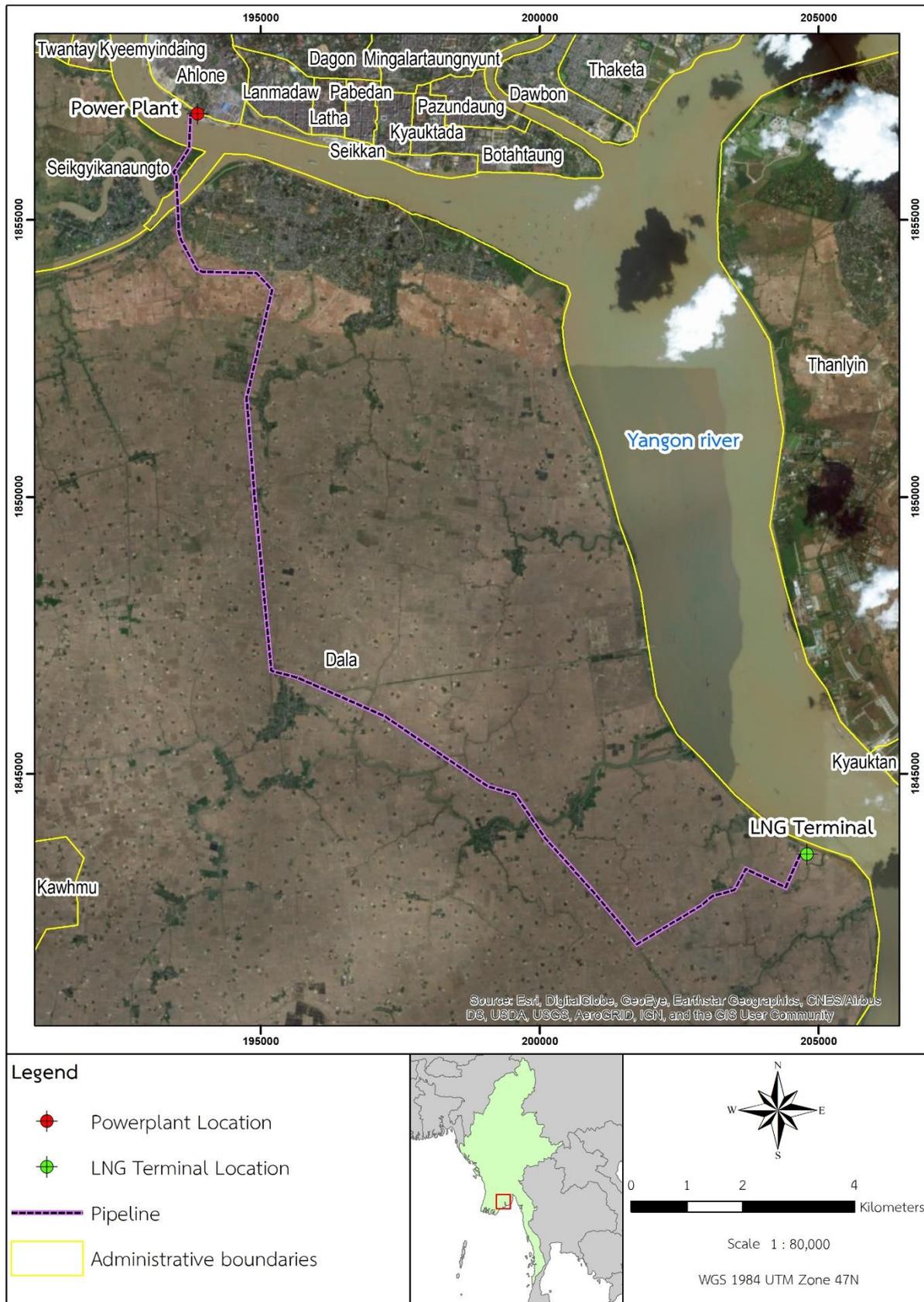
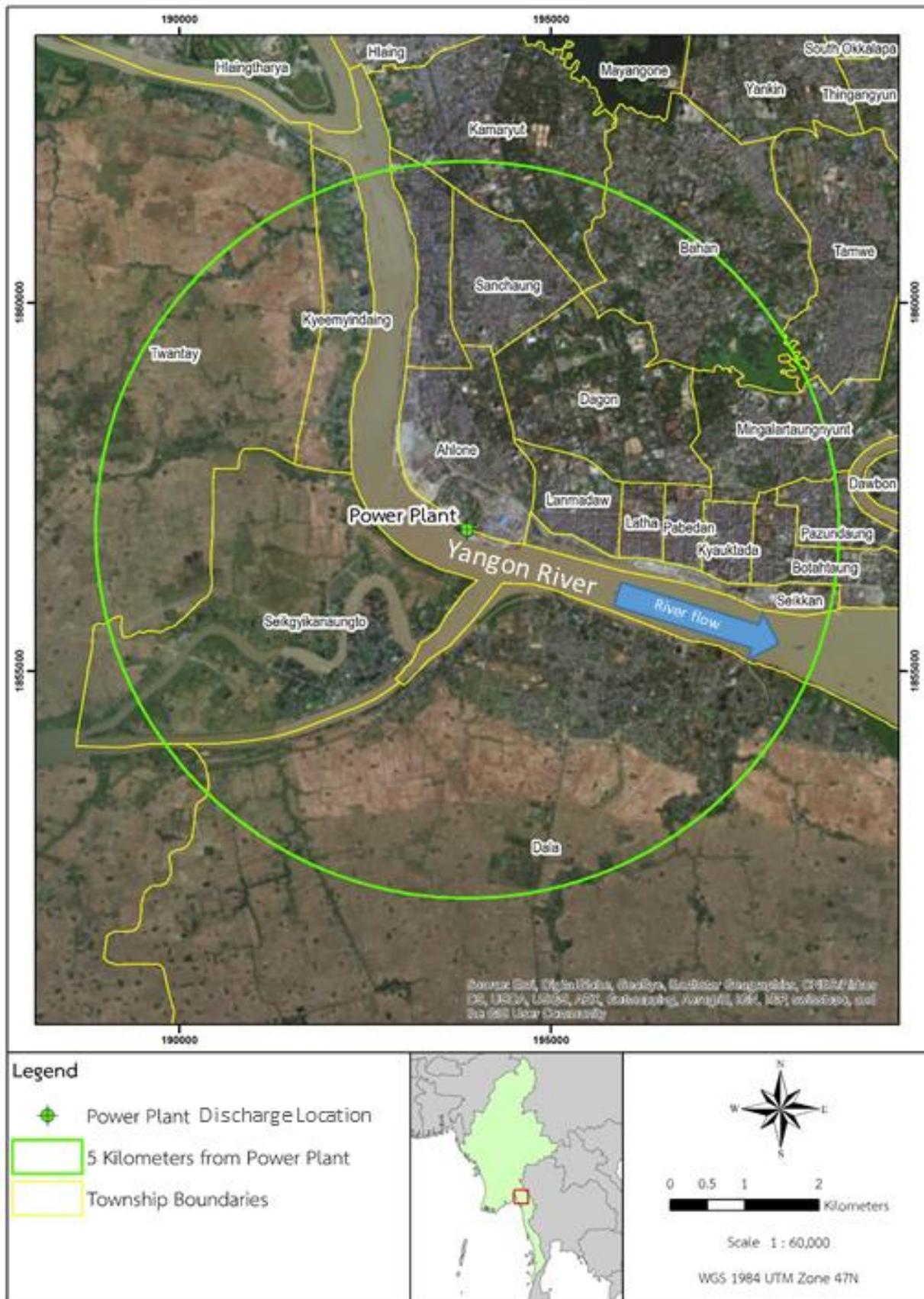


Figure 1.1: Site Overview Showing Power Plant and LNG locations



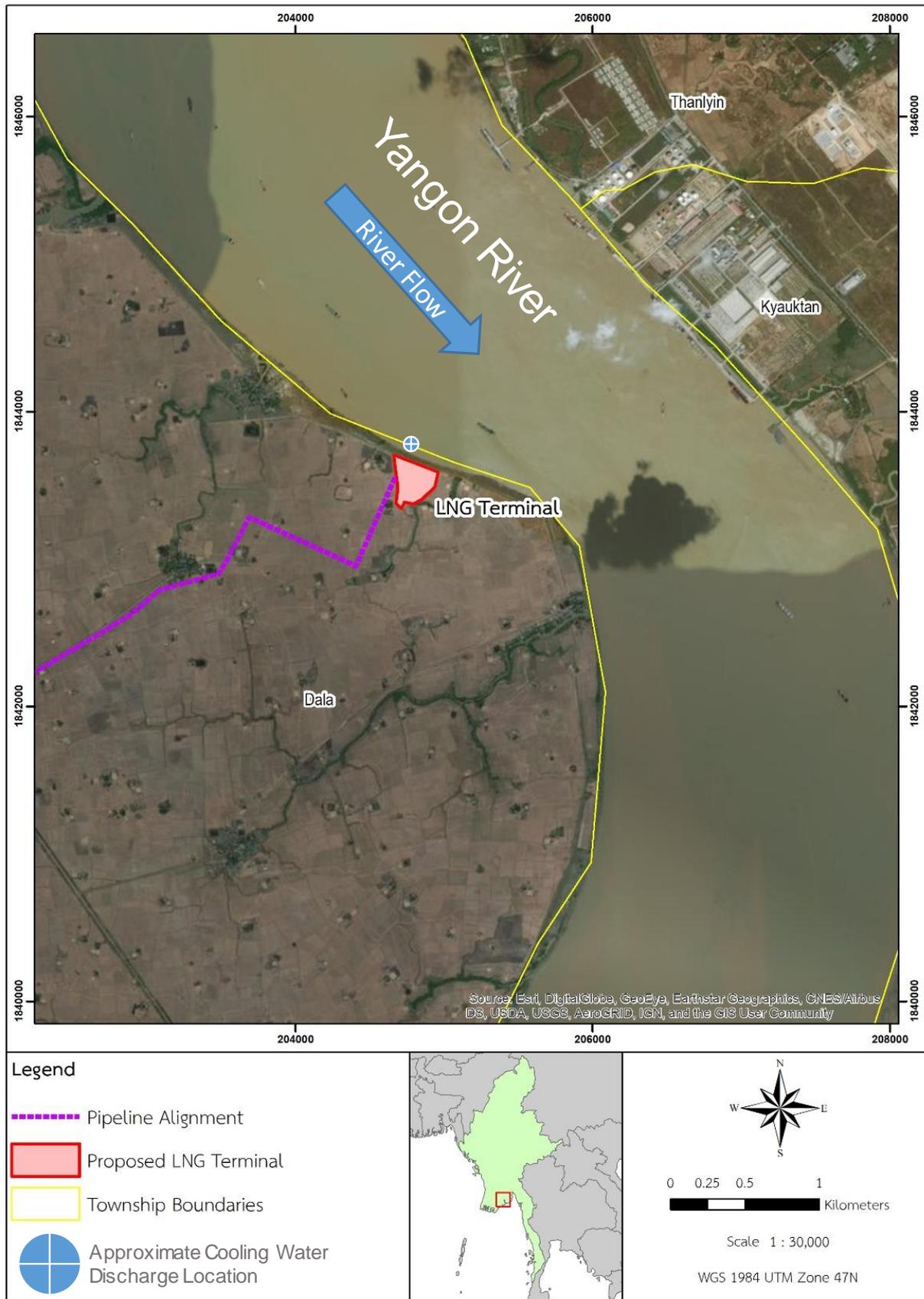
Source: TPMC, 2019. (Modified by ERM)

Figure 1.2: Location of Power Plant Discharge Structure (Detail)



Source: TPMC, 2018. (Modified by ERM)

Figure 1.3: Location of LNG Discharge Structure (Detail)



Source: TPMC, 2019. (Modified by ERM)

2. CORMIX APPLICATION TO PLANT BOWEN'S EFFLUENT

A typical CORMIX application requires three types of data as inputs:

- A description of the effluent (i.e., its flow and temperature);
- The dimensions, location, and configuration of the discharge structure; and
- The properties and characteristics of the receiving waterbody, in this case, the Yangon River (i.e., width, depth, flow rate, and temperature).

TPMC supplied information used as input to CORMIX in the form of reports, drawings, maps, electronic files, and website-accessible data files. Ambient Yangon River data were obtained from daily satellite readings provided by the National Oceanic and Atmospheric Administration (NOAA) of USA, and from field efforts conducted by ERM.

2.1 Receiving Waterbody Characteristics

2.1.1 River Dimensions and Waterbody Velocity

The Yangon River width at the power plant discharge used for the purposes of this study was 500 metres (m), as estimated by ERM using Google Earth. The Yangon River width at the LNG process water discharge used for the purposes of this study was 1985 metres, also estimated by ERM using Google Earth.

Water depth in the region of interest varies between the power plant and LNG. The water depth of the power plant ranges from 3.1 m to 10.4 m, due to tides; surface water sampling points 1 and 2 (SW1 and SW2) were compared for minimum/maximum values during wet and dry season sampling. For application to CORMIX, a low value of 2.25 m was selected, an extra level of conservativeness added to aid with CORMIX model's stability (inherent CORMIX limitations).

While the water depth of the LNG ranges from 7.1 m to 10.5 m; surface water sampling points 13 and 14 (**Section 5.1.5.2**) were compared for the minimum/maximum values during wet and dry season sampling. All surface water sampling locations were reported in ERM's 2018 Dry Season Physical Baseline Report and Wet Season Physical Baseline Report.

The waterbody velocity for the Yangon River ranges from 0.057 to 3.10 metres per second (m/s). The low velocity value is reported by **Sustainable Environment Myanmar Co., Ltd. (SEM)** in their 2018 Dry Season Physical Baseline Report (**Section 5.1.5.2**); it is the lowest velocity of all the sites for both wet and dry seasons. The high velocity value is reported by Myanmar port authority (**Section 5.1.5.1**); the maximum value of a current velocity range was used. The high velocity value was reported for an average tidal range of 2.55 m to 5.85 m, and doesn't include near-zero velocities in a normal tide cycle. These ambient velocities were applied in the CORMIX modelling to simulate critical discharge conditions.

The CORMIX User Manual suggests that the difference between depth at the discharge and average depth in the region of interest is not to be modelled as greater than 30%. Therefore, for this application it was assumed that the average depth and the depth at the discharge location are equal to the ranges specified above.

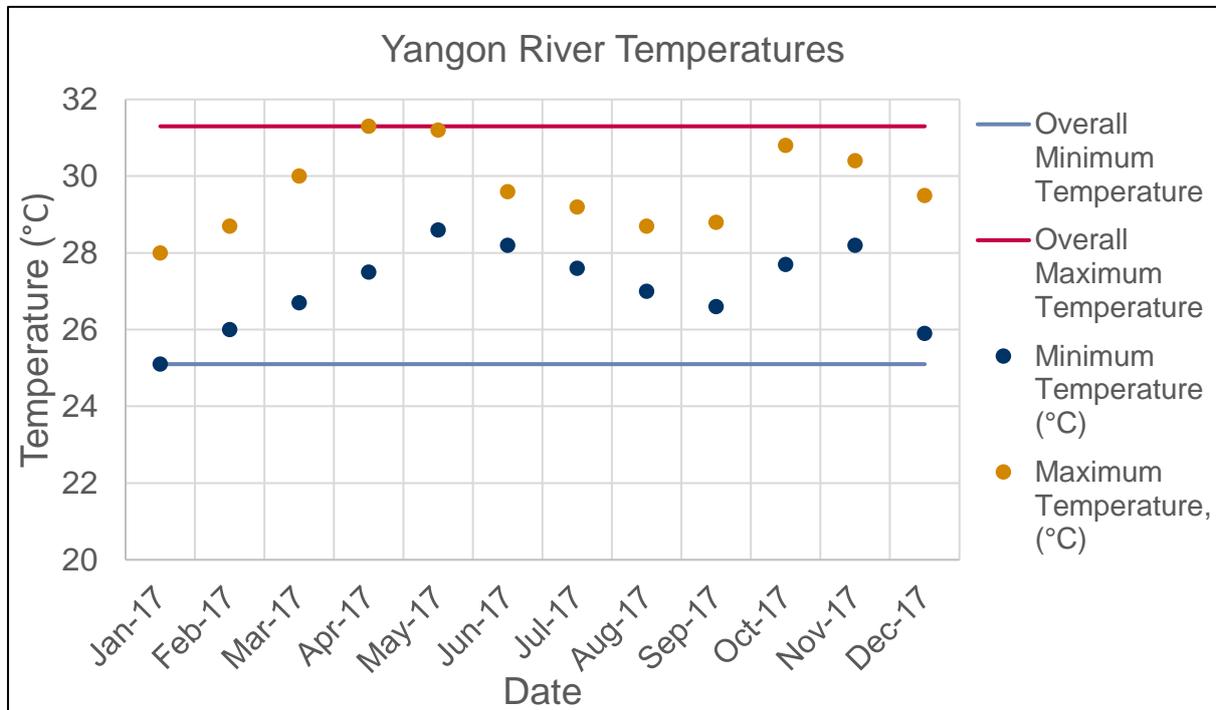
2.1.2 Temperature

Relevant water quality standards reported by environmental standards of Myanmar does not include a guideline value for temperature. Ambient temperatures for modelling were selected to demonstrate mixing zones corresponding to this standard.

Ambient water quality data were available for the Yangon River nearby the Power Plant and LNG. The measurements for the water temperature are provided by National Oceanic and Atmospheric

Administration's (NOAA) daily satellite readings, and are shown in **Figure 2.1**. Overall, it was determined that the minimum ambient water temperature is 25.1 °C, while the maximum ambient water temperature is 31.3 °C.

Figure 2.1: Comparison of Yangon River Temperature Datasets



Source: NOAA, 2017.

2.2 Configuration of the Power Plant Discharge Structure

The discharge from the power plant ultimately enters the Yangon River through a DN250 millimetre nominal diameter pipe, as specified by TPMC. The discharge pipe was assumed by ERM to be located at the shoreline. The pipe is 1.5 metres above the receiving waterbody bottom, as specified by TPMC.

The discharge pipe enters perpendicular to the Yangon River, and was assumed by ERM to be resting along the channel bottom (vertical angle of 0°). The discharge pipe is along the left river bank as seen by an observer facing downstream.

2.3 Configuration of the LNG Process Water Discharge Structure

The discharge from the LNG ultimately enters the Yangon River through a DN350 millimetre nominal diameter pipe, as specified by TPMC. The discharge pipe shoreline distance varies depending on the tide according to "LNG Terminal plot plan rev 0D," engineering drawing provided by TPMC. At low tide, the pipe is 39.9 metres from the shoreline, and at high tide, the pipe is 28.5 metres from the shoreline, as estimated by ERM from the engineering drawings.

The vertical configuration of the LNG pipe was unavailable at the time of this study, so the discharge pipe was assumed to be resting on the channel bottom and aligned perpendicular to the river bank. Thus, the vertical angle used in modelling was 0° and horizontal angle was 90°. The discharge pipe is along the right river bank, as seen by an observer facing downstream.

2.4 Properties of the Power Plant Effluent

The effluent discharge exits the power plant at a total flow rate of 210 cubic metres per hour (m³/hour). This flow excludes an intermittent discharge stream with flow rate of 630 m³/hour. As a conservative

approach to modelling, the intermittent flow stream was excluded from diluting the heated effluent from the power plant. It was also assumed that there is no heat loss within the facility prior to entering the Yangon River.

The continuous, 210 cubic metre per hour effluent discharge has a temperature value of 42 °C. The effluent was modelled for comparison to IFC standards which state that: "the effluent should result in a temperature increase of no more than 3 °C" within 100 metre from the point of discharge (IFC, 2007).

2.5 Properties of the LNG Effluent

The effluent discharge exits the LNG at a total flow rate of 1300 m³/hour, as provided by TPMC. As a conservative approach, it was assumed that no additional flow would be included that would dilute the cooled effluent from the LNG plant, and it was assumed that cooled water exiting the facility is preserved to the point where the flow enters the Yangon River.

The continuous effluent discharge was modelled based on a temperature reduction value of 10 °C below the ambient, as provided by TPMC. The effluent was modelled for comparison to modified IFC standards for cooling water. While the standard requires "the effluent should result in a temperature increase of no more than 3 °C" within 100 metre from the point of discharge", the same temperature differential (3 °C) was considered for temperature decrease for the LNG modelling analysis.

2.6 Power Plant Scenario Information

IFC water quality standards limit thermal discharges by the temperature increase in the receiving waterbody. These standards are given by temperature increases no more than 3 °C above ambient beyond 100 m from the discharge point.

An estimate of the TPMC Power Plant's maximum thermal loading to the Yangon River results in a 10.7 °C increase above ambient temperatures during the warmer summer months (based on Yangon River temperature of 31.3 °C) and a 16.9 °C increase above ambient temperatures during the cooler winter months (based on a Yangon River temperature of 25.1 °C).

A summary of all power plant CORMIX modelling input parameters, including the winter and summer cases, are reproduced in **Table 2.1**.

Table 2.1: CORMIX1 Power Plant Input Data

Parameter	Value
Port type (surface/subsurface)	Surface discharge (CORMIX1)
Discharge pipe diameter	0.25 m.
Discharge Pipe height above receiving waterbody bottom	1.5 m.
Port orientation (horizontal angle, sigma)	270°
Port distance from shoreline	0 m
Effluent flow rate	210 m ³ /hr
Effluent temperature	42 °C
Effluent temperature rise	Summer: 10.7°C; Winter: 16.9 °C
Waterbody type (bounded/unbounded)	Bounded
Bounded width	500 ft.
Bed roughness (Manning or Chezy coefficient)	Manning: 0.01
Average water depth range	2.25 m to 10.4 m.
Water depth at discharge structure	2.25 m to 10.4 m.
Ambient waterbody velocity	0.057 m/s to 3.1 m/s
Ambient Waterbody Temperature	Summer: 31.3 °C; Winter: 25.1 °C
Ambient Salinity	1 parts per thousand
Wind Speed	1 m/s
Surface heat exchange coefficient	10 W/(m ² °C)

Source: TPMC, 2019.

Mixing zone dimensions for the thermal discharge from TPMC's Power Plant have been modelled with CORMIX for eight different scenarios, as defined in **Table 2.2**. The mixing zone computations are based on the maximum anticipated effluent rate and heat load, extreme seasonal Yangon River temperatures, variant high/low Yangon River velocities, and depths. The thermal plume was modelled as a single port discharge using CORMIX's single port discharge ("CORMIX1") module.

Table 2.2: Power Plant Scenario Definitions

Scenario	1	2	3	4	5	6	7	8
Ambient Velocity (m/s)	0.057	0.057	0.057	0.057	3.1	3.1	3.1	3.1
Ambient Temperature (°C)	25.1	25.1	31.3	31.3	25.1	25.1	31.3	31.3
Water Depth (m)	2.25	10.4	2.25	10.4	2.25	10.4	2.25	10.4

2.7 LNG Scenario Information

IFC water quality standards limit thermal discharges by the temperature increase in the receiving waterbody. These standards are given by temperature increases more than 3 °C above ambient within 100 m from the discharge point.

An estimate of the TPMC Power Plant's maximum thermal loading to the Yangon River results in a 10.7 °C decrease below ambient temperatures during the warmer summer months (based on Yangon River temperature of 31.3 °C) and 16.9 °C decrease below ambient temperatures during the cooler winter months (based on a Yangon River temperature of 25.1 °C).

A summary of all LNG plant CORMIX modelling input parameters, including the winter and summer cases, are reproduced in **Table 2.3**.

Table 2.3: CORMIX1 LNG Input Data

Parameter	Value
Port type (surface/subsurface)	Surface discharge (CORMIX1)
Discharge pipe diameter	0.336 m.
Port distance from shoreline	Low tide: 5 m , High tide: 21.2 m
Port orientation (horizontal angle, sigma)	90°
Bottom slope	0%
Effluent flow rate	1300 m ³ /hr
Effluent temperature reduction	10 °C
Waterbody type (bounded/unbounded)	Bounded
Bounded width	1985 ft.
Bed roughness (Manning or Chezy coefficient)	Manning: 0.01
Average water depth range	7.1 m to 10.5 m.
Water depth at discharge structure	7.1 m to 10.5 m.
Ambient waterbody velocity	0.057 m/s to 3.1 m/s
Ambient waterbody temperature	Summer: 31.3 °C; Winter: 25.1 °C
Ambient Salinity	1 ppt
Wind Speed	1 m/s
Surface heat exchange coefficient	10 W/(m ² °C)

Source: TPMC, 2019.

Mixing zone dimensions for the cold water discharge from TPMC's LNG have been modelled with CORMIX for eight different scenarios, as defined in **Table 2.4**. The mixing zone computations are based on the maximum anticipated effluent rate and heat load, extreme seasonal Yangon River temperatures, variant high/low Yangon River velocities, and depths. The thermal plume was modelled as a single port discharge using CORMIX's single port discharge ("CORMIX1") module.

Table 2.4: LNG Scenario Definitions

Scenario	1	2	3	4	5	6	7	8
Ambient Velocity (m/s)	0.0057	0.0057	0.0057	0.0057	3.1	3.1	3.1	3.1
Ambient Temperature (°C)	25.1	25.1	31.3	31.3	25.1	25.1	31.3	31.3
Effluent Temperature (°C)	15.1	15.1	21.3	21.3	15.1	15.1	21.3	21.3
Water Depth (m)	7.1	10.5	7.1	10.5	7.1	10.5	7.1	10.5
Tide; distance from shoreline (m)	Low; 5	High 21.2						

3. RESULTS

3.1 CORMIX Model Results

3.1.1 Power Plant Results

The most critical scenario, scenario 8, involves high ambient velocity, high ambient temperature, and large depth. The summer Yangon River temperature applied for this scenario was 31.3°C and the corresponding discharge temperature is 42°C; consequently, the summer scenario was evaluated for the distance needed to decrease the temperature difference less than 3 °C within 100 m from the discharge. This temperature criteria is met within 4.2 metres for scenario 8 and is met in less than 4.2 m for all other scenarios.

Table 3.1 summarizes the results of each scenario, as characterized by two indicators:

- Length of the plume downstream (centreline); and
- Width of the plume

Table 3.1: Mixing Zone Dimensions Based on Plume Centreline for Critical Condition Power Plant Scenarios

Scenario	Criteria	Plume length (m)	Width (m)
1	$\Delta T < 3^{\circ}\text{C}$	1.7	2.2
2	$\Delta T < 3^{\circ}\text{C}$	0.96	1.4
3	$\Delta T < 3^{\circ}\text{C}$	0.72	1.5
4	$\Delta T < 3^{\circ}\text{C}$	0.46	1.0
5	$\Delta T < 3^{\circ}\text{C}$	2.27	0.3
6	$\Delta T < 3^{\circ}\text{C}$	3.4	0.6
7	$\Delta T < 3^{\circ}\text{C}$	0.82	0.3
8	$\Delta T < 3^{\circ}\text{C}$	4.2	0.6

The CORMIX simulation shows that the $< 3^{\circ}\text{C}$ excess temperature requirement in scenario 8 is met approximately 4.2 m downstream and 0.6 m across. The buoyant, heated effluent plume rises to the

surface while mixing throughout the water column, causing relatively uniform spreading in the vertical direction.

The plume area exceeding a 3 °C temperature increase in summer is shown in **Figure 3.1**.

Figure 3.1: Mixing Zone Resulting from Power Plant Scenario 8 Critical Conditions



Source: Google Earth, 2018.

The dimensions shown represent the centreline temperature downstream extent and width; temperatures decrease away from the centreline.

Additional depictions of the two dimensional plume are presented in **Figure 3.2** through **Figure 3.3**.

Figure 3.2: Lateral (X-Y) View of the Thermal Plume Resulting from Power Plant Scenario 8 Critical Conditions

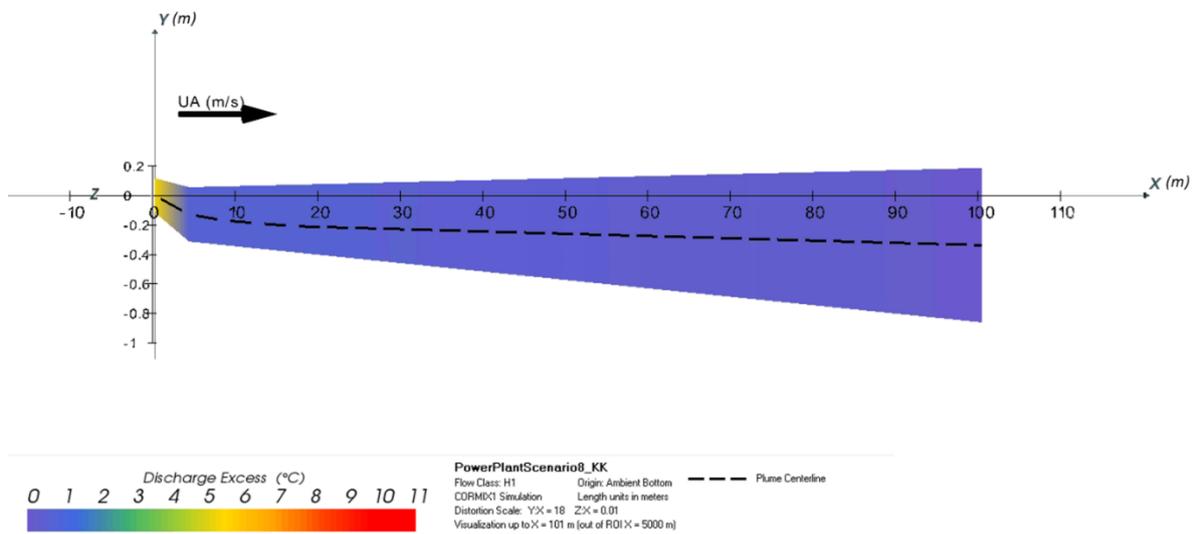
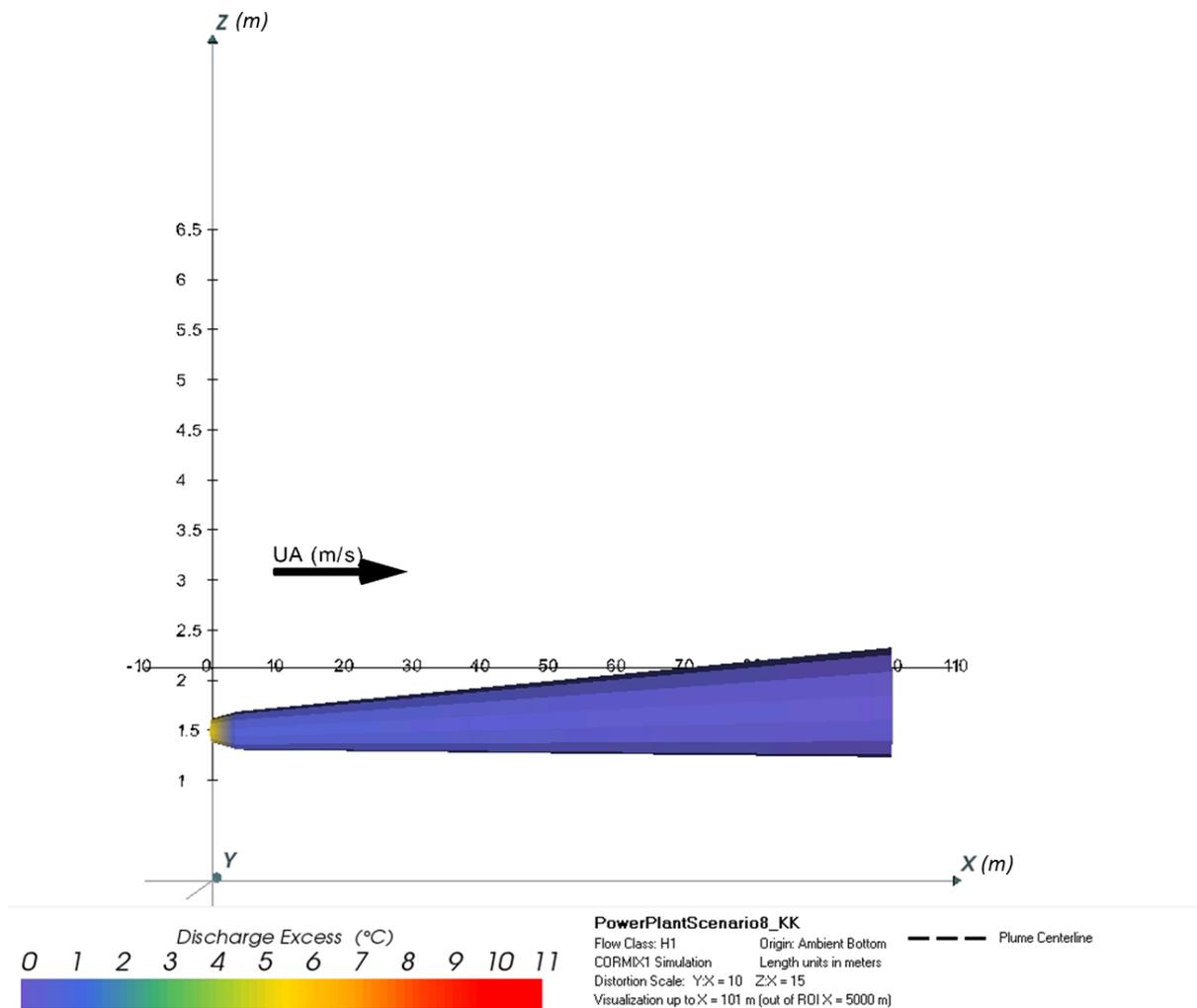
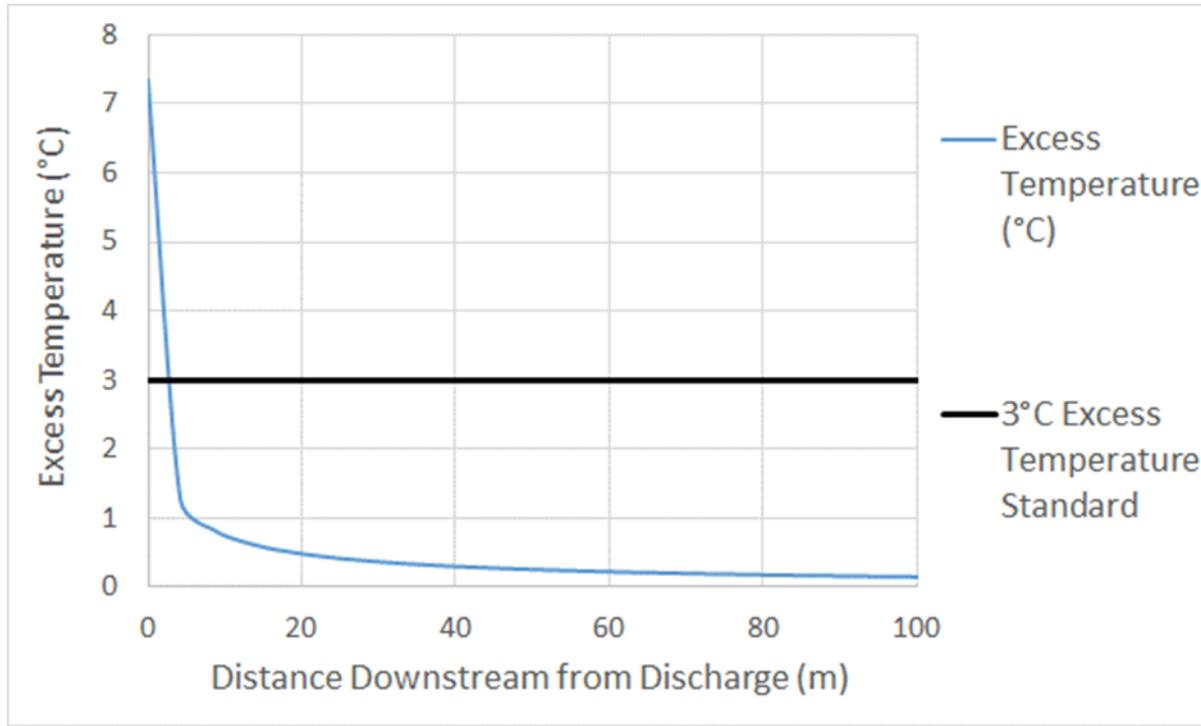


Figure 3.3: Depth (X-Z) View of the Thermal Plume Resulting from Power Plant Scenario 8 Critical Conditions



The plume centreline is also shown in **Figure 3.4** as a line plot. This plot includes excess temperature at the centreline versus distance downstream.

Figure 3.4: Line Plot of the Thermal Plume Resulting from Power Plant Scenario 8 Critical Conditions Compared to the Excess Temperature Standard



3.1.2 LNG Results

The most critical scenario, scenario 8, involves high ambient velocity, high ambient temperature, and large depth. The summer Yangon River temperature was determined to be 31.3 °C and the corresponding discharge temperature is 21.3 °C; consequently, the summer scenario was evaluated for the distance needed to decrease the temperature difference less than 3 °C within 100 m from the discharge. This temperature criteria is met within 9.16 metres for scenario 8 and is met in less than 9.1 m for all other scenarios.

Table 3.2 summarizes the results of each scenario, as characterized by two indicators:

- Length of the plume downstream (centreline); and
- Width of the plume.

Table 3.2: Mixing zone dimensions based on plume centerline for critical condition LNG scenarios

Scenario	Criteria	Plume length (m)	Width (m)
1	$\Delta T < 3^{\circ}\text{C}$	0.24	1.90
2	$\Delta T < 3^{\circ}\text{C}$	0.24	1.9
3	$\Delta T < 3^{\circ}\text{C}$	0.24	1.9
4	$\Delta T < 3^{\circ}\text{C}$	0.24	1.9
5	$\Delta T < 3^{\circ}\text{C}$	2.4	2.2
6	$\Delta T < 3^{\circ}\text{C}$	6.8	2.6
7	$\Delta T < 3^{\circ}\text{C}$	2.4	2.2
8	$\Delta T < 3^{\circ}\text{C}$	9.1	2.6

The CORMIX simulation shows that the $< 3^{\circ}\text{C}$ temperature differential requirement in scenario 8 is met approximately 9.1 m downstream and 2.6 m across.

The plume area exceeding a 3°C temperature differential in summer is shown in **Figure 3.5**. The dimensions shown represent the centreline temperature downstream extent and width; temperature differential decreases away from the centreline.

Figure 3.5: Mixing Zone During LNG Scenario 8 Critical Conditions



Source: Google Earth, 2019.

The denser, cooler effluent is discharged near the bottom of the water column but mixes vertically throughout the water column, causing relatively uniform spreading in the vertical direction.

Additional depictions of the two dimensional plume are presented in **Figure 3.6** through **Figure 3.7**.

Figure 3.6: Lateral (X-Y) View of the Thermal Plume Resulting from LNG Scenario 8 Critical Conditions

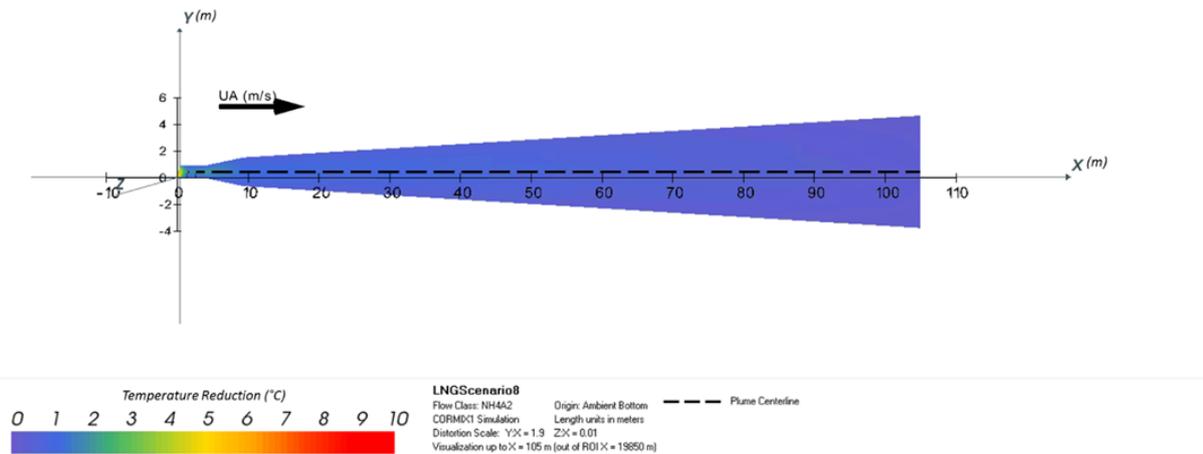
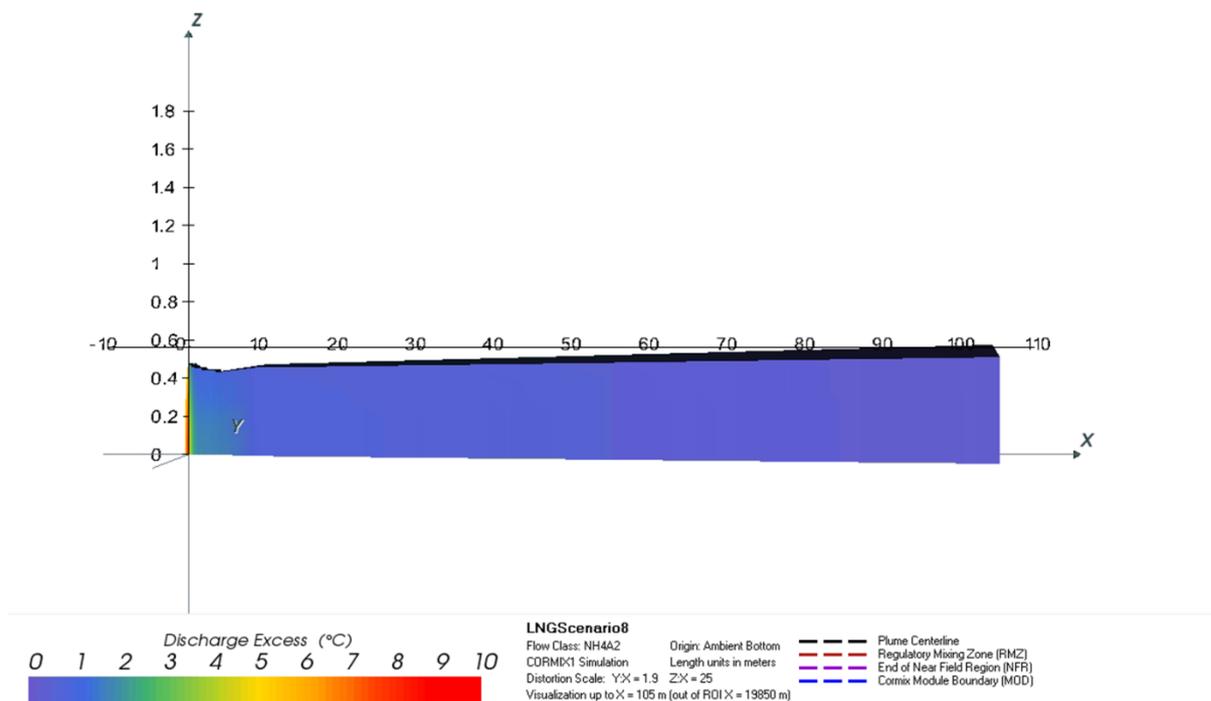
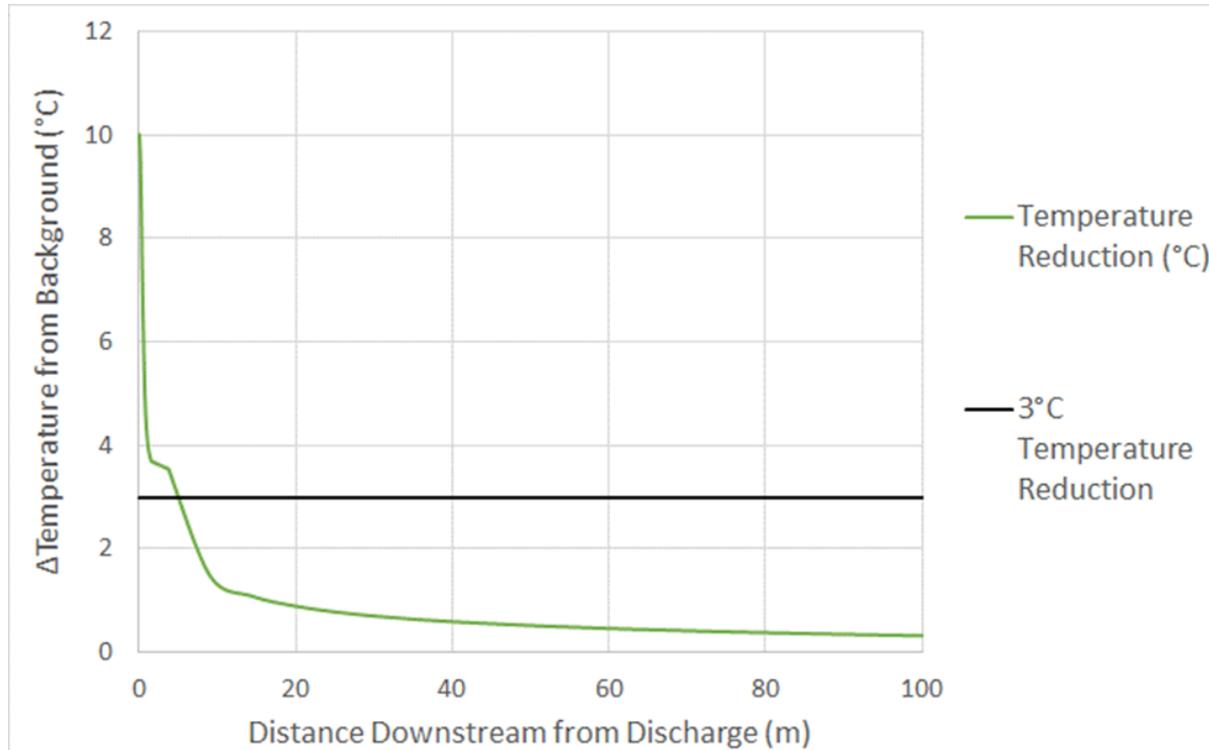


Figure 3.7: Vertical (X-Z) View of the Thermal Plume Resulting from LNG Scenario 8 Critical Conditions



The plume centreline is also shown in **Figure 3.8** as a line plot. This plot includes excess temperature at the centreline versus distance downstream.

Figure 3.8: Line Plot of the Thermal Plume Resulting from LNG Scenario 8 Critical Conditions Compared to the Excess Temperature Standard



3.2 Conclusions

Conclusions are summarized as follows:

- All eight of the Power Plant scenarios modelled with CORMIX fall below the 3 °C excess temperature criteria within 4.2 m, and All eight of the LNG scenarios modelled with CORMIX fall below the 3 °C excess temperature criteria within 9.1 m; thus, the **IFC temperature** standard for excess temperatures below 3 °C **is met** within 100 m from the discharge point for the conditions considered in this study for **both the Power Plant and LNG sites**.
- Specific compliance requirements and regulatory process related uncertainties should be noted while considering the results of this study. Furthermore, the discharge configuration and specific location are assumed based on best available information. ERM recommends **using the results of this study as indication of potential for compliance** and not as a comprehensive compliance or impact analysis, as certain assumptions (e.g., the vertical configuration of the LNG discharge structure) may not necessarily be the most conservative of possible discharge options. Once certain site-specific details are confirmed, ERM recommends a more detailed modelling study aligned with the local regulatory permitting process be conducted.

4. REFERENCES

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**APPENDIX S PUBLIC PARTICIPATION NO.1 PRESENTATION
(BURMESE)**



LNG ဓာတ်အားပေးစက်ရုံ စီမံကိန်း (အလုံ) ၊ ရန်ကုန်

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The business of sustainability



ရည်ရွယ်ချက်များ

- စီမံကိန်းအကြောင်းနှင့် ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်လေ့လာမည့် အဖွဲ့အစည်းကို တင်ပြမိတ်ဆက်ပေးရန်
- စီမံကိန်းအချက်အလက် များကို ထုတ်ဖော်ပြသပေးရန်
- ပတ်ဝန်းကျင်ထိခိုက်မှု ရှိမရှိ ဆန်းစစ်လေ့လာသွားမည့် နေရာနှင့်လုပ်ငန်းစဉ်များကို တင်ပြ သွားရန်
- စီမံကိန်း နှင့် သက်ဆိုင်သူများနှင့် ညှိနှိုင်းဆွေးနွေးသွားမည့် လုပ်ငန်းစဉ်များအကြောင်း တင်ပြရန်
- အထက်ပါလုပ်ငန်းစဉ်များနှင့် ပတ်သက်၍ သက်ဆိုင်သူ အများပြည်သူ သဘောထားအဆိုပြုချက်များကို ခံယူရန်

TTCL Power Myanmar Company Limited (TPMC)

TPMC

TPMC is a subsidiary of TTCL Public Company Limited . TPMC was established to carry out the Operation & Maintenance of this proposed project.

