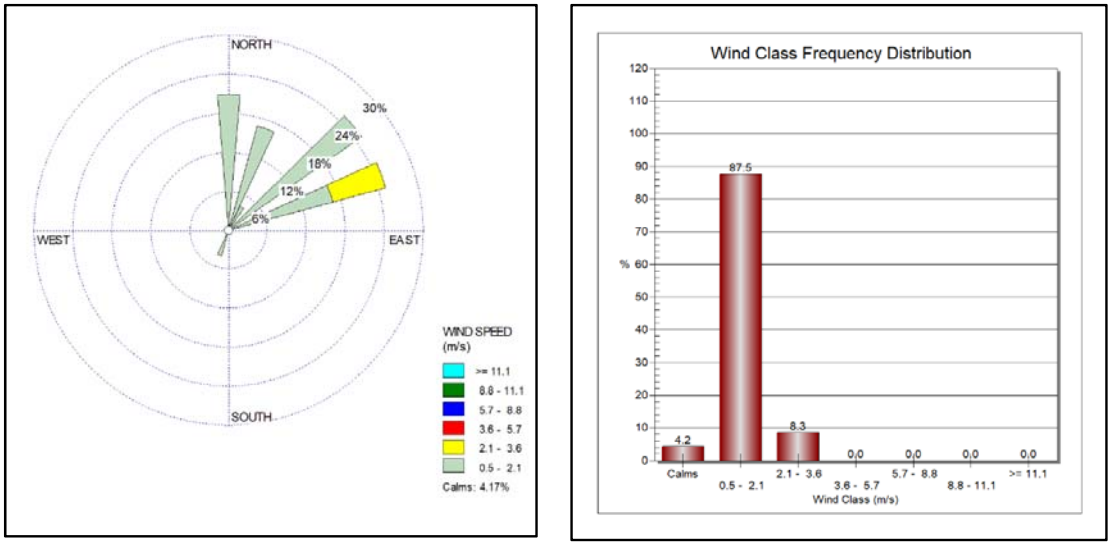

Figure 2. 6 Wind Class Frequency Distribution at Taungdawgwin Solar Power Project Site (15th to 16th January 2025)

2.4 Water Quality Standards

Currently Myanmar does not have surface water quality standards for major rivers and its tributaries, natural and man-made streams or lakes, ground water, or reservoir water.

Environmental conservation department is in the process of developing National Ambient Water Quality Standards based on the protection of aquatic life. It is recommended by the environmental specialist to compare the measured water quality results with the standards in **Table 2.7** below.

Table 2. 7 Ambient water quality standards for the protection of aquatic life

Parameter	Unit	Concentration	Reference
Aluminum	mg/l	0.005 (if pH < 6.5) 0.1 (if pH > 6.5)	Australian and New Zealand guidelines for fresh and marine water quality. 2000. Australian and New Zealand Environment Conservation Council. Water Quality Guidelines for the Protection of Aquatic Life. 2016. Canadian Council of Ministers of the Environment. Metal mining technical guidance for environmental effects monitoring. 2012. Environment Canada.
Ammonia	mg/l	0.02	As above
Arsenic	mg/l	0.05	As above
Boron	mg/l	0.5	As above
Cadmium	mg/l	0.0002	As above
Chloride	mg/l	0.86	As above
Chromium (hexavalent)	mg/l	0.01	As above
Chromium (trivalent)	mg/l	0.0089	As above
Coliforms (total)	MPN/100ml	5000	As above
Coliforms (faecal)	MPN/100ml	1000	As above
Color	mg/l	Not significantly higher that seasonally adjusted background value	As above
Copper	mg/l	0.002	As above
Cyanide (free)	mg/l	0.005	As above
Dissolved oxygen	mg/l	6	As above
Ethanol	mg/l	1.4	As above
Fluoride	mg/l	0.2	As above
Iron	mg/l	0.3	As above
Lead	mg/l	0.001	As above
Manganese	mg/l	0.05	As above
Mercury	mg/l	0.0001	As above
Molybdenum	mg/l	0.073	As above
Naphthalene	mg/l	0.016	As above
Nickel	mg/l	0.015	As above