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- Established in 1985 by Toyo Engineering Corporation (TEC), a leading Engineering Company from Japan.
- 8 Subsidiary and Affiliate Companies in 3 continents around the world.
- Its experience in Myanmar include:
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 - 121MW Combined Cycle Gas Turbine Power Plant in Ahlone, Yangon in 2012.
 - Oil & Gas Terminal Construction in Thilawa Industrial Zone in 2018



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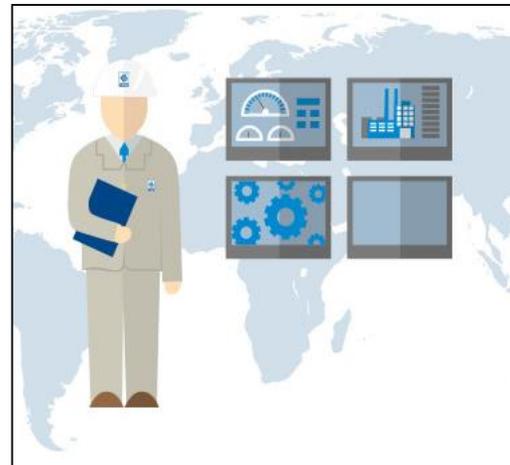
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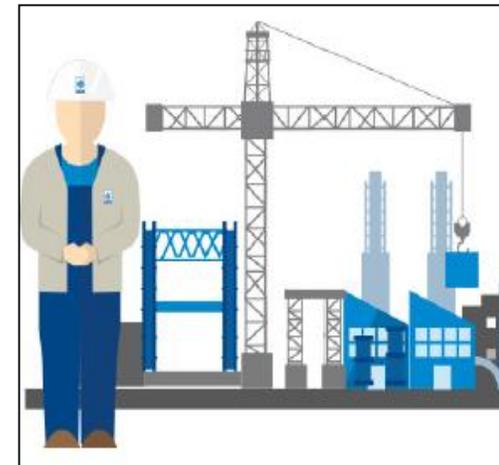
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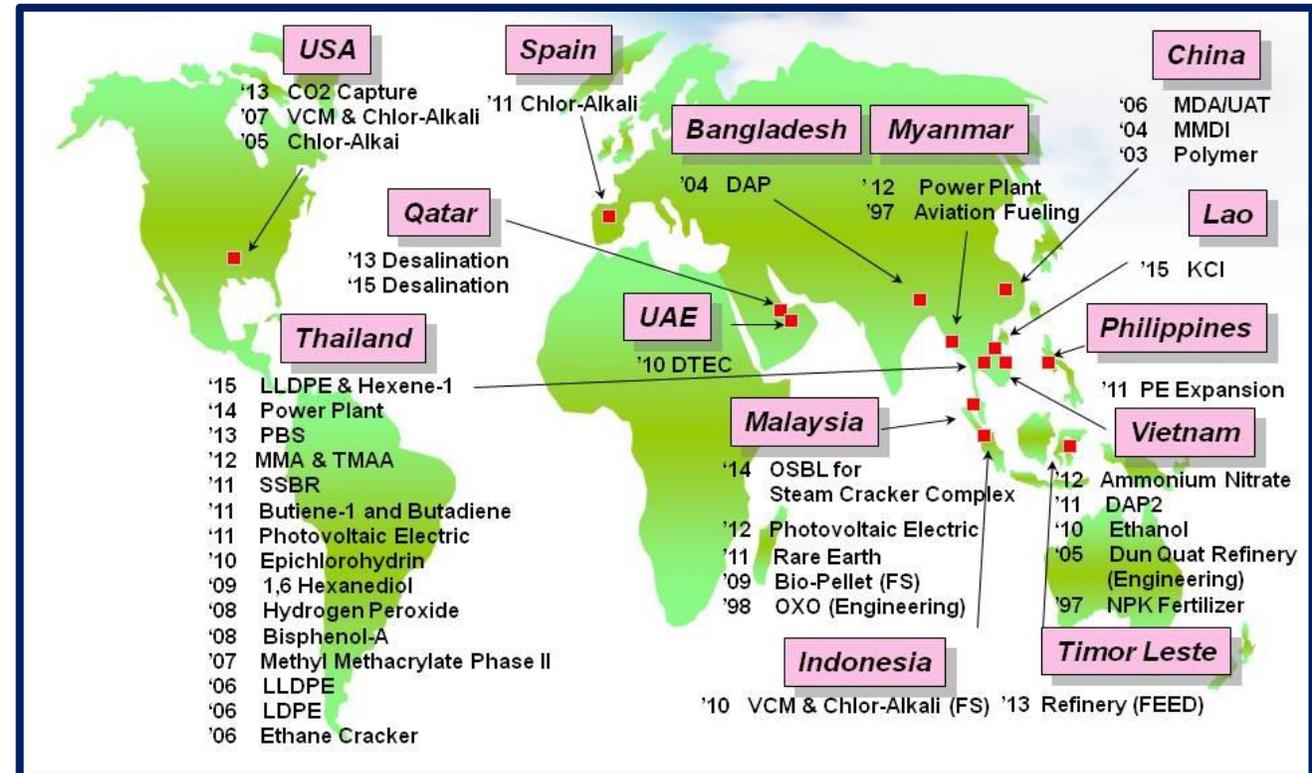
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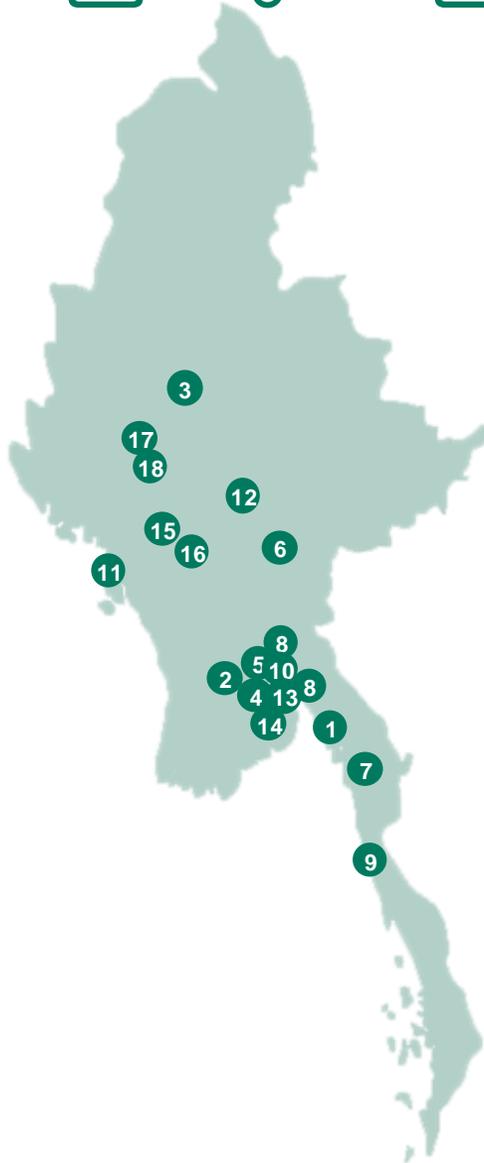
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ဤစီမံကိန်းပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း
 လေ့လာချက်များကို မြန်မာ့သယံဇာတနှင့်
 ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဌာန၏
 အသိအမှတ်ပြု လက်မှတ်ရ
 တတိယအဖွဲ့အစည်းဖြစ်သည့် Environmental
 Resources Management (ERM) က
 ဆောင်ရွက်မည်ဖြစ်ပါသည်။



ERM's Selected Project Experience – Power Sector:

1. Scoping and High-level Environmental and Social Impact Assessment (ESIA) ESIA - 1,280 MW Thermal (Coal) Power Plant - Mon State
2. Initial Environmental Evaluation (IEE) - 500 MW Thermal (Combined Cycle Gas) Power Plant - Ayeyarwady Region
3. Scoping and ESIA – Myingyan 250 MW Thermal (Combined Cycle Gas) Power Plant - Mandalay Region
4. ESIA – 300 MW HFO Power Plant - Yangon
5. IEE – 50 MW HFO Power Plant – Bago Region
6. ESIA – 1280 MW Thermal (Coal) Power Plant – Kayin State
7. ESIA – 200 MW Thermal (Gas) Power Plant - Tanintharyi Region
8. EIA – 60 MW HFO Power Plant – Bago Region
9. ESIA – FSRU, 1,200 MW Thermal (Gas) Power Plant and 400km 500kV Transmission Line - Tanintharyi Region
10. ESIA – FSRU, 1,000 MW Thermal (Gas) Power Plant and 135 km 500kV Transmission Line – Yangon Region
11. ESIA – FSRU and 2,300 MW Thermal (Gas) Power Plant and 500km 500kV Transmission Line – Rakhine State
12. ESIA – 230 MW Hydropower Plant – Shan State
13. EIA - Gas to Power Plant Project - Yangon Region
14. ESIA - Power plant, Gas Pipeline and LNG Terminal - Yangon Region
15. ESIA - 113 MW Wind Farm and 58km Transmission Line - Magway Region
16. ESIA - 50 MW Wind Farm and 115km Transmission Line - Magway Region
17. ESIA - 50 MW Wind Farm and 19km Transmission Line - Magway Region
18. ESIA - 50 MW Wind Farm and 49km Transmission Line - Magway Region

ပတ်ဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်မည့် အဖွဲ့အစည်း

Environmental Resources Management (ERM) ၏ မြန်မာကုမ္ပဏီအဖြစ် Sustainable Environmental Myanmar Co., Ltd (SEM) က ဆောင်ရွက် မည်ဖြစ်ပါသည်။

SEM သည် ပတ်ဝန်းကျင်ဆန်းစစ်မှုဆိုင်ရာ လုပ်ငန်းများနှင့် ပတ်သတ်၍ (ERM) ကို ကူညီပံ့ပိုးပေးမည့် မြန်မာလုပ်ငန်းလိုင်စင် ကိုင်ဆောင်ထားသည့် အတွေ့အကြုံရင့် အဖွဲ့အစည်းဖြစ်သည်။



ERM Key Personnel involved in Preparation of the Scoping Study

Name	Project Role
Ms. Kamonthip Ma-oon	Partner in Charge
Dr. Robin Kennish	Project Technical Director
Mr. Vincent Lecat	Project Manager and Social Specialist
Mr. Chris Brown	Soil / Water Specialist
Mr. David Nicholson	Biodiversity Specialist
Mr. Edmund Taylor	Air Quality Specialist
Ms. Khinsusu Naing	Public Consultation Specialist
Ms. Sarinya Rangsiatcharayut	GHG Specialist
Ms. Sylvia Jagerroos	Marine Specialist
Ms. Mandy To	Noise Specialist
Ms. Peggy Wong	Cultural Heritage Specialist
Ms. Kanokphorn Chaivoraphorn	Health Specialist

SEM Key Personnel involved in Preparation of the Scoping Study

Name	Project Role
Mr Zaw Naing Oo	Managing Director
Mr Maung Chit	Project Manager
Ms Nan Cherry	Social Specialist
Daw Naing Naing Win	Local Ecology Expert

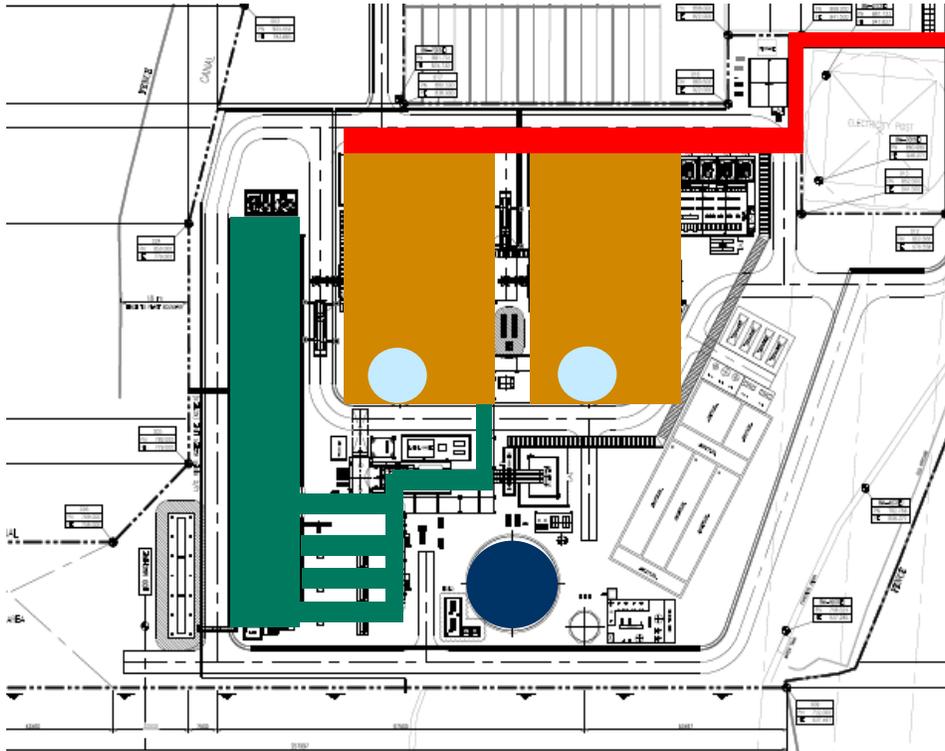
စီမံကိန်းပြ မြေပုံ (ပုံကြမ်း)

သင်္ကေတ

-  LNG လက်ခံဂိတ်
-  သဘာဝဓာတ်ငွေ့ပိုက်လိုင်း
-  ဓာတ်အားပေးစက်ရုံ



လျှပ်စစ်ဓာတ်အားပေး စက်ရုံ

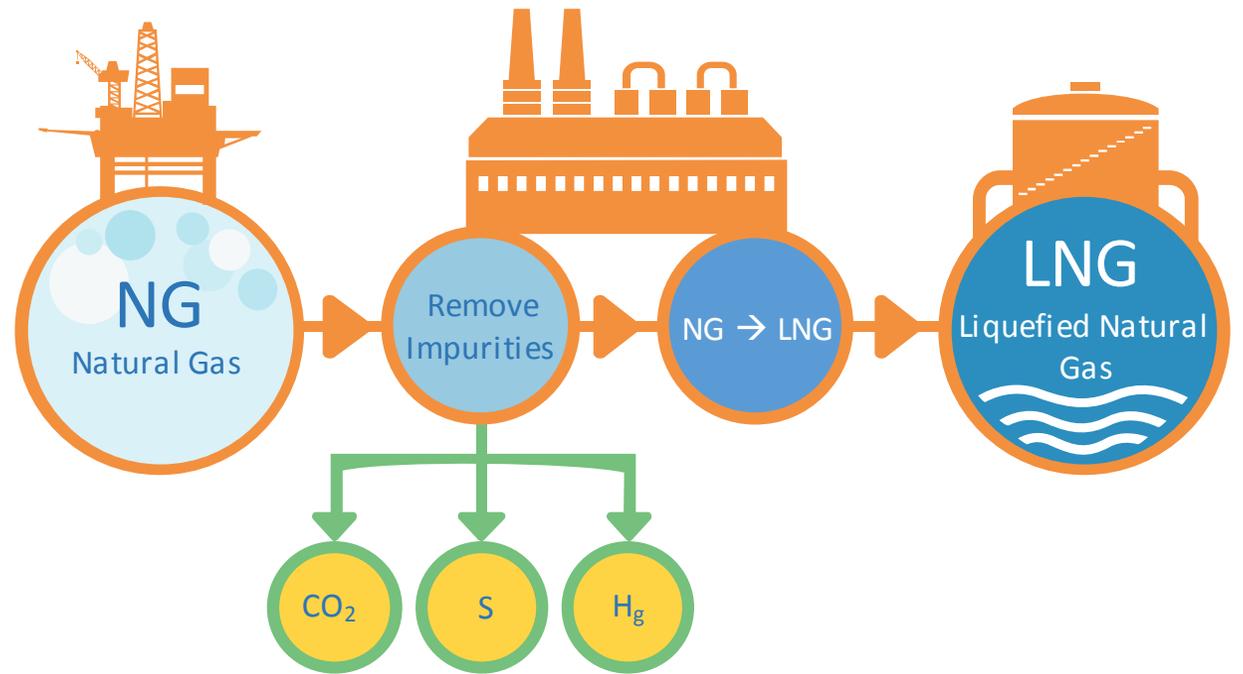


အညွှန်း

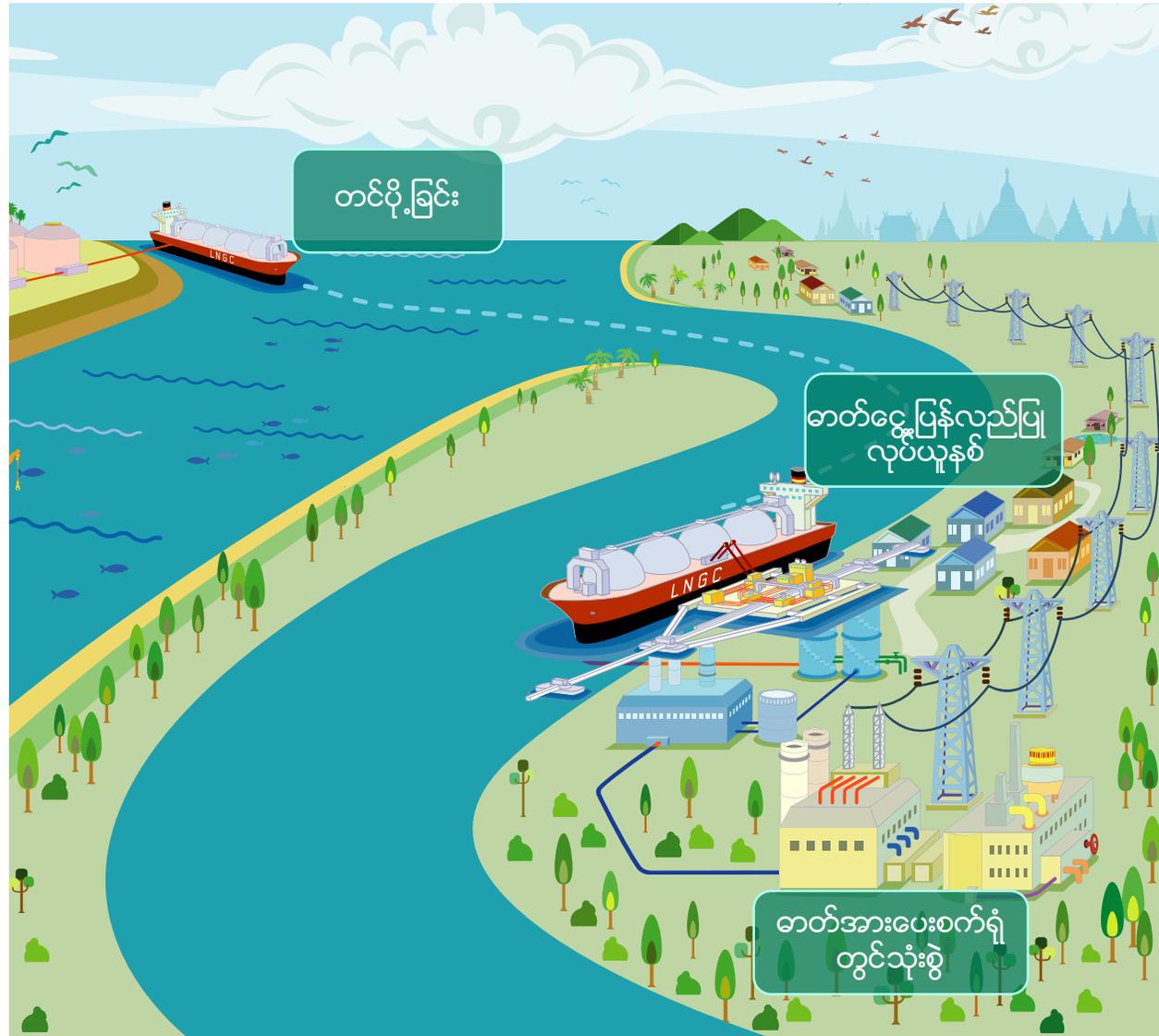
- ရန်ကုန်မြစ်
- ရေတိုင်ကီ
- ဓာတ်အားလှိုင်း
- ရေအအေးခံ စင်မြင့်
- ဓာတ်ငွေ့တာဘိုင် နှင့် ရေခွေးငွေ့တာဘိုင်
- ခေါင်းတိုင်

LNG ဆိုတာဘာလဲ

LNG (Liquefied Natural Gas) ဆိုသည်မှာ သဘာဝဓာတ်ငွေ့ကို အပူချိန် (-၁၆၀) ဒီဂရီ ဆဲလ်စီးယပ် ခန့် ထိလျော့ချ၍ အရည်ပုံစံဖြင့် ထိန်းသိမ်းထားသော ဓာတ်ငွေ့အရည် ဖြစ်ပါသည်။ အထူးတည်ဆောက်ထားသော သင်္ဘောများဖြင့် သယ်ယူပို့ဆောင်ကြသည်။ အခြားသော လောင်စာရည် (ဥပမာ ဓာတ်ဆီ၊ ဒီဇယ်) တို့နှင့် နှိုင်းယှဉ်လျှင် LNG ဓာတ်ငွေ့ ရည်မှာ အလွယ်တကူ မီးလောင်နိုင်စွမ်း နည်းပါးပါသည်။



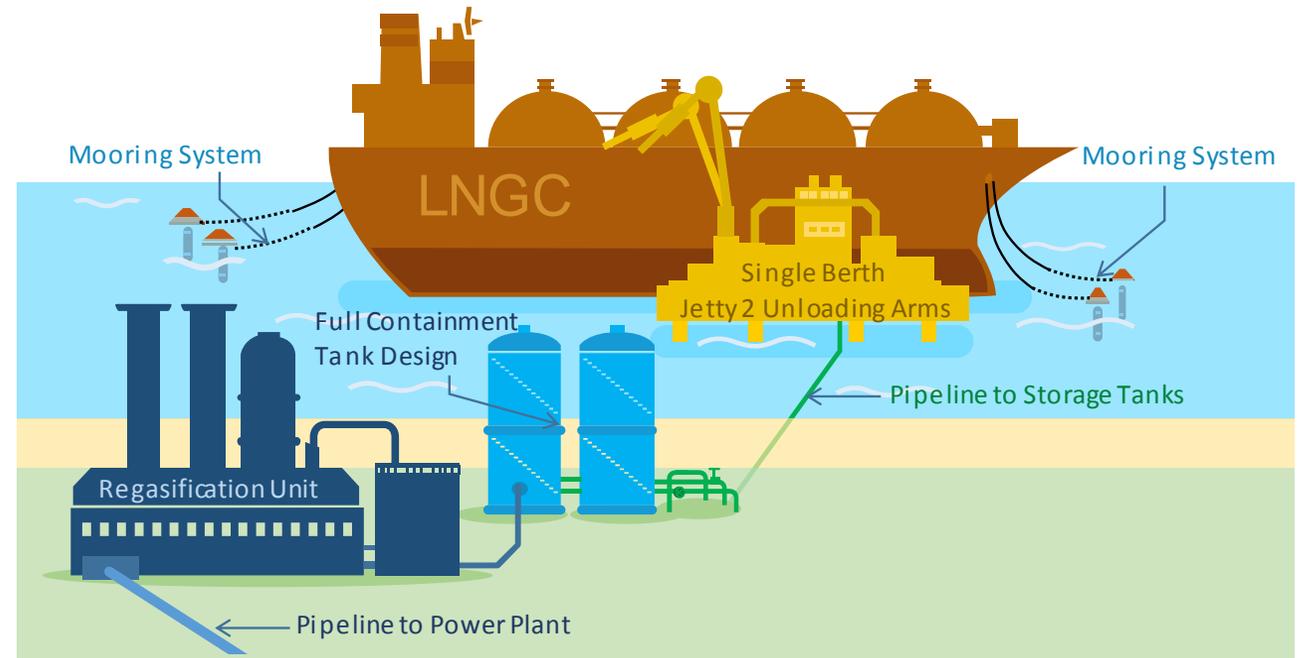
LNG ထုတ်လုပ် သယ်ယူ သုံးစွဲခြင်း



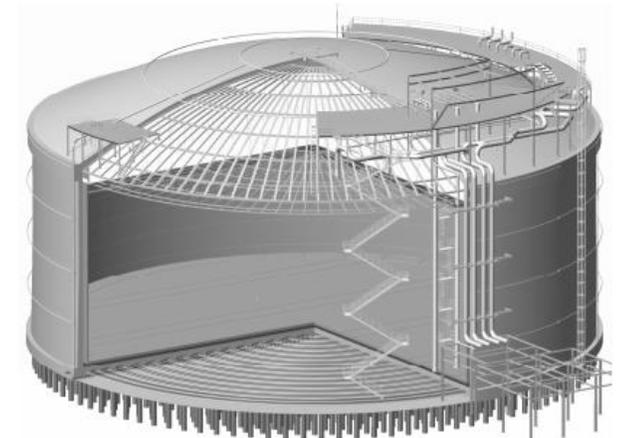
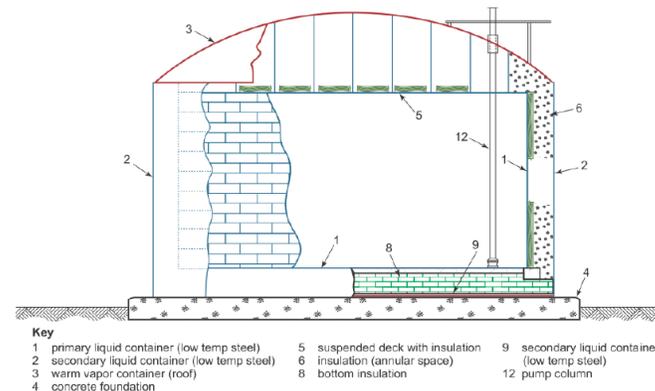
LNG လက်ခံဆိပ်ကမ်း

အဓိက ပါဝင်အစိတ်အပိုင်းများ

- LNG အတင်အချ ဆိပ်ခံတံတား
- LNG သိုလှောင်တိုင်ကို ၂ လုံး
(တစ်လုံးလျှင် ၁၉,၀၀၀ ကုဗမီတာ)
- သဘာဝဓာတ်ငွေ့ ပြုလုပ်သည့် ယူနစ်



LNG Tank (Full Containment)



© 2006 EPD HK GOV

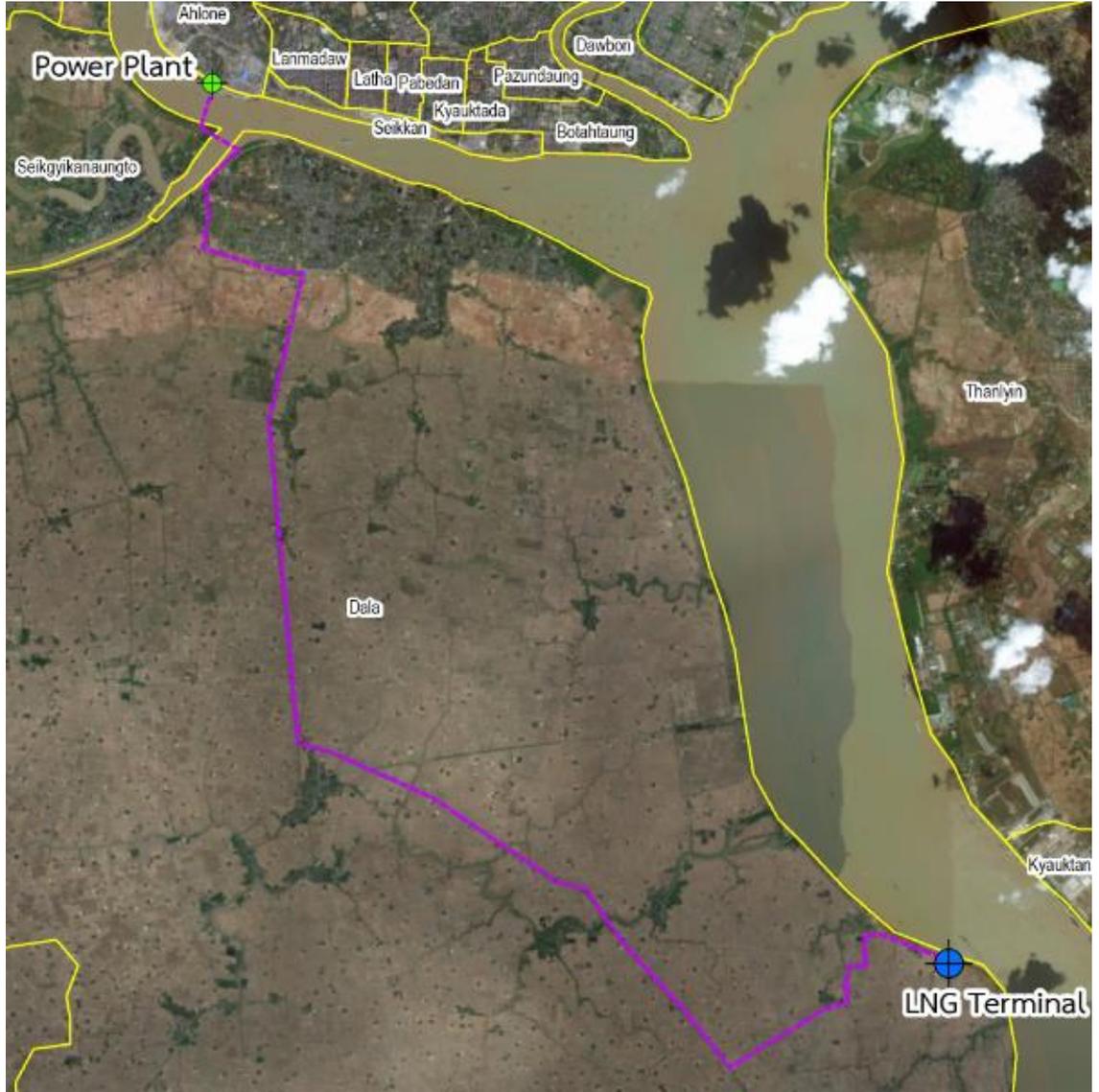
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သဘာဝဓာတ်ငွေ့ပိုက်လိုင်း

- ၁၄ လက်မ အချင်းရှိ သံပိုက်လိုင်း
 - ပိုက်လိုင်းအတွင်း ဓာတ်ငွေ့ဖိအား (52.6 barG)
- ကျန်းမာရေးနှင့်ဘေးကင်းလုံခြုံရေးနှင့် အရေးပေါ်ထိန်းချုပ်မှု
- ဓာတ်ငွေ့ဖိအား ထောက်လှမ်းရေးစနစ် တပ်ဆင်ထားခြင်း
 - အရေးပေါ်အခြေအနေ တစ်စုံတစ်ရာ ဖြစ်ပေါ်လာပါ ဓာတ်ငွေ့ပို.လွတ်မှုကို ရပ်ဆိုင်းခြင်း
 - အရေးပေါ်အခြေအနေ တွင်ဓာတ်ငွေ့ပိုက်လိုင်း ကို ပိတ်ဆို့ ဖြတ်တောက်နိုင်သော Main Block Valve များ တပ်ဆင်ထားခြင်း
 - ပိုက်လိုင်း တိုက်စားခြင်း မဖြစ်စေရန် Cathodic protection ဖြင့် ကာကွယ်ထားခြင်း

သင်္ကေတ

----- သဘာဝဓာတ်ငွေ့ပိုက်လိုင်း



ဓာတ်ငွေ့ ပိုက်လိုင်း သွယ်တန်းပုံ အမျိုးမျိုး



တူးဖော်သွယ်တန်းခြင်း- သွယ်တန်းရာ အနက်တစ်ခုအထိ မြေတူးဖော်၍ ပိုက်လိုင်း မြှုပ်နှံသော နည်းစနစ်ဖြစ်သည်။ ပိုက်လိုင်းပေါ်မှ မြေပြန်ဖုံး၍ လမ်းကြောင်းတစ်လျှောက် သတိပေးဆိုင်ပုဒ် များတပ်ဆင်ထားရမည်။ ပိုက်လိုင်းမြှုပ်နှံရာ ဧရိယာကိုလည်း မူလပကတိ အနေအထားအတိုင်း ပြန်လည်ပြုပြင်ပေးရပါသည်။

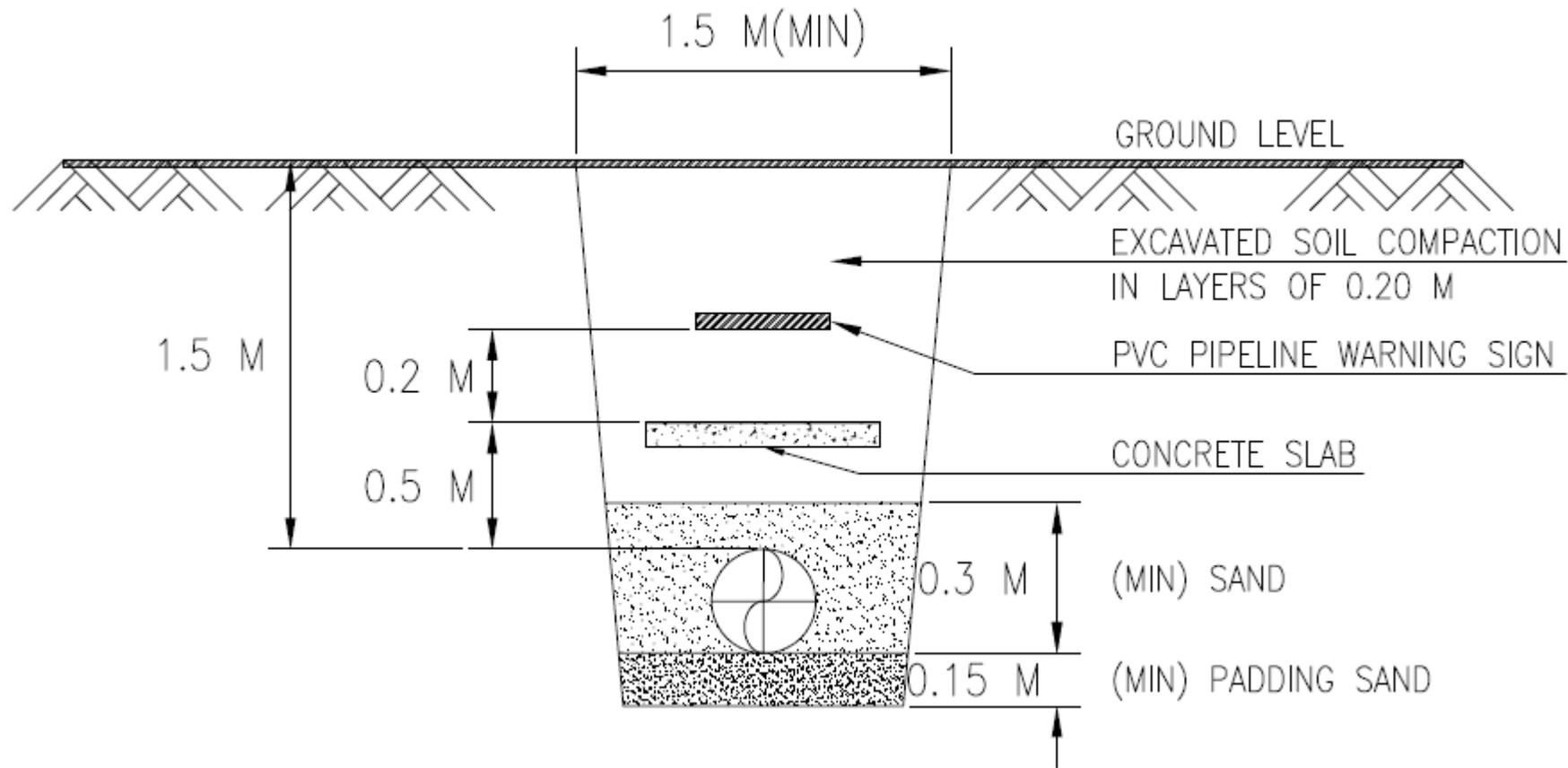


ထိုးသွင်းသွယ်တန်းခြင်း - မြစ်ကြောင်း၊ လမ်း၊ အဆောက်အဦး ကဲ့သို့ သော ထုထည်အတားအဆီးများအောက်မှ ပိုက်လိုင်းကို ထိုးသွင်းသွယ်တန်းသော စနစ်ဖြစ်သည်။ ပိုက်လိုင်း၏ အစွန်းနှစ်ဖက်တွင်သာ မြေတူးဖော်ရန် လိုအပ်၍ တစ်ဖက်တွင်မြေတူးလွန်စက်ဖြင့် ထိုးသွင်း၍ သွယ်တန်းသော စနစ်ဖြစ်သည်။



အကြီးစားလွန်စက်ဖြင့် သွယ်တန်းခြင်း- လိုအပ်သလို ထိန်းကြောင်းနိုင်သော လွန်စက်ဖြင့် ထုထည်အတားအဆီးများအောက်မှ ရေပြင်ညီအတိုင်း ပိုက်လိုင်းကို ထိုးသွင်းသွယ်တန်းသော စနစ်ဖြစ်သည်။ ထုထည်ကြီးမားသော (၅၀၀ မှ ၂၀၀၀ မီတာ ခန့်) အဆောက်အဦးများအောက်မှ ပိုက်လိုင်းဖြတ်သန်းရန် လိုအပ်သောအခါ ဤနည်းလမ်းကို အသုံးပြုကြပါသည်။

ပိုက်လိုင်း၏ ဖြတ်ပိုင်းပုံ : (တူးဖော်သွယ်တန်းခြင်း)

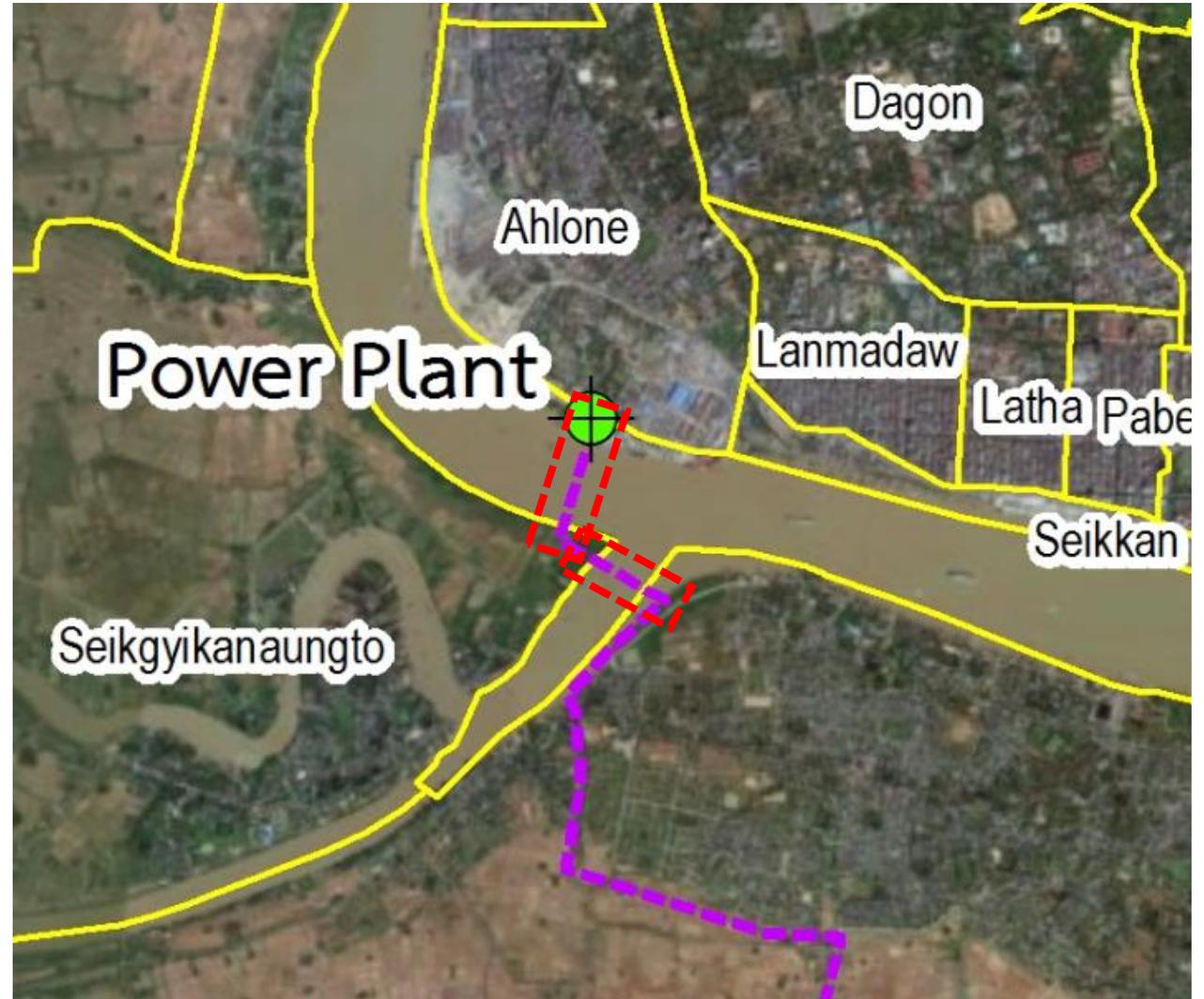


သဘာဝဓာတ်ငွေ့ပိုက်လိုင်း လမ်းကြောင်း

 အကြီးစားလွန်စက်ဖြင့်
သွယ်တန်းမည့်နေရာ

 ပိုက်လိုင်း

 ဓာတ်အားပေးစက်ရုံ



စီမံကိန်း လုပ်ငန်းစဉ်များ (အခြေပြု ဇယား)



သဘာဝပတ်ကျင် နှင့် လူမှုဝန်းကျင်တို့အကြား ဖြစ်ပေါ်လာနိုင်သည့် သက်ရောက်မှုများကို လေ့လာခြင်း

စီမံကိန်းနှင့်စပ်လျဉ်း၍ သဘာဝပတ်ဝန်းကျင် နှင့် လူမှုဝန်းကျင်တို့အကြားဖြစ်ပေါ်လာနိုင်သည့် သက်ရောက်မှုများကို ကောင်းမွန်စွာ သိရှိနားလည်နိုင်ပါရန် လေ့လာဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များကို တတိယအဖွဲ့ အစည်းဖြစ်သော (ERM) မှ ဆောင်ရွက်လျက်ရှိပါသည်။

အဆိုပါ ဆန်းစစ်မှုများကို မြန်မာနိုင်ငံ၏ သဘာဝပတ်ဝန်းကျင်ဆိုင်ရာ ဥပဒေ၊ International Finance Corporation (IFC) □ World Bank Group တို့၏ နိုင်ငံတကာ စံချိန်စံညွှန်းများ အတိုင်း ဆောင်ရွက်လျက်ရှိပါသည်။

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ESIA လုပ်ငန်းစဉ်များ

၁။ နယ်ပယ်အတိုင်းအတာသတ်မှတ်ခြင်း (Scoping Report) အစီရင်ခံစာကို ပြင်ဆင်ရေးသားရန်။

၂။ ကနဦးကွင်းဆင်းလေ့လာခြင်း (Baseline Studies) စီမံကိန်းလေ့လာမှု ဧရိယာအတွင်း ခြောက်သွေ့ရာသီနှင့် စိုစွတ်ရာသီ နှစ်ခုလုံး၏ လက်ရှိပတ်ဝန်းကျင်အနေအထား အချက်အလက်များကို ကောက်ယူရန်။

၃။ သက်ရောက်နိုင်မှုများကို တွက်ထုတ်ခြင်း (Impact Assessment) စီမံကိန်းနှင့်ပတ်သတ်၍ ကနဦးပတ်ဝန်းကျင် အခြေအနေများ ပျက်ယွင်းနိုင်ခြေ ရှိမရှိကို တွက်ချက်ဖော်ထုတ်ရန်။

၄။ သက်ရောက်မှုကို ထိန်းချုပ်ခြင်း (Management Measures) စီမံကိန်းနှင့်စပ်လျဉ်းကာ ဆိုးကျိုးသက်ရောက်နိုင်ခြေများကို လျော့ချ၍ ကောင်းကျိုးသက်ရောက်နိုင်ခြေများကို တိုးမြှင့်ပေးနိုင်ရန် အစီအစဉ်များ ရေးဆွဲရန်။

၅။ အစီရင်ခံစာ (Report) သက်ရောက်မှုလျော့ချခြင်း အစီအစဉ်များ လက်တွေ့ကျခြင်း မကျခြင်းများကို သုံးသပ် တင်ပြရန်။

ကနဦး အခြေအနေ သုံးသပ်မှု

စီမံကိန်းလေ့လာမှု ဧရိယာအတွင်း ကနဦး အခြေအနေ သုံးသပ်မှုများကို ခြောက်သွေ့ရာသီနှင့် စိုစွတ်ရာသီ နှစ်ခုလုံးမအတွက် ကွင်းဆင်းလေ့လာခဲ့ပြီးဖြစ်ပါသည်။ ကနဦး ဆန်းစစ်မှုကာလအတွင်း အောက်ပါအချက်အလက်များ ကို ကောက်ယူခဲ့ပါသည်။

- မြေပေါ်ရေ အရည်အသွေး
- နနံ
- မြေအောက်ရေ
- မြေအမျိုးအစား
- လေထု အရည်အသွေး



LNG လက်ခံဆိပ်ကမ်းတွင် လုပ်ဆောင်မည့် လေ့လာမှုများ

ဆောက်လုပ်ရေး
ကာလ

- မြေပေါ် ရေအရည်အသွေး
- ရေနေဇီဝ
- ရေယာဉ်အသွားအလာ
- လေထု
- ဆူညံသံ



လည်ပတ်မောင်း
နှင်
ကာလ

- ရေအေးစွန့် ထုတ်မှု
- မြေပေါ် ရေအရည်အသွေး
- ရေနေဇီဝ
- နန်းတင်ပို့ချမှု
- လေထု
- အများပြည်သူ
ကျန်းမာရေးနှင့်ဘေးကင်းလုံခြုံရေး
- မထင်မှတ်သည့် ဖြစ်ရပ်



ဓာတ်ငွေ့ပိုက်လိုင်းဧရိယာအတွင်း လုပ်ဆောင်မည့် လေ့လာမှုများ

ဆောက်လုပ်ရေး
ကာလ

- လေထု
- ဆူညံသံ
- မြေပေါ်ရေ အရည်အသွေး နှင့် အကြီးစားလွန်ထိုးစက်မှ မြေထွက်ပေါ်မှု



လည်ပတ်မောင်းနှင်
ကာလ

- အများပြည်သူ ကျန်းမာရေးနှင့်ဘေးကင်းလုံခြုံရေး
- မထင်မှတ်သည့် ဖြစ်ရပ်



လျှပ်စစ်ဓာတ်အားပေး စက်ရုံ ဧရိယာအတွင်း လုပ်ဆောင်မည့် လေ့လာမှုများ

ဆောက်လုပ်ရေး
ကာလ

- လေထု
- ဆူညံသံ
- ယာဉ်အသွားအလာ

လည်ပတ်မောင်းနှင်
ကာလ

- လေထု
- အပူစွန့်ထုတ်မှု
- မြေပေါ် ရေအရည်အသွေး



စီမံကိန်း နှင့် သက်ဆိုင်သူများအား ညှိနှိုင်းဆွေးနွေးသွားမည့် လုပ်ငန်းစဉ်

- စီမံကိန်းအချက်အလက်များကို သက်ဆိုင်သူများထံ ဖော်ပြပေးရန် နှင့် သက်ဆိုင်သူများမှလည်း စီမံကိန်းနှင့်စပ်လျဉ်း၍သိလိုသည်များကို မေးမြန်းစုံစမ်းခွင့်ရှိစေရန်
- သက်ဆိုင်သူများ၏ အကြံပြုချက်များကို ပတ်ဝန်းကျင်၊ လူမှုဝန်းကျင် ထိခိုက်မှု ဆန်းစစ်လေ့လာရာတွင် ထည့်သွင်းစဉ်းစားပေးသွားရန်။
- မြန်မာ့စံချိန်စံညွှန်း ၊ နိုင်ငံတစ်ကာစံညွှန်းများနှင့် ကိုက်ညီသော ပတ်ဝန်းကျင်၊လူမှုဝန်းကျင် ထိခိုက်မှု ဆန်းစစ်ခြင်း ရရှိစေရန်။



စီမံကိန်း နှင့် သက်ဆိုင်သူများအား ညှိနှိုင်းဆွေးနွေးခြင်း

ညှိနှိုင်းဆွေးနွေးခြင်း လုပ်ငန်းများကို ပတ်ဝန်းကျင်ဆန်းစစ်မှု ကာလ မှ စတင်ကာ စီမံကိန်း သက်တမ်းတစ်လျှောက် ဆောင်ရွက်ပေးသွားမည်ဖြစ်ပါသည်။ ဆက်လက်ဖော်ဆောင်ရမည့် အစီအစဉ်များမှာ

- တိုင်ကြားချက်များအတွက် လုပ်ထုံးလုပ်နည်း ချမှတ်ခြင်း
- ကနဦး လူမှုစီးပွားလက္ခဏာများ လေ့လာခြင်း (သက်ဆိုင်ရာ ရပ်ကွက်၊ကျေးရွာ အဖွဲ့အစည်း၊ ဌာနဆိုင်ရာတို့နှင့် ပူးပေါင်း၍)
- သက်ရောက်နိုင်ခြေ အကဲဖြတ်ခြင်း မူကြမ်းကို တင်ပြရန် အတွက် အများပြည်သူနှင့် တိုင်ပင်ဆွေးနွေးခြင်း နှင့် ထုတ်ဖော်တင်ပြခြင်း အစည်းအဝေး (၂)
- သက်ရောက်နိုင်ခြေ အကဲဖြတ်ခြင်း များ အစီရင်ခံစာကို ထုတ်ဖော်ပြသပေးခြင်း (Final ESIA Report)

Grievance Mechanism

တိုင်ကြားချက်များအတွက် လုပ်ထုံးလုပ်နည်းချမှတ်ပေးခြင်းသည်လည်း ဖော်ပြခဲ့ပြီးသော ညှိနှိုင်းဆွေးနွေးလုပ်ငန်းစဉ်များ၏ အစိတ်အပိုင်းတစ်ခု ဖြစ်ပါသည်။