Parameter	Unit	Concentration	Reference
Nitrate	mg/l	5	As above
Nitrite	mg/l	0.06	As above
Oil & grease	-	Substantially absent, no iridescent sheen	As above
pH	-	6.5-9	As above
Phenols	mg/l	0.004	As above
Phosphorus	mg/l	0.15	As above
Selenium (total)	mg/l	0.005	As above
Silver	mg/l	0.0001	As above
Sulphide	mg/l	0.002	As above
Temperature	°C	< 2 increase	As above
Thallium	mg/l	0.004	As above
Total suspended solids	mg/l	10	As above
Tributyltin	mg/l	0.000008	As above
Turbidity	-	< 10% change	As above
Uranium	mg/l	0.015	As above
Zinc	mg/l	0.005	As above

2.5 Water quality

Surface water quality were recorded by on-site sampling was done at two selected locations and laboratory analysis at three selected locations systematically. The field surveys for environmental quality monitoring and sampling were done during 9th July 2024.

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

Water Quality Measurement

Surveyor: Khin Zaw Min	**Date: 16.01.2025**
Location: Surface Water (from Myo Gyi Dam Channel)	**Time: 4:30 Pm**
Lat. & Long.: 21°26'54.43"N, 96°17'12.94"E	**Instrument: Horiba U-50**
Temperature: 25.03°C	

Onsite Surface Water Measurement Results

Sr. No.	pH	Electrical Conductivity			DO (mg/l)	Turbidity (NTU)	Remarks
		EC (ms/cm)	TDS (g/l)	Salinity (ppt)			
1	8.05	0.280	0.182	0.1	13.96	0.0	-

Water Quality Measurement

Surveyor: Khin Zaw Min	**Date: 16.01.2025**

Location: Ground Water (from the project site)	**Time: 5:00 Pm**
Lat. & Long.: 21°26'34.49"N, 96°16'55.23"E	**Instrument: Horiba U-50**
Temperature: 27.47°C	

Onsite Ground Water Measurement Results

Sr. No.	pH	Electrical Conductivity			DO (mg/l)	Turbidity (NTU)	Remarks
		EC (ms/cm)	TDS (g/l)	Salinity (ppt)			
1	7.68	0.841	0.538	0.4	11.34	0.0	-

Table 2. 8 Comparison of Surface Water Quality, Ground Water Quality and Waste Water Quality with Guidelines (5th Time)

Parameter	Unit	SWQ	GWQ	WWQ	International and National Guideline				
					A	B	C	D	E
Dissolved Oxygen (DO)	mg/l	13.96	11.34	-	-	-	6	-	>2
Oil and Grease	mg/l	1	Nil	3	-	-	Substantially absent	10	-
Total Coliform	MPN/ml	-	< 0.3	9.3	-	-	5	400	-
Total Dissolved Solids	mg/l	182	538	-	-	No guideline	-	-	-
Turbidity	NTU	0.0	0.0	-	-	Not mentioned	<10	-	-
Biochemical Oxygen Demand (BOD)	mg/l	0.64	0.52	3.09	-	-	-	30	30
Chemical Oxygen Demand (COD)	mg/l	1.12	1.00	10.4	-	-	-	125	100
Total Nitrogen	mg/l	1.26	2.52	1.82	-	-	-	10	-
Total Phosphorus	mg/l	0.0246	0.01014	0.14219	-	-	-	2	-
Total Suspended Solids	mg/l	1	2	18	-	-	10	50	150
Potassium	mg/l	2.13	1.06		-	-	-	-	-
pH		8.05	7.68	8.01					-
Water Quality Result of Previous Monitoring (4th Time)									
Parameter	**Unit**	**SWQ**	**GWQ**	**WWQ**	**International and National Guideline**				

					A	B	C	D	E
Dissolved Oxygen (DO)	mg/l	13.80	9.63	-	-	-	6	-	>2
Oil and Grease	mg/l	Nil	Nil	4	-	-	Substantially absent	10	-
Total Coliform	MPN/ml	-	< 3	46	-	-	5	400	-
Total Dissolved Solids	mg/l	19.3	67	-	-	No guideline	-	-	-
Turbidity	NTU	0.00	1.8	-	-	Not mentioned	<10	-	-
Biochemical Oxygen Demand (BOD)	mg/l	0.5	1.37	0.43	-	-	-	30	30
Chemical Oxygen Demand (COD)	mg/l	0.8	2.1	0.8	-	-	-	125	100
Total Nitrogen	mg/l	4.40	1.12	0.55	-	-	-	10	-
Total Phosphorus	mg/l	0.012	0.01	0.02	-	-	-	2	-
Total Suspended Solids	mg/l	3	0.2	2	-	-	10	50	150
Potassium	mg/l	4.47	4.47	-	-	-	-	-	-

SWQ = from Myo Gyi Dam Channel
GWQ = from the project site
WWQ = from the discharge water channel of the project site

A= WHO (Normally found in fresh water/surface water/ground water)
B= WHO (DW) (Health based guideline by the WHO)
C= Ambient water quality standards for the protection of aquatic life
D= National Environmental Quality Emission Guideline (Electric Power Transmission and Distribution)
E= National Surface Water Quality Standard

Photo Record for Water Quality Sampling

Surface Water Quality Sampling

(16.01.2025)

Ground Water Quality Sampling

(16.01.2025)

Waste Water Quality Sampling

(16.01.2025)

3. ENVIRONMENTAL MONITORING PLAN

3.1 Monitoring records for Safety Plan

Monthly Record					
Date	**Place**	**Activity**	**Organization**	**Number of Attendees**	**Remarks**
October, 2024	Working Area	Aware Training About PPE	Taung Taw Gwin Solar Power Plant	13	
November, 2024	Power Staion	Fire Safety Training	Taung Taw Gwin Solar Power Plant	42	
December, 2024	Working Area	Electrical Safety Training	Taung Taw Gwin Solar Power Plant	15	
January, 2025	Power Staion	Provide PPE Safety Equipment	Taung Taw Gwin Solar Power Plant	13	
January, 2025	Briefing Hall	Fire Safety Training	Taung Taw Gwin Solar Power Plant	21	

Records for Occupational Safety Equipment

Date	Place	Type	Quantity	Remark	Inspected By	Supervisor
28.June.2024	Store	Safety Shoe	31		U Zaw Myo Aung	U Kyaw Zin Htet
28.June.2024	Store	Safety Gloves	12		U Zaw Myo Aung	U Kyaw Zin Htet
28.June.2024	Store	Safety Helmet	31		U Zaw Myo Aung	U Kyaw Zin Htet
28.June.2024	Store	Safety Belt	31		U Zaw Myo Aung	U Kyaw Zin Htet
10.January.2025	Store	Safety Shoe	22		U Phyo Thura Kyaw	U Thein Soe Min
10.January.2025	Store	Safety Gloves	22		U Phyo Thura Kyaw	U Thein Soe Min
10.January.2025	Store	Safety Helmet	22		U Phyo Thura Kyaw	U Thein Soe Min
10.January.2025	Store	Safety Belt	22		U Phyo Thura Kyaw	U Thein Soe Min

Photo Records of Health and Safety Plan Activities

Emergency Contact List Attached in the Project Site

အရေးပေါ်အခြေအနေတုန့်ပြန်မှုအခြေအနေ

စီမံကိန်းလုပ်ငန်းအတွင်းမှ အရေးကြီးဆက်သွယ်ရမည့် ဖုန်းနံပါတ်များ

စဉ်	အမည်	ရာထူး	ဖုန်းနံပါတ်
၁	ဦးကျော်ဇင်ထက်	စက်ရုံမှူး	09-259201955
၂	ဦးသိန်းစိုးမင်း	ဒုစက်ရုံမှူး	09-695619295
၃	ဦးဖြူးသူရကျော်	အန္တရာယ်ကင်းရှင်းရေးအရာရှိ	09-677076529
၄	ဦးကောင်းမြတ်သူ	ကြီးကြပ်ရေးမှူး	09-695916354
၅	ဦးကြင်နာမောင်	ရှေးဦးသူနာပြု	09-670550500
၆	ဦးစိုးမင်းဟိန်း	အရေးပေါ်အခြေအနေထိန်းချုပ်ရေးမှူး	09-689279663