- စီမံကိန်း နှင့်ပတ်သတ်၍ သက်ရောက်မှုခံရသူအားလုံးမှ တိုင်ကြားလိုခြင်း၊ အကြံပေးလိုခြင်းများ ရှိပါက အချိန်မရွေး တင်ပြ နိုင်ပါသည်။
- ပတ်ဝန်းကျင်၊ လူမှုဝန်းကျင်ထိခိုက်မှု ဆန်းစစ်သည့် လုပ်ငန်းစဉ်အတွင်း တစ်စုံတစ်ရာ မကျေနပ်ချက်၊ အကြံပေးလိုချက် ၊ မေးလိုချက် များ ရှိပါကလည်း လုပ်ထုံးလုပ်နည်းလျော်ညီစွာ တင်ပြနိုင်ပါသည်။
- အသေးစိတ်ကို လက်ကမ်းစာစောင်တွင် ကြည့်ရှုလေ့လာနိုင်ပါသည်။

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Q & A section



ကျေးဇူးတင်ရှိပါသည်။

The business of sustainability

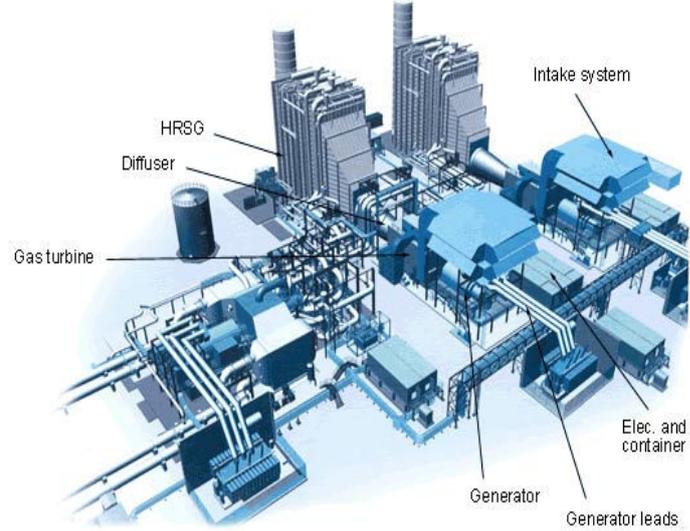


APPENDIX T BUSINESS INFORMATION DOCUMENT (BURMESE)



TTCL POWER MYANMAR COMPANY LIMITED (TPMC)

TTCL Power Myanmar Company Limited (TPMC) မှာ ထိုင်းနိုင်ငံအခြေစိုက် Engineering Company ကြီးဖြစ်သော TTCL Public Company Limited ၏ လက်အောက်ခံ ကုမ္ပဏီတစ်ခုဖြစ်ပြီး ယခုအဆိုပြု LNG ဓာတ်အားပေးစက်ရုံ စီမံကိန်း၏ operation & maintenance ကို တာဝန်ယူ လုပ်ဆောင်သွားမည် ဖြစ်မည်။



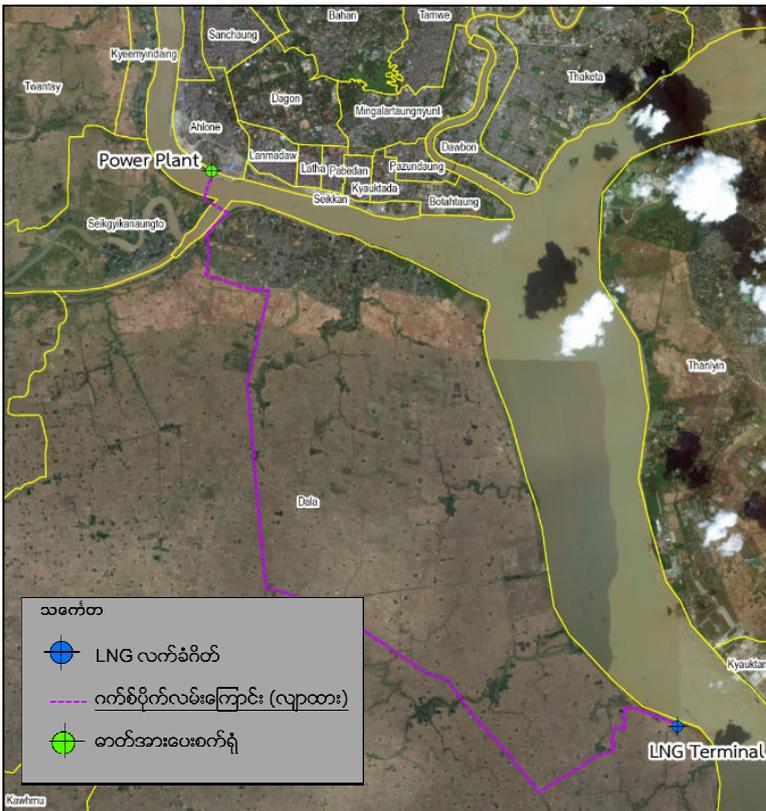
စီမံကိန်း

မြန်မာနိုင်ငံ၏ လျှပ်စစ်စွမ်းအင် ကဏ္ဍ ကိုထောက်ပံ့ဖြည့်ဆည်းပေးရန်အတွက် ၃၈၈ မီဂါဝပ် ထွက်ရှိ ထွက်ရှိမည် ပေါင်းစပ်လည်ပတ်စွမ်းအင်စက်ရုံ (Combine Cycle Power Plant) တစ်ခုကိုလက်ရှိအလုံအောက်အားပေးပေးပေးတွင်းတွင် အသစ်တည်ဆောက်သွားမည်ဖြစ်ပါသည်။ စီမံကိန်းတွင် LNG လက်ခံဆိပ်ကမ်း၊ ဓာတ်အားပေးရုံသို့ သွယ်ယူမည့် ဂက်စ်ပိုက်လိုင်း နှင့် ၂၃၀ ကေစီ ဓာတ်အားပေးလိုင်း အသစ် သွယ်တန်းခြင်း တို့လည်းပါဝင်မည်ဖြစ်ပါသည်။

အဓိကလောင်စာအတွက် သဘာဝဓာတ်ငွေ့ရည် (L N G) ကို ပြည်ပမှ တင်သွင်းအသုံးပြုသွားမည်ဖြစ်ပါသည်။ အထူးတည်ဆောက်ထားသော သင်္ဘောများဖြင့် တင်သွင်းလာသော သဘာဝဓာတ်ငွေ့အရည်ကို LNG လက်ခံဆိပ်ကမ်းမှ တစ်ဆင့် သဘာဝဓာတ်ငွေ့အဖြစ်ပို့ဆောင်သွားမည်ဖြစ်ပါသည်။စီမံကိန်းဆောက်လုပ်ရေးကာလကို ၂၀၁၉ နှစ်လယ်လောက်တွင် စတင်မည်ဟု ခန့်မှန်းထားပြီး၊ စက်ရုံစတင်လည်ပတ်မည့် ကာလကိုတော့အတည်မပြုရသေးပါ။

July 2017 စီမံကိန်းကို လျှပ်စစ်နှင့်စွမ်းအင်ဝန်ကြီးဌာန (MOEE) သို့ TTCL ကုမ္ပဏီက စတင်အဆိုပြုတင်ပြခဲ့ပြီး ဝန်ကြီးဌာနနှင့် ဆွေးနွေးမှုအကြိမ်ကြိမ် ဆောင်ရွက်ခဲ့ပါသည်။

January 2018 မြန်မာ့လျှပ်စစ်နှင့်စွမ်းအင်ဝန်ကြီးဌာန (MOEE)က စီမံကိန်းအားဆက်လက်ဆောင်ရွက်ရန် အသိအမှတ်ပြုလွှာ Notice to Proceed (NTP) ကို TTCL အား အပ်နှင်းခဲ့ပါသည်။



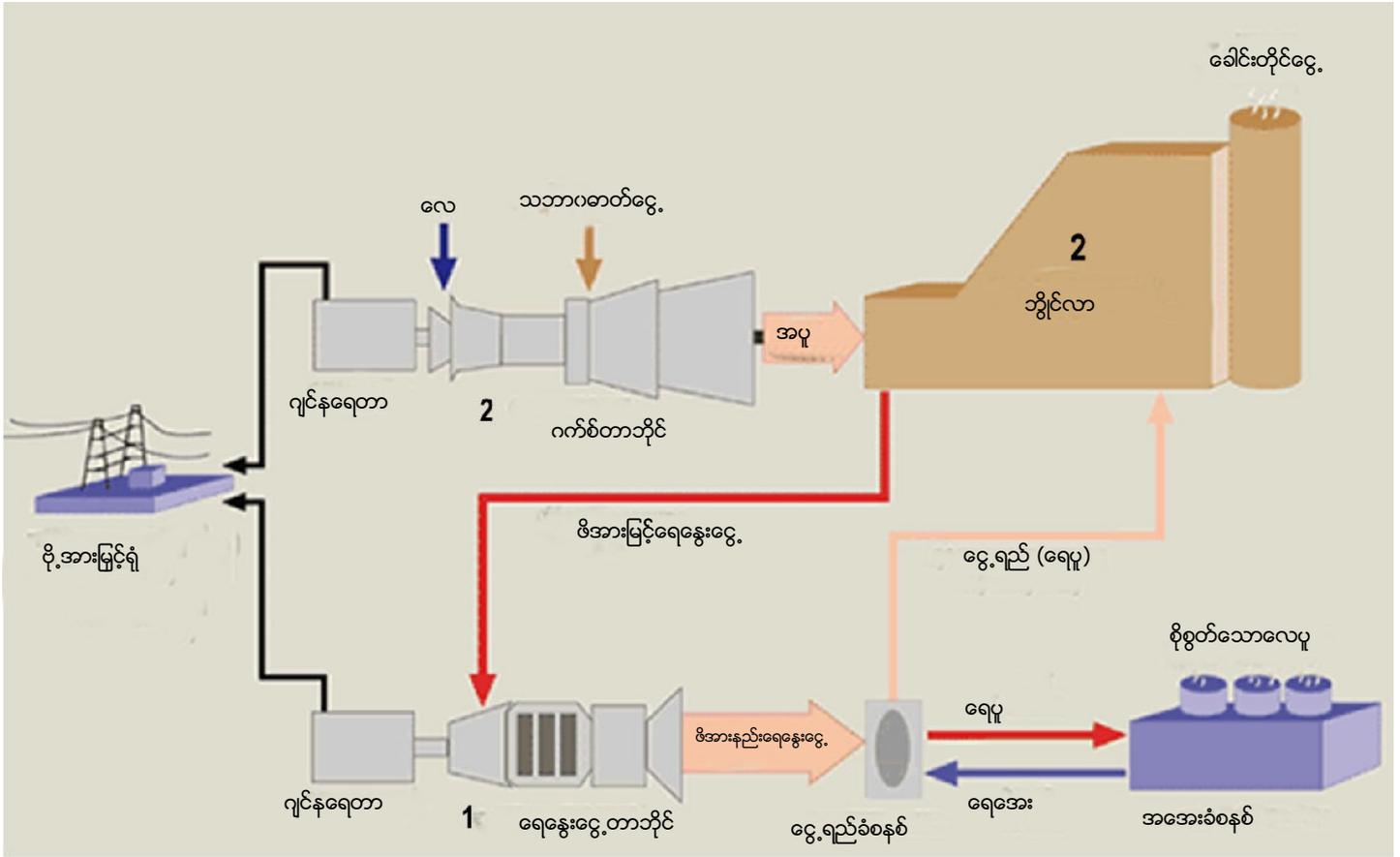
လျာထားစီမံကိန်းနေရာ

၃၈၈ မီဂါဝပ် ထွက်ရှိမည် ဓာတ်အားပေးစက်ရုံ အသစ်(Combine Cycle Power Plant) မှာ လက်ရှိ ၁၂၀ မီဂါဝပ် ဓာတ်အားပေးရုံ လည်ပတ်နေသည့် အလုံမြို့နယ် လျှပ်စစ်ဝင်းအတွင်းတည်ရှိမည် ဖြစ်ပါသည်။ မြေ ၈.၁၆ ဧက ခန့် ခန့် ရယူအသုံးပြု၍ တည်ဆောက် သွားမည်ဖြစ်ပါသည်။

LNGလက်ခံဆိပ်ကမ်းမှ ၁ ဒလမြို့နယ်၏တောင်ဘက်ပိုင်း ရန်ကုန်မြစ်ကမ်းဘေးတွင် တည်ရှိမည်ဖြစ်၍ မြေ ၁၅ ဧက ခန့်အသုံး ပြု၍ တည်ဆောက်သွားမည်ဖြစ်ပါသည်။

သဘာဝဓာတ်ငွေ့ပိုက်လိုင်းမှာLNGလက်ခံဆိပ်ကမ်းမှစတင်ကာ ကားလမ်းမဘေးမှ မှတစ်လျှောက် ထိုမှတစ်ဆင့်တံတားတူးမြောင်းကို ဖြတ်သန်း၍ ဆိပ်ကြီးခနောင်တိုဆိပ်ကမ်းဘက်ခြမ်းမှ အလုံစက်ရုံဆီသို့ ရန်ကုန်မြစ်အောက်ခြေမှ သွယ်တန်းတည်ဆောက်မည်ဟု လက်တစ်လောတွင်လျာထားပါသည်။ ပိုက်လိုင်း၏ စုစုပေါင်းအရှည်မှာ ၂၄.၄ ကီလိုမီတာ ခန့်ရှိမည်ဖြစ်ပါသည်။

ပေါင်းစပ်လည်ပတ်စွမ်းအင်စက်ရုံ (Combine Cycle Process)



ပေါင်းစပ်လည်ပတ်စွမ်းအင်စက်ရုံ (Combine Cycle Power Plant) ဆိုသည်မှာ ဂက်စ်တာဘိုင် ၊ ရေခွေးငွေ့တာဘိုင် တို့ တို့ကို အသုံးပြု၍ လျှပ်စစ်ဓာတ်အားကို နည်းလမ်းနှစ်သွယ် (တစ်နည်းအားဖြင့်) နှစ်ဆင့်ထုတ်ယူခြင်းဖြစ်သည်။

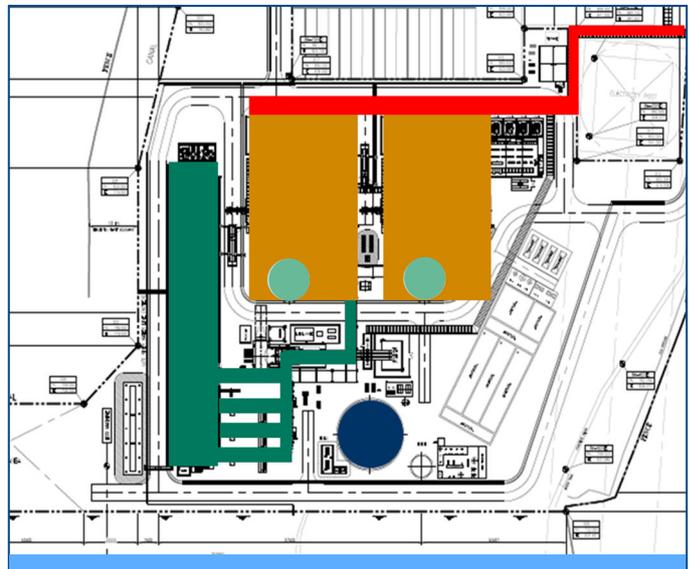
ပထမအဆင့်တွင် သဘာဝဓာတ်ငွေ့လောင်စာသုံး ဂက်စ်တာဘိုင်ကို မောင်းနှင်၍ ချိတ်ဆက်ထားသော ရျင်နရေတာကို လည်ပတ်စေကာ ဓာတ်အားထွက်ရှိလာသည်။

ဒုတိယအဆင့်တွင် ဂက်စ်တာဘိုင်မှ ထွက်ရှိလာသော အပူစွမ်းအင်ကို ဘိုင်းလာတွင် အသုံးပြု၍ ရေခွေးငွေ့ထုတ်ယူကာ ရေခွေးငွေ့တာဘိုင် ကို လည်ပတ်စေသည်။ ထိုမှတစ်ဆင့် ချိတ်ဆက်ထားသော ရျင်နရေတာကို လည်ပတ်စေကာ ဓာတ်အား နောက်တစ်ဆင့် ထွက်ရှိလာသည်။

စွမ်းအင်စက်ရုံ (Power Plant Layout)

အညွှန်း:

- ရန်ကုန်မြစ်
- ရေတိုင်ကီ
- ဓာတ်အားလှိုင်း
- ရေအအေးခံ စင်မြင့်
- ဓာတ်ငွေ့တာဘိုင် နှင့် ရေခွေးငွေ့တာဘိုင်
- ခေါင်းတိုင်

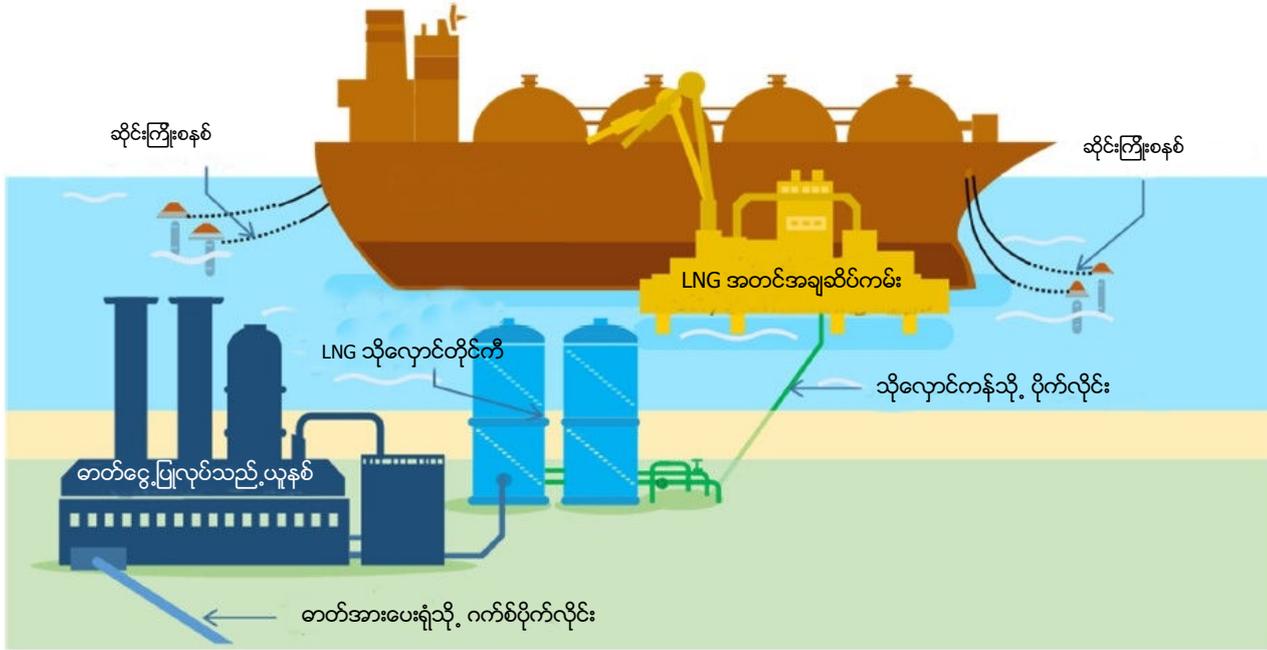




LNGလက်ခံဆိပ်ကမ်း

အဓိကလောင်စာအတွက်သဘာဝဓာတ်ငွေ့ရည် (LNGကို ပြည်ပမှသင်္ဘောကြီးများဖြင့်တင်သွင်းရမည်ဖြစ်၍LNGအကူးအပြောင်းအခြေခံအဆောက်အအုံများ တည်ဆောက်ရန်လို လိုအပ်ပါသည်။

လက်ခံဆိပ်ကမ်းတွင် LNG အတင်အချ ဆိပ်ခံတံတား ၊ LNG သိုလှောင်တိုင်ကို ၂ လုံး (တစ်လုံးလျှင် ၁၉,၀၀၀ ကုဗမီတာ) နှင့် သဘာဝဓာတ်ငွေ့ ပြုလုပ်သည့် ယူနစ် Open rack vaporizers (ORV) or Intermediate fluid vaporizers (IFV). စသည်တို့ ပါဝင်တည်ဆောက်မည်ဖြစ်သည်။



သဘာဝပတ်ဝန်းကျင် နှင့် လူမှုဝန်းကျင်တို့အကြား ဖြစ်ပေါ်လာနိုင်သည့် သက်ရောက်မှုများကို လေ့လာခြင်း

စီမံကိန်းနှင့်စပ်လျဉ်း၍ ဖြစ်ပေါ်လာနိုင်သည့် သဘာဝပတ်ဝန်းကျင် နှင့် လူမှုပတ်ဝန်းကျင်တို့အကြား ဖြစ်ပေါ်လာနိုင်သည့် သက်ရောက်မှုများကို ကောင်းမွန်စွာ သိရှိသဘောပေါက်နိုင်ရန်အတွက် လေ့လာဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များကို ဆောင်ရွက်လျက်ရှိပါသည်။

အဆိုပါ ဆန်းစစ်မှုများကို လုပ်ဆောင်ရာတွင် ပြဋ္ဌာန်းထားသော မြန်မာနိုင်ငံ၏ သဘာဝပတ်ဝန်းကျင်ဥပဒေ အပါအဝင် **Finance Corporation (IFC), World Bank Group** ကဲ့သို့သော နိုင်ငံတစ်ကာ စံချိန်စံညွှန်း လမ်းညွှန်ချက်များနှင့်လည်း လျော်ညီစွာ ဆောင်ရွက်နေပါသည်။

သဘာဝပတ်ဝန်းကျင်ဆန်းစစ်မှု အစီရင်ခံစာကို သယံဇာတနှင့်ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးဝန်ကြီးဌာန ၊ ပတ်ဝန်းကျင်ထိန်းသိမ်းရေး ဦးစီးဌာနသို့ တင်ပြကာခွင့်ပြုချက် ရယူရပါမည်။

သက်ရောက်မှုဆန်းစစ်မည့် အကြောင်းအရာ

<input type="checkbox"/> ရေနေဇီဝ	<input checked="" type="checkbox"/> မြေပေါ်ရေ အရည်အသွေး	<input type="checkbox"/> ဆူညံသံ
<input type="checkbox"/> လူမှုဝန်းကျင်နှင့် ကျန်းမာရေး	<input checked="" type="checkbox"/> မြေဆီလွှာ အရည်အသွေး	<input type="checkbox"/> စွန့်ပစ်ပစ္စည်း
<input type="checkbox"/> ယဉ်ကျေးမှုဆိုင်ရာ	<input checked="" type="checkbox"/> လေထုအရည်အသွေး	<input type="checkbox"/> ယဉ်အသွားအလာ



ပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းလုပ်ငန်းစဉ်များ



သက်ဆိုင်ရာလူထုနှင့် ညှိနှိုင်းခြင်းများ

ပတ်ဝန်းကျင်ဆန်းစစ်ခြင်းဆိုင်ရာ EIA လုပ်ငန်းစဉ်များနှင့် ပတ်သက်၍ သက်ဆိုင်ရာဒေသခံလူထုနှင့် ညှိနှိုင်းခြင်းများကို အလုံ၊ ဒဂုံ၊ လမ်းမတော်၊ ဒလ ဆိပ်ကြီးခနောင်တို၊ ဆိပ်ကမ်းနှင့် သန်လျင်မြို့နယ်တို့တွင် ပြုလုပ်သွားမည်ဖြစ်သည်။

ညှိနှိုင်းခြင်းလုပ်ဆောင်ရာတွင် လူထုပါဝင်ဆွေးနွေးပွဲ ပြုလုပ်ခြင်း၊ အသိပေးဆိုင်းဘုတ်များ ဖော်ပြပေးခြင်း၊ အချက်အလက်များကို စီမံအချက်အလက်များကို စီမံကိန်း website တွင် ဖော်ပြပေးခြင်းတို့ ပါဝင်သည်။



စီမံကိန်းနှင့်ပတ်သက်၍ ဆက်သွယ်မေးမြန်း အကြံပေးရန်

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**APPENDIX U PUBLIC CONSULTATION MINUTES OF MEETING
(SCOPING PROCESS)**



Minutes of Meeting

To	Tun Lin Kyaw
CC	ERM-Siam: Vincent Lecat
From	Environmental Resources Management (ERM-Siam)
Date and Location of Meeting	11 st December 2018 Thardana Beikmann Hall, Thanlyin Township, Yangon Region
Project Reference	0439461 TTCL Ahlone Expansion
Subject	Thanlyin Township Public Consultation Meeting No.1

Agenda

- Registration
- Introduction of the meeting by TPMC Meeting Coordinator
- Introductory speech
- Presentation about the Project by TTCL (Htet Aung Mon)
- Presentation by ERM (Susu)
- Questions and Answers Period
- Closing Comments/Conclusion speech

No.	Key Discussion	Response
1	<p>N/A, Ward Elder, Kyauktan</p> <ul style="list-style-type: none"> ■ Where is TTCL headquarter based? ■ Is the unit price of electricity generation with LNG expensive? ■ How long is the project construction period? ■ How much is the investment cost? 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ TTCL is a joint venture company of Japan -Thai, headquarter is located in Bangkok, Thailand. TTCL organization is formed with international technician. ■ As we are independent power producer, all the produced power will be sold out to MOEE. Distribution to households and electric charge for public is in the scope of MOEE. ■ The project is estimated to start construction work in the middle of 2019. Project construction will take about 28 months. The operation period is 25 to 30 years.

No.	Key Discussion	Response
		<ul style="list-style-type: none"> ■ Estimated project investment cost is 500 MUSD.
2	<p>U Nay Win, (Resident), Kyauktan Township</p> <ul style="list-style-type: none"> ■ How will you control for the noise, air & water pollution? We are experiencing constantly the noise from one of the power plant from Thilawa Zone. 	<p>Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ To determine impacts from project, we have to collect the existing soil, air quality and noise data from study area as well as need to study the potential impact from project. Depends on the existing air, soil, water quality and potential impact study, mitigation measures and monitoring plan will be proposed if necessary. ESIA report including monitoring plan have to be submitted to MONREC for approval. Project Proponent Company have to comply with our proposed impact management plan. Environmental monitoring report is required to be submit to MONREC department minimum every six month.
3	<p>Khin Su Su Nai (Ms.)</p> <ul style="list-style-type: none"> ■ Is there any punishment procedure from ECD if the project company does not follow the limitation of ESIA law? ■ Due to third party is hired by Project Company, how can we ensure the transparency of information? ■ Are there emergency response plan? 	<p>ECD Department (Thanlyin Township)</p> <ul style="list-style-type: none"> ■ Local residents are allowed to report to ECD department in the case of experience impact from project. ECD department will monitor and make sure the project is running within the given environmental guidelines. We will also have surprise check procedure to monitor the emission from project. If we found out the project company do not follow their mitigation measures, we may severely punished the project company, from WARNING stage to terminating the plant/factory entirely. <p>Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ EIA Third Party Company is hired by project Proponent Company. However, EIA organization has to work on their own principles and regulatory guidelines. Environmental impact studies and mitigation measure proposed to Project Company will indicated in Impact assessment report.

No.	Key Discussion	Response
		<p data-bbox="820 392 1270 521">Final ESIA report will be reviewed by EIA review committee, which is formed with experts from each relevant ministries.</p> <ul data-bbox="772 562 1283 663" style="list-style-type: none"><li data-bbox="772 562 1283 663">■ Yes, mitigation measures for unplanned events and emergency responses will be included as a part of ESIA report.

Attendance list

204 persons from Government Organizations and Village Responsibilities and 4 persons from company attend the meeting.

No.	Name	Position/Occupation	Department/Organization	Contact No.
1	U Nyunt Win	-	Kyauk Tan	-
2	U Han Myint	-	Kyauk Tan	-
3	U Han Myint	-	Kyauk Tan	-
4	U Tin Shwe	-	Kyauk Tan	-
5	U Khin Maung	-	Kyauk Tan	-
6	U Kan Myint	-	Kyauk Tan	-
7	U Soe Min Oo	-	Kyauk Tan	-
8	U Htay Aung	-	Kyauk Tan	-
9	U Kyaw Sann	-	-	-
10	U Hla Win	-	-	-
11	U Tin Lwin	-	-	-
12	U Ohn Cho	-	-	-
13	U Myint Oo	-	-	-
14	U Hla Win	-	-	-
15	U Zaw Nyunt	-	Yae Nan Ward	-
16	U Han Nyunt	-	Yae Nan Ward	-
17	U Thein Oo	-	South Myoma Ward	-
18	U Aung Naing Oo	-	Thauk Taw Twin Ward	-
19	U Thet Win Hlaing	-	Kyauk Tan	-
20	U Maung Maung Ohn	-	Kyauk Tan	-
21	U Khin Maung Lwin	-	Kyauk Tan	-
22	U Kan Kaung	-	Kyauk Tan	-
23	U Htein Linn	-	Kyauk Tan	-
24	U Myo Hlaing	-	Kyauk Tan	-
25	U Myint Maung	-	Kyauk Tan	--
26	U Myint Hlaing	-	Thanlyin	09778448085
27	U Myint Naing	-	Thanlyin	-
28	U Kyi Thant	-	Thanlyin	-
29	U Maung Maung Lwin	-	Thanlyin	-
30	U Tin Maung Htay	-	Thanlyin	-
31	U Aye Cho	-	Thanlyin	-
32	U Aye Maung	-	Thanlyin	-
33	U Kyaw Ni	-	West Myothit Ward	09443179898
34	U Aung Minn Oo	-	Aung Chanthar Ward	09254264501
35	U Yan Naing Oo	-	Kyauk Tan	09420191815
36	U Than Htike Aung	-	Shwe Pyi Thar	09420086285
37	U Aung Myint Zaw	-	Bago Su Ward Ward	0943178601

38	U Wai Linn Phyto	-	Bago Su Ward Ward	09763493809
39	U Myint Khaing	-	Paya Kone Village	09778605010
40	U Soe Thein	-	Aung Mingalar Ward	09126885834
41	U Khin Maung Swe	-	Paya Kone Village	09454901218
42	U Sann Win	-	Htan Pin Kone Village	0973179898
43	Daw Thida Soe	-	Oak Pho Su Ward	09422466252
44	U Myint Zaw Oo	-	Bago Su Ward	09456942040
45	U Zin Aung	Media	-	09761557795
46	Daw Ohnmar Thu	-	Aye Myittar Ward	-
47	Daw Khin Sann	-	Aye Myittar Ward	-
48	Daw Kyi Win	-	Aye Myittar Ward	-
49	Daw Sann Sann Khaing	-	Aye Myittar Ward	-
50	Daw Hla Hla Win	-	Aye Myittar Ward	-
51	Daw Win Yi	-	Aung Chanthar Ward	-
52	U Sann Ko Aung	-	Aye Myittar Ward	09777190306
53	Daw Sann Myint	-	Aye Myittar Ward	-
54	U Zaw Minn Htay	-	Aye Myittar Ward	09777395542
55	Daw Win	-	Aye Myittar Ward	-
56	Daw Hla Hla Maw	-	Aye Myittar Ward	-
57	Daw Nwe	-	Aye Myittar Ward	-
58	Daw Zin Mar Win	-	Aye Myittar Ward	-
59	U Kyaw Swar	-	Aye Myittar Ward	-
60	U Hla Han	-	Kyauk Tan	09951517761
61	U Myint Lwin	-	Kyauk Tan	0979946072
62	U Aye Lwin	-	Kyauk Tan	09794605137
63	U Myaing Tun	-	Kyauk Tan	-
64	U Ohn Mya	-	Kyauk Tan	-
65	U Aung Kyaw Soe	-	Kyauk Tan	-
66	U Nay Tun	-	Kyauk Tan	-
67	U Myint Win	-	Kyauk Tan	-
68	U Mya Aye	-	-	-
69	U Chit Sein	-	-	-
70	U Naing Naing Soe	EPC	Kyauk Tan	-
71	U Sithu Naung	EPC	Kyauk Tan	-
72	U Aung Maung	-	Oak Pho Su Ward	-
73	U Aung Ko Ko Oo	-	Kyauk Tan	09796351715
74	U Wai Tun Myat	-	Aung Chanthar Ward	0943087614
75	U Myo Myat Thu	Township Officer	GAD	09795353972
76	U Soe Min Naing	-	Ministry of Electricity and Energy	09425323164
77	U Maung Win	-	-	09798272114
78	U Naing Win	-	Bago Su Ward	09421065651
79	U Maung Naing	-	Thanlyin	-
80	U Than Lwin	-	-	09794605137

81	U Khin Maung Lwin	-	Kyouk Tan	-
82	U Khin Soe	-	Kyouk Tan	-
83	U Chit Aye	-	Kyouk Tan	-
84	U Tin Nyunt Win	-	Kyouk Tan	-
85	U Hla Than	-	-	-
86	U Tun Tun	Government Officer	-	0943182243
87	U Than Aung	-	Oak Pho Su Ward	09420301698
88	U Aung Lwin Soe	-	Aung Chanthar Ward	09420126126
89	U Kyaw Naing	-	Aung Chanthar Ward	09799437097
90	U Ko Ko Naing	-	Aung Chanthar Ward	09799437097
91	U Zin Maung Htoo	-	East Myothit Ward	094202251212
92	U Bo Gyi	-	Ah Hmu Htan Ward	095061951
93	U Aung Soe	-	Ah Hmu Htan Ward	09253321663
94	U Mya Aye	-	Ah Hmu Htan Ward	-
95	U Win Maung	-	Ah Hmu Htan Ward	-
96	U Aung Win	Township Officer	-	09785078675
97	U Soe Naing	-	Dhakar Ward	09789960172
98	Daw Khin Khin Win	Officer	Engineer Department (Roads & Bridges)	095002044
99	Daw Ei Thazin Naing	-	South Dagon township	09970951973
100	U Tin Aye	-	Kyouk Tan	09444403472
101	U Maung Maung Myint + 6	-	Nyanung Thone Pin Village	09443123878
102	U Thein Kyaing	-	Nyanung Thone Pin Village	-
103	U Maung Soe	-	Nyanung Thone Pin Village	097094433
104	Daw Mya Sann Yi + 5	-	Shwe Pyauk Village	09790145883
105	Daw Khin Aye Nyunt	-	Kyouk Tan	09420191815
106	Daw Sann Sann Kyu	-	Kyouk Tan	-
107	Daw Ohnmar Kyaw	-	Kyouk Tan	09414206889
108	U Myint Thein	-	Kyouk Tan	-
109	U Aye Kywal	-	Thanlyin	09260584447
110	U Soe Thann	-	-	-
111	U Win Thein	-	-	09420300326
112	U Hla Maw	-	Kyouk Tan	09254002533
113	U Htin Kyaw	-	Kyouk Tan	0977553888
114	U Thein	-	Kyouk Tan	-
115	U Maung Shwe	-	Kyouk Tan	0996542395
116	U Tin Oo	-	-	-
117	U Shein Win	-	Kyouk Tan	-
118	U Maung Aung	-	Kyouk Tan	09261205024
119	U Thann Zaw Oo	-	Kyouk Tan	09784575944
120	U Aung Thu	-	Kyouk Tan	-
121	Daw Myint Zu	-	Kyouk Tan	-
122	Daw Thet Thet Khaing	-	Kyouk Tan	-
123	Daw Htay Htay	-	Kyouk Tan	-

124	Daw Khin Yu May	-	Kyouk Tan	-
125	Daw Hnin Sann Yu	-	Kyouk Tan	-
126	U Kyaw Oo	-	-	-
127	U Thura Linn Tun	-	-	-
128	U Kyaw Myint	-	-	-
129	U Phyo Wai Aung	-	-	-
130	U Thinn Aung	-	-	-
131	U Zin Aung	-	-	-
132	U Kyaw Win	-	-	-
133	U Kan Win	-	-	-
134	U Khin Maung Myint	-	-	-
135	U Myint Shwe	-	-	-
136	U Sann Tint	-	-	-
137	U Naing Oo	-	-	-
138	U Kyaw Shwe	-	-	-
139	Daw San San Win	-	Kyouk Tan	09799433472
140	Daw Khin Than Win	-	Kyouk Tan	09251872792
141	Daw Than Than Soe	-	Kyouk Tan	09796271958
142	U Tun Wai	-	Kyouk Tan	09788132079
143	U Sein Thann	-	Kyouk Tan	0926209072
144	U Aye Tun	-	Kyouk Tan	0973317114
145	U Soe Naing	-	Kyouk Tan	09420011331
146	U Myint Shwe	-	-	-
147	U Tin Win Maung	-	Thanlyin	09254405100
148	U Tin Aung Gyi	-	Thanlyin	09773170730
149	U Khin Shwe	-	Thanlyin	-
150	U Nyunt Win	-	Thanlyin	09450706656
151	U Myint Swe	-	Shwe Pyi Thar Yar Ward	-
152	U Khin Maung Thein	-	Kyouk Tan	-
153	U Thann Naing	-	Kyouk Tan	-
154	U Khin Maung Nyo	-	Kyouk Tan	-
155	U Aye Thwin	-	Kyouk Tan	09254265262
156	U Maung Maung Lwin	-	Kyouk Tan	-
157	U Khin Maung Htay	-	Myothit Middle Ward	09696685829
158	U Khin Hote	-	Aung Chanthar Ward	-
159	U Mya Win	-	Aung Chanthar Ward	0945683034
160	U Yan Paing Shwe	-	Kyouk Tan	09799434246
161	U Ko Ko Naing	-	Bogyoke Village	-
162	U Tin Win	-	Bogyoke Village	-
163	U Soe Myint	-	Bogyoke Village	-
164	U Tun Tun Win	-	Bogyoke Village	-
165	U Kyaw Thu Tun	-	Bogyoke Village	-
166	U Myint Aung	-	Bogyoke Village	-
167	U Aye Win	-	Bogyoke Village	-

168	U Than Lwin	-	Bago Su Ward Ward, Thanlyin	09421124906
169	Daw Khin Saw Mon	-	Road Transport Administration	095161266
170	Daw Khin Ma Ma	-	(AD Project) Thanlyin	09448036817
171	U Bone Kyaw Thu	-	Phayar Kone Ward	-
172	U Zaw Aung	-	Phayar Kone Ward	-
173	U Myat Ko Ko	Assistant Engineer	Kyouk Tan	09795438270
174	U Tun Tun Aung	-	Thanlyin	09250963649
175	U Aye Aung	-	North Myoma Ward	09254528677
176	UNREADABLE	-	North Myoma Ward	-
177	U Hla Thein	-	Kyouk Tan	09263671525
178	U Tun Lwin	-	Bago Su Ward	09254264217
179	Daw Hnin Toe Toe	Township Officer	Engineer Department (Roads & Bridges)	09791660636
180	U Aung Zaw Linn Tun	-	YCDC office	09261496042
181	U San Tun Aung	Regional Officer	GAD	098600694
182	U Yin Tun Lwin	Assistant General Manager	-	-
183	U Aung Myo Oo	Regional Manager	-	098600987
184	U Aung Kyaw Moe	Manager	-	095402839
185	U Tin Thein	-	Bago Su Ward	0979944054
186	Daw Mu Mu Khaing	-	Kyouk Tan	09421050003
187	U Su Win	-	Kyouk Tan	095502768
188	U Khaing Myint	-	(YCDC office) Kyouk Tan	09404751280
189	Daw Sann Sann Myint	-	Ah Lwan Sut Village	09777165448
190	Daw Hla Win Htwe	-	Ah Lwan Sut Village	09795995062
191	Daw Khin Mar Aye	-	Ah Lwan Sut Village	09420165130
192	Daw Win Win Mar	-	Ah Lwan Sut Village	09420291223
193	Daw Kyi Myint	-	Ah Lwan Sut Village	-
194	Daw Kyin Thein	-	Ah Lwan Sut Village	-
195	Daw Sann Win	-	Ah Lwan Sut Village	09254878057
196	U Kyaw Myint	-	Ah Lwan Sut Village	UNREADABLE
197	U Myint Sein	-	Ah Lwan Sut Village	09789182572
198	Daw Tin Tin Ei	-	Aye Myittar Ward	09967247598
199	U Tun Wai	-	Aye Myittar Ward	-
200	Daw Thida	-	Aye Myittar Ward	-
201	Daw Myint Myint Aye	-	Aye Myittar Ward	-
202	Daw Nan Yu Hlaing	-	Aye Myittar Ward	-
203	Daw Sa Nay Ma	-	Aye Myittar Ward	-
204	Daw Aye Aye Sann	-	Aye Myittar Ward	-
205	Daw Kyi WIn	-	Aye Myittar Ward	-
206	Daw Thann Thann Oo	-	Aye Myittar Ward	-
207	Daw Htay	-	Aye Myittar Ward	-
208	Daw Soe Soe	Veterinarian	Kyouk Tan	09448017595

List of Participation (Photo)

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	နေ့ရက် စုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	နီမေအိ.ဝင်း	ကျောက်ဆည်			
၂။	နီမေအိ.ဝင်း	"			
၃။	နီမေအိ.ဝင်း	"			
၄။	နီမေအိ.ဝင်း	"			
၅။	နီမေအိ.ဝင်း	"			
၆။	နီမေအိ.ဝင်း	"			
၇။	နီမေအိ.ဝင်း	"			
၈။	နီမေအိ.ဝင်း	"			
၉။	နီမေအိ.ဝင်း	"			
၁၀။	နီမေအိ.ဝင်း	"			
၁၁။	နီမေအိ.ဝင်း	"			
၁၂။	နီမေအိ.ဝင်း	"			
၁၃။	နီမေအိ.ဝင်း	"			
၁၄။	နီမေအိ.ဝင်း	"			
၁၅။	နီမေအိ.ဝင်း	"			
၁၆။	နီမေအိ.ဝင်း	"			
၁၇။	နီမေအိ.ဝင်း	"			
၁၈။	နီမေအိ.ဝင်း	"			
၁၉။	နီမေအိ.ဝင်း	"			
၂၀။	နီမေအိ.ဝင်း	"			

LNG သုံးလျှင်စစ်ဆေးရေးအစီအစဉ်
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးခင်မောင်အောင်	ဘုဂ္ဂလျှော်	၀၉၅၆၅၄၀၉၈၅		
၂။	ဦးခင်အောင်	ထန်းပင်လျှော်	၀၉၇၇၇၇၇၇၇၇		
၃။	ဒေါ်ခင်မာမာ	ဘုဂ္ဂလျှော်	၀၉၅၆၅၆၅၆၅၆		
၄။	ဦးမြတ်မိုး	ပဲခူး	၀၉၅၆၅၆၅၆၅၆		
၅။	ဒေါ်ခင်မာမာ	ပဲခူး	၀၉၅၆၅၆၅၆၅၆		
၆။	ဒေါ်ခင်မာမာ	အေးမြသာယာ			
၇။	ဒေါ်ခင်မာမာ	မ			
၈။	ဒေါ်ခင်မာမာ	မ			
၉။	ဒေါ်ခင်မာမာ	မ			
၁၀။	ဒေါ်ခင်မာမာ	မ			
၁၁။	ဒေါ်ခင်မာမာ	အောင်မြင်သာယာ			
၁၂။	ဦးခင်မာမာ	အောင်မြင်သာယာ	၀၉-၇၇၇-၁၉၀၃၀၆		
၁၃။	ဒေါ်ခင်မာမာ	မ			
၁၄။	ဒေါ်ခင်မာမာ	မ	၀၉-၇၇၇၃၉၅၅၄၂		
၁၅။	ဒေါ်ခင်မာမာ	မ			
၁၆။	ဒေါ်ခင်မာမာ	မ			
၁၇။	ဒေါ်ခင်မာမာ	မ			
၁၈။	ဒေါ်ခင်မာမာ	မ			
၁၉။	ဒေါ်ခင်မာမာ	အောင်မြင်သာယာ			
၂၀။					

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၁ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးစံလှိုင်	ကျောက်တန်း	၀၉-၇၈၂၅၇၅		
၂။	ဦးစံအောင်	"			
၃။	ဒေါ်မာမာ	"	၀၇		
၄။	ဒေါ်ခင်ခင်	"			
၅။	ဒေါ်ခင်ခင်	"			
၆။	ဒေါ်ခင်ခင်	"			
၇။	ဒေါ်ခင်ခင်	"			
၈။	ဒေါ်ခင်ခင်	"			
၉။	ဒေါ်ခင်ခင်	"			
၁၀။	ဒေါ်ခင်ခင်	"			
၁၁။	ဒေါ်ခင်ခင်	"			
၁၂။	ဒေါ်ခင်ခင်	"			
၁၃။	ဒေါ်ခင်ခင်	"			
၁၄။	ဒေါ်ခင်ခင်	"			
၁၅။	ဒေါ်ခင်ခင်	"			
၁၆။	ဒေါ်ခင်ခင်	"			
၁၇။	ဒေါ်ခင်ခင်	"			
၁၈။	ဒေါ်ခင်ခင်	"			
၁၉။	ဒေါ်ခင်ခင်	"			
၂၀။	ဒေါ်ခင်ခင်	"			

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးထွန်းဝင်း	ဒေသခံ ချုံ၊ ၂၃	၀၇၄၅၆၈၃၀၃၃		
၂။	ဦးစိုးပိုင်စွေ	ကျောက်တန်းမြို့	၀၇၇၇၇၄၃၄၂၄၆		
၃။	ဦးအောင်မိုး	မြို့နယ် ၂၁			
၄။	ဦးအောင်ထွန်း	"			
၅။	ဦးကျော်စွာ	"			
၆။	ဦးကျော်စွာ	"			
၇။	ကျော်စွာ	"			
၈။	ဦးကျော်စွာ	"			
၉။	ဦးကျော်စွာ	"			
၁၀။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇-၇၂၁၁၂၁၉၀၆		
၁၁။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇၅၆၆၆၆၆		
၁၂။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇-၇၄၅၆၇၆၇		
၁၃။	ဦးကျော်စွာ	ကျောက်တန်းမြို့			
၁၄။	ဦးကျော်စွာ	"			
၁၅။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇၇၇၇၇၇၇		
၁၆။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇၇၇၇၇၇၇		
၁၇။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇ ၇၇၇၇၇ ၇၇		
၁၈။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	"		
၁၉။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇-၇၇၇၇၇၇၇		
၂၀။	ဦးကျော်စွာ	ကျောက်တန်းမြို့	၀၇-၇၇၇၇၇၇၇		

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်တင်နု	ဒေး-၆၁၉	၀၇-၇၆၇၂၄၇၅၅၅		
၂။	ဇော်စင်	၂	- -		
၃။	ဒေါ်သီတာ	၂	- -		
၄။	ဒေါ်ခင်စင်	၂	- -		
၅။	ဒေါ်ခင်စင်	၂	- -		
၆။	ဇော်စင်	၂	- -		
၇။	ဒေါ်ခင်စင်	၂	- -		
၈။	ဒေါ်ခင်စင်	၂	- -		
၉။	ဒေါ်ခင်စင်	၂	- -		
၁၀။	ဒေါ်ခင်စင်	၂	- -		
၁၁။					
၁၂။					

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ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ခင်စင်	၆၁၇၇၇၇	၀၇-၂၄၈၀၁၇၅၅၅		
၂။					
၃။					

Photo







Minutes of Meeting

To	Tun Lin Kyaw
CC	ERM-Siam: Vincent Lecat
From	Environmental Resources Management (ERM-Siam)
Date and Location of Meeting	10 th December 2018 Dala Township Hall, Dala Township, Yangon Region
Project Reference	0439461 TTCL Ahlone Expansion
Subject	Dala Township Public Consultation Meeting No.1

Agenda

- Registration
- Introduction of meeting by TTCL Meeting Coordinators
- Introductory speech
- Presentation by TTCL (Htet Aung Mon)
- Presentation by ERM (Khinsusu Naing)
- Questions and Answers Period
- Closing Comments/Conclusion speech

No.	Key Discussion	Response
1	<p>N/A, Ward Elder, Dala</p> <ul style="list-style-type: none"> ■ Have you considered the natural disasters like Earthquake in your terminal design? ■ Will the jetty from your terminal make impact to riverbank and river waterway? ■ Are there any impact from vessel anchored to the jetty? ■ Suggested to proceed the Project with none (or) minimum impact to environment. 	<p>Toshihiro Sakai (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ When we design the foundation of Terminal, we have to implement the earthquake zone information (seismic factor) in design. Also, there is Myanmar National Building Code (MNBC 2016) to implement in associated building design <p>Kyi Thar Zaw Win (Ms.),TTCL</p> <ul style="list-style-type: none"> ■ Unlike ordinary jetty, the width of LNG receiving jetty is just about 60 feet, only the jetty mooring area is about 200m. Also, our selected terminal area has 10m water depth .So, dredging work is

No.	Key Discussion	Response
		<p>not required and it will not make impact to water way.</p> <p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ LNG vessel will come to anchor at the jetty approximately 3 times/ month. Maximum anchoring time is about 1.5 days for LNG unloading process. So, it will not make impact to traffic in river and water way.
2	<p>U Hla Maung, Red Cross member, Seikkyikhanaungto</p> <ul style="list-style-type: none"> ■ Since your proposed gas pipeline will be passing through residential area and agriculture lands, how will you compensate people? 	<p>Kyi Thar Zaw Win (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Considering minimum impact to residential area & agriculture land, our current gas pipeline has been designed to route in parallel with Dala - Danote main road. We will seek approval of our pipeline route from YESC, MOGE and other relevant ministries. In the case of impact to privately owned land, we will directly and properly engage with owner in accordance with the guideline from Land Compensation committee. Additionally, as we have mentioned earlier, HDD method will deploy to avoid the damage to road & public properties.
3	<p>U Tin Maung Aye, (Resident), Seikkyikhanaungto</p> <ul style="list-style-type: none"> ■ Will public electricity tariff rate increase just because of the investment costs from this Project? 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ As we are independent power producer, all the produced power will be sold out to MOEE. Distribution to households and electric charge for public is in the scope of MOEE.
4	<p>N/A</p> <ul style="list-style-type: none"> ■ Why don't you construct both Terminal and power plant at the same location near Letkokkon beach? That would be better for storage and operation as well as safer for people since you don't have to construct the 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ We do not have the right to select our prefer location to develop the Project. We have to develop Project components only on permitted land/ area by government. The reason why we selected to build up the terminal and jetty in Dala townships is that selected

No.	Key Discussion	Response
	gas pipe line through the residential area.	location has enough water depth to construct the jetty not requiring dredging work. Another reason is Yangon regional government suggested us to locate LNG carrier docking a little further from crowded residential area. As we have mentioned, we are doing our field survey to construct our gas pipeline with minimum impact to public area.
5	<p>U Thaung, Resident, Kyine kyii village</p> <ul style="list-style-type: none"> ■ Are there impact to soil due to gas pipe construction? ■ How would you take Responsibility for Project stakeholder? ■ Are there Job opportunities for local? ■ When construction start and operation period? 	<p>Khin Su Su Naing (Ms.), ERM & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ To determine impacts from Project, the existing soil, and air quality data from study area that are needed were collected to study the potential impact from Project. Depending on the existing air, soil , water quality and potential impact study, mitigation measures and monitoring plan will proposed if necessary. ESIA report including monitoring plan have to submit to MONREC for approval. ■ As the Project will be developed in collaboration with MOEE, we are fully taking responsibilities and seek transparency of the Project. The purpose of this public participation meeting is to inform the stakeholders about our Project and gather any concerns. That is a sign of the transparency of our Project. We will arrange the second time public participation meeting and further detail information will be presented. ■ This Project will create job opportunities for local business and people throughout the construction to operation phases. Due to the plan to hire the local contractors during construction, phase of Project. Local people will also have the chance to be employed in our Project along the operation period. For example, in the Ahlone 1 Project, during

No.	Key Discussion	Response
		<p>first three years of operation phase, foreign technician were working together with locals. Job training were also provided. After 3 years, the plant is running with 95% local employees</p> <ul style="list-style-type: none"> ■ The Project is estimated to start construction work in the middle of 2019. Project construction will take about 28 months.
6	<p>Ko Swe Oo Aung, Resident, Thet Kal Kwin Village.</p> <ul style="list-style-type: none"> ■ Would you not allow to construct any building in the 5km radius of Project? ■ Does TTCL have plan to make improvement of road access and development of villages near by terminal? 	<p>Khing Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ The 5 km radius we mentioned is only the study area for environmental impact for this Project. We are not going to acquire 5km radius of land from Project. We will manage only in our terminal boundary. So, our Project will not make any restriction to adjacent lands. <p>Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ Environmental impact study area will vary depends on Project type and size. For this Project, we have determined the study area as 5km and base line study has been conduct within this area.
7	<p>U Myint Htay, Resident, Thet Kal Kwin Village.</p> <ul style="list-style-type: none"> ■ Are there going to be any impact to grazing ground and canals nearby Project? ■ Are there going to be any impact on fishing activities in the river? 	<p>Khing Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ ESIA assessment will also look into all potential impacts from the Project on existing livelihoods of local people. If there is any impact, ERM will propose mitigation measures in order to reduce impact on existing livelihoods. We will present the results of these studies along with the analysis of potential impacts and proposed management strategies at the second round of public participation.