အရေးကြီးဆက်သွယ်ရမည့် ဒေသတွင်းဖုန်းနံပါတ်များ

စဉ်	အမည်/ဌာန	အကြောင်းအရာ	ဖုန်းနံပါတ်
၁	မြို့နယ်မီးသတ်ဦးစီးဌာန	မီးလောင်ခြင်းအတွက်	09-267780853
၂	တိုက်နယ်ရဲစခန်း	လုံခြုံရေးကိစ္စရပ်များအတွက်	09-757757042
၃	အနီးဆုံးတိုက်နယ်ဆေးရုံ	ထိခိုက်ဒဏ်ရာရရှိသူများအတွက်	09-421209833
၄	မြို့နယ်လျှပ်စစ်ဌာန	လျှပ်စစ်မီးကိစ္စ	09-661906744
၅	မြို့နယ်အထွေထွေအုပ်ချုပ်ရေးဦးစီးဌာန	အထွေထွေအုပ်ချုပ်ရေးကိစ္စ	

4. Environmental Monitoring Record for Reforestation (Plantation)

No	Description	Quantity
1	နဂါးမောက်	1100
2	စပျစ်ပင်	350
3	အုန်းပင်	20
4	မာလကာပင်	25
5	ငွေးချိုးပင်	20
6	သံပုရာပင်	25
7	သရက်ပင်	89
8	ပိန္နဲပင်	67
9	ငှက်ပျောပင်	207
10	ဘူးပင်	10
11	ခဝဲပင်	10
12	ရွှေဖရုံပင်	25
13	ကျောက်ဖရုံ	30
14	သဘော်ပင်	20
15	ငရုတ်ပင်	30
16	ခရမ်းချဉ်ပင်	30

No	Description	Quantity
1	စက္ကူပန်းပင်	1688
2	သပြေဘူတ	54
3	Kiss Me Flower	110
4	Walking Flower	425
5	တရုတ်စကားပန်းပင်	282
6	သစ်မွှေးပင်	92
7	ရွှက်လှပင်	25
8	အုန်းပွားပင်	47
9	စိန်ပန်းပင်(အပြာ)	142
10	စိန်ပန်းပင် (အနီ)	46
11	ရေတမာပင်	149
12	ခရေပင်	30
13	မယ်ဇလီပင်	79
14	မန်ကျည်းပင်	150
15	ဒန်းသလွန်ပင်	153
16	ကုက္ကိုပင်	60

Photo Records of Reforestation (Plantation)

5. Records for CSR activities

Date	Place	Type	Amount (MMK) Activities	Received
25.October, 2024	တောင်တော်	တောင်တော် ဘုန်းကြီးကျောင်း ဆွမ်းဆန်စိမ်းလောင်းခြင်း။		
29.December, 2024	အမှတ်(၄)	အမှတ်(၄) ဘုန်းကြီးကျောင်း နေ့ဆွမ်းလှူတန်းခြင်း။		
8.January, 2025	အမှတ်(၄)	အမှတ်(၄) စာသင်ကျောင်းစုံညီပွဲတော်တွင် လှူတန်းခြင်း။		
12.February, 2025	အမှတ်(၄)	အမှတ်(၄) ဘုန်းကြီးကျောင်း တောင်ပေါ် ဆွမ်းဆန်စိမ်းလောင်းခြင်း		
15.February, 2025	GPE Company .,Ltd	KBTC ကိုယ်ပိုင်ကျောင်းမှကလေးများကို Knowledge Sharing လုပ်ပေးခြင်းနှင့် ကျွေးမွေးသည့်ခံခြင်း။		

Photo Records of CSR Activities

6. Records for GRM

Monthly Record					
Date	**Place**	**Issue**	**Organization Or Individual**	**Action Plan**	**Recorded by**
September, 2024	Green Power Energy Plant	-	-	-	U Kyaw Zin Htet
October, 2024	Green Power Energy Plant	-	-	-	U Kyaw Zin Htet
November, 2024	Green Power Energy Plant	-	-	-	U Kyaw Zin Htet
December, 2024	Green Power Energy Plant	-	-	-	U Kyaw Zin Htet
January, 2025	Green Power Energy Plant	-	-	-	U Kyaw Zin Htet
February, 2025	Green Power Energy Plant	-	-	-	U Kyaw Zin Htet

GRM Organization of Taungdawgwin Solar Power Project Site

မကျေလည်မှုများ ဖြေရှင်းရေး ကော်မတီ			
စဉ်	အမည်	တာဝန်	ဌာန
၁	ဦးအောင်ဆန်းဝင်း	မန်နေဂျာ	GPE Co., Ltd
၂	ဦးသိန်းစိုးမင်း	အတွင်းရေးမှူး	GPE Co., Ltd
၃	ဦးဇော်ဝင်း (Agriculture)		GPE Co., Ltd
၄	ဦးခင်မောင်ဌေး		မြစ်သားမြို့နယ်၊ လွန်ကျော်ကျေးရွာ။
၅	ဦးရွှေမန်း (အမှတ် ၃, ဥက္ကဋ္ဌ)		မြစ်သားမြို့နယ်၊ အမှတ် (၃)ကျေးရွာ။
၆	ဦးမင်းမင်းစိုး		မြစ်သားမြို့နယ်၊ အမှတ်(၃) ကျေးရွာ။
၇	ဦးသိန်းဌေး		မြစ်သားမြို့နယ်၊ အမှတ် (၃)ကျေးရွာ။
၈	ဦးတင်ဝင်း		မြစ်သားမြို့နယ်၊ ဘုံကွင်း ကျေးရွာ။
၉	ဦးကျော်ဌေး		မြစ်သားမြို့နယ်၊ အမှတ်(၄) ကျေးရွာ။
၁၀	ဦးမောင်သန်း		မြစ်သားမြို့နယ်၊ အမှတ်(၄) ကျေးရွာ။

7. Records for waste disposal

Monthly Record				
Date	**Place**	**Type**	**Amount**	**Inspected by**
15-September, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	45 Kg	U Phyo Thura Kyaw
30-September, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	55 Kg	U Phyo Thura Kyaw
15-October, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	48 Kg	U Phyo Thura Kyaw
30-Octoberl, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	47 Kg	U Phyo Thura Kyaw
15-November, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	53 Kg	U Phyo Thura Kyaw
30-November, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	54 Kg	U Phyo Thura Kyaw
15-December, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	49 Kg	U Phyo Thura Kyaw
30-December, 2024	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	50 Kg	U Phyo Thura Kyaw
15-January, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	39 Kg	U Phyo Thura Kyaw
30-January, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	38 Kg	U Phyo Thura Kyaw
15-,February 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	37 Kg	U Phyo Thura Kyaw
28-February, 2025	ဝန်ထမ်းလိုင်းများရုံး	အမှိုက်စို/အမှိုက်ခြောက်	38 Kg	U Phyo Thura Kyaw

Photo Records for waste disposal


အမှိုက်ခြောက်
FIRE PROHIBITED
အမှိုက်နို့


အမှိုက်ခြောက်
FIRE PROHIBITED
အမှိုက်နို့

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	: Taungdawgwin Solar Power Plant Project
2	Location	: Kyaukse, Myint Thar Township, Mandalay Region
3	Type of Sample	: Surface Water
4	Sample No.	: 00085/2025
5	Contact Person	: Eguard Environmental Services
6	Phone No.	: 09-797005212
7	Date Received	: 20.01.2025
8	Date of Test Performed	: 20.01.2025
9	Date of Issued	: 30.01.2025
10	Result	:

No.	Parameter	Result	Unit	WHO STD 2018	Method
1	Oil and Grease	1	mg/L	NA	[a] 5520D, Soxhlet Extraction 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	: Taungdawgwin Solar Power Plant Project
2	Location	: Kyaukse, Myint Thar Township, Mandalay Region
3	Type of Sample	: Ground Water
4	Sample No.	: 00086/2025
5	Contact Person	: Eguard Environmental Services
6	Phone No.	: 09-797005212
7	Date Received	: 20.01.2025
8	Date of Test Performed	: 20.01.2025
9	Date of Issued	: 30.01.2025
10	Result	:

No.	Parameter	Result	Unit	WHO STD 2018	Method
1	Oil and Grease	Nil	mg/L	NA	[a] 5520D, Soxhlet Extraction Method
2	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

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Tel : 09-893 767 424
E-mail : info@prolabmyanmar.com

LABORATORY ANALYSIS REPORT

1	Client Name	: Taungdawgwin Solar Power Plant Project
2	Location	: Kyaukse, Myint Thar Township, Mandalay Region
3	Type of Sample	: Waste Water
4	Sample No.	: 00087/2025
5	Contact Person	: Eguard Environmental Services
6	Phone No.	: 09-797005212
7	Date Received	: 20.01.2025
8	Date of Test Performed	: 20.01.2025
9	Date of Issued	: 30.01.2025
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	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 ANALYTICAL LABORATORY

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/0024/2025

Date: 6-2-2025

ANALYTICAL TEST REPORT

Project Name: **Taungdawgwin Solar Power Plant Project**

Customer Address: **U Ye Chit Zaw**

Assignment number	2025-8-1	Sampling Location	Kyaukse,Myint Thar Township, Mandalay Region
Sample name	**GW**	Sampling Date	-
Sample type	**Ground Water**	Sample received date	19-1-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	0.52	mg/L	Potetiometric	YSI Pro DO Tester
Chemical Oxygen Demand	1.00	mg/L	Titrimetric	Titrator
Potassium	1.06	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Total Suspended Solid	2	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System
Total Phosphorus	10.14	ug/L	NS 4725	SFA (SKALAR SAN plus Analyzer) SA 3000/5000, SA 1100
Total Nitrogen	2.52	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/0025/2025

Date: 6-2-2025

ANALYTICAL TEST REPORT

Project Name: **Taungdawgwin Solar Power Plant Project**
Customer Address: **U Ye Chit Zaw**

Assignment number	2025-8-2	Sampling Location	Kyaukse,Myint Thar Township, Mandalay Region
Sample name	**WW**	Sampling Date	-
Sample type	**Waste Water**	Sample received date	19-1-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	3.09	mg/L	Potetiometric	YSI Pro DO Tester
Chemical Oxygen Demand	10.4	mg/L	Titrimetric	Titrator
pH	8.01	-	ISO 10523:2008	ManTech Robot (PC-1300-475E)
Total Suspended Solid	18	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System
Total Phosphorus	142.19	ug/L	NS 4725	SFA (SKALAR SAN plus Analyzer) SA 3000/5000, SA 1100
Total Nitrogen	1.82	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/0026/2025

Date: 6-2-2025

ANALYTICAL TEST REPORT

Project Name: **Taungdawgwin Solar Power Plant Project**

Customer Address: **U Ye Chit Zaw**

Assignment number	2025-8-3	Sampling Location	Kyaukse,Myint Thar Township, Mandalay Region
Sample name	**SW**	Sampling Date	-
Sample type	**Surface Water**	Sample received date	19-1-2025
Comments			

Parameter	Result	Unit	Method reference	Instruments
Biological Oxygen Demand	0.64	mg/L	Potetiometric	YSI Pro DO Tester
Chemical Oxygen Demand	1.12	mg/L	Titrimetric	Titrator
Potassium	2.13	mg/L	ISO 10304-1: 2009	Ion Chromatography (Thermo Scientific, DIONEX AQUION
Total Suspended Solid	1	mg/L	NS 4733:1983/NS-EU 872:2005	Circulation and Filtration System
Total Phosphorus	24.6	ug/L	NS 4725	SFA (SKALAR SAN plus Analyzer) SA 3000/5000, SA 1100
Total Nitrogen	1.26	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