No.	Key Discussion	Response
		<p>Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ Our third party EIA organization will first study the fishing activities in this area. Then management strategies will be developed according to impact study as well as guidance from relevant government authorities.
8	<p>U Tin Nyunt, Resident, Seikkyikhanaungto</p> <ul style="list-style-type: none"> ■ Since Seikkyikhanaungto Township is surrounded by water, we are experiencing river bank collapsing from every aspect. So, how it will affect with your gas pipe construction? 	<p>Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ As we have mentioned, we are in progress of ESIA assessment. We will consider your suggestions for our study and will present the results of these studies along with the analysis of potential impacts and proposed management strategies at the second round of public participation.
9	<p>U Lay Naing, Resident, Seikkyikhanaungto</p> <ul style="list-style-type: none"> ■ Expressed thanks to Project Company for proposing this kind of development in our region. I would urge the Project to proceed successfully. 	N/A
10	<p>U Chit Naing Win, Ward leader, Seikkyikhanaungto</p> <ul style="list-style-type: none"> ■ In my experience, local farmers were not able to carry on their plantation due to construction material deposit in farmland during gas pipe construction. Moreover, leakage from old gas pipeline are noticed during wet season. ■ I would like to suggest related authorities and Project Company to be aware of this issue and manage for minimum impact to farmers. 	<p>Htet Aung Mon (Mr.), TTCL & Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ We are working on the selection of proper gas pipeline right of way. Once we have concluded the gas pipe right of way with relevant ministries, we will directly engage with impacted landowner. ■ In addition, using quality material for gas pipe is also mandatory for our company. If fuel shortage occurs, we will also have to suffer for not meeting promised power capacity. Therefore, we are fully aware of this matter.

Attendance list

205 persons from Government Organizations and Village Responsibilities and 6 persons from company attend the meeting.

No.	Name	Position/Occupation	Department/Organization	Contact No.
1	U San Thein	-	Seikgyikanaungto Township	09777410703
2	U Tin Win	-	Seikgyikanaungto Township	09781180894
3	U Khin Hlaing	-	Seikgyikanaungto Township	09420197763
4	U Soe Yin	-	Seikgyikanaungto Township	09420197100
5	U Ngwe Hlaing	-	Seikgyikanaungto Township	09765444652
6	U Myint Oo	-	Seikgyikanaungto Township	09420229328
7	U Aung Kyaw Oo	-	Seikgyikanaungto Township	09420229187
8	U Than Nyunt	-	Seikgyikanaungto Township	09956683236
9	U Kyaw Win	-	Seikgyikanaungto Township	09252474994
10	U Kyaw Aung	-	Seikgyikanaungto Township	09458444301
11	U Tin Tun	-	Seikgyikanaungto Township	09255264946
12	U Myio Kyaw	-	Seikgyikanaungto Township	09781468547
13	U Maung Sann	-	Seikgyikanaungto Township	0973901086
14	U Win Naing	-	Tone Tin Gan (North) Village	09796241409
15	U Thaug Tin	-	-	09781340209
16	U Hla Kyaing	-	Tone Tin Gan (South) Village	09798010543
17	U Khin Soe	-	Tone Tin Gan (South) Village	0976558232
18	U Myint Thein	-	Tone Tin Gan (South) Village	09784818489
19	U Chit Hla	-	Tone Tin Gan (South) Village	-
20	U Min Hla	-	Tone Tin Gan (South) Village	09786722102
21	U Tin Aye	-	Kamar Kathwe Ward	09420624086
22	U Tun Myint	-	Kamar Kathwe Ward	09257600121
23	U Myo Thant	-	Tone Tin Gan (South) Village	09976456861
24	U Htay Lwin	-	Dala Township Township (South)	09420014331
25	U Aye Min	-	Seikgyikanaungto Township	09798116165
26	U Zaw Win	-	Dala Township	09450410646
27	U Aung Myint	-	Dala Township	09778575334
28	Daw Su Hlaing Win	-	Dala Township	0943071638
29	U Tun Tun Naing	-	Dala Township	09692229868
30	U Zaw Thein	-	Seikgyikanaungto Township	09448017374
31	U Aung Khaing Htay	-	Seikgyikanaungto Township	09420022392
32	U Than Naing	-	Seikgyikanaungto Township	09420260420
33	U Aung Myo Kyaw	Myawady (Media)	Yangon	09422479283
34	U Win Thein	-	Tar Gyi Village	09777433857
35	U Kyaw Swar	-	Dala Township	09794729372
36	U Zaw Zaw	-	Dala Township	09764597435
37	U Hla Myint	-	Dala Township	09786484305
38	U Soe Hlaing	-	Dala Township	09448032269
39	U Kyaw Thura	-	Dala Township	09455305519
40	U Soe Tint	-	Dala Township	09784521443
41	U Ye Naing	-	Tone Tin Gan (South) Village	0942114469
42	U Nyan Win	-	Seikgyikanaungto Township	09799300373
43	U Thann Zaw Oo	-	Seikgyikanaungto Township	09252056464
44	U Aung Myint	-	Seikgyikanaungto Township	09786673312
45	U Kyaw Lwin	-	Seikgyikanaungto Township	09975781399

46	U Lay Naing	-	Seikgyikanaungto Township	09975781399
47	U Soe Win	-	Seikgyikanaungto Township	09895090116
48	U Khin Maung	-	Seikgyikanaungto Township	-
49	U Mying Thein	-	Seikgyikanaungto Township	-
50	U Kyaw Zin Oo	Ministry of Sports and Physical Education	-	09250847853
51	U Soe Hlaing	-	Tone Tin Gan (South) Village	-
52	U Moe Win	-	Tone Tin Gan (South) Village	09773165952
53	U San Aung	-	Tone Tin Gan (South) Village	09799560041
54	U Win New	-	Tone Tin Gan (South) Village	0932419498
55	U Kyin Thein	-	Tone Tin Gan (North) Village	09494438539
56	U Kyi Thein	-	Tone Tin Gan (South) Village	09787283814
57	U Tun Tun Oo	-	Tone Tin Gan (South) Village	09775541315
58	Daw Zar Zar Linn	-	Seikgyikanaungto Township	09781496210
59	U Thann Tun	-	Seikgyikanaungto Township	09761586906
60	U Thein Han	-	Kamar Kasit Ward	09250054006
61	U Khin Maung Myint	-	Dala Township	09760414351
62	U Kyi Lwin	-	Dala Township	09762712779
63	U Tin Hlaing	-	Dala Township	09798412011
64	U Soe Thein	-	Seikgyikanaungto Township	09799301048
65	U Maung Maung Aye	-	Dala Township	09420149540
66	U Aye Ko	-	Ye Chaung Village	09420195008
67	U Htay	-	Ye Chaung Village	0931699600
68	U Khin Maung Htay	-	Dala Township	09263894752
69	U Hla Htay	-	Ye Chaung Village	0931090607
70	Daw Win Ei Khaing	Township Officer (GAD)	Dala Township	09420090224
71	U Tint Lwin	Posts and Telecommunication Department	-	09423006019
72	UNREADABLE	-	Dala Township	09420119805
73	U Aye Win	-	Dala Township	09799304514
74	U Saw Thein	-	Myo Ma (3) Ward	0943068338
75	U Thein Zaw	-	Dala Township	09798321112
76	U Aung Ko Linn	-	Tha Yaw Tan Village	09450235636
77	U Hla Win	-	Kyar Hpyu Kan Village	-
78	U Thann Zaw Oo	-	Thamata Kan Chay Ward	09773961219
79	U Nay Win	-	Ye Chaung Village	09451119015
80	U Myint Sann	-	Ye Chaung Village	-
81	U Yin Htwe	-	Seikgyikanaungto Township	09251069653
82	U Thann Htike Aung	-	Shwe Pyi Thar Township, Yangon	09420086285
83	Daw Kay Thi	-	Seikgyikanaungto Township	09795521725
84	U Aung Myat Htut	-	Bo Yan Pyay Ward	09262174606
85	U Arkar	Democratic Voice of Burma - DVB TV	-	09420039683
86	U Wai Yan Tun	-	Seikgyikanaungto Township	09972005405
87	U Kyaw Nyi Nyi Paing	-	Thin Gan Gyun Township, Yangon	09696900086
88	U Maung Maung Lwin	-	Seikgyikanaungto Township	09448022946
89	U Aung Naing Myo	-	Seikgyikanaungto Township	09420197913
90	U Kyi Htway	-	Seikgyikanaungto Township	-
91	U Mya Thein	-	Seikgyikanaungto Township	09523050844
92	U Hla Wai	-	Seikgyikanaungto Township	09420260800
93	U Tin Yi	-	Seikgyikanaungto Township	-
94	U Thaung Htay	-	Tone Tin Gan (South) Village	-
95	U Yin Htway	-	Tone Tin Gan (South) Village	09254215856
96	U Win Tun	-	Unknown	09420965286
97	U Htay Aung	-	Unknown	-
98	U Myint Htay	-	Unknown	-

99	U Kyaw Zeyar Tun	-	Tha Ke Ta Township	09972297782
100	U Aung Thann Oo	-	Pu Zun Daung Township	09401529462
101	U Tin Shwe	-	Tha Khin Ba Thauung	-
102	U Aye Hlaing	-	Tha Khin Ba Thauung	-
103	U Tun Win	-	Tha Khin Ba Thauung	-
104	U Khin Maung Win	-	Seikgyikanaungto Township (East)	09772618207
105	U Khin Zaw Aye	-	Seikgyikanaungto Township	09260918092
106	U Soe Hlaing	-	Seikgyikanaungto Township (West)	09260202698
107	U Naing Linn Aung	-		09799298958
108	U Sein Nay Tun	-	Seikgyikanaungto Township (West)	0924052600
109	U Thein Naing Soe	-	Seikgyikanaungto Township (West)	09420197307
110	U Tin Maung Yi	-	Seikgyikanaungto Township (East)	09251069686
111	U Win Myint	-	Seikgyikanaungto Township	095165936
112	U Tint Wai	-	Dala Township	09692929149
113	U Aung Shwin	-	Nyaung Kone Ward	09783514634
114	U Tun Yi	-	Nyaung Pin Village	09798852817
115	U Bo Thann	-	Boe Hpyu Chaung Village	09454526403
116	U Kan wint	-	Seikgyikanaungto Township	09402067617
117	Daw Shu Tin	-	Seikgyikanaungto Township	-
118	Daw Sann Sann	-	-	-
119	U Shwe La Win	-	Seikgyikanaungto Township	09250267178
120	U Hla Soe	-	Seikgyikanaungto Township	09792535029
121	U Hla Nyein	-	Seikgyikanaungto Township	09444774813
122	U Ye Win	-	Seikgyikanaungto Township	09772617924
123	U Khin Maung Zaw	-	Seikgyikanaungto Township	09420243748
124	U Hla Maung	-	Seikgyikanaungto Township	09421109705
125	U Nyi Nyi Oo	-	Seikgyikanaungto Township	09781789331
126	U Hla Tin	-	Seikgyikanaungto Township	09425025717
127	U Kyaw Myo Aung	-	Dala Township	09448044660
128	Daw Sandar Myint	Dala Township Project	-	09450043358
129	U James	Dala Township News	-	09252078662
130	U Tun Lwin	-	Kamar Kathwe Ward	0973197905
131	U Mya Win	-	Kamar Kathwe Ward	-
132	U Bhone Kywal	-	Ba Nyar Da La Ward	04269144
133	Daw Amy	-	Tha Ke Ta Township	09421154121
134	U Zaw Myint	-	Seikgyikanaungto Township	09420197194
135	U Tin Win	-	Nyaung Ngoke To Village	09442220305
136	U Khin Minn Latt	-	Sar Par Chaung Ward	09444088004
137	U Aung Kyi Han	-	Tar Gyi / Tha Pyay Kone Village	0977264910
138	U Win Maung Phyu	-	Rakhine Chaung Village	09794440622
139	U Tin Maung Tun	-	Tone Tin Gan (North) Village	09780995800
140	U Myint Soe	-	-	-
141	U Ko Kin	-	Seikgyikanaungto Township	09422933123
142	U Thein Naing	-	Nyaung Ngoke To Village	09451119148
143	U Yin Tun Lwin	YESC (DYGM)	-	095129480
144	U Mya Shwe	YESC (Dala Township)	-	09780008640
145	U Kyaw Sann oo	-	Shwe Hlay Chaung Village	09799278089
146	U Kyin Tun	-	Seikgyikanaungto Township	097675443
147	U Nay Linn	-	Rakhine Chaung Village	095412325
148	U Soe Win	The Mirror - Newspaper	-	09250149039
149	U Hla Myint	-	Tar Gyi / Tha Pyay Kone Village	09259627660
150	U Thauung Oo	-	Pyaw Bwe Gyi Village	09777295391

151	U Ko Ko Naing	-	Seikgyikanaungto Township	09420197998
152	U Tun Lwin	Village Officer (GAD)	Shan Kan Village	09777202492
153	U Zaw Naing Win	-	-	09785866511
154	U Aye Nwai	-	Myo Ma	09420226386
155	U Myo Tin	-	Yarma Thingyan	09796240423
156	U Shwe Hlaing	-	Ba Nyar Dala Ward	09251046247
157	U An Kyee Maung	Township Journalist	Ant Gyi (West) Ward	09254530674
158	U Thein tun	-	Dala Township	-
159	U Hla Myaing	-	Dala Township	-
160	U Myint Shwe	-	Dala Township	-
161	U Kyaw Aye	-	Seikgyikanaungto Township	-
162	U Minn Minn Tun	-	Seikgyikanaungto Township	-
163	U Tin Tin Win	-	Seikgyikanaungto Township	-
164	U Tin Hla	-	Seikgyikanaungto Township	-
165	U Win Sein	-	Seikgyikanaungto Township	-
166	U Myint Sann	-	Seikgyikanaungto Township	-
167	U Aung Minn Oo	-	Seikgyikanaungto Township	-
168	Daw Sann Sann Myint	-	Seikgyikanaungto Township	-
169	U Thann Htay	-	Seikgyikanaungto Township	09448039964
170	U Nyein Chann Aung	-	Seikgyikanaungto Township	09420243742
171	U Tun Tun Thann	-	Seikgyikanaungto Township	09252693309
172	U Win Hlaing	Officer (GAD)	Myo Ma (1) Ward	-
173	U Maung Soe	Government Employee	Dala Township	-
174	U Tin Sein	-	Dala Township	09761766712
175	U Kyaw Kyaw Han	-	Rakhine Chaung Village	09787037338
176	U Myint Naing	-	Tar Gyi / Tha Pyay Kone Village	09254215660
177	Daw Khin Win Myint	-	Dala Township	0931129124
178	U Sann Yi	-	Htaw (Lower) Village	09420179870
179	U Tun Win Oo	Deputy Officer	-	09795869954
180	U Yin Htway	Township Officer (GAD)	Dala Township	095202659
181	U Tin Hla	Member of Parliament	Dala Township	09421153709
182	U Ye Swe	Environmental Conservation Department		095149810
183	U Tin Maung Htwe	-	Shan Kan Village	09401546340
184	U Tin oo	-	Dala Township	09789323911
185	U Myo Thant	-	Dala Township	09421028018
186	U Thann Win	Myanmar Anti-Narcotics Association		09262604431
187	U Aung Kyaw Soe	Township Chief Officer	Kyaung Su	-
188	U Tin Tun	-	Ye Chaung Village	09787958780
189	U OK	-	Nyaung Ngoke To Village	0943077599
190	U Sann Htoo Maung	-	Bo Yan Pyay Ward	0973190317
191	U Kyi Lwin	-	Dala Township	09799278567
192	U Aung Thura Oo	-	Dala Township	09444088834
193	U Kyaw Tint	-	Da Noke Village	09450023306
194	U Tin Aung Moe	-	Shan Kan Village	09251574006
195	U Thet Naing Aye	Police Department	Myo Ma Ward	09252293869
196	U Kyi Soe	Village Officer (GAD)	Kha Naung Ywar Ma Village	09420077443
197	U Aung Zaw Ohn	-	Seikgyikanaungto Township	0997727519
198	U Khin Maung Kywai	Township Authority (EO), YCDC	Dala Township	-
199	Maung	-	Dala Township	-
200	Daw Thin Thin Maw	-	Seikgyikanaungto Township	0943116004
201	Daw Aye Aye Maw	-	Seikgyikanaungto Township	09770005028
202	Daw Htay Htay Win	-	Seikgyikanaungto Township	-
203	U Hein Latt	-	Seikgyikanaungto Township	09424573849
204	U Aung Sann	-	Seikgyikanaungto Township	09410141848

205	U Tun Tun Win	-	Seikgyikanaungto Township	-
206	U Win Hlaing	-	Seikgyikanaungto Township	09456864008
207	U Hla Win Myint	-	Pyaw Bwe Gyi Village	09798535997
208	U Lay Win Oo	-	Pyaw Bwe Gyi Village	095082179
209	U Htay Lwin	-	Seikgyikanaungto Township	09254075588
210	U Win Naing	-	Rakhine Chaung (North) Village	09799847663
211	U Swe Oo	-	Rakhine Chaung (North) Village	095067938

List of Participation (Photos)

LNG သုံးလျှင်စစ်ဆေးရေးအစည်းအဝေးရက်စွဲစာတမ်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အစည်းအဝေး (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်) နေရာ - ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးစံအောင်	ကျွန်းကြီးကျေးရွာ	၀၉၇၇၇၇၇၇၇၇		
၂။	ဦးအောင်စိုး	"	၀၉၇၈၁၁၈၀၈၉၄		
၃။	ဦးအောင်ကျော်	"	၀၉၄၇၀၀၇၇၇၆၆		
၄။	ဦးစိုးမင်း	"	၀၉၄၂၀၁၉၇၇၀		
၅။	။ စောအောင်	"	၀၉၇၆၅၄၄၄၆၅၂		
၆။	။ မောင်စိုး	"	၀၉၄၂၀၂၂၉၃၂၉		
၇။	။ မောင်ကျော်စိုး	"	၀၉၄၂၀၂၂၉၁၂၇		
၈။	။ သက်စွန်း	"	၀၉၉၅၆၆၈၃၃၆		
၉။	ဦးကျော်စော	"	၀၉၂၅၂၄၇၄၉၇၇		
၁၀။	ဦးကျော်စော	"	၀၉၄၅၈၄၄၄၃၀၂		
၁၁။	ဦးတင်ထွန်း	"	၀၉၂၅၅၂၆၄၉၄၆		
၁၂။	ဦးမျိုးကျော်	"	၀၉၇၈၁၄၆၈၅၄၇		
၁၃။	ဦးမောင်စန်း	"	၀၉၇၃၉၀၁၀၈၆		
၁၄။	ဦးထွန်းနိုင်	တုန့်တုန့်(မ)	၀၉၇၉၆၂၄၁၇၀၉		
၁၅။	ဦးသောင်းတင်		၀၉၇၈၂၃၄၀၂၀၉		
၁၆။	ဦးလှမြင့်	" (တ)	၀၉၇၉၈၀၁၀၅၄၃		
၁၇။	ဦးစင်စိုး	" (တ)	၀၉၇၆၅၅၅၈၂၃၃		
၁၈။	ဦးမြင့်သိန်း	" (တ)	၀၉၇၉၄၈၁၈၄၈၇		
၁၉။	ဦးစွာလှ	" (တ)	၀၉ -		
၂၀။	ဦးမင်းအောင်	" (တ)	၀၉၇၈၆၇၂၂၂၀၉		

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက်

- ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးတင်စော	ကမာကဝဥပင်	၀၉၄၂၀၆၃၄၀၈၆		
၂။	ဦးထွန်းမြင့်	"	၀၉၂၅၇၆၀၀၁၂၃		
၃။	ဦးမျိုးသိန်း	တုတကွိုင် (တ)	၀၉၄၇၆၄၅၀၈၆၁		
၄။	ဦးဌေးလွင်	ဒလ (တ)	၀၉၄၂၀၀၁၄၃၃၂		
၅။	ဦးစောမင်း	အိမ်ကြီးခရောင်တို	၀၉၇၇၈၂၁၆၂၆၅		
၆။	ဦးစော်ဝင်း	ဒလ	၀၉၄၅၀၄၂၀၆၄၆		
၇။	ဦးစောမင်းမြင့်	ဒလ	၀၉၇၇၈၅၇၅၃၃၄		
၈။	ဒေါ်ခင်လှိုင်ဝင်း	ဒလ	၀၉၄၃၀၇၂၆၃၈		
၉။	ဦးထွန်းစိုင်း	ဒလ	၀၉၆၉၃၃၃၄၈၆၈		
၁၀။	ဦးစော်သိန်း	အိမ်ကြီးခရောင်တို	၀၉၄၄၈၀၂၇၃၇၄		
၁၁။	ဦးစောစိုင်းဌေး	"	၀၉၄၃၀၀၃၃၃၄၃		
၁၂။	ဦးသိန်းစိုင်း	"	၀၉၄၃၀၃၆၀၄၃၀		
၁၃။	ဦးစောစိုင်းစွယ်	ရှမ်းကုန်း (အိမ်ယာ)	၀၉၄၃၃၄၇၄၃၈၃		၂၅၀၀၀
၁၄။	ဦးဝင်းသိန်း	တာကြီး (ဒလ)	၀၉၇၇၇၄၃၃၈၅၇		
၁၅။	ဦးကျော်စွာ	ဒလ	၀၉၇၇၄၇၃၄၃၇၃		
၁၆။	ဦးစော်စော်	ဒလ	၀၉၇၆၄၅၄၇၄၃၅		
၁၇။	ဦးလှမြင့်	ဒလ	၀၉၇၈၆၄၈၄၃၀၅		
၁၈။	ကိုစိုးလှိုင်	ဒလ	၀၉၄၄၈၀၅၃၃၆၄		
၁၉။	ကျော်စွာလှိုင်	ဒလ	၀၉၄၅၅၃၀၅၅၂၄		
၂၀။	ဦးစိုင်းတင်	ဒလ	၀၉၇၈၄၅၃၃၄၄၃		

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက်

- ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်မင်းအေး	အိမ်/၁၃	၀၉-၂၅၁၀၆၇၆၅၃		
၂။	ဦးသန်းမြိုင်ကောင်	ရွာ ၆ ညောင်	၀၉-၄၇၀၀၈၆၂၈၅		
၃။	ဒေါ်ကေခီ	အိမ်/၁၃	၀၉/၇၉၅၅၂၇၂၅		
၄။	ဒေါ်စန်းစုစု	အိမ်/အရှေ့	၀၉၂၀၀၅၇၄၀၀၆		
၅။	ARKOR	၁၂၀၅၇၄	၀၉-၄၇၀၀၃၉၆၈၃		
၆။	ဦးဝေယံစုခို	အိမ်/၁၃	၀၉-၄၇၂၀၀၅၄၀၅		
၇။	ဦးကျော်စွာမြိုင်	အိမ်/အရှေ့	၀၉-၆၉၆၉၀၀၀၈၆		
၈။	ဦးစောစောစော	အိမ်/၁၃	၀၉-၄၇၀၀၂၂၇၄၆		
၉။	ဒေါ်အေးစုစု	အိမ်/၁၃	၀၉၄၇၀၀၁၇၇၇၃		
၁၀။	ဦးကျော်စွာ	"			
၁၁။	ဦးကျော်စွာ	"	၀၉-၅၇၃၀၅၀၈၄၄		
၁၂။					
၁၃။	ဦးကျော်စွာ	အိမ်/၁၃	၀၄၄၇၀၀၂၆၀၀၀၀		
၁၄။	ဦးကျော်စွာ	"			
၁၅။					
၁၆။	ဦးကျော်စွာ	အိမ်/၁၃			
၁၇။	" ဦးကျော်စွာ "	အိမ်/၁၃	၀၉-၂၅၄၂၅၅၇၅၅		
၁၈။	" ဦးကျော်စွာ "	အိမ်/၁၃	၀၉-၄၇၀၀၃၆၅၂၈		
၁၉။	" ဦးကျော်စွာ "	"			
၂၀။	" ဦးကျော်စွာ "	"			

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက်

- ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ကျော်ကျော်စွန်း	အာကေတ	၀၇ ၉၇၂ ၂၅၇၇၅၂		
၂။	အောင်သန်းဦး	ပုဇွန်ကောင်	၀၉ ၄၈၆၅၂၄၄၆၂		
၃။	ဦးတင်ဌာ	သွင်ဆွေသယ်			
၄။	ဦးအောင်ကျော်	ပွဲပဲဘဲဘောင်			
၅။	ဦးစွာစံခင်	ပွဲပဲဘဲဘောင်			
၆။	ဦးခင်မောင်ခင်	အိမ်ခြံမြေ	၀၉ ၇၇၂၆၆၈၂၀၇		
၇။	ဦးခင်စေတီ	အိမ်ခြံမြေ	၀၉ ၃၆၀၉၆၀၀၃		
၈။	ဦးဦးလှိုင်	အိမ်ခြံမြေ	၀၉ ၇၆၀၂၀၂၆၇၅		
၉။	ဦးလှိုင်အောင်	ဒ.ဝ.လ - ဗဟို/အိုင်	၀၉ ၇၇၇ ၂၅၇၅၅၅		
၁၀။	ဦးမောင်မောင်	အိမ်ခြံမြေ	၂၄၀ ၅၂ ၆၀၀		
၁၁။	ဦးစိုးစိုးစိုး	အိမ်ခြံမြေ	၀၉ ၄၂၀၆၇၃၅၇		
၁၂။	ဦးစောစော	အိမ်ခြံမြေ	၀၉ ၂၅၆၇၆၇၆၆		
၁၃။	ဦးစောစော	အိမ်ခြံမြေ	၀၉ ၅၅၆၇၆၇၆၆		
၁၄။	ဦးစောစော	ဒလ	၀၉-၆၉၃၄၃၄၆၄		
၁၅။	ဦးစောစော	အိမ်ခြံမြေ	၀၉ ၇၄၃၅၆၇၃၄		
၁၆။	ဦးစောစော	အိမ်ခြံမြေ	၀၉ ၇၇၈၈၅၆၈၇		
၁၇။	ဦးစောစော	အိမ်ခြံမြေ	၀၉ ၇၇၇၇၆၇၆၇		
၁၈။	ဦးစောစော	အိမ်ခြံမြေ	၀၉ ၇၇၇၇၆၇၆၇		
၁၉။	ဦးစောစော	ဒလ			ဒလ
၂၀။	ဦးစောစော	ဒလ			

LNG သုံးလျှင်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက်

- ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးတင်စောထွန်း	တုံ၊ တင်(မြောက်)	၀၇-၇၈၀၉၅၅၈၀၀		
၂။	ဦးဇော်နီ				
၃။	ဦးကျော်စွာ	အိမ်/မူ	၀၉-၉၅၂၉၅၃၂၃		
၄။	ဦးသန်းစိန်	ဒဂုံ၊ ရှမ်းလမ်း	၀၉ ၄၅၁၁၁၉၁၄၈		
၅။	ဦးယုအိန်	၇၉၄(အရှေ့)	၀၉-၅၁၂၅၄၆၀		
၆။	ဦးဇော်	YESC (Dala)	၀၉၇၈၀၀၀၈၆၄၀		
၇။	ဦးကျော်စွာ	ရွှေကျော်	၀၉-၇၅၅၂၇၆၀၉၅		
၈။	ဦးကျော်စွာ	အိမ်/မူ	၀၉၇၆၇၅၄၄၃		
၉။	ဦးကျော်စွာ	ရခိုင်ကျွန်း	၀၉၅၄၁၂၃၃၅		
၁၀။	ဦးစိန်	ဝေးဗို	၀၉၂၅၀၁၄၅၀၅		
၁၁။	ဦးကျော်စွာ	ဝက်ဇော်	၀၉-၂၅၉၆၅၂၆၆		
၁၂။	ဦးကျော်စွာ	ရွှေကျော်	၀၉-၇၇၇၇၇၅၅၅		
၁၃။	ဦးကျော်စွာ	အိမ်/မူ	၀၉-၄၂၀၁၇၇၇၇၆		
၁၄။	ဦးကျော်စွာ	M သို့မဟုတ် ၅၁၁၅	၀၉-၇၇၇၇၇၅၅၅		
၁၅။	ဦးကျော်စွာ	ECW	၀၉-၇၈၅၈၆၆၅၅		
၁၆။	ဦးကျော်စွာ	မြို့မ	၀၉-၄၂၀၂၂၆၃၈၆		
၁၇။	ဦးကျော်စွာ	၇၂၁၁၁၁၁၁	၀၉-၇၇၆၂၄၅၂၃		
၁၈။	ဦးကျော်စွာ	၅၂၁၁၁၁	၀၉ ၂၅၁၀၄၆၂၄		
၁၉။	ဦးကျော်စွာ	အိမ်/မူ	၀၉-၇၇၇၇၇၅၅၅		
၂၀။			၀၉-၇၇၇၇၇၅၅၅		

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးသိန်းကျော်	ဒလ			
၂။	ဦးကျော်စွာ	ဒလ			
၃။	မောင်မြတ်	ဒလ			
၄။	မောင်ကျော်စွာ	ဒလ			
၅။	မောင်ကျော်စွာ	ဒလ			
၆။	မောင်ကျော်စွာ	ဒလ			
၇။	မောင်ကျော်စွာ	ဒလ			
၈။	မောင်ကျော်စွာ	ဒလ			
၉။	မောင်ကျော်စွာ	ဒလ			
၁၀။	မောင်ကျော်စွာ	ဒလ			
၁၁။	မောင်ကျော်စွာ	ဒလ			
၁၂။	ဦးသန်းကျော်	ဒလ	၄၄၆၀၃၇၇၆၄		
၁၃။	ဦးကျော်စွာ	ဒလ	၀၇၇၂၀၂၄၃၇၄၂		
၁၄။	ဦးကျော်စွာ	ဒလ	၀၇-၂၅၂၆၇၃၃၄		
၁၅။	ဦးကျော်စွာ	ဒလ			
၁၆။	ဦးကျော်စွာ	ဒလ			
၁၇။	ဦးကျော်စွာ	ဒလ	၀၇-၇၆၁၇၆၆၇၁၂		
၁၈။	ဦးကျော်စွာ	ဒလ	၀၇-၇၈၇၀၅၇၃၃၈		
၁၉။					
၂၀။	ဦးကျော်စွာ	ဒလ	၀၉၂၅၄၅၁၅၅၆၀		

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 1)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက်

- ၂၀၁၈ ခုနှစ်၊ ဒီဇင်ဘာလ ၁၀ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးဘောင်လေ	ဥပေစာင်း			
၂။	ဦးကျော်စွာ	YESC	၀၇-၈၆၀၀၇၈၇		
၃။	ဦးကျော်စွာ	TEO	၀၇၅၅၀၄၂၃၀		
၄။	ဦးကျော်စွာ	ဒဂုံမြို့တော်	၀၉၄၀၁၉၆၇		
၅။	ဒေါ်အေး	အမှတ် ၃၀၀	၀၉၄၀၁၀၄၇၇		
၆။	အောင်ကျော်	MNW	၀၇-၇၈၈၅၅၈၇		
၇။	ဦးကျော်စွာ	ဦးကျော်စွာ	၀၇၇၇၀၀၃၃၇		
၈။					

Photo







Minutes of Meeting

To	Tun Lin Kyaw
CC	ERM-Siam: Vincent Lecat
From	Environmental Resources Management (ERM-Siam)
Date and Location of Meeting	29 th October 2018 Ahlone Township Hall, Ahlone Township, Yangon Region
Project Reference	0439461 TTCL Ahlone Expansion
Subject	Ahlone Township Public Consultation Meeting No.1

Agenda

- Registration
- Introduction of meeting by TTCL Meeting Coordinators
- Introductory words
- Presentation by TTCL (Htet Aung Mon)
- Presentation by ERM (Khinsusu Naing)
- Questions and Answers Period
- Closing Comments/Conclusion speech

No.	Key Discussion	Response
1	Daw Khin Thwe Thwe Tun (Mr.), (Ward Administrator), Dagon Township <ul style="list-style-type: none"> ■ How much is the tariff rate? ■ How will you prevent Accidents? ■ How will you manage the compensation for local? ■ How do you plan to ensure safety of operations? 	Htet Aung Mon (Mr.), TTCL & Thurein Than (Mr.), TPMC <ul style="list-style-type: none"> ■ At the moment, we cannot disclose the tariff rate as we are under discussion with MOEE for the Power Purchase Agreement. The final tariff rate from discussion with MOEE is only the rate between producer and purchaser for long terms contract. Distribution to households and tariff rate for public is in the scope of MOEE.
		Kin Su Su Naing (Ms.), ERM <ul style="list-style-type: none"> ■ The accidents is what we call in ESIA term unplanned event. Mitigation measures for unplanned events are

No.	Key Discussion	Response
		<p>included as a part of ESIA report. Project design will input in the assessment process and management plan. Then, we will study what kind of accidents are likely to occur and how to manage them properly. Providing of emergency responses training program are also included in the unplanned management plan.</p> <p>Thurein Than (Mr.), TPMC</p> <ul style="list-style-type: none"> ■ Regarding to compensation, it is true we need to make compensation if there is any impact especially from our gas pipeline construction. However, we can confirm that our compensation with stakeholders will be accordingly with the Myanmar Laws and guidelines from relevant authorities. ■ We, TTCL have separated EHS organization for safety management .It's function includes developing risk assessments and identifying risk factors. Such safety management plan will always developed in cooperation with international safety organization and specialists. Our mother company TTCL hold ISO-9001, ISO-14001 certificates.
2	<p>U San Tun, (Ward of Administrator), Dagon Township</p> <ul style="list-style-type: none"> ■ Could you explain more about the EIA process and procedure? ■ Please explain about gas pipeline material, manufacture and detail gas pipe routing. Will there be any disturbance in water traffic if the gas pipe route line cross the Yangon River. 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Thank you the suggestion, bigger screen will be used in the next meeting. ■ Attendants might get bored with detail technical data, therefore only some data were presented but we are available for any specific questions.

No.	Key Discussion	Response
	<ul style="list-style-type: none"> ■ Suggest that the screen is too small to see the presentation, and would like to hear more about technical data such as gas pipeline material, manufacture and piping construction detail. 	<p>Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ There is Myanmar EIA procedure published in 2015 by Ministry of Natural Resources and Environmental Conversation (MONREC) previously known as MOECAF. Myanmar EIA procedure has included the categorization of project for EIA process as well as review timeline for each steps. We have to seek for the Ministry approval for respective EIA process (e.g EIA third party appointment, scoping report). For your information, final ESIA report will be reviewed by EIA review committee, which is formed with specialists from each relevant ministries. <p>Thurein Than (Mr.), TPMC</p> <ul style="list-style-type: none"> ■ Both Terminal & gas pipe line of this project are designed in accordance with international standard & guidelines for LNG facilities, as well as implementation of advices from LNG business specialists. Gas pipeline construction will carry out under guideline and supervision from MOGE. Gas pipe construction beneath the Yangon River will take place by using HDD machine. Therefore, no disturbance will occur to water traffic.
3	<p>U Nay Zar Kyaw, Engineer/ Observer</p> <ul style="list-style-type: none"> ■ May I know the project timeline of Terminal and new transmission line? The new transmission line circuit will place on existing towers or new tower line will construct? ■ According to presentation, we have seen 500 m each side of gas pipe in ESIA study area. Will there be prohibited area (safety factor) not to construct any basic infrastructure 	<p>Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ We are in the middle of PPA discussion with MOEE. Project tentative timeline is 28 months after PPA effective. Construction work are expected to start in the middle of 2019. New transmission line towers will be built for 230 KV line. ■ Gas pipeline construction will carry out under the guideline and supervision from MOGE.

No.	Key Discussion	Response
	beside the gas pipeline after construction period?	
4	<p>U Sit Maung, Ward elder, Ahlone Township</p> <ul style="list-style-type: none"> ■ Who will be in charge of monitoring post ESIA? Another third party or ERM? ■ Are there CSR activities carry out by TTCL in previous project? What kind of CSR program will be implemented in this project? ■ Is there long-term contract with supplier for main fuel LNG from substantial sources? 	<p>Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ The company who prepare the ESIA report shall not be in charge of ESIA monitoring. The project proponent company shall report to relevant authority in every (6) months to make sure all the mitigation measures are implemented. ECD department is the main responsible ministry for monitoring of post ESIA. In addition, IFC will be one of the monitoring in charge if the project is in line with IFC guidelines and financed by IFC. Every stakeholders have the opportunity to participate in monitoring plan and able to report if there is any issue or concern. <p>Ni Ni San (Ms.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ In our previous projects, we have organized "CSR committee" which consists of people from local communities. Then we have had contributed and cooperated for local needs in project area such as educational, traditional & health supports. <p>Hlaing Phone Tint (Mr.), TPMC</p> <ul style="list-style-type: none"> ■ We have to contract with LNG supplier for the long-term purchase. We may have to talk with more than one supplier in order to ensure the availability of fuel in long term. It is also important for us to have substantial LNG supplier along the operation period. As we have to compensate MOEE in the case of power could not be produced as per the contract agreement.

No.	Key Discussion	Response
5	<p>U Than Aye, Resident, Ahlone Township</p> <ul style="list-style-type: none"> ■ As per the presentation, I assumed the LNG terminal is located on the riverbank of where Twante Canal meet Yangon River. The current flow in that area is about 7mile/hr. There is high water way traffic every day. Another concern is your proposed terminal location is very close to Dala Town area. So, will it be possible to relocate the LNG terminal to another safer area? 	<p>Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ Our LNG terminal will be located on the riverbank of southern Dala Township, opposite side of Thilawa Industrial Zone. So, it is far from Dala downtown area. The LNGC berthing will take place about once a week .The jetty will be located only in where the Myanmar Port Authorities allowed us, so it will not disturb the river waterway.
6	<p>U Thet Aung Soe, Engineer</p> <ul style="list-style-type: none"> ■ What are the code & standard of gas pipeline construction? API standard or MOGE guideline. ■ What are the code & practice of MOGE? ■ What are the vertical, horizontal clearance of existing and new 230 kV transmission line? Are they in line with right of way guideline from Department of Power Transmission and System Control (DPTSC). 	<p>Kyi Thar Zaw Win (Ms.), TTCL</p> <ul style="list-style-type: none"> ■ We are studying API at the moment for gas pipe line construction. However, gas pipeline right of way have not been finalized yet with MOGE. Code and standard for gas pipeline construction will follow MOGE direction. ■ For transmission line right of way, I think the allowed clearance is published on MOEE's website. Our New transmission line right of way is led by DPTSC and their guidance.
7	<p>U Win Kyaw, Resident, Dagon Township</p> <ul style="list-style-type: none"> ■ I am from Dagon township where the furthest township from Power Plant. Why you invited people from 5km radius of project? Does the project have high risk for the residents in nearest Ahlone Township? 	<p>Vincent Lecat (Mr.), ERM & Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ We have to determine the potential Area of Influence for the project (appropriate study area) for the project in accordance with IFC guideline and ECD guideline. The study area of this project have been determined at 5km radius to ensure all potential impacts are accounted for and the base line data have been collected for that area. Then, we will carry out the modeling work to identify the potential impact from project to resources. As per the results from EIA modeling study, we will

No.	Key Discussion	Response
		decide whether extension of study area are required.

■ Attendance list

169 persons from Government Organizations and Village Responsibilities and 13 persons from company attend the meeting.

No.	Name	Position/Occupation	Department/Organization	Contact No.
1	U Tin Wai + 5	Township Chief Officer (GAD)	Lanmadaw	0949323107
2	U Thein Yi	-	Ahlone	09420155996
3	U Htay Win	-	Ahlone	09451245868
4	U Tin Maung Oo	Journalist	Ahlone	09250500757
5	U Mann Win Saing	-	Lanmadaw	09790454556
6	U Tin Tun	-	Lanmadaw	09263696887
7	Daw Phyto Phyto Thwal	-	Seik Kan	09798224750
8	Daw Kay Thi Khine	-	Yangon West District	09448039139
9	U Maung Maung Htway	-	Dagon	09771782281
10	U Win Kyaw	-	Dagon	09443150013
11	U Aye Maung	-	Lanmadaw	09456711700
12	U Ohn Kyaw	-	Lanmadaw	095139089
13	U Than Htay	-	Lanmadaw	09453930286
14	U Tin Maung Soe	Forestry Department	Ahlone	09254061552
15	U Bo Bo Lwin	-	Ahlone	09451835194
16	U Myint Aung	-	Ahlone	0932386253
17	U Htay Kyaw	-	Lanmadaw	0930245444
18	U Aye Kyu	-	Lanmadaw	09444740454
19	U Kyaw Zin Thet	-	Lanmadaw	09762691116
20	U Myint Wai	-	Lanmadaw	0936141198
21	U Win Myint	-	Ahlone	0978118015
22	U Than Htay	-	Dagon	-
23	U Kyaw Ngwe	-	Dagon	-
24	U Hla Soe	-	Dagon	09954307182
25	U Thike Soe	-	Dagon	09443027446
26	U Thein Soe	-	Lanmadaw	09456711700
27	U Sann Tun	-	Dagon	095021124
28	U Aung Myo Minn	-	Lanmadaw	09443225545
29	U Sein Hote	-	Lanmadaw	095171799
30	U Thein Han	-	Lanmadaw	09254515725
31	U Myint Sein	-	Lanmadaw	09250050091
32	Dr. L Ni Win	-	Ahlone	095042935
33	U Ye Lwin	Yangon Parliament	Ahlone	09973061147
34	U Kyi Aye	-	Ahlone	09254015856
35	U Htein Linn	-	Ahlone	09440520215
36	U Sitt Maung	-	Ahlone	09254315189
37	U Mya Kyaw	-	Ahlone	09442444496
38	U Thann Aye	-	Ahlone	09781996171
39	U Tin Tun	-	Mingalardon	09793374849
40	Ma Kay Kay	-	Pazundaung	0996831669
41	Daw Tin Tin Thann	-	Ahlone	09254315056
42	U Thann Tun	-	Ahlone	09251045754
43	U Saw Maung Chaw	-	Ahlone	09455680245
44	U Jet Li	-	Ahlone	-
45	U Aung Khin Win	-	-	0989800470

46	U Myo Tint	-	Ahlone	-
47	U Thein Myint Zaw	-	Ahlone	09443879966
48	U Soe Myint Aung	-	Lanmadaw	0973011123
49	U Maung Maung Cho	-	-	09251044744
50	U Ko Ko	-	Ahlone	-
51	U Pauk Kyee	-	Ahlone	-
52	U Tin Sein	-	Ahlone	095003273
53	U Thet Lwin Oo	ECD	-	-
54	U Aung Thu Kyaw	Deputy Director (ECD)	-	-
55	U Soe Win	-	(8) Ward	-
56	U Kyaw Htet Aung	-	Kamaryut	09420004733
57	Ma Swe Swe Aung	-	Ahlone	09421061496
58	U Depa Aung	Ministry of Energy (YESC)	Lanmadaw	09977275722
59	U Bhone Naing + 4	YESC	Dagon	-
60	Daw Moe Moe Win	-	Ahlone	-
61	U Thaug Aye	-	Ahlone	-
62	Daw May Thet Hnin	-	-	-
63	U Soe Moe Thein	-	Ahlone	-
64	U Soe Yarzar	-	Ahlone	-
65	Daw Ei Ei Mon	-	Ahlone	-
66	Daw Thiri Myat Zin	-	Ahlone	-
67	Daw Nwe War	-	Ahlone	-
68	U Ye Min Tun	-	Ahlone	-
69	Daw Myo Myo Sann	-	Ahlone	-
70	U Phyo Chit Aung	-	Ahlone	-
71	Daw Thandar Aung	-	Ahlone	-
72	U Nyan Zin Soe	MRTV – 4 TV Channel	-	09250164659
73	U Moe Zaw Soe	-	Ahlone	-
74	U Myo Tint Zaw	-	Ahlone	-
75	U Than Kyaw Satt	-	Ahlone	-
76	U Shwe Ya Aung	ELEVEN Journal	-	0945042880
77	U Nay Win + 2	-	Dagon	-
78	Daw Pyie Oo Khin	-	Dagon	-
79	Daw May Thati Oo	-	Dagon	-
80	U Nay Zar Kyaw	-	Mayangone	09420220468
81	U Aung Ko Ko	-	Dagon	09451052253
82	U Tin Shwe	-	Lanmadaw	095041442
83	U Tint Swe Aung	-	Lanmadaw	0943038934
84	U Naing Win	-	Lanmadaw	09284349496
85	U Myo Chit	-	Lanmadaw	09799338030
86	U Myo Thein	-	Lanmadaw	0943119897
87	U Yaung Kyaing	-	Lanmadaw	09251037979
88	Ar Bar Han	-	Lanmadaw	09794015568
89	U Shwe Maung	-	Lanmadaw	09428038785
90	U Sann Win	-	Lanmadaw	09420260371
91	U Thann Nyunt	-	Lanmadaw	09783210680
92	U Han Tin	-	Lanmadaw	09254112600
93	U Ye Latt	-	Lanmadaw	09778875670
94	U Ngwe Moun	-	Lanmadaw	0930004624
95	U Thann Htay	-	Lanmadaw	09443184769
96	U Mozert	-	-	-
97	U Zaw Win	-	Lanmadaw	09759650350
98	Daw Aye Aye Mon	-	Lanmadaw	09781193063
99	U Hla Minn	-	Ahlone	0973002674
100	U Soe Myint	-	Dagon	0973222615
101	Daw Win Myint	-	Dagon	09428015254
102	U Thar Shwe	-	Dagon	09401600752
103	Daw Khin Thwal Thwal Htut	-	Dagon	09795163242
104	U Tin Aung Lwin	-	Lanmadaw	095013878

105	U Thann Soe	-	Mingalardon	09779907751
106	U Han Tint	-	(1) Ward, Lanmadaw	09795415318
107	U Khine Gyi	-	(1) Ward, Lanmadaw	09795415318
108	U Pyae Phyong Aung	-	-	09795415318
109	U Thet Shein Win	-	(1) Ward, Lanmadaw	09795415318
110	U Myo Tun	-	(1) Ward, Lanmadaw	09795415318
111	U Myint Oo	-	Anar Gyi Kone, Ahlone	09250155655
112	U Kyaw Wai Minn + 5	-	-	09404413949
113	U Soe Win	-	Aye St., Ahlone	09444437046
114	U Chit Mal	-	Aye St., Ahlone	-
115	U Taung Soe	-	1/507, Thit Taw street, Ahlone	095109855
116	U Maung Maung Swe	-	Saw Yan Paing (East) Ward, Ahlone	09250271383
117	U Tin Nyunt	-	Sin Min St., Ahlone	09254010206
118	U Zaw Lin	-	Saw Yan Paing (East) Ward, Ahlone	095106140
119	U Phyong Kyaw	-	Ahlone	09969661678
120	U Myo Lwin	-	Lanmadaw	09250274655
121	U Swe Aung	-	Lanmadaw	09250274655
122	U Kyaw Win	-	Lanmadaw	09250274655
123	UNREADABLE	-	Lanmadaw	09250274655
124	U Myint Zaw	-	Saw Yan Paing (East) Ward, Ahlone	09250637427
125	U Htin Zaw Latt	-	Htarna St., Ahlone	09795610720
126	U Zaw Win	Township Chief Officer (NLD Party)	-	09420045092
127	U Thein Zaw Lwin	-	Ahlone	0931070217
128	U Thann Htike	Ward (GAD)	Ahlone	095011648
129	U Hla Thein Hlaing	-	Thit Taw St., Ahlone	09250500731
130	U Tun Tun	-	Saw Yan Paing (West) Ward, Ahlone	09921109324
131	U Linn Aung Khaing	Ayeyarwaddy Journal	-	09403365612
132	U Zin Phyong Htet	-	Thit Taw St., Ahlone	09762299069
133	U Saw Minn Thann	-	Dagon	09425004921
134	Daw Yin Yin Kyi	-	Dagon	09250253823
135	U Minn Lwin	Ayeyarwaddy Journal	-	09254991260
136	Daw Nilar Win	-	Ahlone	09425744327
137	Daw Tin Tin Aung	-	Ahlone	09450012471
138	Daw Thida Khaing	-	Ahlone	09441901722
139	Daw Tin Aye Yi	-	Dagon	095411579
140	Daw Hla Hla Win	-	Dagon	09449783075
141	U Tun Myint	-	Ahlone	09793536716
142	U Yan Naing Oo	-	Ahlone	09445339442
143	U Sein Lwin	-	Bahan	09448016667
144	U Zaw Pyae	-	Ahlone	09785308212
145	Daw May Thet Mon	-	Ahlone	09456366410
146	U Thann Naing	-	Seik Kann	09456880141
147	U Bhone Wai	-	24, Sadan St., Ahlone	0949336913
148	Daw May Hlaing Phyu	-	Ahlone	09799633964
149	U Win Shwe	-	Ahlone	09420118943
150	Daw Kay Zin Oo	-	Ahlone	09977838542
151	U Myint Aung	-	Ahlone	09956031750
152	U Thann Kyaw Sein	-	Ahlone	09262645256
153	Daw Thuzar Linn	Democratic Voice of Burma - DVB TV	Lanmadaw	09420017396
154	U Moe Zaw Swe	-	Ahlone	0943181468
155	Daw Suzzan	-	Ahlone	09421032193
156	U Thurein Tun	-	Ahlone	09400722405
157	Daw Honey Myint Aung	-	Ahlone	09262427296

158	Daw Win Kay Khaing	-	Ahlone	09258545776
159	Daw Myint Myint Kyi	GAD	Ahlone	09250178207
160	Daw Sandar Myo	-	16, Nant Thar St., Ahlone	09250178225
161	U Phyo Thura Myint	Elite Tech Development	-	09421062467
162	U Phyo Chit Aung	GAD	69, Ngu War St., Ahlone	09401639556
163	Daw Theint Nwe Ni Tun	GAD	69, Ngu War St., Ahlone	09442537313
164	U Aung Myint Myat	Lion Energy	40th St., lower block, Kyauktada	09256649488
165	Daw Phyo Pa Pa	-	133, Aung Zay Ya St., Ahlone	09420122315
166	U Ko Ko Latt	-	91-G, 7th St. Lanmadaw	095163051
167	Daw Nyunt Nyunt Myaing	-	UNREADABLE	09421069660
168	Daw Zarni Tun	Fire Department	Ahlone	09950020188
169	Daw Myint Thet Khaing	-	-	09782077190
170	Daw Zin Mar Kyaw	EPC	Ahlone	09421068835
171	U Soe Thein Win	EPC	Ahlone	09448022130
172	U Aung Myo Minn	EPC	Ahlone	09797898951
173	Daw Cherry Wint Thu	GAD	Ahlone	09796769706
174	U Phyo Thainkha	GAD	Ahlone	09402722062
175	U Aung Kyaw Zaul	EPC	Ahlone	09420094249
176	U Wai Tun Naung	-	Tarmwe	09897145732
177	U Thein Soe	-	Ahlone	095084203
178	Dar Thuzar	7 Day TV	-	09422488833
179	U Htway Win	-	Ahlone	09971246779
180	Daw Nay Chi Hlaing	-	Ahlone	09420133291
181	U Zaw Myo Tun	-	Ahlone	09450065106
182	Daw Khin Mar Thann	-	70, Ngu War Street, Ahlone	09400983644

List of Participation (Photos)

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြခြင်းအခမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၀၁	ဦးစင်ဝေ + 5	လမ်းမတော်	၀၇၄၄၃၂၃၁၀၇		ဒုတိယဦးစီးမှူး
၀၂	ဦး သိန်းကျော်	အရှေ့မြို့နယ်	၀၇၄၂၀၁၅၅၄၇၆		
၀၃	ဦးဌေးဝင်း	ကလေး	၀၇၄၅၂၂၄၅၈၆၈		
၀၄	ဦးတင်မောင်ဦး	ကလေး (သတင်းစာတိုက်)	၀၇၂၅၀၅၀၀ ၇၅၇		သတင်းစာတိုက်
၀၅	ဦးမင်းဝင်းဆိုင်	လမ်းမတော်	၀၇၇၇၀၄၅၅၄၅		
၀၆	ဦးတင်ထွန်း	လမ်းမတော်	၀၇၂၆၃၆၇၆ ၈၈၇		
၀၇	မြို့မြို့သွယ်	ဆိပ်ကမ်း	၀၇၇၇၈၂၂၄၇၅၀		
၀၈	ဒေါ်ကေဝီခိုင်	ခရိုင်	၀၇၄၄၈၀၅၁၃၇		ကောက်ခံခိုင်
၀၉	ဦးမောင်မောင်ထွေး	ဒဂုံ	၀၇၇၇၁၇၈၂၂၈၂		
၀၁၀	ဦးဝင်းကျော်	ဒဂုံ	၀၇၄၄၃၁၅၀၀၁၃		
၀၁၁	ဦးအေးမောင်	လမ်းမတော်	၀၇၄၆၆၇၁၁၇၀၀		ဒုတိယဦးစီးမှူး
၀၁၂	ဦးအုန်းကျော်	လမ်းမတော်	၀၇၅၁၃၇၀၈၇		
၀၁၃	ဦးသန်းဌေး	လမ်းမတော်	၀၇၄၅၃၇၃၀၂၆		
၀၁၄	ဦးတင်မောင်ဦး	ကလေး	၀၇၂၅၄၀၆၁၅၅၂		သစ်တော
၀၁၅	ဦးစိုစိုလွင်	ကလေး	၀၇၄၅၁၈၈၅၁၇၄		
၀၁၆	ဦးဖြူမောင်	ကလေး	၀၇၃၂၃၈၆၂၅၃		
၀၁၇	ဦးဌေးကျော်	လမ်းမတော်	၀၇၃၀၂၄၅၄၄၄		
၀၁၈	ဦးအေးဖြူ	လမ်းမတော်	၀၇၄၄၄၇၄၀၄၅၄		
၀၁၉	ဦးကျော်စင်သတက်	လမ်းမတော်	၀၇၇၆၂၆၇၁၁၁၆		
၀၂၀	ဦးဖြူစေ	လမ်းမတော်	၀၇၃၆၁၄၁၁၇၈		

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြခြင်းအစမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	ဦးဝင်းဖြူ	ကလုံ	၀၇၇၈၁၁၈၀၁၅		
၂။	ဦးသန်းဌေး	ဒဂုံ	-		
၃။	ဦးကျော်စွာ	ဒဂုံ	-		
၄။	ဦးလှစိုး	ဒဂုံ	၀၇၇၅၄၃၀၇၁၈၂		
၅။	ဦးသုတေသီ	ဒဂုံ	၀၇၇၄၄၃၀၂၇၄၄၆		
၆။	ဦးသိန်းစိုး	လမ်းမတော်	၀၇၇၅၆၇၁၁၇၀၀		လမ်းမတော်ရပ်ကွက် ၇၆၆
၇။	ဦးဆန်းထွန်း	ဒဂုံ	၀၇၅၀၂၁၁၂၄		
၈။	ဦးအောင်မျိုးမင်း	လမ်းမတော်	၀၇၇၄၃၂၂၅၅၇၅		
၉။	ဦးအိဟုတ်	လမ်းမတော်	၀၇၅၁၇၁၇၇၇၇		
၁၀။	ဦးသိန်းဟန်	လမ်းမတော်	၀၇၂၅၄၅၁၅၇၂၅		
၁၁။	ဦးဖြူအိန်	လမ်းမတော်	၀၇၂၅၀၀၅၀၀၇၁		
၁၂။	ခေါက်ဇာအယ်ဒိုင်း	ကလုံ	၀၇၅၀၄၂၇၃၅		
၁၃။	ဦးဂျေလွင်	ကလုံ	၀၇၇၇၃၀၆၁၁၇၇		ပြည်သူ့ကွတ်စက်
၁၄။	ဦးဗြဟ္မစာ	ကလုံ	၀၇၂၅၄၀၁၅၈၅၆		
၁၅။	ဦးဆီဂျီလင်း	ကလုံ	၀၇၇၄၀၅၂၀၃၁၅		
၁၆။	ဦးစစ်အောင်	ကလုံ	၀၇၂၅၄၃၁၅၁၈၇		
၁၇။	ဦးမြကျော်	ကလုံ	၀၇၇၄၂၄၄၄၄၇၆		
၁၈။	ဦးသန်းစော	ကလုံ	၀၇၇၈၁၇၇၆၇၇၁		
၁၉။	ကိုတင်ထွန်း	မင်္ဂလာဒုံ	၀၇၇၇၃၃၇၄၈၄၇		
၂၀။	မကေကေ	ပုဇွန်တောင်	၀၇၇၆၈၃၁၆၆၇	kay	

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြခြင်းအစဉ်အနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၀၁	ဒေါ်တင်စင်စင်	ကနဲ့	09254815056		
၀၂	ဦးသန်းထွန်း	ကနဲ့	09251045754		
၀၃	ဦးစောစောစော	ကနဲ့	09455880245		
၀၄	ဦးလွင်လွင်	ဗဟို	-		
၀၅	ဦးကျော်စင်စင်		0989800470		
၀၆	ဦးစိုးစိုး	ကနဲ့	-		
၀၇	ဦးသိန်းမြင့်	ကနဲ့	09443879986		
၀၈	ဦးစိုးစိုး	လမ်း	73011123		
၀၉	ဦးစောစော		251044744		
၀၁၀	ဦးကျော်ကျော်	ကနဲ့	-		
၀၁၁	ဦးစောစော	ကနဲ့	-		
၀၁၂	ဦးစောစော	ကနဲ့	095003273		ကုန်ချုပ်ရေးဌာန
၀၁၃	ဦးကျော်ကျော်	သဘာဝပတ်ဝန်းကျင်	-		
၀၁၄	ဦးကျော်ကျော်	သဘာဝပတ်ဝန်းကျင်	-		ဒဂုံမြို့တော်ခရိုင်
၀၁၅	ဦးစိုးစိုး	ရေလျှောက်	-		
၀၁၆	ကျော်ကျော်	ကမာရွတ်	09428004733		
၀၁၇	မအေးအေး	ကနဲ့	09421061496		
၀၁၈	ကျော်ကျော်	လမ်းမတော်	09977275722		MOE YESC.
၀၁၉	ဦးကျော်ကျော်	ဒဂုံ	-		YESC
၀၂၀					*၂

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြခြင်းအခမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	မမိုးမိုးဝင်း	ကလုံ	-		
၂။	ဦးဆောင်းအေး	ကလုံ			
၃။	ဝေမာသက်ဇော်		-		
၄။	ဦးစိုးမိုးထိန်	ကလုံ			
၅။	ဦးစိုးဇော်	ကလုံ			
၆။	စောအယ်ဗွန်	။			
၇။	စောအိန်ဇော်ဝင်း	ကလုံ	-		
၈။	စောနွဲ့ဝါ	ကလုံ			
၉။	ဦးဂုဇော်ထွန်း	ကလုံ			
၁၀။	မမိုးမိုးစန်း	ကလုံ	-		
၁၁။	ဦးဦးစွာစောင့်	ကလုံ	-		
၁၂။	မာမာအောင်	ကလုံ			
၁၃။	ဤဏဝေစိုး	MRTV - 4	၀၇၂၅၀၁၆၄ ၆၅၄		
၁၄။	ဦးစိုးမိုးစောင့်	ကလုံ			အပိုင်အပယ်အုပ်စုမှ။
၁၅။	ဦးစွာစောင့်ဝင်း	ကလုံ			ဤအပိုင်အပယ်အုပ်စုမှ။
၁၆။	ဦးသန်းကျော်ဆက်	ကလုံ			
၁၇။	ဦးစောင့်	Chawen	၀၇-၇၅၀၄ ၃၃၉၀		
၁၈။	ဦးစောင့် + ဦး	ဒဂုံမြို့နယ်			
၁၉။	ဦးစောင့်	ဒဂုံမြို့နယ်		Pgie	
၂၀။	မေမေစောင့်	။		May	

LNG သုံး လျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	U Nay Zin Myan	Mayangone Township	၀၉-၄၂၀၂၀၀၄၆၄		
၂။	ဦး စောကျော်	ဒဂုံမြို့နယ်	၀၉-၇၅၀၅၂၂၅၅		
၃။	ဦး ဝေဠု	လမ်းမတော်	၀၉-၅၀၄၁၄၄၂		
၄။	ဦးစောထွန်း	၇	၀၉-၄၅၀၃၈၄၅၇		
၅။	ဦးခိုင်စော	၈	၀၉-၃၃၄၃၄၄၄၄		
၆။	ဦးမျိုးနွယ်	၈	၀၉-၇၇၇၇၇၇၇၇		
၇။	ဦးမျိုးနွယ်	၈	၀၉-၄၅၀၈၈၈၈		
၈။	ဦးမျိုးနွယ်	၈	၀၉-၂၅၀၂၅၇၇		
၉။	ဒေါ်အေး	၈	၀၉-၇၇၇၇၇၇၇၇		
၁၀။	ဦးကျော်စော	၈	၀၉-၄၂၂၀၂၃၃၇၇၇		
၁၁။	ဦးကျော်စော	၈	၀၉-၄၂၀၂၆၀၃၇၇		
၁၂။	ဦးကျော်စော	၈	၀၉-၇၇၇၇၇၇၇၇		
၁၃။	ဦးကျော်စော	၈	၀၉၂၅၄၁၁၇၇၇		
၁၄။	ဦးကျော်စော	၈	၀၉၇၇၇၇၇၇၇၇		
၁၅။	ဦးကျော်စော	၈	၀၉၃၀၀၄၆၇၇		
၁၆။	ဦးကျော်စော	၈	၀၉၄၄၄၅၈၄၇၇		
၁၇။	ဦးကျော်စော	၈			
၁၈။	ဦးကျော်စော	၈	၇၅၇၆၅၀၃၅		
၁၉။	ဦးကျော်စော	၈	၀၉၇၈၁၉၃၀၆၃		
၂၀။	ဦးကျော်စော	၈	၇၃၀၀၂၆၇၄		

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြခြင်းအစမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	ဦးစိုးဇော်	ဒဂုံ	7322264		
၂။	ရွှေစင်စင်	"	၄၂၈၀၅၅၂၅၅	စဦး	
၃။	ဦးအောင်	ဒဂုံ	၀၉ ၇ ၀ ၁၆ ၀၀၇၅၂		
၄။	ဒေါ်ခင်အောင်	ဒဂုံ	၀၉၇၇၅၅၄၃၂၄၂		
၅။	ဦးတင်အောင်	လမ်းမတော်	၀၉၅၀၁၃၈၇၈		
၆။	သန်းဦး	မင်္ဂလာဒုံ	၀၉၇၇၉၉၀၇၇၅		
၇။	ဦးအောင်	လမ်းမတော်	၀၉၇၇၅၄၁၅၅၈		
၈။	ဦးစိုးဇော်	"	"		
၉။	ဦးစိုးဇော်	"	"		
၁၀။	ဦးသန်းဦး	"	"	သန်း	
၁၁။	ဦးအောင်	"	"	စဦး	
၁၂။	ဦးစိုးဦး	ကရားဦး	၀၉-၃၅၀၁၅၅၆၅၅		
၁၃။	ဦးစိုးဦး	ဒဂုံ	၀၉-၄၀၄၄၁၃၄၄၄		
၁၄။	ဦးစိုးဦး	ဒဂုံ	၀၉-၄၄၄၄၃၇၄၄		
၁၅။	ဦးစိုးဦး	ဒဂုံ			
၁၆။	ဦးစိုးဦး	၂/၅၀၇-၂၀၀၊ ၀၀၀-၀၀၀	၀၉-၃၀၀၇၈၅		
၁၇။	ဦးစိုးဦး	မင်္ဂလာဒုံ	၀၉၂၈၀၂၇၁၃၈၅		
၁၈။	ဦးစိုးဦး	ဒဂုံ	၀၉/၂၅၅၀၀၂၅		
၁၉။	U Zaw Lin	မင်္ဂလာဒုံ	၀၉၅၀၀၂၅၀		
၂၀။	U Phyo Kyaw	ဒဂုံ	၀၉၅၅၅၅၅၅		

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံမိမိကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား အသစ်ပြင်ဆင်မှုလုပ်ထုတ်

ရှင်းလင်းတင်ပြခြင်းအစမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	ဦး ဘျော်လွင်	မင်းတပ်	၀၇၂၅၀၂၇၇၆၅		
၂။	ဦး ရွှေ အောင်	လမ်း ၅၆၀	၂		
၃။	ဦး ရွှေအောင်	လမ်း ၁၀၆၀	၂		
၄။	ဦး ခင် ဦး	လမ်း ၅၆၀	၁		
၅။	ဦး မင်းလေး	၆၀၁/၆၅	၀၇၂၅၀၆၃၇၇၃၇		
၆။	ဦး ထင်အောင်	၅၅၃	၀၇၇၅၀၆၁၀၇၂၀		
၇။	ဦး ဇော်ဝင်း	NL ၁ ၃၃၅	၀၇၄၂၀၀၄၅၀၇၂		
၈။	ဦး ဦးစောလွင်	မင်္ဂလာ	၀၇ ၃၁၀၇၀၂၇		
၉။	ဦး နန်းလွင်	၂. M. M.	၀၇၅၀၁၁၆၄၈		
၁၀။	ဦး ရွှေအောင်	မင်းတပ်	၀၇၂၅၀၅၀၇၇၁		
၁၁။	ဦး ရွှေအောင်	မင်းတပ်	၀၇၇၂၁၁၀၇၃၇၄		
၁၂။	ဦး မင်းအောင်	၆၇၀၀၅	၀၇၄၀၃၃၆၅၆၂		
၁၃။	ဦး ရွှေအောင်	မင်းတပ်	၀၇၇၆၂၂၇၇၀၆၇		
၁၄။	ဦး စောလွင်	၃၃၆ ၁၂	၀၇၂၅၂၅၀၀၇၇၇		
၁၅။	ဦး ရွှေအောင်	မင်းတပ်	၀၇၂၅၀၂၅၃၅၅		
၁၆။	ဦး မင်းလွင်	၆၀၁/၆၅	၀၇၂၅၀၆၃၇၇		
၁၇။	ဦး ရွှေအောင်	မင်းတပ်	၀၇၂၅၂၅၇၇၃၅၅		
၁၈။	ဦး စောလွင်	မင်းတပ်	၀၇၄၅၀၀၁၂၄၇၁		
၁၉။	ဦး ရွှေအောင်	မင်းတပ်	၀၇၄၄၁၇၀၁၇၅၅		
၂၀။	ဦး စောလွင်	၆၀၁/၆၅	၀၇၅၀၁၁၆၄၈		

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သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဧဒသစ်ပြည်သူ့လူထုသို့

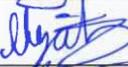
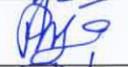
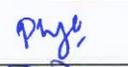
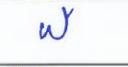
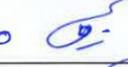
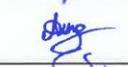
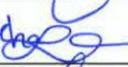
ရှင်းလင်းတင်ပြခြင်းအစမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ၊ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ဖျသွင်	ဒဂုံမြို့နယ်	4497830		
၂။	ဦးစွန်းဖြူ	ကရင်	၀၉-၇၅၃၄၃၆၇၆		
၃။	ဦးကျော်စွာ	ကရင်	၀၉-၄၄၄၃၃၅၄၇		
၄။	အောင်ကျော်	ပဲခူး	၀၉-၇၄၅၀၁၆၆၇		
၅။	အောင်မြင်	အင်းစိန်	၀၉-၇၅၀၀၀၀၀		
၆။	အောင်ကျော်	"	၀၉-၄၅၆၆၆၆၆		
၇။	ဦးကျော်စွာ	ကရင်	၀၉၄၅၆၆၆၆၆		
၈။	ဦးကျော်စွာ	၂၄-အင်းစိန်မြို့နယ်	၄၅၃၃၆၇၁၃		
၉။	အောင်ကျော်စွာ	ကရင်	၀၉၇၅၀၀၀၀၀		
၁၀။	ဦးကျော်စွာ	ပဲခူး	၀၉၇၅၀၀၀၀၀		
၁၁။	အောင်ကျော်စွာ	အင်းစိန်	၀၉-၇၅၀၀၀၀၀		
၁၂။	ဦးကျော်စွာ	ပဲခူး	၀၉-၇၅၀၀၀၀၀		
၁၃။	ဦးကျော်စွာ	"	၀၉-၇၅၀၀၀၀၀		
၁၄။	အောင်ကျော်စွာ	ပဲခူး	၀၉၇၅၀၀၀၀၀		
၁၅။	အောင်ကျော်စွာ	အင်းစိန်	၀၉-၇၅၀၀၀၀၀		
၁၆။	အောင်ကျော်စွာ	ပဲခူး	၀၉၇၅၀၀၀၀၀		
၁၇။	အောင်ကျော်စွာ	"	၀၉-၇၅၀၀၀၀၀		
၁၈။	အောင်ကျော်စွာ	ပဲခူး	၀၉-၇၅၀၀၀၀၀		
၁၉။	အောင်ကျော်စွာ	"	၀၉-၇၅၀၀၀၀၀		
၂၀။	အောင်ကျော်စွာ	ပဲခူး	၀၉၇၅၀၀၀၀၀		

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သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဖေ့ဘစ်ပြည်သူ့လှူထုတ်

ရှင်းလင်းတင်ပြခြင်းအခမ်းအနား (၂၀၁၈ ခုနှစ်၊ အောက်တိုဘာလ ၂၉ ရက်နေ့)

စဉ်	အမည်	နေရပ်လိပ်စာ (ပြိုနယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၀၁	အောင်စွာစာပို့	၁၆-၂၊ဘာလယ်	၂၅၀၀၇၇၂၅		
၂	ဦးဖြိုး သူရဗြင်	Elite Tech Development	၀၇၄၂၁၀၆၂၄၆၇		
၃	ဦးဖြိုးစွမ်းအောင်	၆၉၊ ဗဟိုဝေခါ ဆွေမောင်ရုံး	၀၇၄၀၁၆၅၅၅၆		
၄	ဒေါ်ထိန်းစွယ်စိုတင်စိုတင်	"	၀၇-၄၄၂၆၅၅၅၅		
၅	ဦးကျော်ဖြူဖြူ	Lion Education ပတ်ပတ်အောင်အောင်	၀၇-၂၅၆၆၄၅၄၈၈		
၆	ဒေါ်ဖြူစေတ	၇၃၃) အောင်စေတ လမ်းမတော်	၀၇-၄၂၀၁၂၂၃၃		
၇	ဦး ချိုချိုမယ်	၀၁/၇၅ ငှက်ကမ်း North Gate	၀၇-၅၂၆၂၀၅		
၈	ရွှေအောင်မယ်	မ -	၀၇-၄၂၀၇၅၅၅		
၉	ဒေါ်ကျော်စွယ်	အလုံမြို့နယ်	၀၇-၅၅၀၀၂၀၂၀		
၁၀	ဒေါ်ဖြူစွယ်	ယ/ကျေး	၀၇၅၅၂၀၇၅၅၅		
၁၁	ဒေါ်မယ်အောင်	အလုံ - အလုံ	၀၇-၄၂၀၆၈၈၈		
၁၂	ဦးကျော်စွယ်	အလုံ/ကျေး	၀၇၄၄၅၅၅၅၅		
၁၃	ဦးအောင်စွယ်	အလုံ - အလုံ	၀၇၇၇၇၇၇၇၅		
၁၄	ဒေါ်ကျော်စွယ်	အလုံ/ကျေး	၀၇-၇၇၇၇၇၇၅		
၁၅	ဦးဖြိုး သိင်္ခ	အလုံ/ကျေး	၀၇၇၇၇၇၇၇၅		
၁၆	ဦးကျော်စွယ်	အလုံ/ကျေး	၀၇-၇၇၇၇၇၇၅		
၁၇	ဒေါ်ကျော်စွယ်	အလုံ	၀၇၇၇၇၇၇၇၅		
၁၈	ဒေါ်ကျော်စွယ်	အလုံ	၀၇၇၇၇၇၇၇၅		
၁၉	Thuzon	၇ Day W	၀၇၄၂၄၂၄၂၄		
၂၀	ကျော်စွယ်	အလုံ	၀၇၇၇၇၇၇၇၅		

LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း
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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
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LNG သုံး လျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း
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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဆက်သွယ်ရန် (ဖုန်းနံပါတ်)	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ခင်မာမာ	ရပ်ကွက် ၁၀၊ ဝမ်းသာ	၀၇-၄၀၀-၉၈၃၆၄၄		
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Photo





APPENDIX V PUBLIC PARTICIPATION NO.2 PRESENTATION (ENGLISH)

LNG Power Plant (Ahlone) Project in Yangon, Myanmar

12, 13, and 14 June , 2019

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The business of sustainability



Objective

- To present the Project proponent.
- To present the latest Project information.
- To present the ESIA Team.
- To present the result of the Impact Assessment studies.
- To collect stakeholders comments and feedback on the draft Environmental and Social Impact Assessment (ESIA) report, in particular the relevance of the proposed mitigation measures

TTCL Power Myanmar Company Limited (TPMC)

TPMC

TPMC is a subsidiary of TTCL Public Company Limited. TPMC was established to carry out the Operation & Maintenance of this proposed project.

TTCL

- TTCL Public Company Limited (TTCL) is the first integrated Engineering, Procurement and Construction company in Thailand as well as an investor especially in power sector.
- Established in 1985 by Toyo Engineering Corporation (TEC), a leading Engineering Company from Japan.
- 8 Subsidiary and Affiliate Companies in 3 continents around the world.
- Its experience in Myanmar include:
 - Aviation Fuelling System for the Mandalay International Airport in 1997.
 - 121MW Combined Cycle Gas Turbine Power Plant in Ahlone, Yangon in 2012.
 - Oil & Gas Terminal Construction in Thilawa Industrial Zone in 2018



TTCL's Business

Engineering – 2,700 staffs, Offer all areas of engineering fields.

Procurement – 30 years experience, Strong network with suppliers.

Construction – 230 successful projects, Proven work quality records.

Investment – 7 projects worldwide, especially in power sector

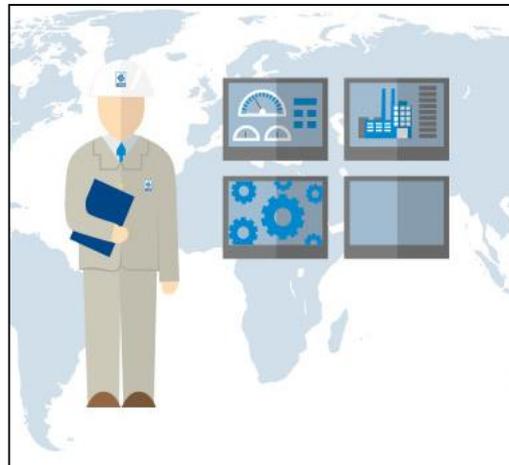
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Engineering



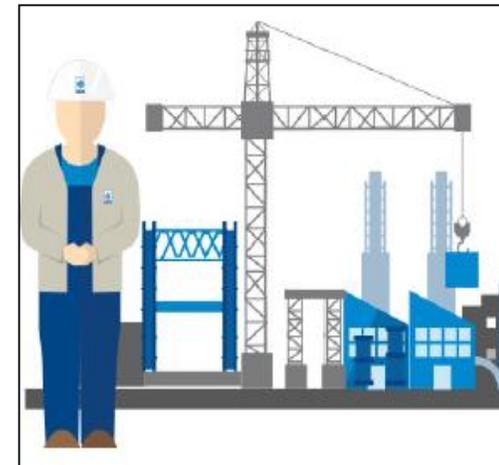
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Procurement



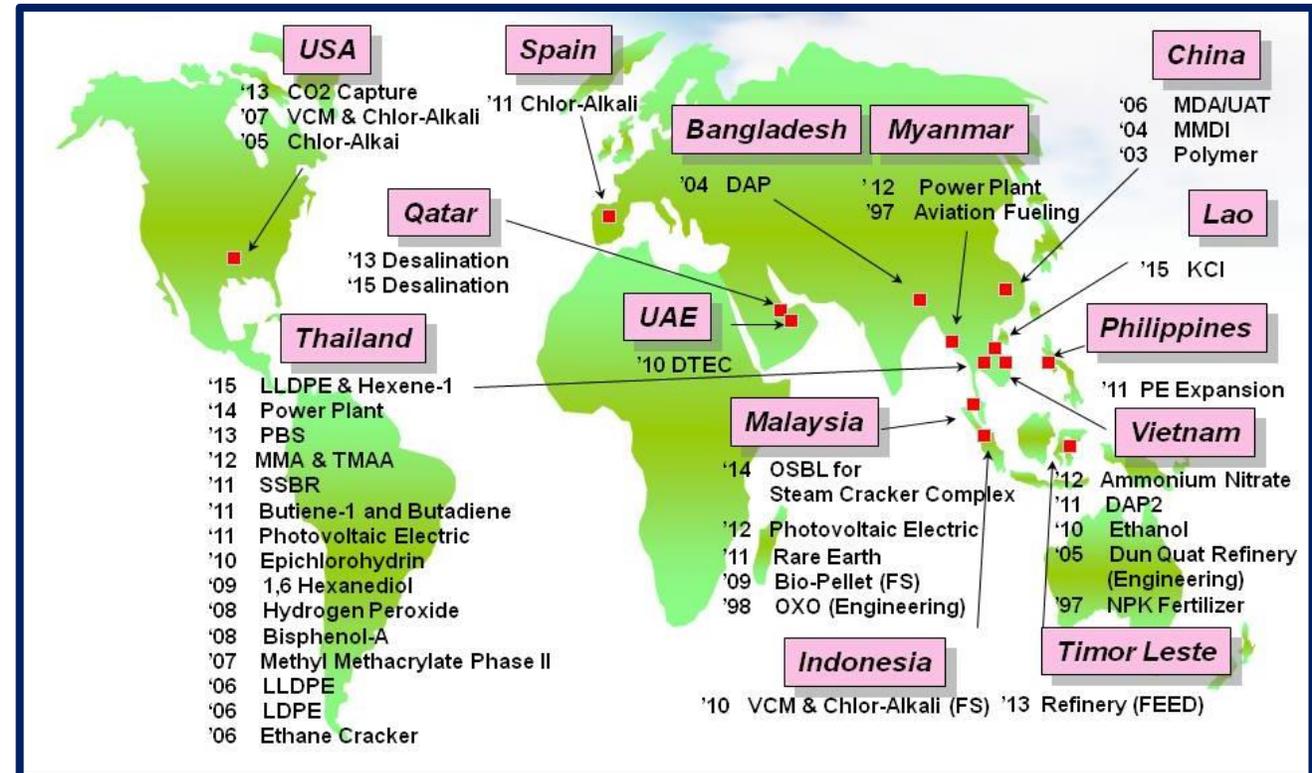
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Construction



TTCL Worldwide Experiences

TTCL is trusted by many leading international company around the world.



Project Components

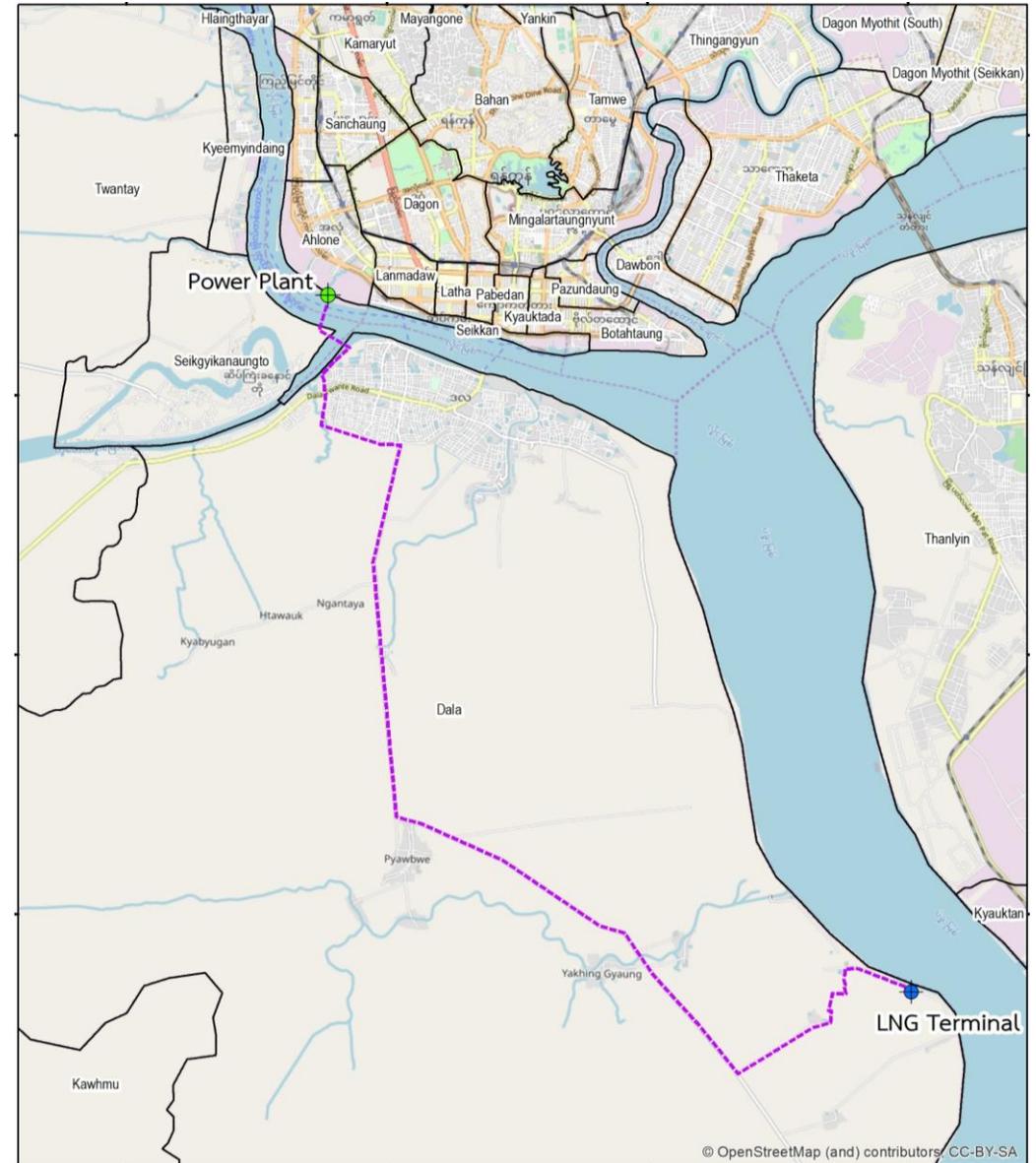
- 388MW Combined Cycle Gas Turbine Power Plant.
- Fuel is imported Liquefied Natural Gas (LNG).
- Fuel is transported by LNG Carrier to LNG Receiving Terminal.
- LNG receiving Terminal, and natural gas (NG) pipeline to Power Plant.
- 230 kV Transmission line
- The generated electricity from the project will supply to Yangon Region through Myanmar Grid.



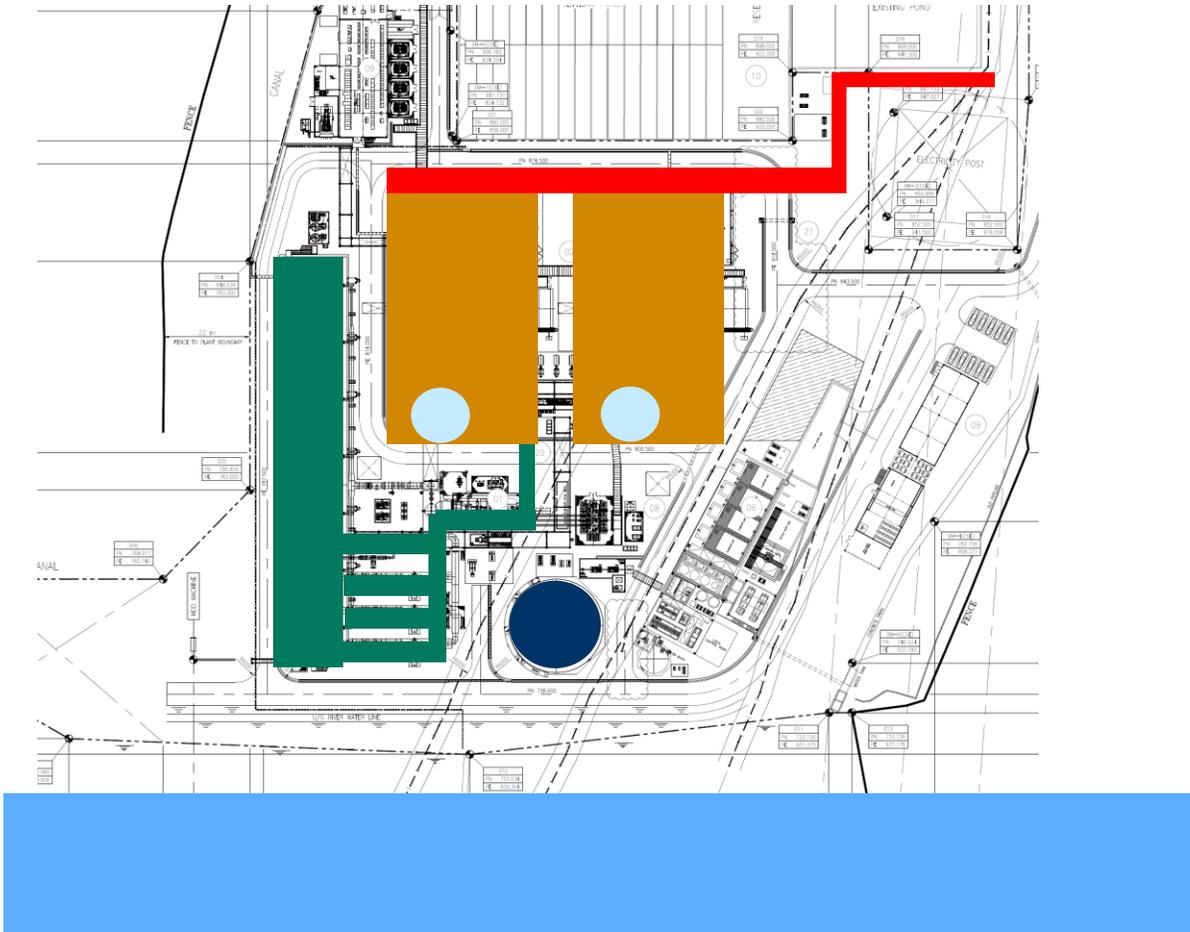
Project Overview and Location

LEGEND

-  LNG Terminal
-  Pipeline
-  Power Plant



LNG Power Plant (Ahlone) Project CCGT

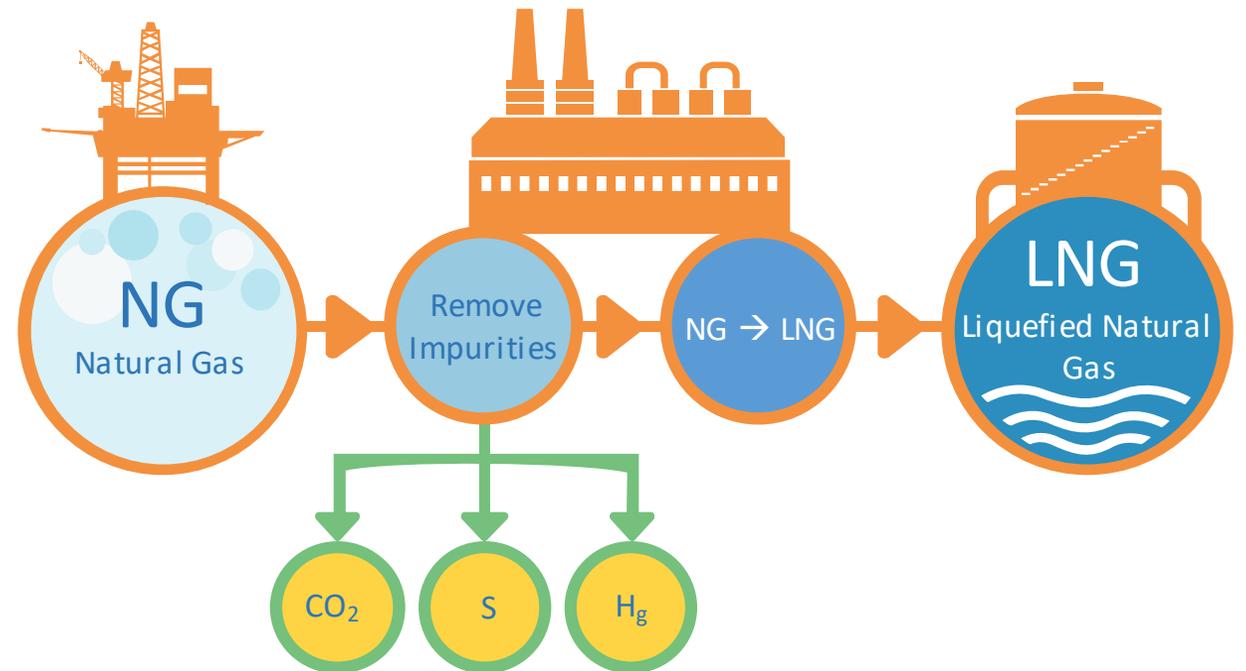


LEGEND

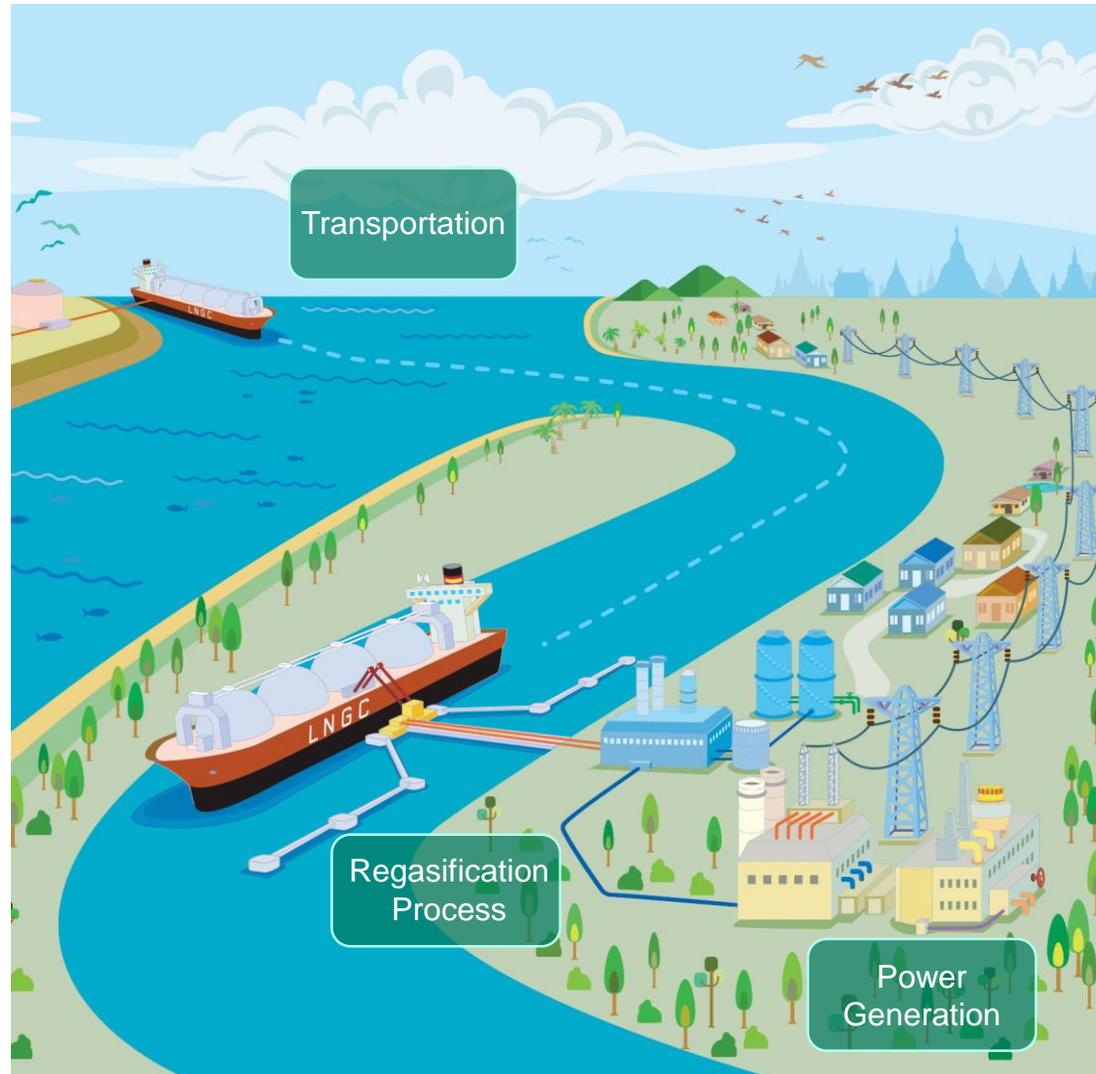
- Yangon River
- Water Tank
- Extension of switch yard
- Cooling Tower and Water System
- Gas and Steam Turbines
- Stack

What is LNG?

- Liquefied Natural Gas (LNG) is natural gas that has been converted into liquid form.
- Takes up 1/600th the volume of natural gas.
- -160 degrees Celsius, for ease of transportation.



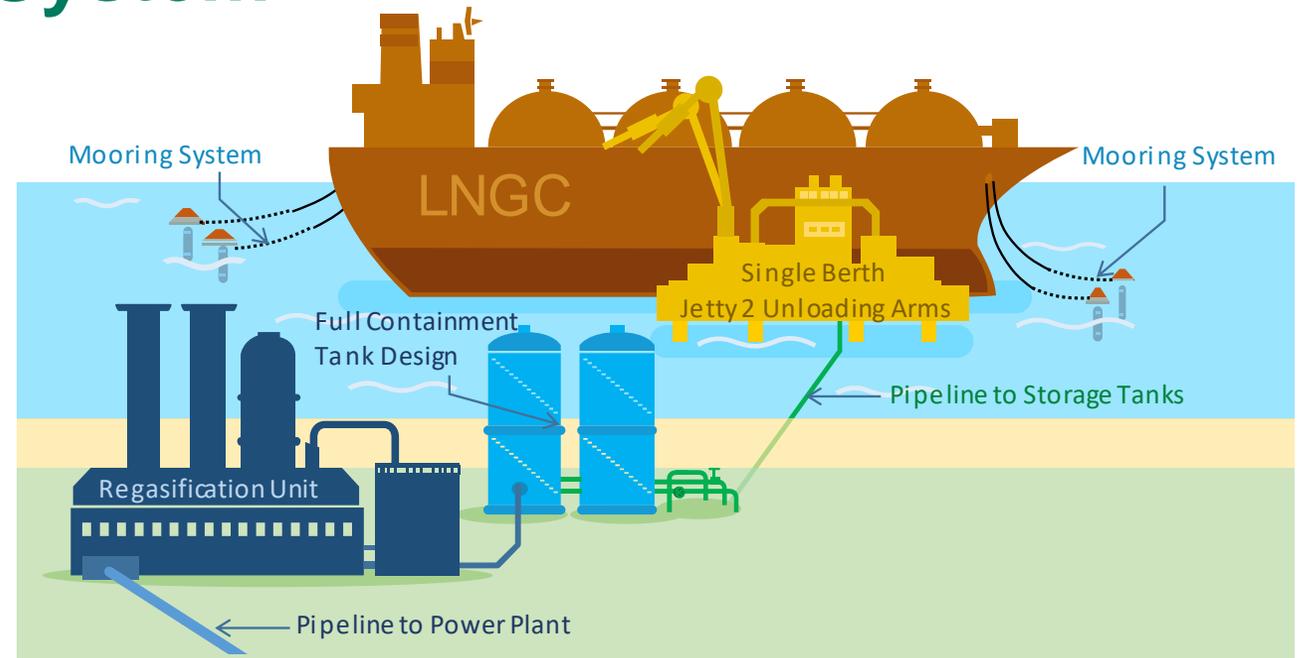
LNG Value Chain



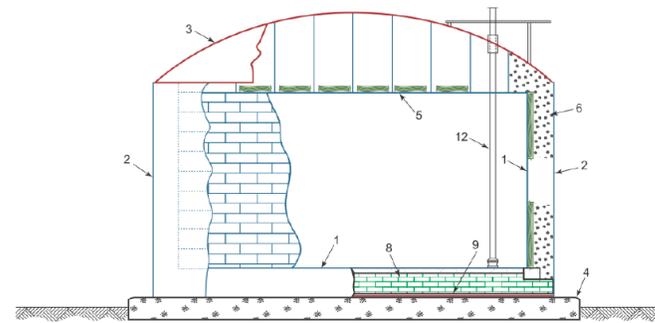
LNG Terminal & Mooring System

Key Components:

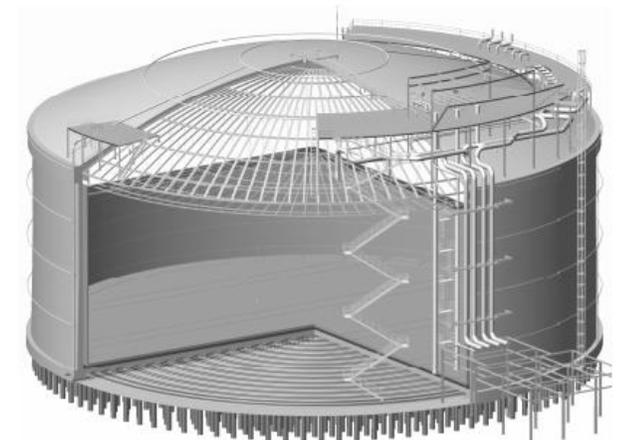
- Jetty – Single Berth
- 2 x LNG Tanks (Full containment type double wall tank)
 - Capacity (per tank): 25,000 m³
- Regasification Unit (RU)
- Intermediate Fluid Vaporizers (IFV)



LNG Tank (Full Containment)



Key					
1	primary liquid container (low temp steel)	5	suspended deck with insulation	9	secondary liquid container (low temp steel)
2	secondary liquid container (low temp steel)	6	insulation (annular space)	12	pump column
3	warm vapor container (roof)	8	bottom insulation		
4	concrete foundation				



© 2006 EPD HK GOV

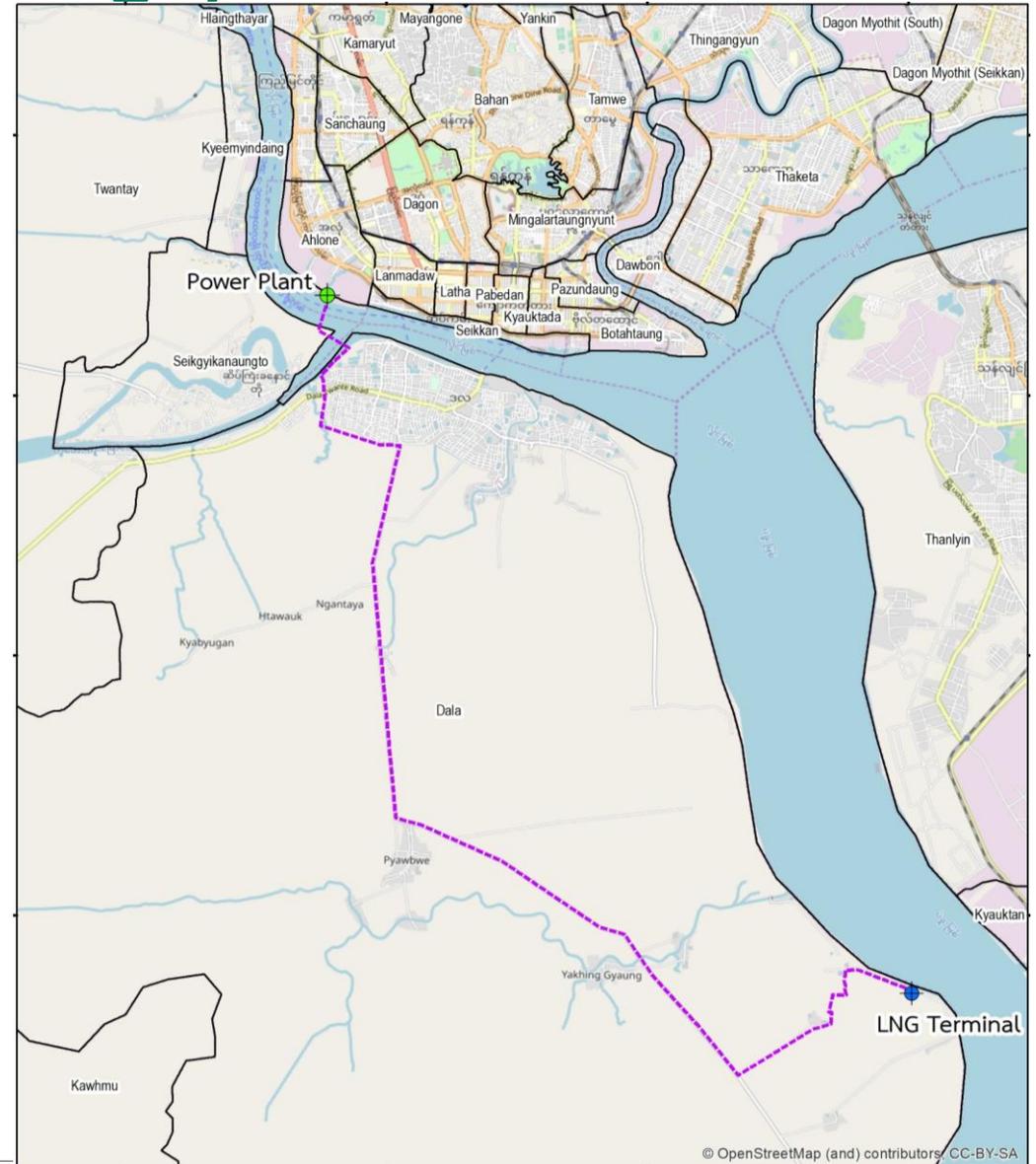
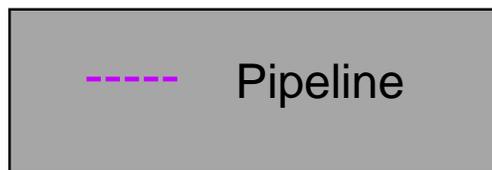
© 2006 KOGAS

Natural Gas Pipeline (Tentative Design)

Key Components:

- Carbon steel material pipe (Diameter 20 inches)
- Design pressure of approximately 64 bar.
- Health & Safety System
 - Pressure detection
 - Emergency shutdown system
 - Two (2) block valves located at each end
 - Impressed current cathodic protection system for pipeline

LEGEND



Pipeline Construction Method



Open Cut – A method that involves excavating down to a specified depth, to place pipeline line underground. Excavated material is then backfilled, and warning signs are placed along the pipeline path. The backfilled area is also remediated back to its natural condition.

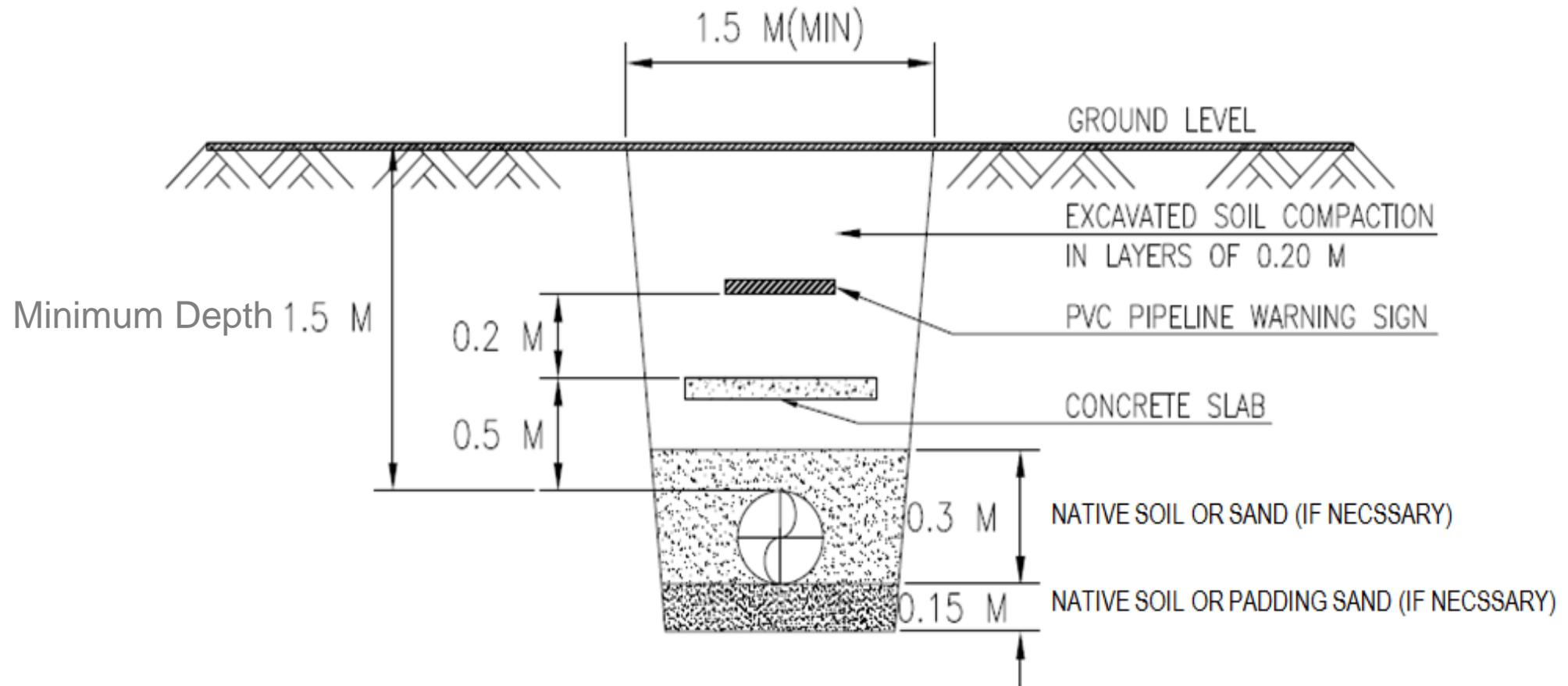


Boring – A method used to install pipes below physical obstructions such as rivers, roads, buildings, infrastructure, and other obstacles. Involves excavating at each end of where the pipe will enter and exit. Drilling equipment is lowered into one of the excavated areas, and will on the pipeline alignment. Pipes can then be inserted into the drilled hole.



Horizontal Directional Drilling (HDD) – A method used for installing pipes below physical obstructions, by a guidable drill head. This method is effective for large physical obstructions (approximately 500-2,000 meters), or when open cut method is not practical.

Pipeline Construction: Typical Open cut design



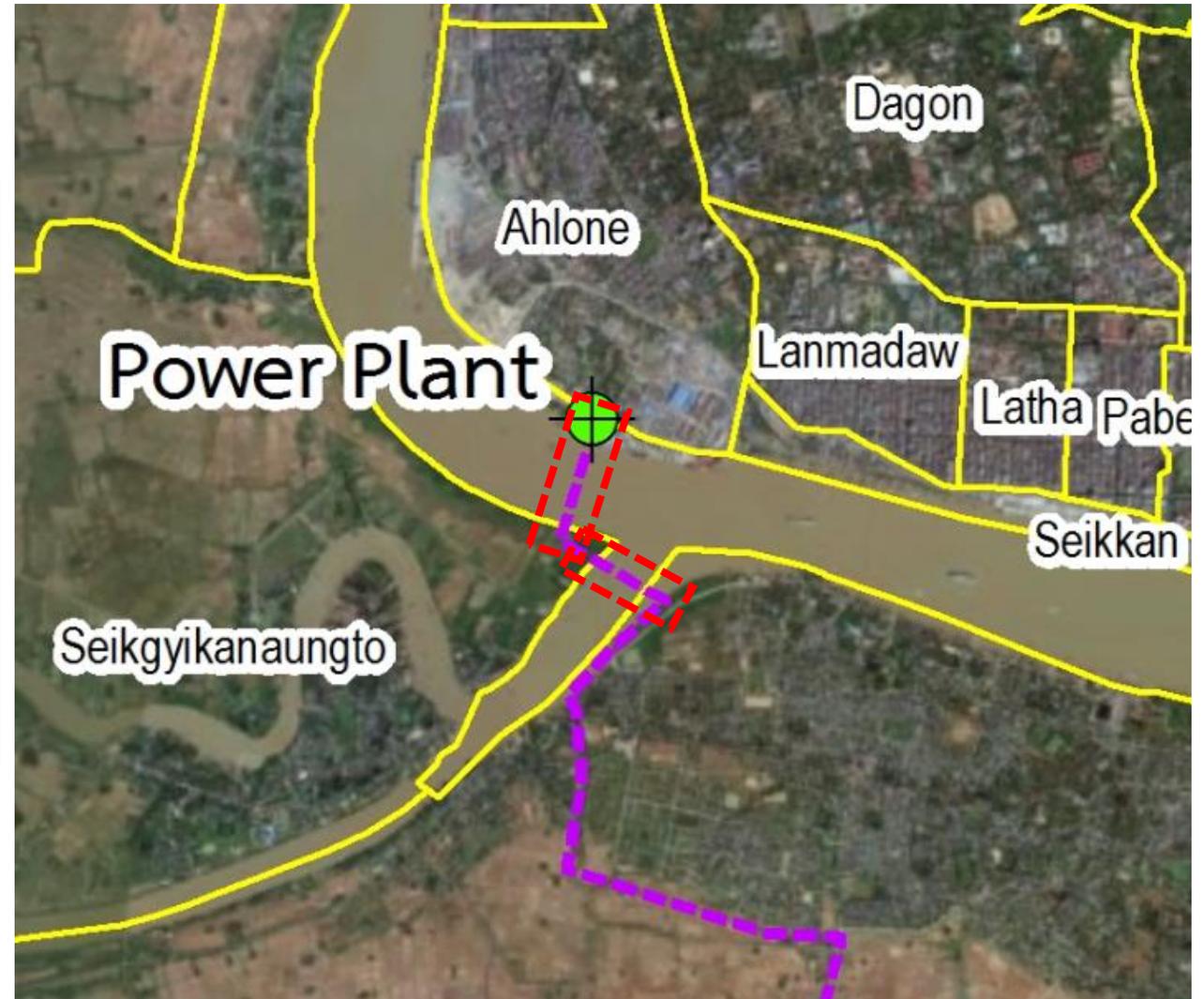
Pipeline Construction

LEGEND

 Pipeline sections that will use HDD method

 Pipeline

 Power plant



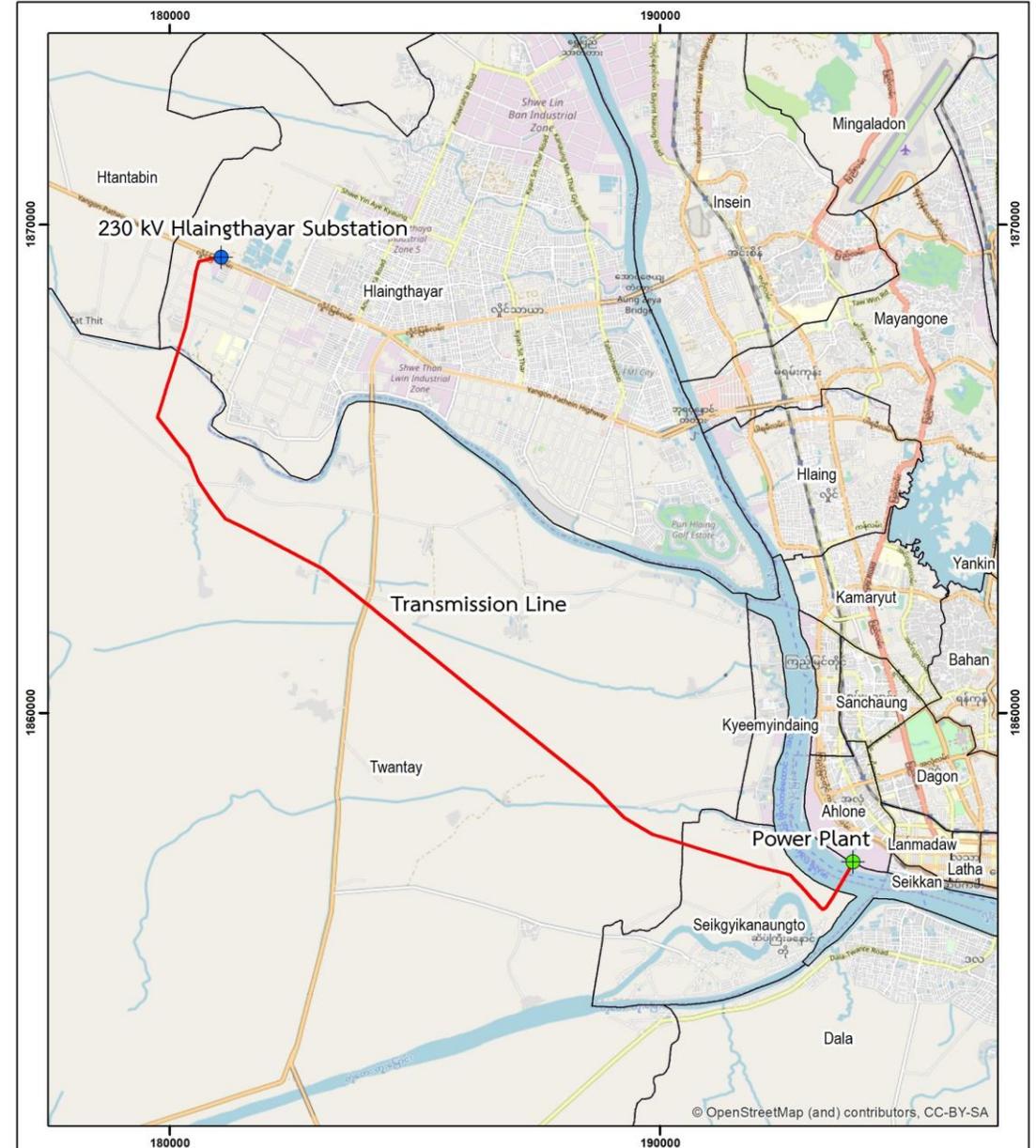
Transmission Line (Tentative route)

A Transmission Line connecting the 388 MW Combined Cycle Power Plant (CCPP) in Ahlone Township, Yangon to the sub-station in Hlaingthayar.

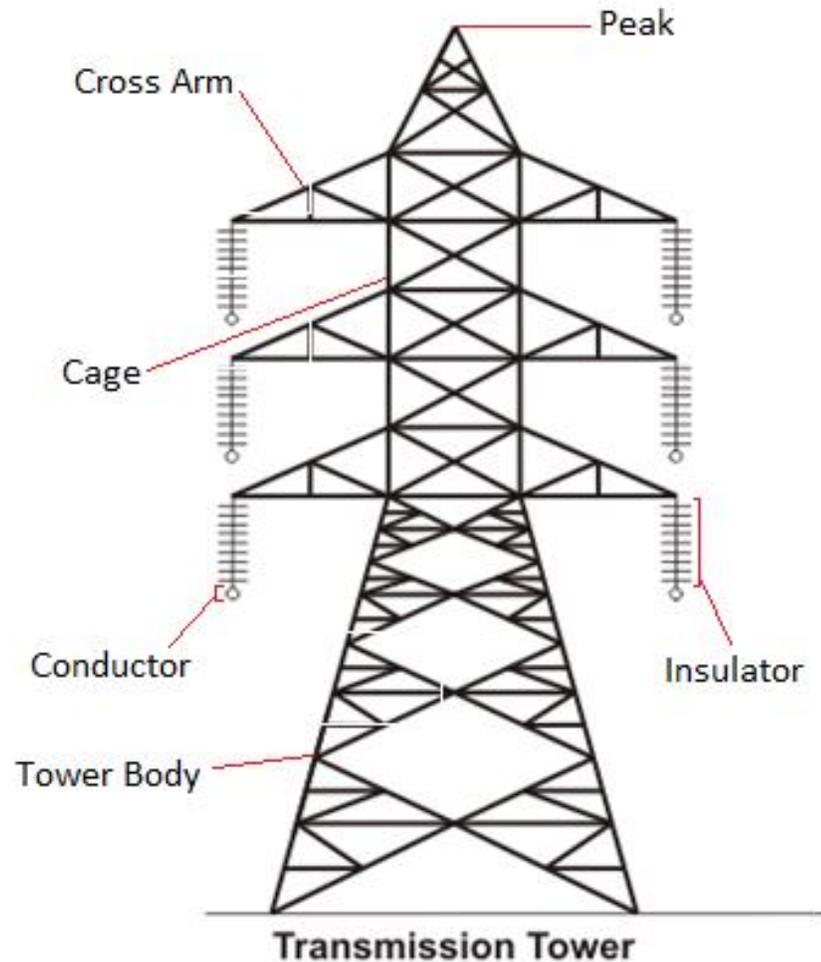
- Distance: Approximately 22.34 km
- Voltage Level: 230 kV

Legend

-  Powerplant
-  Substation
-  Transmission Line



Transmission Line



Typical Key Components:

- Peak - earth shield wire and OPGW are connected here
- Cross Arm- hold the insulator
- Cage - portion between tower body and peak
- Tower Body
- Conductor - deliver electricity from one point to another
- Insulator - holds the conductor



Assessment Requirement

Under Section 7 of the Environmental Conservation Law and Articles 52 and 53 of the Environmental Conservation Rules of the Republic of the Union of Myanmar, TPMC is required to undertake an Environmental Evaluation of the Project

According to the Annex 1 of the EIA Procedure (2015), the scope of the proposed Projects require:

- An EIA study for LNG Receiving Terminal + Pipeline + Power Plant
- An IEE Study for the Transmission Line

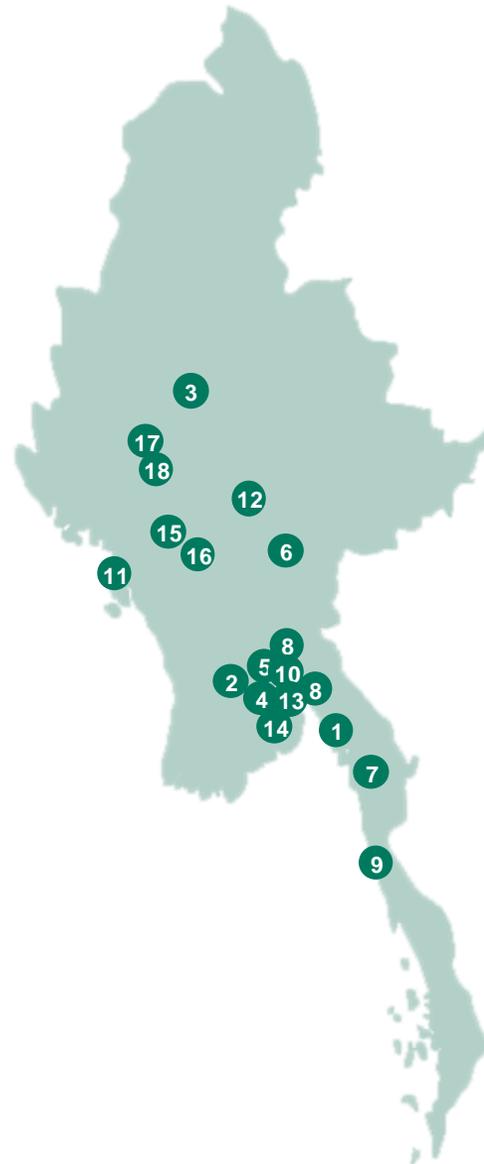
Environmental and Social Impact Assessment (ESIA/IEE) Study

Both the EIA and IEE studies have been undertaken in line with:

- Myanmar regulations
- International standards, such as International Finance Corporation (IFC), World Bank Group, and other associated guidelines.

The ESIA Team

ERM is the certified independent third party consultant responsible for conducting the Environmental and Social Impact Assessment (ESIA) for this project.



ERM's Selected Project Experience – Power Sector:

1. Scoping and High-level Environmental and Social Impact Assessment (ESIA) ESIA - 1,280 MW Thermal (Coal) Power Plant - Mon State
2. Initial Environmental Evaluation (IEE) - 500 MW Thermal (Combined Cycle Gas) Power Plant - Ayeyarwady Region
3. Scoping and ESIA – Myingyan 250 MW Thermal (Combined Cycle Gas) Power Plant - Mandalay Region
4. ESIA – 300 MW HFO Power Plant - Yangon
5. IEE – 50 MW HFO Power Plant – Bago Region
6. ESIA – 1280 MW Thermal (Coal) Power Plant – Kayin State
7. ESIA – 200 MW Thermal (Gas) Power Plant - Tanintharyi Region
8. EIA – 60 MW HFO Power Plant – Bago Region
9. ESIA – FSRU, 1,200 MW Thermal (Gas) Power Plant and 400km 500kV Transmission Line - Tanintharyi Region
10. ESIA – FSRU, 1,000 MW Thermal (Gas) Power Plant and 135 km 500kV Transmission Line – Yangon Region
11. ESIA – FSRU and 2,300 MW Thermal (Gas) Power Plant and 500km 500kV Transmission Line – Rakhine State
12. ESIA – 230 MW Hydropower Plant – Shan State
13. EIA - Gas to Power Plant Project - Yangon Region
14. ESIA - Power plant, Gas Pipeline and LNG Terminal - Yangon Region
15. ESIA - 113 MW Wind Farm and 58km Transmission Line - Magway Region
16. ESIA - 50 MW Wind Farm and 115km Transmission Line - Magway Region
17. ESIA - 50 MW Wind Farm and 19km Transmission Line - Magway Region
18. ESIA - 50 MW Wind Farm and 49km Transmission Line - Magway Region

The ESIA Team

For this Project, ERM has teamed up with Sustainable Environment Myanmar Co., Ltd (SEM).

SEM is the Myanmar EIA license holder supporting ERM on the development of the ESIA.



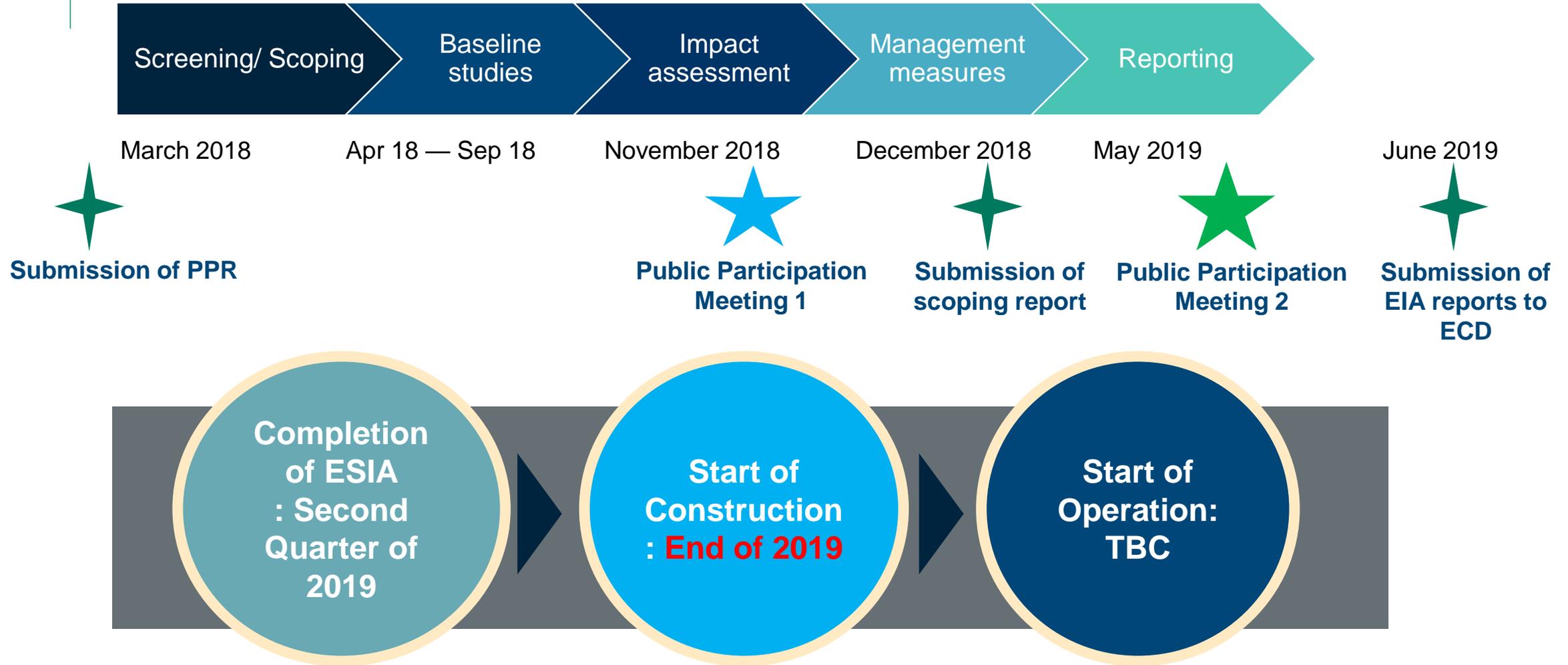
ERM Key Personnel involved in Preparation of the Scoping Study

Name	Project Role
Ms. Kamonthip Ma-oon	Partner in Charge
Dr. Robin Kennish	Project Technical Director
Mr. Vincent Lecat	Project Manager and Social Specialist
Mr. Chris Brown	Soil / Water Specialist
Mr. David Nicholson	Biodiversity Specialist
Mr. Edmund Taylor	Air Quality Specialist
Ms. Khinsusu Naing	Public Consultation Specialist
Ms. Sarinya Rangsipatcharayut	GHG Specialist
Ms. Sylvia Jagerroos	Marine Specialist
Ms. Mandy To	Noise Specialist
Ms. Peggy Wong	Cultural Heritage Specialist
Ms. Kanokphorn Chaivoraphorn	Health Specialist

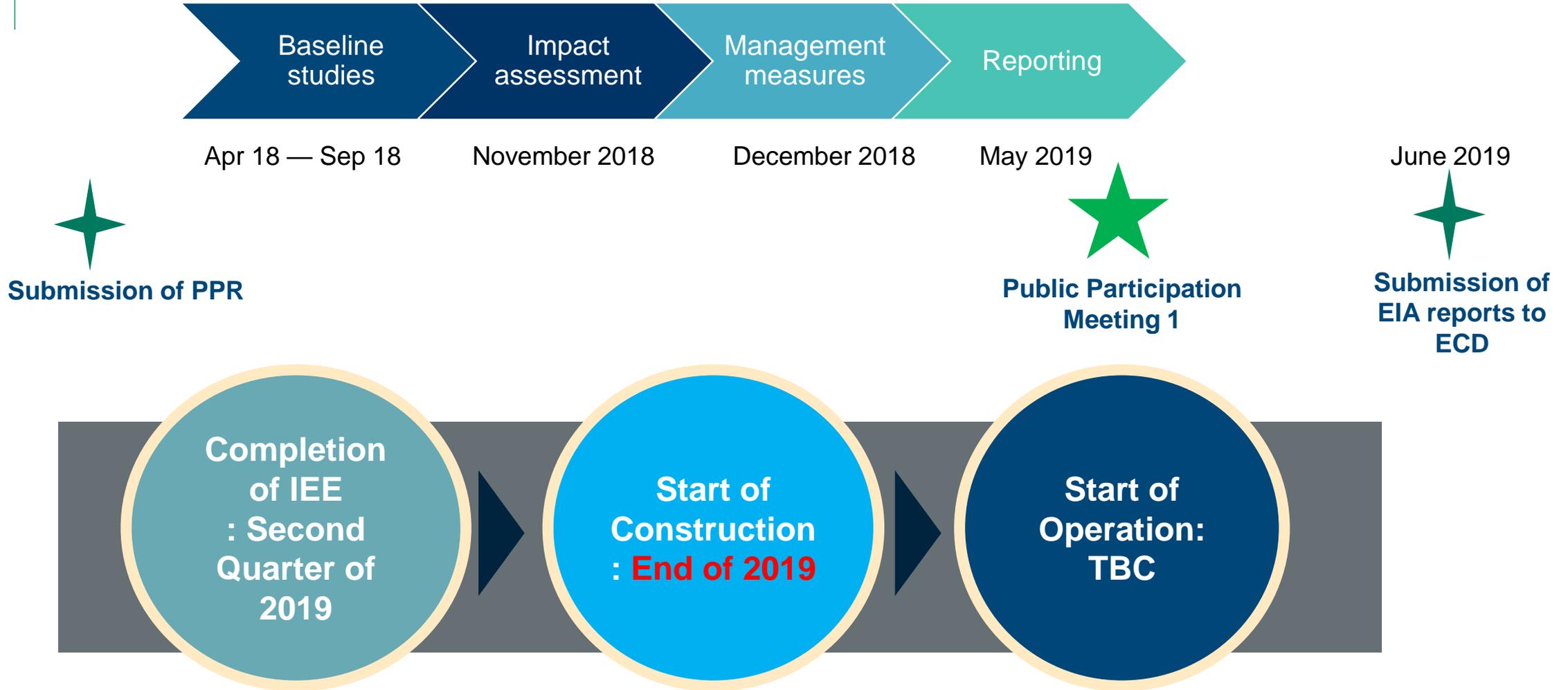
SEM Key Personnel involved in Preparation of the Scoping Study

Name	Project Role
Mr Zaw Naing Oo	Managing Director
Mr Maung Chit	Project Manager
Ms Nan Cherry	Social Specialist
Daw Naing Naing Win	Local Ecology Expert

Indicative EIA and Project Schedule



Indicative IEE and Project Schedule



ESIA Process

2. Scoping considers the likely changes (impacts) that will happen because of the proposed Project and defines the scope of the assessment. Scoping Report was submitted to ECD on 9th January 2019 and approved in April 2019.

4. The Impact Assessment describes and assesses how significant (important) the changes (impacts) are likely to be, and identifies ways to manage these changes (mitigation).



1. Screening characterises the Project and a decision is made on whether a full EIA is required. Project Proposal Report was submitted to ECD on 14th December 2017.

3. Baseline Data Gathering is to collect information to understand what the environment and people in the area are like, and how the proposed Project is likely to affect them. Two seasons survey (wet and dry) have been conducted.

5. Disclosure is divided into two stages.
 Stage 1: disclosure of draft EIA report to stakeholders
 Stage 2: Final EIA report is submitted to the Government who will review the report and make a decision about the proposed Project.

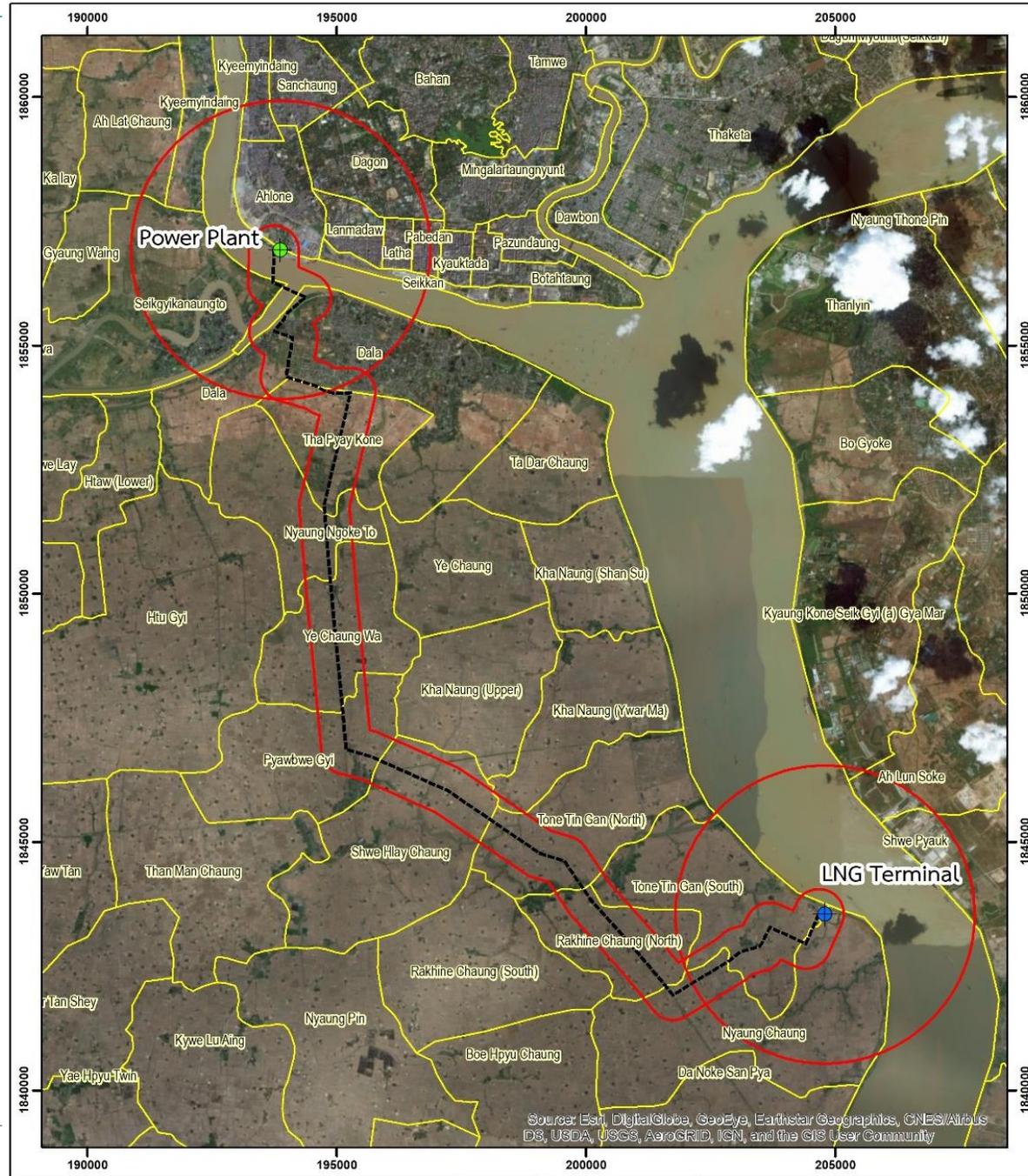
← PP1

← We are here: PP2

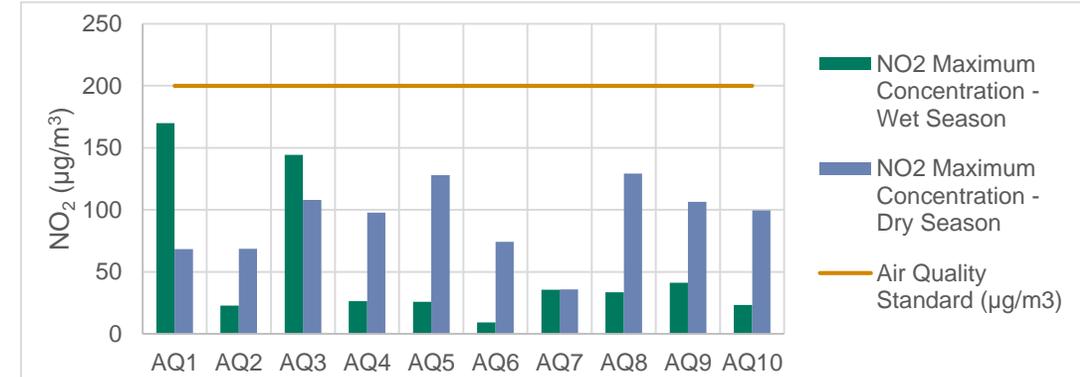
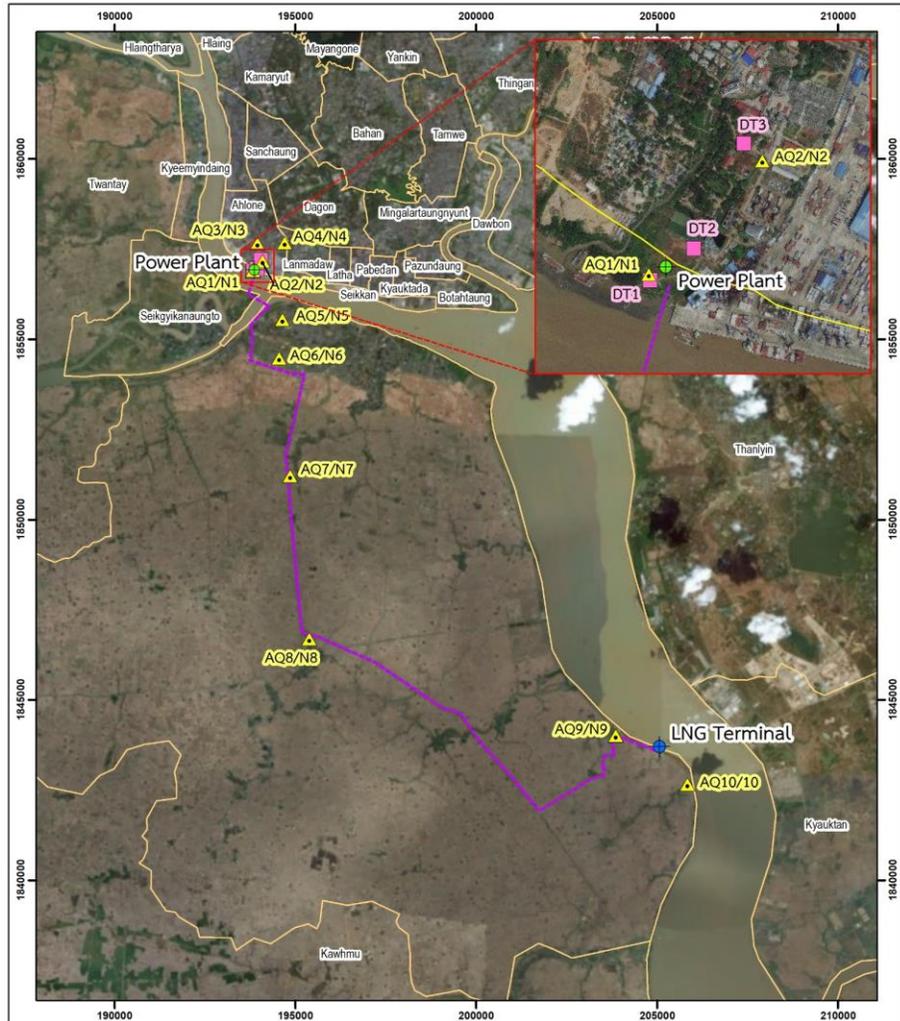
Baseline

Summary

Study Area



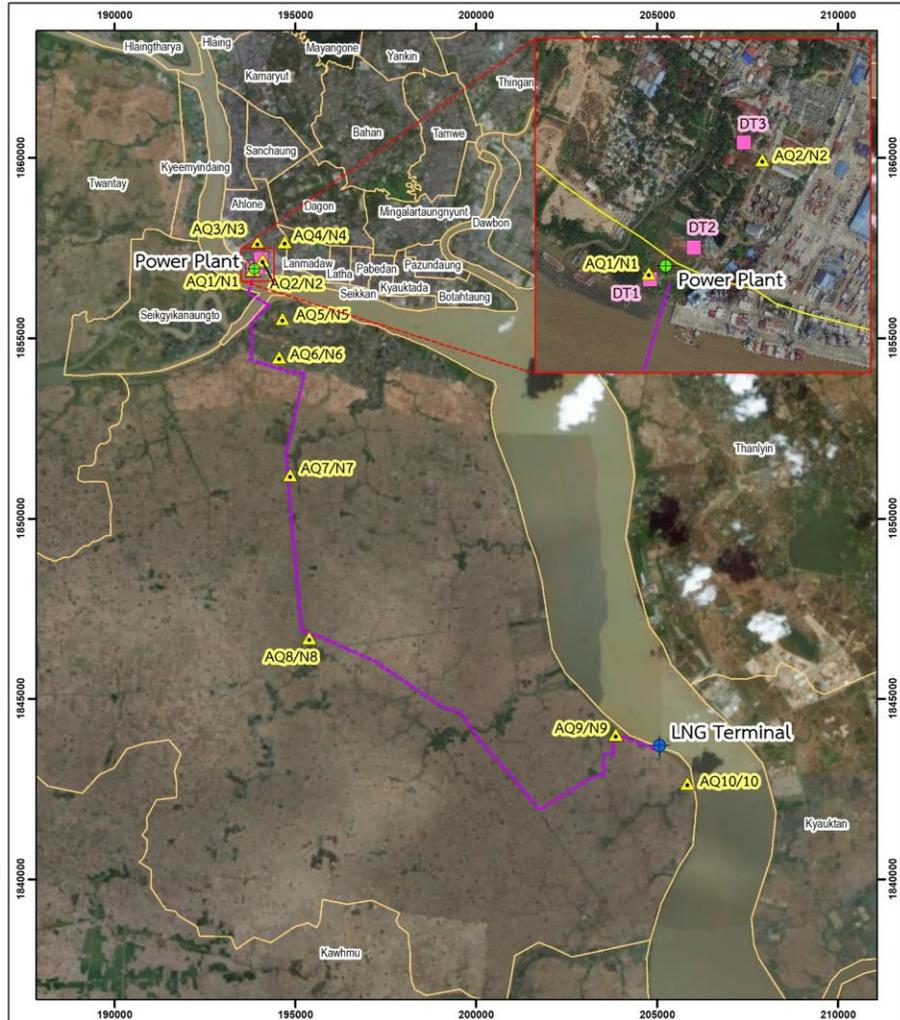
Air Quality



Results show that the air quality in the studied areas is above Myanmar and International Standard

Therefore study has been conducted for a Non-degraded Airshed.

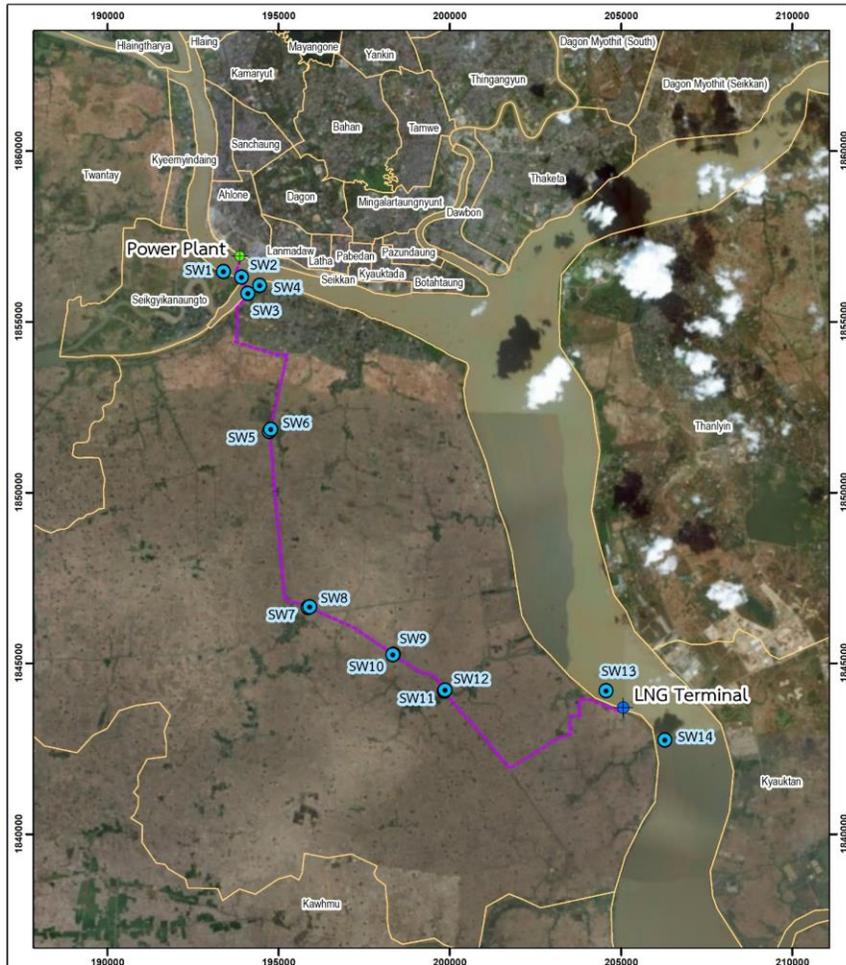
Noise



Results show that most stations exceed the Myanmar standard already due to industrial or local activities (transport)



Surface Water

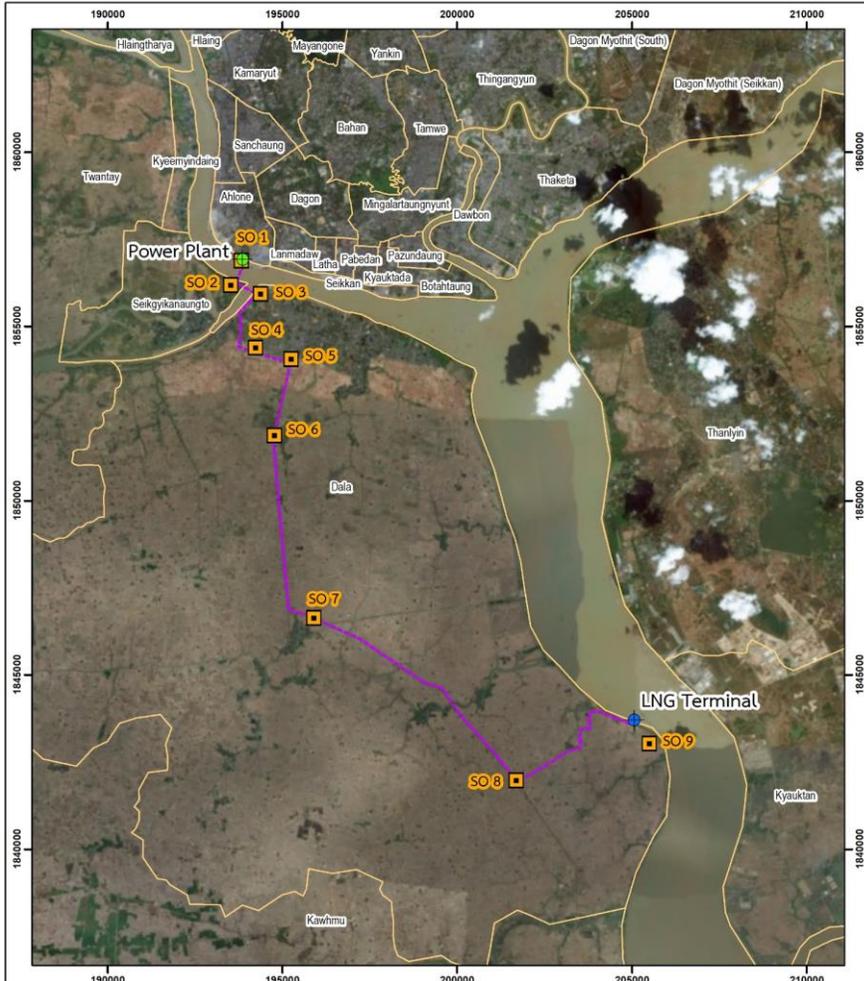


During both season and at most sites, some parameters (Total Suspended and Dissolved Solid, Manganese) were found to be above Myanmar standard requirements.

All other parameters were all under Myanmar standard requirements



Soil

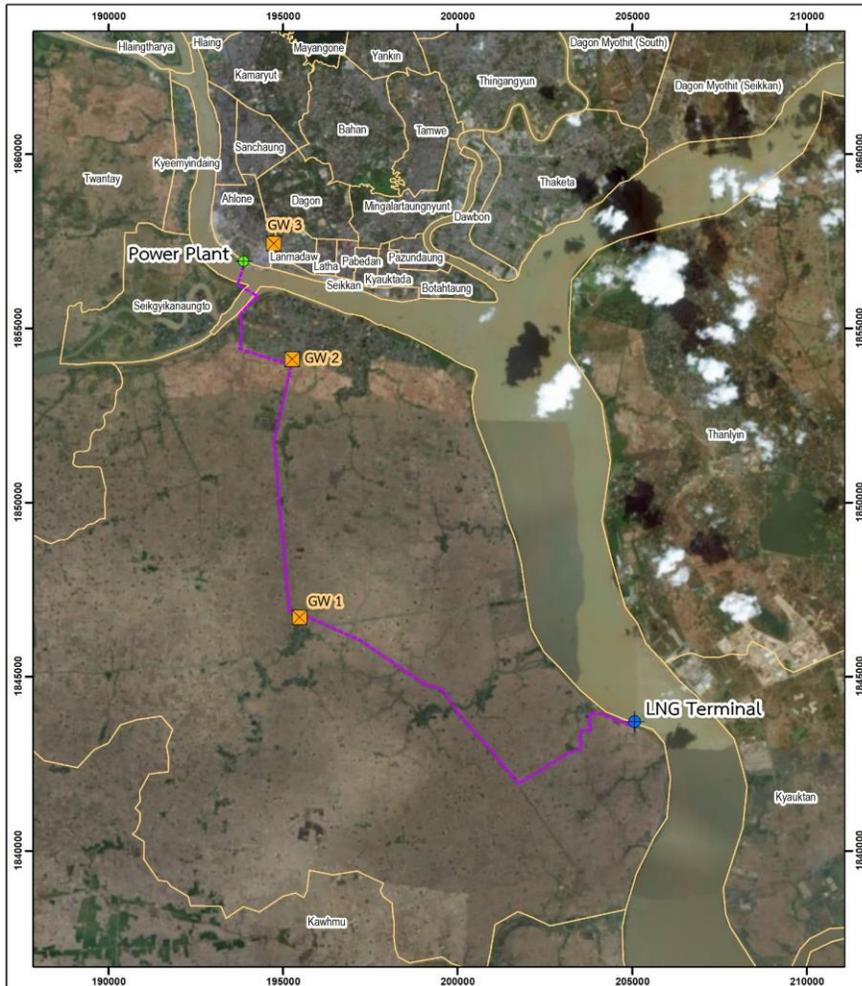


Sampling site SO 2 exceeded the target value for copper in top soil and Mercury in sub-soil.

Sampling site SO 4 exceeded the target value for copper in subsoil

Other sampling sites and parameters were found to be within the Standard.

Ground Water

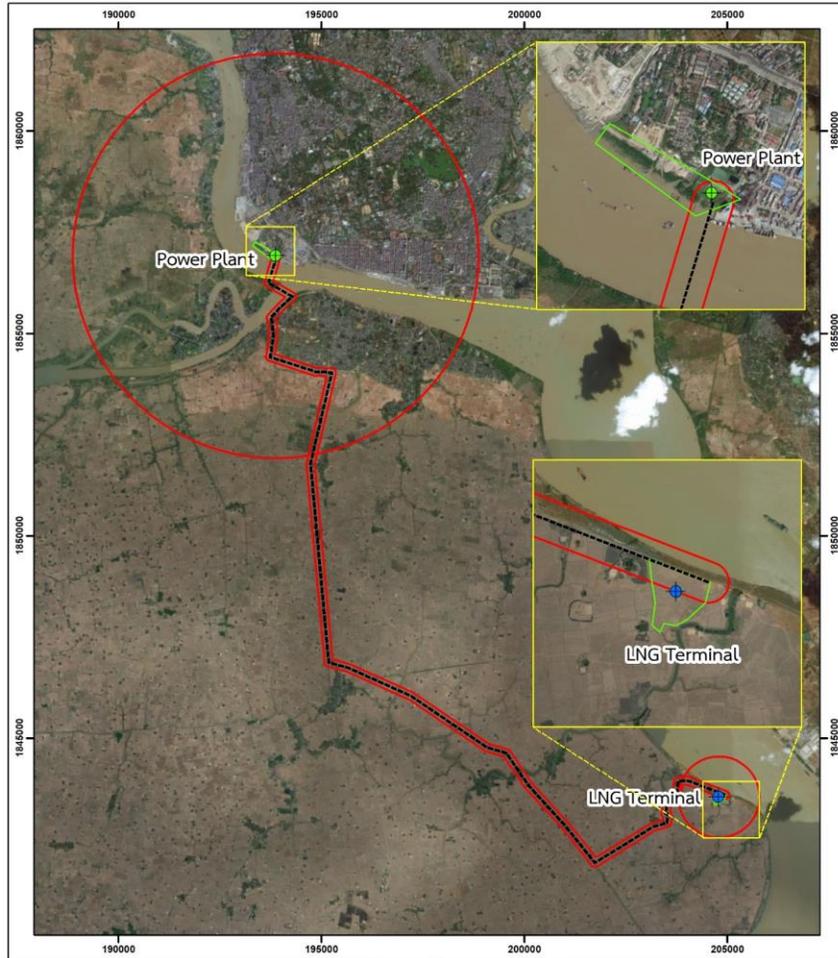


The iron (Fe) concentration at GW1 and GW2 exceeds the Myanmar Standard

The TDS concentrations at GW1 and GW2 exceeds the EPA Standard

All other parameters were all under Myanmar standard requirements

Biodiversity



Habitat Type	Study Area (ha)
Natural Habitat	0.20
Modified Habitat	3.02

Natural habitats consist of the Yangon River and small mangrove area near the Power Plant Site

The majority of the area is modified habitats

Public Participation 1

Summary

PP1 Summary

Date	Location	Stakeholder
29/10/2018	Ahlone Township hall	GAD, Parliament Member (Regional Gov't), Regional ECD, Village Leader, Elder people, Villagers
10/12/2018	Dala Township hall	GAD, Concerned Departments, Ward Administrator, Village Leader, Villagers
11/12/2018	Thanlyin Township hall	GAD, Concerned Departments, Village Leader, CSOs, Elder people, Villagers

Key Concerns:

- Public health and safety (ERP, natural disaster, unplanned events)
- Jobs opportunity for locals
- Project timeline, schedule and planned operation date/duration
- Mitigation Measures and Monitoring of Project activities (including compensations)
- CSR activities
- Transparency of information



Stakeholder Engagement

Activities conducted:

- Household questionnaires (150) in Ahlone, Seikgyikanaungto and Dala Townships
- Interview with Key Informant (village leader, Health care practitioner)
- Focus Group Discussions with interest groups (women, farmers)



Project Potential Impacts Construction

Summary of Impacts: LNG Terminal Construction

Receptor	Source	Impact Significance
Air Quality	Dust	Minor to Moderate
Green House Gas	GHG Emissions	Negligible
Noise	Transport and Construction	Negligible to Minor
Surface Water	Water Intake and Sedimentation	Negligible
Soil and Ground Water	Site Clearance	Negligible
Waste	Biomass, Hazardous and non-hazardous wastes	Minor to Moderate
Visual	Construction	Minor
Social	Employment	Positive
Social	Impact on Livelihood, Health, Navigation and existing facilities	Minor to Moderate
Social	Traffic, Transport and Cultural Heritage	Negligible

Summary of Impacts: Pipeline Construction

Receptor	Source	Impact Significance
Air Quality	Dust	Major
Green House Gas	GHG Emissions	Negligible
Noise	Transport and Excavation	Minor
Surface Water	Water Intake and Sedimentation	Negligible
Soil and Ground Water	Site Clearance	Negligible
Waste	Biomass, Hazardous and non-hazardous wastes	Minor
Social	Employment	Positive
Social	Community and Occupational Health and Safety	Minor to Moderate
Social	Traffic, Transport and Cultural Heritage	Negligible
Social	Economical Displacement	Major

Summary of Impacts: Power Plant Construction

Receptor	Source	Impact Significance
Air Quality	Dust	Minor to Moderate
Green House Gas	GHG Emissions	Negligible
Noise	Transport, Construction, commissioning	Minor to Moderate
Surface Water	Water Intake and Sedimentation	Negligible
Soil and Ground Water	Site Clearance	Negligible
Waste	Biomass, Hazardous and non-hazardous wastes	Moderate
Visual	Construction	Minor
Social	Employment	Positive
Social	Existing facilities, community and occupational Health and Safety	Minor to Moderate
Social	Traffic, Transport, Navigation and Cultural Heritage	Negligible

Proposed Mitigation: Construction Phase

Air Quality Proposed Mitigations Measures

- Develop and Implement a Dust Management Plan (DMP);
- Watering of cleared areas and roads;
- Dust-causing activities located away from receptors;
- Set screens or barriers and cover stockpiles;
- Only use construction equipment with dust suppression techniques;
- No waste will be burned on site;
- Cover the bare soil with plants or other materials;
- Implement a wheel washing system;



Biodiversity Proposed Mitigations Measures

- Implementation of strict rules against vegetation clearing and invasive species management measures ;
- Construction and operation materials and chemicals will be appropriately secured.
- Access road to be used by construction vehicles only;
- Wastes to be appropriately stored and disposed of by appropriately licenced waste management contractors;
- Sediment and erosion control measures to be used in all areas of construction;
- Awareness campaign on biodiversity value and protection amongst all staff
- Speed limits; and
- Area to be cleared to be clearly marked;



Noise Proposed Mitigations Measures

- Schedule material transportation evenly throughout the day and outside community areas;
- Noise barriers;
- Limited working hours from 07:00 to 22:00, Monday to Saturday (except holiday);
- Control the number and position of operation machines in the construction site to reduce noise impact; and
- Only well and regularly maintained equipment, machine and construction items will be use on-site.



Visual Impacts Proposed Mitigations Measures

- Provide soft landscaping (i.e. tree, low shrub and ground cover planting) within available space within the Project Site;
- Minimise the clearing of construction areas and vegetation as practical as possible; and
- Reinstatement of temporarily affected areas.



Waste Proposed Mitigation Measures

- Site clearance and preparation is to be designed with minimum removal of vegetation and unused biomass will be kept for site stabilisation and rehabilitation activities;
- Develop and implement wastes management plans for waste storage and disposal;
- Monitor and audit waste contractor to make sure that all waste management processes go according to the regulations;
- Effluent from chemical cleaning of the equipment during the pre-commissioning phase will be collected in an appropriate drainage system and transported off-site to a licensed Hazardous Waste Treatment Facility.
- All hazardous materials required during the construction phase will be appropriately transported, stored and handled.
- Regular training and monitoring of all workers; and
- Control the integrity of wastewater storage unit;



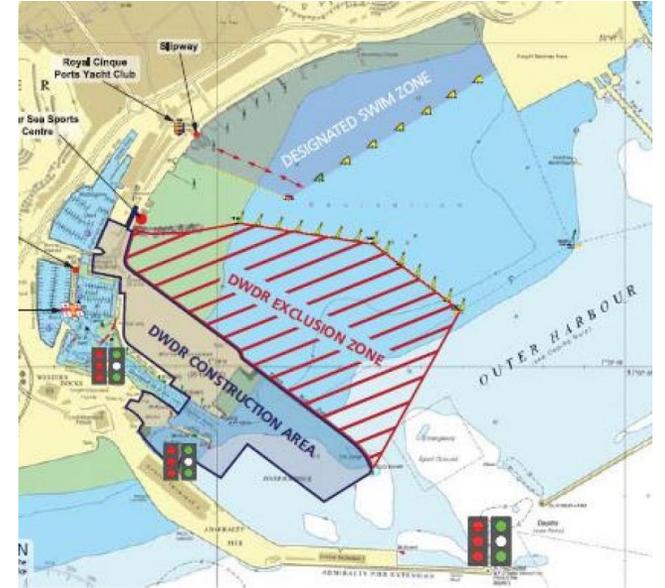
Livelihood Proposed Mitigation Measures

- Recruitment of workforces from the nearest areas of the project first and information, training and engagement sessions;
- Land take will be as minimal as practical;
- Engagement of a third party to develop a Resettlement Action Plan that identify all impacted assets and provide mitigations and compensation measures;
- Implement the engagement plan and grievance management plan for any Project impact;
- TPMC will provide passages for local people to access local shops when trench is opened; and
- TPMC will compensate stakeholders whose business is affected during the construction;



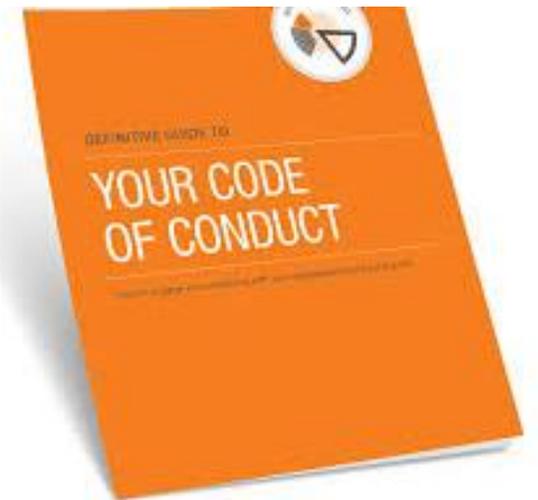
Navigation Proposed Mitigation Measures

- Establish exclusion zone and safety zone around the construction area along with support vessels to prevent collision and inform stakeholder; and
- Provide light and warning signals on construction vessels. Ensure all project related captain and skippers are trained with permits and certificate to operate vessels;
- Implement the engagement plan and grievance management plan for any impact related to Fishing and Navigation Activities.



Existing Infrastructures Proposed Mitigations Measures

- Establish amenities at the worker camp;
- Ensure that company medical services have sufficient capacity and capability to treat a reasonable amount of workers at the same time;
- Develop and implement a Workforce Code of Conduct;
- Develop traffic Management plan that cover vehicle safety, driver training speed limited, operation hours, use of drugs and alcohol, rest stops, and accident report;
- Implement the engagement plan and grievance management plan for any impact related to Existing Facilities.



Health and Safety Proposed Mitigation Measures

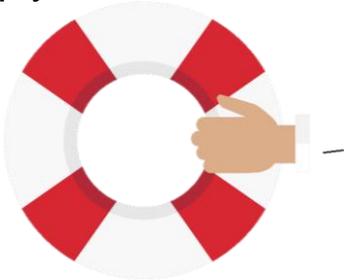
- Awareness training for workers on hygiene and sanitation; diseases and how to prevent them;
- Undertake pre-employment screening to ensure fitness for work and used as a tool to minimize the transmission of communicable diseases;
- Reduction of vector habitat (mosquitoes breeding ground);
- Promote safe practices and interactions;



- Accommodation should be provided to external workers in accordance with international good practice;
- Security personnel will be contracted and trained in line with the Voluntary Principles on Security and Human Rights;
- Put clearly understandable warning signs around the construction sites; and
- Ensure of enough fencing around the construction site to minimise trespass include daily patrolling.



- Prepare and implement a Health and Safety Plan;
- Create a Permit to Enter system to filter only project relevant persons into the site;
- All persons working on the construction site will be provided information about risks on Site;
- All workers will be properly informed, consulted and trained on health and safety issues;
- Personal Protective Equipment (PPE) should be worn at all times on the construction Site;
- All safety equipment will be properly maintain and examined at least once a month and after used;
- Contractor will provide appropriate safety barriers with warning signs around dangerous spaces;
- TPMC will develop and monitor an internal standard to guide labour practices and apply this to its supply chain.



Project Potential Impacts Operation

Summary of Impacts: LNG Terminal Operation

Receptor	Source	Impact Significance
Air Quality	Dust	Minor to Moderate
Green House Gas	GHG Emissions	Minor
Noise	Operations	Negligible
Surface Water	Water Intake and discharge and waste water	Negligible
Soil and Ground Water	Site Clearance	Negligible
Waste	Domestic, Hazardous and non-hazardous wastes	Minor to Moderate
Visual	Buildings	Minor
Social	Employment	Positive
Social	Impact on Livelihood, Health, Navigation	Negligible
Social	Existing facilities and occupational Health	Minor to Moderate

Summary of Impacts: Pipeline Operation

Receptor	Source	Impact Significance
Social	Economical Displacement	Negligible

Summary of Impacts: Power Plant Operation

Receptor	Source	Impact Significance
Air Quality	Dust	Minor to Moderate
Green House Gas	GHG Emissions	Moderate
Noise	Operation	Minor to Moderate
Surface Water	Water Intake and Sedimentation	Negligible
Soil and Ground Water	Site Clearance	Negligible
Waste	Domestic, non-hazardous and hazardous wastes	Minor to Moderate
Visual	Operation	Minor
Social	Employment	Positive
Social	Community Health and Safety	Negligible
Social	Occupational Health and Safety	Minor

**Proposed Mitigation:
Operation Phase**

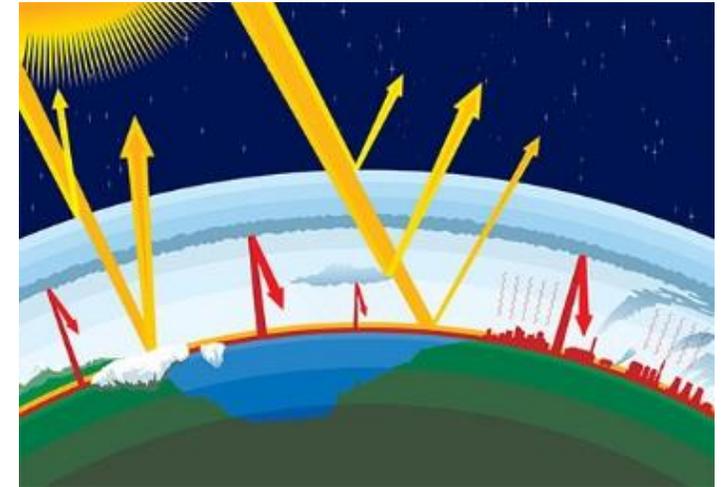
Air Quality Proposed Mitigations Measures

- The site layout will be planned so that machinery is located as far as is possible away from receptors;
- All vehicles will switch off engines when stationary;
- A regular vehicle and machinery maintenance and repair programme will be implemented; and
- Mains electricity or battery powered equipment will be used instead of diesel/petrol generators where practicable.



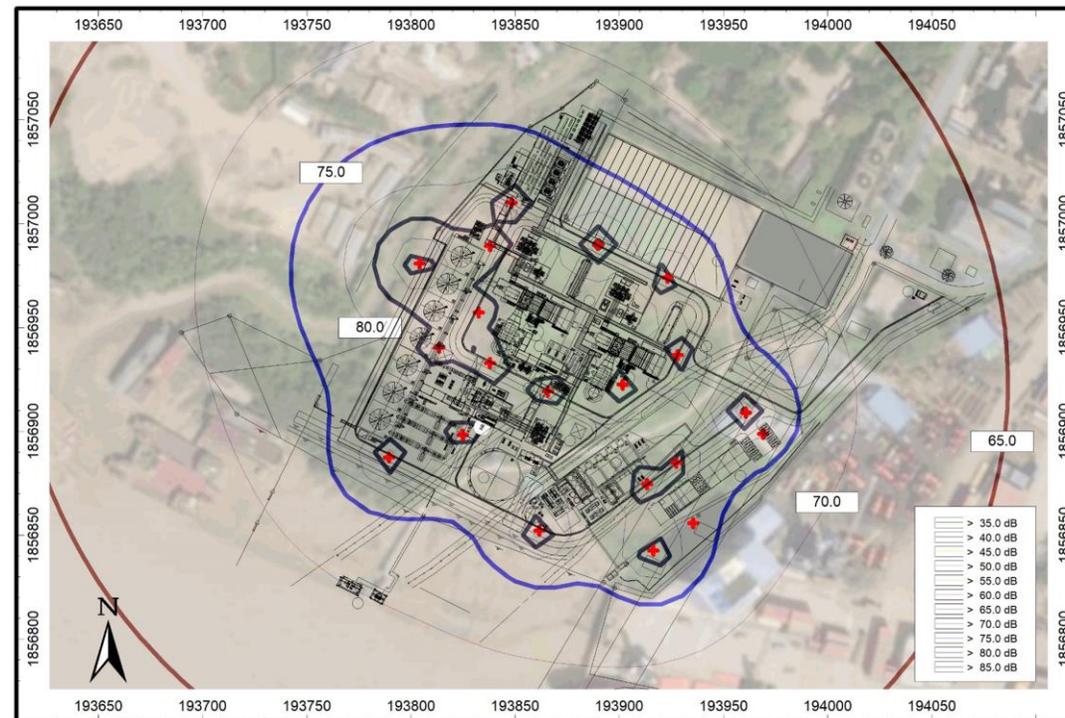
Greenhouse Gas Proposed Mitigations Measures

- Annual GHG emission will be monitored according to the applicable requirements.
- Develop and implement maintenance plan for machines, engines, and vehicle for combustion efficiency.



Noise Proposed Mitigations Measures

- Installed Noise barriers;
- Only well and regularly maintained equipment and machine will be use on-site; and
- Control the number and position of operation machines in the operation site to reduce noise impact.



Visual Impacts Proposed Mitigations Measures

- Visual screening e.g. surround perimeter of site with native trees;
- Maintain soft landscaping (i.e. tree, low shrub and ground cover planting) within available space in the Project Site;
- Minimise the use of lighting by identify the lighting areas, equipments, shielding, and lighting level and position properly;
- Maintain all structural facilities in good repair



Waste Proposed Mitigations Measures

- A Waste Management Plan (WMP) is to be developed by TPMC. The WMP will include specific requirements to manage, avoid, reduce and reuse waste;
- Regular training and monitoring of all workers action on site;
- Waste clean-up will be arrange once every two weeks (collected waste and unused material from the construction site);
- Monitoring and Audit of the waste management contractors; and
- The appointed waste contractor shall report on an annual basis to the Project proponent on any cross-boundary transport of waste



Employment Proposed Mitigations Measures

- The project will develop a Sourcing, Procurement and Recruitment Management Plan which focus on
 - Recruiting workforces from the nearest areas of the project first; and
 - Arrange information, training and engagement sessions.



Occupational Health and Safety Proposed Mitigations Measures

- The mitigation measures developed for the construction phase apply to the operation phase;
- Upgrade the Occupational Health and Safety Management Plan (OHSMP) and linked to the Emergency Response Plan for unplanned event; and
- Maintained the grievance mechanism for workers.

Unplanned Event Impacts

Unplanned Event

Impact : **Vessel Collision (Construction and Operation Phase)**

Impact Significance (Pre-mitigation): **Moderate Impact**

Impact Significance (Post-mitigation): **Minor Impact**

- A dedicated safe area will be provided to relevant authorities and local fisherman during construction;
- The contractor shall coordinate with relevant authorities to disseminate information regarding the construction schedule, construction area, and activities;
- The contractor will install warning equipments and navigation aids at the construction area including safety boats;
- The navigation schedule will be communicated to relevant stakeholders; and
- Establish a maritime safety management plan.

Unplanned Event

Impact : **Fire and Explosion (Construction and Operation Phase)**

Impact Significance (Pre-mitigation): **Minor to Moderate Impact**

Impact Significance (Post-mitigation): **Negligible to Minor Impact**

- Develop a preventive maintenance program for process equipment and pipelines;
- Ensure staffs strictly follow the working standard and procedures;
- Install leak detecting and alarming system in operating areas and tank farm;
- Establish an Emergency Centre with 24 hours standby staff and firemen.



Unplanned Event

- Install fire protection and firefighting systems
- Pipelines will be built and maintained according to international standards;
- Install a system pressure monitor to detect leaks;
- Conduct routine inspections and maintenance for all pipelines and associated equipment at least once per year;
- All fire prevention and firefighting systems shall be routinely inspected and maintained the by responsible persons;



Unplanned Event

Impact : **Seismic and Earthquake (Construction and Operation Phase)**

Impact Significance (Pre-mitigation): **Moderate Impact**

Impact Significance (Post-mitigation): **Minor Impact**

- The Project facilities should be designed to meet the seismic design standard for instance NFPA 59A, ASME, API, etc;
- Construct the LNG storage tank and other critical structures on driven pile foundations; and
- Prepare emergency response procedures for seism and severe weather condition.



Unplanned Event

Impact : **Tropical Storm and Extreme Weather Conditions (Construction and Operation Phase)**

Impact Significance (Pre-mitigation): **Moderate Impact**

Impact Significance (Post-mitigation): **Minor Impact**

- Review weather forecast and monitor weather condition on a daily basis;
- Prepare typhoon response plan and typhoon evacuation plan and conduct evacuation drill and at least once a year.



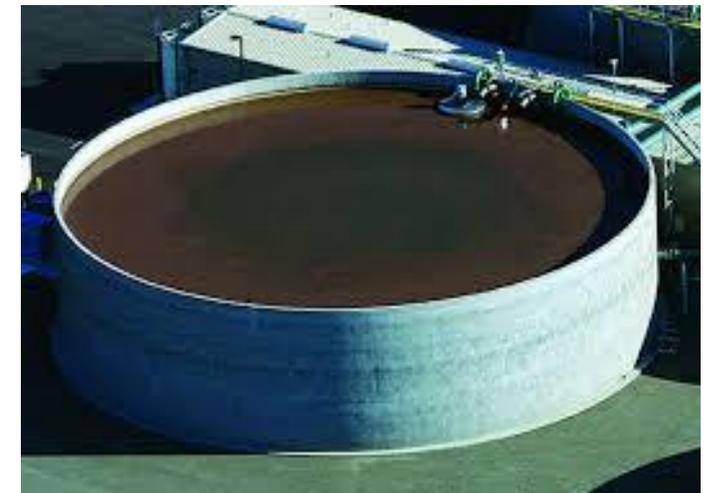
Unplanned Event

Impact : **Loss of Containment of Waste Storage Facilities On-site (Construction and Operation Phase)**

Impact Significance (Pre-mitigation): **Minor to Moderate Impact**

Impact Significance (Post-mitigation): **Negligible to Minor Impact**

- Ensure the integrity of wastewater storage unit to avoid leaking of wastewater and odor to the surrounding receptors;
- Use appropriate waste containers and build secondary containment around chemical or waste storage;
- Siting of chemical and waste storage should consider nearby receptors, i.e. site away from watercourses or portable water sources;



Unplanned Event

- Hazardous waste should be stored so as to prevent or control accidental releases to air, soil and water resources. Where practicable:
- Spill response and emergency plans should be prepared and implemented to address the potential accidental release of hazardous waste;



Unplanned Event

- On-site and off-site transportation of waste should be conducted so as to prevent or minimise spills, release and exposures to employees and public;
- Maintenance facilities should be located on hard standing surfaces within a bunded area. Sumps and oil interceptors should be provided.; and
- Design discharge point to be furthest away from sensitive receptors.



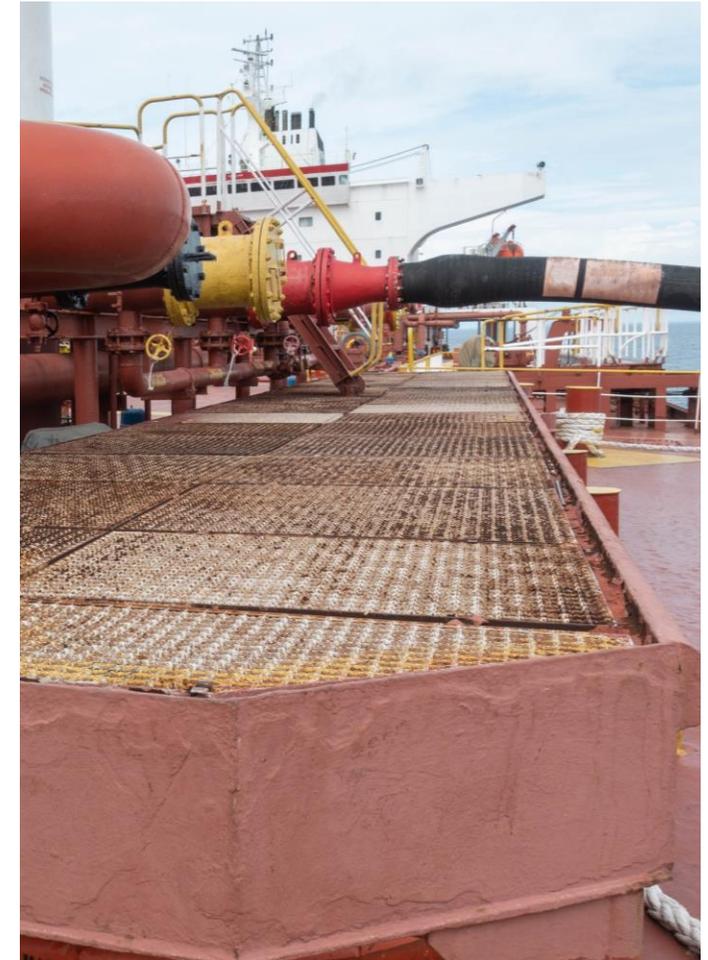
Unplanned Event

Impact : **Chemical Spill or Leak (Construction and Operation Phase)**

Impact Significance (Pre-mitigation): **Minor Impact**

Impact Significance (Post-mitigation): **Negligible Impact**

- Contractor will prepare protocols, guidelines, and training for staff to prevent and prepare for any possible spills and leaks of oils, fuels, or chemicals;
- Use spill or drip trays and spill control kits to contain and clean spills and leaks;
- Fuel tanks and chemical storage areas will located in sealed areas for security perpose, and surrounded by containment device to prevent spilled and leaks to the environment.



Unplanned Event

- Arrangement of inventory/storage management system to minimise the materials damage or over-supply;
- Ensure storage areas have impermeable floor and containment, of capacity to accommodate 110% of the volume of the largest storage container;
- Provision of grounding and lightning protection for equipment that handles flammable materials;
- Establish a first-aid centre with first-aid trained staff on site. The first-aid centre shall be equipped with sufficient first-aid equipment, first-aid kit and medicines;
- Employee and contractor must be trained on emergency response plan of which involve informing the public and relevant parties.

**Transmission Line
Potential Impacts
Construction**

Summary of Impacts: Transmission Line Construction

Receptor	Source	Impact Significance
Air Quality	Dust	Negligible to Moderate
Green House Gas	GHG Emissions	Negligible
Noise	Construction	Moderate
Surface Water	Construction	Moderate
Soil and Ground Water	Site Clearance	Moderate
Waste	Domestic, Hazardous and non-hazardous wastes	Minor to Moderate
Visual	Buildings	Moderate
Social	Employment	Positive
Social	Economic Displacement and Occupational Health and Safety	Moderate
Social	Traffic, Community Health and Safety and Cultural Heritage	Negligible to Minor

Proposed Mitigation: Construction Phase

Air Quality Proposed Mitigations Measures

- Grievances on air quality issues will be addressed with implementation or intensification of mitigation measures (e.g: more watering of roads to avoid dust emission);
- Watering of cleared areas and roads to avoid dust emission;
- sand and other dust generate materials will be stored in a bunded (walled) area and kept wet when possible;
- Ensure that all vehicles entering and leaving the site are covered to avoid fugitive emissions during transport;
- All vehicles will switch off engines when stationary; and
- Cover the bare soil with plants or other materials;



Biodiversity Proposed Mitigations Measures

- Create community programs of replanting mangrove forest and coastal vegetation;
- Implementation of strict rules against vegetation clearing for all Project staff, workers and contractors;
- Area to be cleared will be clearly marked to avoid accidental clearing;
- Access road to be used by construction vehicles only with speed limits;
- Awareness campaigning on biodiversity value and protection amongst all staff
- Placed and maintained sediment and erosion control devices in direct runoff path to water sources, until vegetation replanting is successful;



Noise Proposed Mitigations Measures

- Schedule material transportation evenly throughout the day and outside community areas;
- Noise barriers;
- Limited working hours from 07:00 to 22:00, Monday to Saturday (except holiday);
- Control the number and position of operation machines in the construction site to reduce noise impact; and
- Only well and regularly maintained equipment, machine and construction items will be use on-site.



Soil and Groundwater Proposed Mitigations Measures

- Exposed soil surfaces, open stockpiles, construction material, waste, and temporary trafficked areas should be filled or covered or dampened;
- Minimize the amount of soil handling;
- Demarcate routes for movement of heavy vehicles to minimise disturbance of exposed soils and compaction of sub-surface layers; and
- Control erosion through diversion drains, sediment fences, and sediment retention basins;



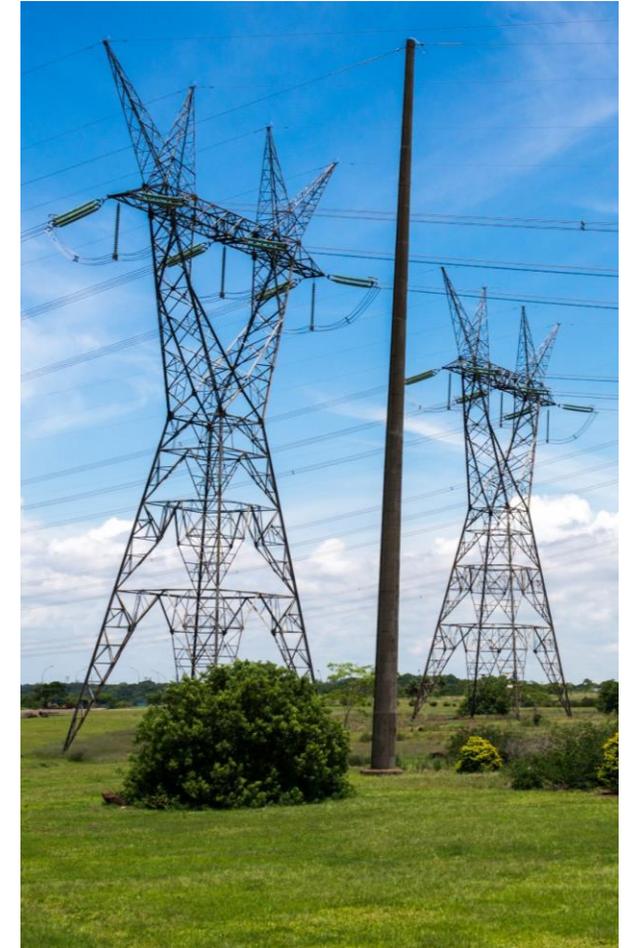
Surface Water Proposed Mitigations Measures

- Use appropriate methods on-site to minimise sediment runoff e.g. wheel cleaning facilities and control drainage system;
- Inspect, maintain and monitor drainage systems, erosion control, and silt removal facilities;
- Used and stored oil, fuels and chemicals in the assign areas with pollution prevention facilities;
- Installed oil-water separators and holding facilities on-site. If not, oil contaminated water will be collected and handled by proper contractors; and



Visual Proposed Mitigations Measures

- Provide soft landscaping (i.e. tree, low shrub and ground cover planting);
- Minimise the clearing of construction areas and vegetation; and
- Reinstatement of temporarily affected areas to suitable pre-construction condition.



Waste Proposed Mitigations Measures

- Cover the waste loads on truck during in-site and off-site transportation to reduce possible spill, dust generation, and contamination;
- Separate and keep wastes in the appropriated containers and away from the water sources;
- Non-used biomass will be kept for site stabilisation and rehabilitation activities;
- Site clearance and preparation is to be designed and conducted in a manner that requires minimum removal of vegetation;
- Hazardous wastes will be disposed at appropriate facilities;
- Segregate hazardous waste from non-hazardous waste;



Waste Proposed Mitigations Measures

- Develop appropriate wastes management plan for waste storage and disposal;
- Training of all workers on site about waste management regulation;
- Monitor and audit waste contractor to make sure that all waste management processes go according to the regulations;
- Construction processes will be design to operate with minimal waste production;
- Design recycling plans according to the materials (including biomass) recycling potential in the project to reduce number of waste generate;



Livelihood Proposed Mitigation Measures

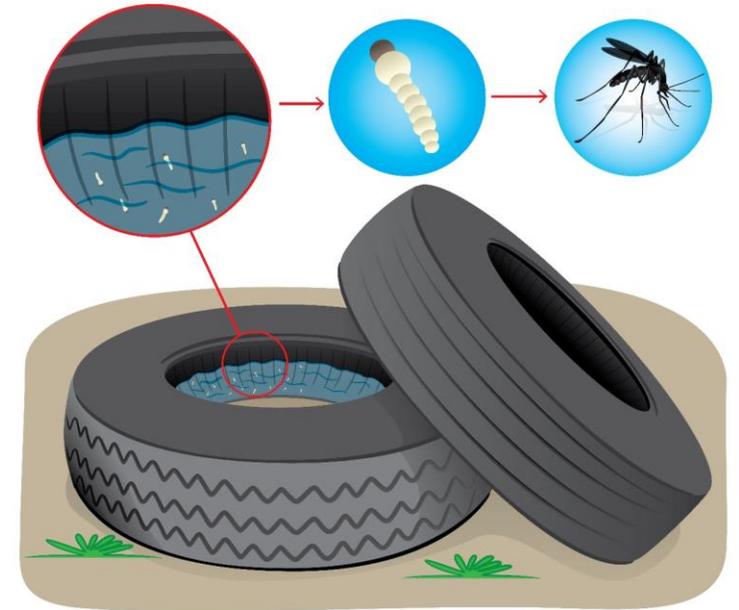
- Recruitment of workforces from the nearest areas of the project first and information, training and engagement sessions;
- Land take will be as minimal as practical and temporarily impacted land will be returned to its initial state after construction phase;
- Engagement of a third party to develop a Resettlement Action Plan that identify all impacted assets and provide mitigations and compensation measures;
- Implement the engagement plan and grievance management plan for any Project impact;
- TPMC will provide passages for local people to access local shops when trench is opened; and
- TPMC will compensate stakeholders whose business is affected during the construction;



Community and Occupational Health and Safety

Proposed Mitigation Measures

- Notify local people about location of accommodation camp and construction activities of the Transmission Line;
- Annually check quality and condition of both electric wire, transmission legs and transmission tower;
- Provide warning sign and warning equipment near the project areas (500 meters) to notify risk areas and safe areas;
- Reduction of vector habitat (mosquitoes breeding ground);
- Provision of onsite health care and medical facilities;



- Conduct information, education and communication campaigns amongst Project personnel on hygiene and sanitation;
- Accommodation should be provided to external workers in accordance with international good practice;
- Develop traffic Management plan;
- TPMC will implement the engagement plan and grievance management plan for any impact related to community health and safety; and



- Prepare and implement a Health and Safety Plan prior to construction;
- All persons working on the construction site will be provided information about risks on Site;
- Personal Protective Equipment (PPE) should be worn at all times on the construction Site;
- Contractor will provide appropriate safety barriers with warning signs around dangerous spaces;
- The EPC contractor will comply with the IFC Performance Standard 2, local regulation and ILO conventions signed by Myanmar;



Monitoring

- Monitoring Programmes during construction (air, noise, surface water, ground water, soil)
- Monitoring Programmes during operation (air, noise, surface water, ground water)
- Site Audit;
- Contractor practice audit;
- Reporting;
- Inspection;
- Grievance Mechanism;
- Stakeholder Engagement.

Stakeholder Engagement

Stakeholder Engagement

Engagement will continue until the approval of the ESIA/IEE and during the life of the Project. Next steps include:

- Continued implementation of the grievance mechanism
- Inclusion of stakeholder comments on draft mitigation measures in the final ESIA
- Disclosure of the final ESIA
- Engagement during construction phase
- Engagement during operation phase

Grievance Mechanism

A part of the engagement process, a grievance mechanism has been established.

- The Grievance Mechanism is available to all stakeholders.
- You can use it if you have any issue, concern, comment or question on the ESIA process.
- Details included in the brochure provided during PP1.
- Comment form provided for this presentation.

Contact:

ERM

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MyatMon.swe@erm.com

TPMC

Tel: +95 997 495 3914

Mail: htetaung.m@ttcl.com



Thank you

The business of sustainability



**APPENDIX W PUBLIC CONSULTATION MINUTES OF MEETING (DRAFT
ESIA PRESENTATION)**

Minutes of Meeting

To	Tun Lin Kyaw
CC	ERM-Siam: Vincent Lecat
From	Environnemental Ressources Management (ERM-Siam)
Date and Location of Meeting	13 rd June 2019 Thardana Beikmann Hall, Thanlyin Township, Yangon Region
Project Reference	0439461 TTCL Ahlone Expansion
Subject	Thanlyin Township Public Consultation Meeting No.2

Agenda

- Registration
- Introduction of the meeting by TPMC Meeting Coordinator
- Introductory speech by Township GAD Deputy Administrator (Daw Aye Mya Win)
- Presentation by ECD assistant Director (Miss Daw Thin Thin Nu)
- Presentation about the Project by TTCL (Htet Aung Mon)
- Presentation by ERM (Khinsusu Naing)
- Questions and Answers Period
- Closing Comments/Conclusion

No.	Key Discussion	Response
1	<p>U Ye Myint Soe, Parliament member</p> <ul style="list-style-type: none"> ■ What sorts of impacts are expected from LNG operation? ■ In term of impact, where does the LNG rank compared with other type of fuel? ■ How will the impacts be mitigated? ■ Have there been any accident with LNG in the past? What system are in place to prevent these accidents? ■ What is the potential impact on electricity cost per unit of using LNG compare to other sources? 	<p>Toshio Sakai (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ There are various source of energy such as coal, hydro, natural gas. LNG is a liquid natural gas which is one of the energy sources with minimum impact to the environment. In terms of safety, this project will applied IFC and other international standard/guidelines. ■ LNG unloading and storage process will be complied with the International fire prevention and safety guideline such as NFPA. Equipment such as fire prevention and leakage detection sensors will be equipped in terminal to prepare for the immediate actions of

No.	Key Discussion	Response
		<p>any event. In the case of unplanned event, LNG storage layout is properly designed to handle the impact within the terminal area only.</p> <ul style="list-style-type: none"> ■ There was a LNG accident occurred in 1944 and caused some impacts within terminal boundary. There were no accidents reported since 1944 as the result of upgraded LNG related standard & guidelines.
		<p>Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ Our unplanned event mitigation measures are prepared according to applicable international guideline and analysing what is likely to occur in LNG fuel power plant. These measures included how to prevent the accidents, how to properly respond in the case of accidents, and train project personnel for the emergency response plan. As our measures are prepared for the worst-case scenario, such unplanned accidents will be properly handle.
	<p>N/A, Electrics Engineer from the Electricity Distribution Department</p> <ul style="list-style-type: none"> ■ Will there be impact to the cost of electricity per unit (cost/ kwh), as the LNG power is about to be included in the electricity generation system? 	<p>Toshio Sakai (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ As we have not yet concluded the final negotiation of Power Purchase Agreement with MOEE, we are not able to describe the cost per unit at this moment.

■ Attendance list

160 persons from Government Organizations and Village Responsibilities and 20 persons from company attend the meeting.

No.	Name	Position/Occupation	Department/Organization	Contact No.
1	Mr.Tun Wai	Resident	Pardagyi Township	09-788132074
2	Mr.Myat Htay	Resident	Pardagyi Township	09-254220714
3	Mr.Zaw Tin	Resident	Pardagyi Township	09-262090796
4	Mr.Ngway Thein	Resident	Pardagyi Township	09-444967644
5	Mr.Aye Han	Resident	Pardagyi Township	09-788131310
6	Mr.Myint Shwe	Resident	Pardagyi Township	09-264884255
7	Mr.Aung Myint	Resident	Pardagyi Township	09-26390519
8	Mr.Jorny	Resident	Pardagyi Township	09-894741685
9	Mr.Khin Maung	Resident	Sin Kan Township	
10	Mr.Myint Swe	Resident	Pardagyi Township	
11	Mr.Zaw Min	Resident	Kyauktan Township	09-42006794
12	Mr.Kyaw Kyi	Resident	Kyauktan Township	
13	Mr.Kyaw Chit	Government Staff	Health Care Department	09-450011463
14	Mr.Myint Myint Maw	Deputy Officer	Finance Department	09-799461596
15	Mr.Sein Lwin	Resident	Kyauktan Township	09-420172571
16	Mr.Mya Aye	Resident	Kyauktan Township	
17	Mr.Maung Aung	Resident	Thanlyin Township	09-782275550
18	Mr.Win Myint	Resident	Thanlyin Township	09-420233447
19	Ms.Thin Thin Nu	Government Staff	MONREC Dep't	09-450541359
20	Ms.Thazin Phyu Phyu Zaw	Government Staff	MONREC Dep't	09-795899384
21	Mr.Than Aung	Resident	Oak Pho Su Township	09-420301698
22	Mr.Aung Naing Oo	Resident	Bauk Htaw Twin Township	09-787659822
23	Mr.Myat Ko Ko	Government Staff	EPC (Kyauktan Township)	09-795438270
24	Mr.Thein Oo	Resident	Myoma/South Township	09-786612598
25	Mr.Aung Myint Zaw	Resident	Bago Su Township	09-43178001
26	Mr.Kyaw	Resident	Nyaung Thone Pin Township	
27	Mr.Hla Win Tun	Resident	Nyaung Thone Pin Township	
28	Mr.Zin Aung Gyi	Resident	Myo Haung/West Township	
29	Ms.Tin Maw Maw Tun	Resident	Kyauktan Township	09-783971455
30	Ms.Aye Aye Tun	Resident	Kyauktan Township	09-250070150
31	Ms.Yadanar Khine	Resident	Thanlyin Township	09-969651517
32	Mr.Thein Tun Oo	General Administration Officer	Kyauktan Township	09-777535425
33	Mr.Min Aung	Government Staff	Thanlyin Township	
34	Mr.Thein Myint	Resident	Myoma/North Township	
35	Mr.Aye Thaug	Resident	Myoma/North Township	

36	Mr.Tin Aung Ko	Resident	Myoma/North Township	
37	Mr.Myo Nyunt	Resident	Myoma/North Township	
38	Mr.Han Zar Tun	Resident	Bago Su Township	09-5311076
39	Ms.Mya San Yee	Resident	Shwe Pyout Township	09-790145883
40	Mr.Nyunt Win	Resident	Kyauktan Township	09-793256041
41	Mr.Tint Shwe	Resident	Kyauktan Township	09-973167869
42	Mr.Thet Naing Ko	Resident	Kyauktan Township	
43	Mr.Mo	Resident	Kyauktan Township	
44	Mr.Win	Resident	Kyauktan Township	
45	Mr.Zaw Tun	Resident	Kyauktan Township	
46	Mr.Myo Hlaing	Resident	Nyaung Wine Township	
47	Mr.Than Lwin	Resident	Shwe Pyi Thar Yar Township	
48	Mr.Khin Maung Lwin	Resident	Shwe Kone Township	09-799431556
49	Mr.Htay Aung	Resident	Thanlyin Township	09-5090336
50	Mr.Soe Naing	General Administration Officer	Thanlyin Township	09-420011381
51	Mr.Aung Thein	Resident	Shwe Kone Township	09-420090001
52	Mr.Aye San	Resident	Thidar Myine Township	
53	Mr.Win Ko Naing	Resident	Kyauktan Township	
54	Mr.Yan Aung Shin	Resident	Phayar Kone Township	09-252427117
55	Mr.Htin Lin	Resident	Phayar Kone Township	09-773781097
56	Mr.Saw Paing	Resident	Phayar Kone Township	09-8148370
57	Mr.Tin Maw	Resident	Oak Pho Township	09-8148370
58	Mr.Maung Oo	Resident	Nyaung Thone Pin Township	09-799443433
59	Mr.San Hlaing	Resident	Thanlyin Township	
60	Mr.Win Thein	Resident	Thanlyin Township	
61	Mr.San Oo	Resident	Thanlyin Township	
62	Mr.San Wai	Resident	Bago Su Township	
63	Mr.Tin Thein	Resident	Bago Su Township	
64	Mr.Hla Oo	Resident	Bago Su Township	
65	Mr.Mya Shwe	Resident	Bago Su Township	09-443032646
66	Mr.Than Lwin	Resident	Bago Su Township	09-261658348
67	Mr.Augn Kyaw Oo	Government Staff	EPC (Kyauktan Township)	09-5402839
68	Mr.Win Thein	Resident	Myo Haung/East Township	09-420300326
69	Mr.Aung Min Oo	Resident	Bago Su Township	09-420267272
70	Ms.San San Aye	Resident	Kyauktan Township	09-5155225
71	Mr.Tin Shwe	Resident	Amhuhtan Township	09-254254833
72	Mr.Bo Gyi	Resident	Amhuhtan Township	09-5061951
73	Mr.Mya Aye	Resident	Amhuhtan Township	
74	Mr.Hla Moe	Resident	Thout Taw Twin Township	
75	Mr.Than Aye	Resident	A Lwan Swut Township	
76	Mr.Kyaw Kyaw	Resident	A Lwan Swut Township	
77	Mr.Myint Swe	Resident	Kyauktan Township	

78	Mr.Tin Oo	Resident	Kyauktan Township	
79	Mr.Tin Moe Win	Resident	Kyauktan Township	
80	Mr.Si Thu	Resident	Kyauktan Township	
81	Mr.Lin Lin Htike	Resident	Shwe Pyout Township	09-795687652
82	Mr.Soe Naing Oo	Resident	Shwe Pyout Township	
83	Mr.Shwe Myint	Resident	Kyauktan Township	
84	Mr.Zin Win	Resident	Kyauktan Township	
85	Mr.Chit Oo	Resident	Kyauktan Township	
86	Mr.Myint Naing	Resident	Shwe Kone Township	
87	Mr.Aung Myint Sein	Resident	Thanlyin Township	
88	Mr.Ye Swe	Resident	Kyauktan Township	
89	Mr.Hlaing Bwar Hein	Resident	Kyauktan Township	09-794184763
90	Mr.Myine Tun	Resident	Kyauktan Township	
91	Mr.San Tint	Resident	Kyauktan Township	
92	Mr.Myint Lwin	Resident	Thanlyin Township	09-788304560
93	Mr.Zaw Min	Resident	Myo Haung/Middle Township	
94	Mr.Min Kyi Tun	Resident	Myo Haung/Middle Township	
95	Mr.Win Kyine	Resident	Oak Pho Su Township	
96	Mr.Aye Lwin	Resident	Nyaung Thone Pin Township	09-769090127
97	Mr.Soe Thiha	Resident	Nyaung Thone Pin Township	09-162966796
98	Mr.Thein Zaw	General Administration Officer	Kyauktan Township	
99	Mr.Kyaw Thura Myo	Fireman	Fire Service Dep't (Kyauktan)	
100	Mr.Aung Win	Township Office Administrator	Thanlyin Township	09-785078675
101	Mr.Zaw Nyunt	Township Office Administrator	Yaynan Township	09-73068506
102	Mr.Aung Soe	Resident	Thanlyin Township	09-253321663
103	Mr.San Win	Resident	Htan Pin Kone Township	09-73230546
104	Mr.Nyunt Zin	Resident	Myo Thit/West Township	09-799899049
105	Mr.Myo Nyunt	Resident	Bauk Htaw Twin Township	09-798011612
106	Mr.Myint Kyine	Resident	Bauk Htaw Twin Township	09-252579719
107	Mr.Myint Hlaing	Resident	Kyaung Oak Sake Township	
108	Mr.Khin Maung Nyo	Government Staff	Thanlyin Township	09-420161862
109	Mr.Thant Zin	Resident	A Lwan Swut Township	
110	Mr.Hla Soe	Resident	Kyauktan Township	09-253805268
111	Mr.Tin Shwe	Resident	Kyauktan Township	09-77301509
112	Mr.Than Gae	Resident	Kyauktan Township	
113	Mr.Khin	Resident	Kyauktan Township	
114	Mr.Phyo	Resident	Kyauktan Township	
115	Mr.Tun Myint Naing	Resident	Kyauktan Township	
116	Mr.Khin Maung Lwin	Resident	Nyaung Wine Township	
117	Mr.Win Tun	Resident	Nyaung Wine Township	

118	Mr.Kyaw Htay	Resident	Shwe Kone Township	
119	Mr.Ohm Myint	Resident	Thidar Myine Township	
120	Mr.Swe Oo	Resident	Shwe Kone Township	
121	Mr.Kan Win	Resident	Shwe Kone Township	
122	Mr.Myint Oo	Resident	East Township	
123	Mr.Hla Win	Resident	East Township	
124	Mr.Myo Myat Thu	General Administration Officer	Kyauktan Township	
125	Mr.Hla Win	General Administration Officer	Kyauktan Township	
126	Mr.Tin Aung	General Administration Officer	Kyauktan Township	
127	Mr.Tin Win	General Administration Officer	Kyauktan Township	
128	Mr.Zon Ye Tun	General Administration Officer	Kyauktan Township	
129	Mr.Tint Lwin	Resident	Thanlyin Township	09-792848146
130	Mr.Tin Win Maung	Resident	Myo Haung/Middle Township	09-790277409
131	Mr.Myo Myint Aung	Resident	Myo Haung/East Township	09-776110450
132	Mr.Thet Naing	Resident	Oak Pho Su Township	09-420259256
133	Mr.Tin Maung	Resident	Oak Pho Su Township	09-763371224
134	Mr.Khin Maung Nyo	Resident	Oak Pho Su Township	09-776117355
135	Mr.Khin Maung Oo	Resident	Nyaung Thone Pin Township	09-799451088
136	Mr.Tin Saung	Resident	Nyaung Thone Pin Township	
137	Mr.Tin Po	Resident	Nyaung Thone Pin Township	
138	Ms.Nilar Tun	Resident	Nyaung Thone Pin Township	
139	Mr.Hla Win Tun	Resident	Nyaung Thone Pin Township	
140	Mr.Kyaw Kyaw	Resident	Nyaung Thone Pin Township	
141	Mr.San Hlaing	Resident	Nyaung Thone Pin Township	
142	Mr.Tun Win	Resident	Nyaung Thone Pin Township	
143	Ms.Khin Ma Ma	Resident	Thanlyin Township	09-448036817
144	Ms.Nwe Ni Aye	Resident	Kyauktan Township	09-3416764
145	Mr.Khine Myint	Assistant Engineer	Ministry of Agriculture, Livestock and Irrigation	09-4074751250
146	Mr.Aung Thein Than	Resident	Thar Kya Ta Township	09-250382505
147	Mr.Tun Myint Oo	Government Staff	Thanlyin Township	09-799444840
148	Mr.Khine Lin Oo	General Administration Officer	Kyauktan Township	09-441523546
149	Mr.Naing Tun Tun	Administration Officer	Thanlyin Township	09-43182243
150	Mr.Aye Win	Government Staff	Thanlyin Township	

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးစွန်းစော	ကျောက်ဆည်: ၂၂၆	၀၅-၇၈၈၂၅၂၀၇၃		
၂။	ဦးအောင်စွန်း	"	၀၅-၂၅၄၂၂၀၇၄		
၃။	ဦးအောင်စိန်	"	၀၅-၂၆၂၀၅၀၇၅၆		
၄။	ဦးစွန်းစိန်	"	၀၅-၄၄၄၅၆၇၆၄၄		
၅။	ဦးစိန်စိန်	"	၀၅-၃၈၈၂၅၂၅၂		
၆။	ဦးစိန်စွန်း	"	၀၅-၂၆၇၈၀၅၅၅		
၇။	ဦးအောင်စွန်း	"	၀၅-၂၆၃၅၀၅၅၅		
၈။	ဦးအောင်စိန်	ကျောက်ဆည်	၀၅/၈၅၄၄၄၅၆၃၅		
၉။	ဦးအောင်စိန်	ကျောက်ဆည်			
၁၀။	ဦးအောင်စွန်း	ကျောက်ဆည်			
၁၁။	ဦးအောင်စိန်	ကျောက်ဆည်	၀၅၄၂၀၀၆၇၃၃		
၁၂။	ဦးအောင်စိန်				
၁၃။	ဦးအောင်စွန်း	ကျောက်ဆည်: ဦးအောင်စွန်း	၀၅၄၅၀၀၂၂၄၆၃		
၁၄။	ဦးအောင်စိန်	ကျောက်ဆည်: ဦးအောင်စိန်	၀၅-၇၇၇၆၂၅၄၆		
၁၅။	ဦးအောင်စွန်း	ကျောက်ဆည်:	၂၂၀၂၇၅၅၂		
၁၆။	ဦးအောင်စိန်	ကျောက်ဆည်			
၁၇။	ဦးအောင်စွန်း	ကျောက်ဆည်	၀၅၇၈၂၅၅၅၅		
၁၈။	ဦးအောင်စိန်	ကျောက်ဆည်	၀၅၄၅၀၀၂၂၄၆၃		
၁၉။	ဦးအောင်စွန်း	ကျောက်ဆည်/ကျောက်ဆည်	၀၅၄၅၀၅၂၅၅၅		
၂၀။	ဦးအောင်စိန်	"	၀၅-၇၇၅၈၅၅၅		

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ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ခင်မာမာ	မောင်မောင်	၀၉-၇၈၇၅၅၅၀၀		
၂။	ဒေါ်မောင်မောင်	တောင်တော်တော်	၀၉-၇၈၇၆၅၅၈၂		
၃။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉-၇၈၅၅၅၅၈၂		
၄။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉-၇၈၆၆၆၆၇၈		
၅။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉-၇၈၆၆၆၆၀၀		
၆။	မောင်မောင်	ကျောက်တော်			
၇။	မောင်မောင်	ကျောက်တော်			
၈။	ဒေါ်မောင်မောင်	ကျောက်တော်			
၉။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉-၇၈၃၃၃၃၄၄		
၁၀။	မောင်မောင်	မောင်မောင်	၀၉-၇၈၀၀၇၀၀၀		
၁၁။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉-၇၈၆၆၆၆၆၆		
၁၂။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉-၇၇၇၇၇၇၇၇		
၁၃။	မောင်မောင်	ကျောက်တော်			
၁၄။	ဒေါ်မောင်မောင်	ကျောက်တော်			
၁၅။	မောင်မောင်	ကျောက်တော်			
၁၆။	မောင်မောင်	ကျောက်တော်			
၁၇။	မောင်မောင်	ကျောက်တော်			
၁၈။	ဒေါ်မောင်မောင်	ကျောက်တော်	၀၉၅၈၁၀၇၆		
၁၉။					
၂၀။					

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နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဖျါဖြူဆရာမ	ကျွေးကွယ်	၀၉-၇၉၀၄၅၅၅၃		
၂။	နီနီအောင်	ကျွေးကွယ်	၀၉-၇၇၅၂၅၆၀၅		
၃။	ဦးတင်ကျွန်း	ကျွေးကွယ်	၀၉-၇၇၅၂၅၆၀၅		
၄။	ဦးသန်းကျွန်း	ကျွေးကွယ်			
၅။	ဦးစိုး	ကျွေးကွယ်			
၆။	ဦးစိုး	ကျွေးကွယ်			
၇။	ဦးစန်းအောင်	ကျွေးကွယ်			
၈။	ဦးမျိုးမိုး	ကျွေးကွယ်			
၉။	ဦးသန်းစွန်း	ကျွေးကွယ်	၀၉-၀၅၄၆၀		
၁၀။	ဦးစိုးအောင်	ကျွေးကွယ်	၀၉-၇၇၅၂၅၆၀၅		
၁၁။	ဦးကျွန်း	ကျွေးကွယ်	၀၉-၇၇၅၂၅၆၀၅		
၁၂။	ဦးစိုးမိုး	ကျွေးကွယ်	၀၉-၅၂၀၀၁၁၃၆၁		
၁၃။	ဦးစန်းအောင်	ကျွေးကွယ်	၀၉-၅၂၀၀၁၁၃၆၁		
၁၄။	ဦးစိုးမိုး	ကျွေးကွယ်			
၁၅။	ဦးစိုးမိုး	ကျွေးကွယ်			
၁၆။	ဦးစိုးမိုး	ကျွေးကွယ်	၀၉-၂၅၂၄၂၇၁၇		
၁၇။	ဦးစိုးမိုး	ကျွေးကွယ်	၀၉-၇၇၅၂၅၆၀၅		
၁၈။	ဦးစိုးမိုး	ကျွေးကွယ်	၀၉-၅၂၀၀၁၁၃၆၁		
၁၉။	ဦးစိုးမိုး	ကျွေးကွယ်			
၂၀။	ဦးစိုးမိုး	ကျွေးကွယ်	၀၉-၇၇၅၂၅၆၀၅		

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ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ် မင်္ဂလာ	ကျောက်တန်း			
၂။	ဒေါ် စန္ဒာ	ကျောက်တန်း			
၃။	ဒေါ်စန္ဒာစိန်	ကျောက်တန်း			
၄။	မိုးစန္ဒာ	ကျောက်တန်း			
၅။	ဒေါ်စန္ဒာစိန်	ကျောက်တန်း	၀၉-၇၄၅၅၈၇၆၅၂		
၆။	ဒေါ်စန္ဒာစိန်	ကျောက်တန်း			
၇။	မိုးစန္ဒာ	ကျောက်တန်း			
၈။	မိုးစန္ဒာ	ကျောက်တန်း			
၉။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၀။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၁။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၂။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၃။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၄။	မိုးစန္ဒာ	ကျောက်တန်း	၀၉-၇၄၅၅၈၇၆၅၃		
၁၅။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၆။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၇။	မိုးစန္ဒာ	ကျောက်တန်း	၀၉-၇၄၅၅၈၇၆၅၄		
၁၈။	မိုးစန္ဒာ	ကျောက်တန်း			
၁၉။	မိုးစန္ဒာ	ကျောက်တန်း			
၂၀။	မိုးစန္ဒာ	ကျောက်တန်း			

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးစိန်လွင်	လှိုင်ဆုံ	၀၉၅၅၅၀၀၀		
၂။	ဦးစိုးသိဇာ	~	၀၉၅၅၅၀၀၀		
၃။					
၄။	ဦးစိုးအောင်	ရွှေအောင်(ကျောက်)			
၅။	ဦးကျော်စွာ	မီးသောင်(ကျောက်)			
၆။	ဦးအောင်အောင်	အောင်အောင်	၀၉၇၈၀၇၈၅၄		
၇။	အောင်အောင်	ကျောက်	၀၉၇၃၀၆၈၅၀၆		
၈။	ဦးအောင်အောင်	မင်း	၀၉၂၅၃၃၂၀၆၃		
၉။	ဦးအောင်အောင်	ကျောက်	၀၉၇၅၂၃၀၅၂၆		
၁၀။	ဦးအောင်အောင်	ကျောက်	၀၉၇၇၇၇၇၇		
၁၁။	ဦးအောင်အောင်	ကျောက်	၀၉၇၇၇၇၇၇		
၁၂။	ဦးအောင်အောင်	ကျောက်	၀၉-၂၅၂၅၇၇၇၇		
၁၃။	ဦးအောင်အောင်	ကျောက်			
၁၄။	ဦးအောင်အောင်	ကျောက်	၀၉-၄၂၀၀၀၀၀၀		
၁၅။	ဦးအောင်အောင်	ကျောက်			
၁၆။					
၁၇။					
၁၈။					
၁၉။					
၂၀။					

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	စိုး ဖွဲ့စဉ်	ကော့ကရီး	၀၉-၂၆၃၈၀၅၂၆၈		
၂။	ကစိန္တေ	-----	၀၉-၇၇၃၀၂၁၀၅		
၃။	ဆင်္ဂါ	-----	၀၉-၇၅		
၄။	ဇွဲအေး	ကျောက်စက်			
၅။	စိုမြီး	ကျောက်စက်			
၆။	ဦးအောင်ကျော်	ကျောက်စက်			
၇။	ဦးအောင်စွန်း	ကျောက်စက်			
၈။	ဦးအောင်စွန်း	"			
၉။	ဦးကျော်စွန်း	ကျောက်စက်			
၁၀။	ဦးကျော်စွန်း	သီပေါမြို့			
၁၁။	ကျော်စွန်း	ကျောက်စက်			
၁၂။	ကျော်စွန်း	"			
၁၃။	ကျော်စွန်း	ကျောက်စက်			
၁၄။	ကျော်စွန်း	"			
၁၅။	ကျော်စွန်း	ကျောက်စက် (ဖုန်းနံပါတ်) ၀၅၆-၂၆၀၃၀			
၁၆။	ကျော်စွန်း	"			
၁၇။	ကျော်စွန်း	"			
၁၈။	ကျော်စွန်း	"			
၁၉။	ကျော်စွန်း	"			
၂၀။	ကျော်စွန်း	"			

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း
သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့
ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်) နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒိုးဝါးစွန်း	၁၆၊ ချောင်း	၀၉-၇၉၂၆၄၆၁၅၆		
၂။	ဒိုးဝါးစွန်း	မြို့နယ်-လှိုင်	၀၉-၇၉၆၇၅၂၄၀၇		
၃။	ဒိုးဝါးစွန်း	မြို့နယ်-အရှေ့	၀၉-၇၉၆၇၅၀၁၅၀		
၄။	ဒိုးဝါးစွန်း	ဒဂုံမြို့နယ်	၀၉-၄၂၀၂၅၅၁၅၆		
၅။	ဒိုးဝါးစွန်း	ဒဂုံမြို့နယ်	၀၉-၇၆၃၃၇၁၂၂၄		
၆။	ဒိုးဝါးစွန်း	ဒဂုံမြို့နယ်	၀၉-၇၇၆၆၁၇၃၅၅		
၇။	၁၂၆ နောင် ဒိုး	အောင်ချက်	၀၉ ၇၉၄၄၆၀၆၆		
၈။	၁၂၆ နောင်	"			
၉။	၁၂၆ နောင်	"			
၁၀။	၁၂၆ နောင်	"			
၁၁။	၁၂၆ နောင်	"			
၁၂။	၁၂၆ နောင်	"			
၁၃။	၁၂၆ နောင်	"			
၁၄။	၁၂၆ နောင်	"			
၁၅။	၁၂၆ နောင်	အောင်ချက်	၀၉-၄၄၆၆၆၆၆၇		
၁၆။	၁၂၆ နောင်	အောင်ချက်	၀၉-၃၅၁၆၇၆၄		
၁၇။	ဒိုးဝါးစွန်း	လှိုင်မြို့နယ်	၀၉-၄၀၄၇၆၅၂၀		
၁၈။	ဒိုးဝါးစွန်း	၁၀၀၆၀၀၀	၀၉-၂၅၀၃၈၂၅၀၅		
၁၉။	ဒိုးဝါးစွန်း	ဒဂုံမြို့နယ်	၀၉၇၉၄၄၄၄၄၄		
၂၀။					

LNG သုံးလျှင်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သာယာဝတီတိုင်းဒေသကြီးနှင့် လှူဒါန်းရေးဦးစီးဌာန သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - သန်လျင်မြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက်

- ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၃ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ခင်မာမာ	ဖွဲ့စည်းရေးဌာန	၀၉-၄၇၅၂၈၅၄၄		
၂။	ဒေါ်မာမာ	အလုပ်အကိုင်	၄၃၂၈၂၂၄၃		
၃။	ဒေါ်မာမာ	ဒေသထုတ်			
၄။	ဒေါ်မာမာ	အလုပ်အကိုင်	၀၉-၂၆၆၆၆၆၆၆		
၅။	ဒေါ်မာမာ	အလုပ်အကိုင်	၀၉-၂၆၆၆၆၆၆၆		
၆။	ဒေါ်မာမာ	အလုပ်အကိုင်	၀၉၄၂၅၇၅၃၅၅၃		
၇။		အလုပ်အကိုင်			
၈။	ဒေါ်မာမာ	"			
၉။	ဒေါ်မာမာ	"			
၁၀။	ဒေါ်မာမာ	"			
၁၁။	ဒေါ်မာမာ	"			
၁၂။	ဒေါ်မာမာ	"			
၁၃။	ဒေါ်မာမာ	အလုပ်အကိုင်	၀၉-၇၈၂၄၅၂၄၅၅		
၁၄။	ဒေါ်မာမာ	အလုပ်အကိုင်	၀၉-၇၉၂၆၆၆၆၆		
၁၅။					
၁၆။					

Photo















Minutes of Meeting

To	Tun Lin Kyaw
CC	ERM-Siam: Vincent Lecat
From	Environmental Resources Management (ERM-Siam)
Date and Location of Meeting	14 th June 2019 Thiri Zaya Naw Ya Htar Hall, Dala Township, Yangon Region
Project Reference	0439461 TTCL Ahlone Expansion
Subject	Dala Township Public Consultation Meeting No.2

Agenda

- Registration
- Introduction of meeting by TTCL Meeting Coordinators
- Introductory speech by parliament member (Dr. Sein Mya Aye)
- Presentation by ECD assistant Director (Miss Daw Thin Thin Nu)
- Introductory speech by Gas Pipeline Officer in-charge, MOGE (Mr. U Than Htike Aung)
- Presentation by TTCL (Htet Aung Mon)
- Presentation by ERM (Khinsusu Naing)
- Questions and Answers Period
- Closing Comments/Conclusion speech by the parliament member (Mr. U Ye Lwin)

No.	Key Discussion	Response
1	<p>Dr. Sein Mya Aye, Parliament member, Dala</p> <ul style="list-style-type: none"> ■ Project information should be displayed to Township parliament office. ■ Suggested TTCL to inform people more about their rights toward the Project. ■ What kind of CSR activities will contribute to local? 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ During the first round of public consultation we have distributed project information documents to all attended stakeholders. In which, we have described all the project progress and way forward. We have also informed about the grievance mechanism Local communities were invited to report if there is any issues or comments on ESIA process. Comments and suggestions from first meeting are recorded and implemented in the ESIA report.. ■ Our project will be developed only after MIC permit is granted. In order to obtain MIC permit from, Project Company is required to develop and

No.	Key Discussion	Response
	<ul style="list-style-type: none"> ■ In which contract ESIA commitment are included? ■ Suggested TTCL to strictly implement the mitigation measures through legal provision that TTCL will be responsible for any accidents or leakage from the Project ■ How was the third party recruited? ■ Is ERM a local or international company? ■ Why TTCL decided to use ERM for ESIA? ■ How will the company activities will be verified or monitor? What would be the punishment and penalties if Project Company does not follow the ESIA law? ■ In case of gas leakage, TTCL should bear full responsibility and measure should be included in the EIA. 	<p>comply with the CSR program. We are going to implement CSR program with the collaboration from local level.</p> <ul style="list-style-type: none"> ■ Laws and regulations related to environmental protection are included in the power purchase agreement with MOEE. Project Company is obliged to follows the environmental laws as per the contract requirements. <p>Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ When the project company appointed a environmental consultant third party company, they have to submit the detail of third party organization to the Ministry of Natural Resources and Environmental Conversation (MONREC) in order to verify the numbers of specialist and their specialized field. Third Party EIA consulting organization are required to be registered in Myanmar. Environmental assessment work can proceed only after approval is granted from MONREC. ■ ERM is an international EIA consulting company with approximately 5,000 staffs all over the world. In this project, ERM has cooperated with local EIA consulting company SEM. <p>Miss Daw Thin Thin Nu, ECD</p> <ul style="list-style-type: none"> ■ There are Myanmar Environmental conversation law, Environmental Conversation Rule & Environment Impact Assessment procedure 2015. ECD department will determined the necessary level of environmental assessment for the proposed project. Project proposed company is responsible to comply with the applicable environmental law. If company fail to follow environmental management, the company is punishable to pay fine or other severe punishment according to law.
2	<p>N/A, Resident</p> <ul style="list-style-type: none"> ■ Suggested the impact to public road should be repair by the company ■ Why the construction of power plant is not in Dala? 	<p>Toshio Sakai (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Our gas pipeline route is currently designed to be along the Dala-Danote main road. However, it is subjected to change depending to detail survey that we are about to do with the cooperation from

No.	Key Discussion	Response
		<p>relevant government departments. In the case of road damage occurred by Machinery/Vehicles used in pipeline construction, company will be responsible to repair.</p> <p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ We have to develop project components only on permitted land/ area by government. We have decided to build up the terminal and jetty in Dala townships following the instruction from Yangon regional government and Myanmar Port Authority. The selected location's water depth is deep enough to construct the jetty for LNG carrier vessel.
3	<p>N/A, Resident</p> <ul style="list-style-type: none"> ■ Where is the budget for this project coming from and how much is it? ■ What is the project schedule? 	<p>Worrawut Thongdee (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Project investment cost approximately 500 million USD. ■ Commercial operation of project will commence 28 months after PPA effective date.
4	<p>N/A, Police Department, Dala</p> <ul style="list-style-type: none"> ■ TTCL should be fully legally responsible to impact that occurred ■ TTCL should include the risk management plan ■ If project affect the paddy field people should receive fair compensation. 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Company will be responsible for every impact occurred by project activities during construction and operation phase. Company will compensate fair amount of compensation.
5	<p>N/A, Village Administrator, Pyaw Bwe Gyee Village</p> <ul style="list-style-type: none"> ■ What are the measures to prevent gas leakage? ■ What are the measures in the case of gas leakage? 	<p>Htet Aung Mon (Mr.), TTCL & Khin Su Su Naing (Ms.), ERM</p> <ul style="list-style-type: none"> ■ ERM has proposed specific mitigation measures for an un-planned event of spill or leakage of oil, fuel and gas. The measures including how to prevent and prepare for the leakage, and providing training for staffs to properly respond in the case of gas leakage. ■ Detection system is implemented in gas pipeline design to detect the gas leakage. Block valve stations located between terminal and power plant will also implemented for emergency response.

No.	Key Discussion	Response
		When the gas leakage is detected, company will be able to take immediate action to prevent the people and environment.
6	<p>N/A (Medical personnel)</p> <ul style="list-style-type: none"> ■ Which part of the Seikkyikhanaungto Township will be impacted by the project? ■ How will traffic be managed during the project phase? 	<p>Worrawut Thoungdee (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Underground gas pipe from Dala township will be connected to Seikkyikhaunaungto Township crossing the Twantay Canal by deploying HDD machine. The gas pipe will then directly connected to Power plant from the below of Yangon River. Therefore, a small portion of Seikkyikhanaungto townships is concerned in project components.

Attendance list

123 persons from Government Organizations and Village Responsibilities and 20 persons from company attend the meeting.

No.	Name	Position/Occupation	Department/Organization	Contact No.
1	Mr. Tin Htun	Resident	Pyaw Bwal Gyi	09-785478557
2	Mr. Aye Win Oo	Resident	Pyaw Bwal Gyi	09-5082179
3	Ms. Su Sandi Thaw	Government Staff	Construction Dep't, YCDC	09-400467408
4	Ms. Sandar Myint	Government Staff	Project Dep't, YCDC	09-450043358
5	Ms. Ngu War Htun	General Administrator	Dala Township	09-770609887
6	Mr. Tun Tun Naing	General Administrator	Dala Township	09-798091662
7	Mr. Aung Khaing Htay	General Administrator	Dala Township	09-420022392
8	Ms. Ni Ni Win	Government Staff	Health Care Dep't, Dala Tsp.	09-781280465
9	Mr. Aung Naing	Resident	Rakhine Chaung , Dala Tsp.	09-773054993
10	Mr. Kyaw Oo Oo Paing	Resident	Thingangyung Township	09-770763616
11	Mr. Tin Zaw Htun	Resident	Tone Tin Kan	09-780995380
12	Mr. Maung Maung Aye	Resident	Dala Township	09-420149540
13	Mr. Tin Hla	Resident	Dala Township	09-421153709
14	Mr. Kyaw Tint	Resident	Da Note, Dala Tsp.	09-450023306
15	Mr. Kyi Thein	Resident	Tone Tin Kan	09-787283814
16	Mr. Than Maung	Police Officer	Dala Township	09-449892394
17	Mr. Thaung Oo	Resident	Pyaw Bwal Gyi	09-777295391
18	Mr. Naing Aye	Doctor	Dala Township	09-420000732
19	Mr. Khin Maung	Resident	Dala Township	09-799295696
20	Mr. Soe Yin	Government Staff	Seikgyikanaungto	09-420197100
21	Mr. Than Htike Aung	Government Staff	Piping Dep't	09-420086285
22	Mr. Thant Zin	Resident	Seikgyikanaungto	09-426623241
23	Mr. Tin Yee	Resident	Htun O	-
24	Mr. Hla Wai	Resident	Htun O	09-420260800
25	Mr. Phyo Chit Htun	Resident	Htun O	-
26	Mr. Kyaw Htwe	Resident	Htun O	-
27	Mr. Kyi Lwin	Resident	Pann Pin Chaung	-
28	Mr. Myo Win	Resident	Pann Pin Chaung	-
29	Mr. Kyaw Lwin	Government Staff	Agriculture Dep't	-
30	Mr. Nay Soe	Government Staff	Administration Dep't (Township)	-
31	Mr. Aung Thant	Resident	Seikgyikanaungto	-
32	Mr. Aung Myint	Resident	Seikgyikanaungto	-
33	Mr. Kyaw Oo	Resident	Seikgyikanaungto	-
34	Mr. Yin Htwe	Resident	Thet Kal Kwin	09-254215856
35	Mr. Myint Oo	Government Staff	Fire Service Dep't	-
36	Mr. San Aung	Government Staff	Fire Service Dep't	-

37	Mr. Min Min Lat	Township Administrator	Administration Dep't (Township)	09-444088004
38	Mr. Zaw Win	Resident	Seikgyikanaungto	09-420288821
39	Mr. Kyi Yin	Resident	Pyaw Bwal Gyi	09-250282904
40	Mr. Hla Myo	Resident	Seikgyikanaungto	09-420147017
41	Mr. Hla Maung	Staff	Red Cross Society	09-420908890
42	Mr. Myo Thant Htun	Staff	Red Cross Society	-
43	Mr. Kyaw San Min	Staff	Red Cross Society	09-975122157
44	Ms. Than Than Myint	Staff	Red Cross Society	09-786833422
45	Mr. Tin Htun	Staff	Red Cross Society	09-255249446
46	Mr. Kyaw Myaing	Staff	Red Cross Society	-
47	Mr. Ngwe Tun	Resident	Seikgyikanaungto	09-250266917
48	Mr. Ye Win	Resident	Seikgyikanaungto	09-772617924
49	Mr. Maung Maung Lwin	Resident	Seikgyikanaungto	09-966353985
50	Mr. Nyan Win	Resident	Seikgyikanaungto	09-799300373
51	Mr. Kyaw Win	Resident	Seikgyikanaungto	09-252474994
52	Mr. Sai	Resident	Seikgyikanaungto	-
53	Ms. Aye Aye Thein	Resident	Seikgyikanaungto	09-773294195
54	Mr. Htay Aung	Resident	Tone Tin Kan	-
55	Mr. San Oo	Resident	Pyaw Bwal Gyi	-
56	Ms. Thel Nu Khaing	Government Staff	Construction Dep't, YCDC	09-790153524
57	Mr. Win Naing	Resident	Rakhine Chaung	09-799847663
58	Mr. Hein Thu	Resident	Dala Township	09-799408326
59	Ms. Than Than Lwin	Government Staff	Water & Sanitation Dep't, YCDC	09-971132851
60	Ms. Khin San Myint	Resident	Kyan Sitt Tharr	09-450024959
61	Ms. Thaug Aye	Resident	Kyan Sitt Tharr	09-793351814
62	Ms. Cho Cho	Resident	Kyan Sitt Tharr	09-698044254
63	Ms. Thin Thin Nu	Government Staff	MONREC Dep't	09-450541359
64	Ms. Yu Yu Phyo	Government Staff	MONREC Dep't	09-951088421
65	Mr. Aung Thein Than	Government Staff	MONREC Dep't	09-250382505
66	Mr. Tin Khine	Resident	Dala Township	09-258998400
67	Mr. Hla Min Thu Paing	Government Staff	MOE	09-795806561
68	Mr. Tin Hla	Resident	Seikgyikanaungto	-
69	Mr. Sein Hla Tun	Resident	Seikgyikanaungto	09-796444108
70	Mr. Myint San	Resident	Seikgyikanaungto	09-963658697
71	Ms. Ye Ye Myint	Resident	Seikgyikanaungto	-
72	Ms. Hla Shwe	Resident	Seikgyikanaungto	-
73	Ms. Hla Kyi	Resident	Pyaw Bwal Gyi	-
74	Mr. Kyaw Moe Zaw	Resident	Pyaw Bwal Gyi	09-782760757
75	Mr. Aung Chit	Resident	Shan Kan	-
76	Mr. Htun Lwin	Resident	Shan Kan	09-777202492
77	Mr. Aung Lwin	Resident	Rakhine Chaung	09-449668952
78	Mr. Maung Maung Myo	Resident	Rakhine Chaung	09-791951342
79	Mr. Zaw Win	Resident	Rakhine Chaung	09-777422208

80	Mr. Tin Htun Aung	Resident	Dala Township	09-5173047
81	Mr. Zaw Myint	Resident	Seikgyikanaungto	-
82	Mr. Aung Myo Aye	Resident	Seikgyikanaungto	-
83	Mr. Chit Han	Resident	Seikgyikanaungto	-
84	Mr. Chit Ko	Resident	Seikgyikanaungto	-
85	Mr. Sein Hla Maung	Resident	Seikgyikanaungto	-
86	Mr. Kan Win	Resident	Seikgyikanaungto	-
87	Mr. Ye Yint Htun	Resident	Seikgyikanaungto	-
88	Mr. Zaw Min Htike	Police Officer	Seikgyikanaungto	-
89	Mr. Than Naing	Ward Administration Office	Ward Administration dep't	09-420260420
90	Mr. Moe Sett	Police	Seikgyikanaungto	-
91	Mr. Than Htay	Township Administrator	Administration Dep't (Township)	-
92	Mr. Shwe La Win	Resident	Seikgyikanaungto	-
93	Mr. Hla Nyein	Resident	Seikgyikanaungto	-
94	Ms. San San Myint	Resident	Seikgyikanaungto	-
95	Ms. Tin Tin Win	Resident	Seikgyikanaungto	-
96	Mr. Nyunt Kyi	Resident	Pyaw Bwal Gyi	-
97	Mr. Nay Win	Resident	Pyaw Bwal Gyi	-
98	Mr. Tin Shein	Resident	Mhaw Sett	09-261906466
99	Mr. Tun Tun Aye	Resident	Dala Township	09-73144539
100	Mr. Thein Han	Resident	Sein Pan	09-250054006
101	Mr. Myint Swe	Resident	Ka Mar Ka Sit	09-25067255
102	Mr. Thein Htike	Resident	Yangon	-
103	Mr. Than Oo	Resident	Dala Township	09-251171496
104	Mr. Khin Maung Myint	Resident	Da Note	09-7705001
105	Mr. Shwe Gyi	Resident	Da Note	09-792577385
106	Mr. Thein Htun	Resident	Nyaung Chaung	-
107	Mr. Than Swe	Township Administrator	Dala Township	-
108	Mr. Naing Myo Lin	Resident	Dala Township	09-420179870
109	Mr. Kyaw Myo	Resident	Kyan Sitt Tharr	09-5174692
110	Mr. Aung Than Oo	Resident	Pazundaung	09-401529462
111	Mr. Nay Lin	Resident	Tone Tin Kan	09-698084585
112	Mr. Zaw Naing Win	Resident	Shwe Lay Chaung	09-425297596
113	Mr. Tin Soe	Resident	Ta Pin Shwe Htee	09-250667199
114	Mr. San Ye	Resident	Dala Township	09-420179870
115	Mr. Shwe Htun	Resident	Dala Township	09-425289168
116	Mr. Htun Htun Zaw	Resident	Nyaung Chaung	09-420305508
117	Mr. Kyaw Kyaw Khine	Resident	Nyaung Chaung	09-779202382
118	Mr. Kyaw Htoo	Resident	Shwe Lay Chaung	-
119	Mr. Soe Zaw Thein	Resident	Seikgyikanaungto	09-448007374
120	Mr. Than Lwin	Resident	Dala Township	09-697315126
121	Mr. Than Htay	Resident	Dala Township	-
122	Mr. Naing Lin Kyaw	Resident	Dala Township	09-780498529

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား အသစ်ပြည်သူ့လူထုသို့ ရှင်းလင်းတင်ပြသော အစည်းအနား (Public Participation Meeting No. 2)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၄ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	စုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးကျော်စွာ	ဆိပ်/တို	420147017		
၂။	ဦးဌာမောင်	ဆိပ်/တို	0942090890		
၃။	ဦးမျိုးသန်းထွန်း	"			
၄။	ဦးကျော်စွာ	"	0997512289		
၅။	ဒေါ်သန်းသန်းဖြူ	"	09786833422		
၆။	ဦးထွန်း	"	0925594996		
၇။	ဦးကျော်စွာ	"			
၈။	" ဇော်စွာ	ဆိပ်/တို	09.258286917		
၉။	ဦးဝင်း	ဆိပ်/တို	09-77261794		
၁၀။	မ.စာအုပ်စာရင်း	ဆိပ်/တို	09.96353985		
၁၁။	ဦးညောင်စင်	ဆိပ်/တို	09-799800393		
၁၂။	မ.ကျော်စွာ	"	09252494994		
၁၃။	မ.စိုင်း	"			
၁၄။	ဒေါ်အေးအေး	ဆိပ်/တို	09.773294195		
၁၅။	ဦးကျော်စွာ	ထုံးစာကံ/တ.			
၁၆။	ဦးကျော်စွာ	ဆိပ်/တို			
၁၇။	ဒေါ်သန်းစိန်	ဆိပ်/တို	09790153524		
၁၈။	ဦးထွန်း	ဆိပ်/တို	09.966992887		
၁၉။	ဦးကျော်စွာ	ဆိပ်/တို	09 799408826		
၂၀။	ဒေါ်သန်းစိန်	ဆိပ်/တို	09. ၉၇၁၁၂၂၈၁၁		

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုပတ်ဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - ဒလမြို့နယ် (တောင်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၄ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ခင်နုဖြူ	ကျိုစစ်သာ	၀၉-၅၅၀၀၂၅၇		
၂။	ဒေါ်သက်သက်	ကျိုစစ်သာ	၀၉-၇၇၃၃၅၁၈၁၄		
၃။	ဒေါ်အိမ်အိမ်	" "	၀၉-၆၇၈၀၄၅၂၅		
၄။	ဒေါ်အောင်အောင်	မကွေးမြို့နယ်၊ ချီတိဒေ	၀၉-၄၅၀၅၇၁၃၅၇		
၅။	ဒေါ်မာမာ	ပတ်တော်ကျွန်း၊ ဘိတ်စား၊ ဦးစိုးဝင်း	၀၉-၇၅၁၀၈၈၄၂၁		
၆။	ဦးအောင်အောင်	ပတ်တော်ကျွန်း၊ ဘိတ်စား၊ ဦးစိုးဝင်း	၀၉-၂၅၀၃၈၂၅၀၅		
၇။	မ.အောင်အောင်	မေ.မြ/မေ.မြ	၀၉-၂၅ ၅၇၇၄၂၀၀		
၈။	ဦးအောင်အောင်	ကျိုစစ်သာ	၀၉-၇၇၃၃၅၁၈၁၄		
၉။	ဦးအောင်အောင်	ကျိုစစ်သာ			
၁၀။	ဦးအောင်အောင်	မိမိ/မေ.မြ	၀၉-၇၇၆၄၄၄၄		
၁၁။	ဦးအောင်အောင်	မိမိ/မေ.မြ	၀၉-၇၇၆၄၄၄၄		
၁၂။	ဒေါ်အောင်အောင်	မိမိ/မေ.မြ			
၁၃။	ဒေါ်အောင်အောင်	မိမိ/မေ.မြ			
၁၄။	ဒေါ်အောင်အောင်	မိမိ/မေ.မြ			
၁၅။	ဒေါ်အောင်အောင်	မေ.မြ/မေ.မြ	၀၉-၇၇၂၇၆၀၇၅၇		
၁၆။	ဒေါ်အောင်အောင်	" "			
၁၇။	ဒေါ်အောင်အောင်	မေ.မြ	၀၉-၇၇၇၂၀၂၅၇၂		
၁၈။	ဒေါ်အောင်အောင်	" "	၀၉-၄၄၇၆၆၆၅၅		
၁၉။	ဒေါ်အောင်အောင်	ကျိုစစ်သာ	၀၉-၇၇၁၅၅၅၅		
၂၀။	ဒေါ်အောင်အောင်	" "	၀၉-၇၇၇၄၂၂၅၅		

Photo











Minutes of Meeting

To	Tun Lin Kyaw
CC	ERM-Siam: Vincent Lecat
From	Environmental Resources Management (ERM-Siam)
Date and Location of Meeting	12 nd June 2019 Ahlone Township Hall, Ahlone Township, Yangon Region
Project Reference	0439461 TTCL Ahlone Expansion
Subject	Ahlone Township Public Consultation Meeting No.2

Agenda

- Registration
- Introduction of meeting by TTCL Meeting Coordinators
- Introductory words by Township GAD administrator (Mr. U Myo Tint Zaw)
- Introductory words by MOGE General Manager (Mr. U Hla Win Htay)
- Presentation by TTCL (Htet Aung Mon)
- Presentation by ERM (Khinsusu Naing)
- Questions and Answers Period
- Closing Comments/Conclusion speech by the parliament member (Mr. U Ye Lwin)

No.	Key Discussion	Response
1	<p>U Tin Lin, Lut Latt Yay Ward Administrator, Ahlone</p> <ul style="list-style-type: none"> ■ Has any construction started in Dala? ■ Why is the power plant not constructed in Hlaingtharya? 	<p>Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ There is an existing 121MW power plant near i MOEE's electricity supply and distribution office (Ahlone) by which constructed and operated by TTCL since 2012. It is MOEE's guidance and instruction to construct this new combine cycle power plant on the vacant land next to existing power plant. That is why the power plant is located in Ahlone. Additionally, the reason of building the terminal and jetty in Dala townships is that the selected location's water depth is deep enough to construct the jetty for LNG carrier vessel.

No.	Key Discussion	Response
2	<p>U Hla Win, (Ward Administrator), Ahlone</p> <ul style="list-style-type: none"> ■ When will the gas from Terminal in Dala transport to power plant? How will the electricity be transferred from Ahlone to Hlaingtharyar? ■ Which Township will benefit from the project? ■ What are the possible impact of the project on electricity cost? 	<p>Worrawut Thoungdee (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ The underground gas pipeline will start from LNG receiving Terminal in Dala, follow the existing Dala-Danote main road to the Seikkyikhanaungto township and directly to the power plant located on Ahlone river bank by crossing the Yangon river from below. Therefore, gas pipe will not pass through downtown townships. ■ The power produce from this 388 MW new power plant is not compatible with low voltage substation and transmission line. Therefore we will have to construct new 230KV transmission line to transmit the power to Hlaingtharyar high-voltage substation which is capable to receive the power produced from this new power plant. ■ As TTCL is an independent power producer, our scope of work is to build and operate the plant. All the produced power will be sold out to MOEE with power purchase agreement. Distribution to households is in the scope of MOEE. ■ Therefore, it is under the management of MOEE whether there will be impact on electricity cost or not.
	<p>U Mg Mg, Former MOEE, Ahlone</p> <ul style="list-style-type: none"> ■ Suggestion on the safety of the installation of the power plant and pipeline, and on the process of unloading the LNG ■ How will the maintenance of the underground pipeline be done? ■ Suggested TTCL to recruit and seek advise by local engineer ■ Suggested operating the power plant safely and sustainably. 	<p>Worrawut Thoungdee (Mr.), TTCL & Htet Aung Mon (Mr.), TTCL</p> <ul style="list-style-type: none"> ■ Since initial design stage, we have been applied good engineering practices and standards for LNG Terminal, gas Pipeline and Power Plant. We also have long-term service agreement with very experienced equipment Supplier Company for the operation phase. In this way, we will be able to manage the operation of the plant until the end of plant lifetime. ■ For the process of unloading and storage of LNG, We will required advised from experienced safety Consultant Company (experience in Japan, china, Korea, etc.). We will utilize their technical know-how and experiences in our terminal design for safety operations. ■ Our gas Pipeline standard followed minimum compliance of MOGE's practices. However, international code and standards such as ASME are also complied by monitor and maintain the gas Pipeline every year to ensure the good condition.

No.	Key Discussion	Response
		<ul style="list-style-type: none"><li data-bbox="774 394 1406 696">■ Company has to put a huge amount of investment on the Project. Therefore, the sustainable operation of project is a very crucial point for the Company. Regarding to safety concerns of the Projects, we have hired experts from safety Consultant Company. With their support, we have already presented about our project safety precautions to Yangon Regional Government & MOEE.

Attendance list

167 persons from Government Organizations and Village Responsibilities and 20 persons from company attend the meeting.

No.	Name	Position/Occupation	Department/Organization	Contact No.
1	Mr.Htay Ni Aung	Resident	Galone Quarter (Ahlone)	
2	Mr.Than Htike Aung	Engineer in Charge	MOGE	09-420086285
3	Mr.Kyi Aye	Resident	Ahlone Township	09-254015856
4	Ms.Kay Zin Oo	Resident	Ahlone Township	09-977838542
5	Mr.Zaw Myo Tun	Resident	Ahlone Township	09-450065106
6	Mr.Aung Kyaw Zay	Resident	Ahlone Township	
7	Mr.Than Kyaw Sett	Resident	Ahlone Township	09-420170458
8	Mr.Myo Min Htay	Resident	Ahlone Township	09-252073737
9	Ms.Honey Myint Aung	General Aminstration Officer	Ahlone Township	09-262427296
10	Mr. Maung Maung	Resident	Ahlone Township	09-5059716
11	Ms.May Thet Mon	General Aminstration Officer	Ahlone Township	09-456366410
12	Mr.Lin Aung Khine	General Aminstration Officer	Ahlone Township	09-403365612
13	Ms.Ei Ei Zin	Teacher	Ministry of Education	09-250675243
14	Mr.Chan Aye Zaw	Resident	Galone Quarter (Ahlone)	09-426493023
15	Mr.Ba Myint	DTEO	Ministry of Education	09-424821742
16	Mr.Myo Oo	Staff	Ministry of Education	09-420127504
17	Mr.Win Aung	Staff	Ministry of Education	09-448042071
18	Ms.Yin May	Resident	Ahlone Township	09-253070966
19	Ms.Khine Lin Myint	Resident	Ahlone Township	09-421109330
20	Mr.Maung Aye	Resident	Saw/North Quarter (Ahlone)	09-795959365
21	Ms.Myat Nilar	Resident	Ahlone Township	09-73027408
22	Ms.Soe Soe Mar	Resident	Galone Quarter (Ahlone)	09-250227262
23	Mr.Tin Maung Yee	Journalist	Kyay Hmone Newspaper	09-250500757
24	Ms.Kyi Kyi Win	Resident	Galone Quarter (Ahlone)	09-795413664
25	Ms.Aye	Resident	Ahlone Township	
26	Ms.Khin Htay	Resident	Ahlone Township	
27	Mr.Than Min Aung	Resident	Ahlone Township	
28	Mr.Tin Htut	Resident	Saw/South Quarter (Ahlone)	09-250500140
29	Mr.Maung Maung Swe	Resident	Saw/East Quarter (Ahlone)	09-28071383
30	Mr.Win Myint	Resident	Ahlone Township	09-761534116
31	Mr.Soe Myint	Resident	Ahlone Township	09-31691139
32	Mr.Shin An	Resident	Ahlone Township	09-31691139
33	Mr.Zaw Zaw Tin	Resident	Ahlone Township	09-260276250
34	Ms.Phyo Pa Pa	Resident	Ahlone Township	09-420122315

35	Mr.Ye Min Tun	General Aminstration Officer	Ahlone Township	09-898048050
36	Mr.Tin Maung Oo	General Aminstration Officer	Ahlone Township	09-489981786
37	Mr.Tun Win	Office Staff	Project Dep't (Ahlone)	09-4217413475
38	Mr.Win Shwe	General Aminstration Officer	Sin Min Quarter (Ahlone)	09-420118943
39	Ms.Sandar Khine	General Aminstration Officer	Ahlone Township	09-250178225
40	Mr.Saw Myo Thant	Resident	Ahlone Township	09-976487298
41	Mr.Htay Htay Myint	Resident	Ahlone Township	09-421622733
42	Mr.Kyaw Myint	Resident	Ahlone Township	09-5149449
43	Mr.Tun Aung Phyu	Resident	Ahlone Township	09-445003282
44	Mr.Kyaw Ye Lin	Resident	Hlaingtharyar Township	09-796124184
45	Mr.Kyaw Kyaw Lin	Resident	Ahlone Township	09-264444301
46	Mr.Maung Maung Latt	Resident	Ahlone Township	09-5041911
47	Mr.Kyaw Swar Win	Resident	Galone Quarter (Ahlone)	09-426221399
48	Mr.Zaw Win Tun	Resident	Galone Quarter (Ahlone)	09-795569081
49	Mr.Saw Than Oo	Resident	Galone Quarter (Ahlone)	09-42112731
50	Mr.Soe Yar Zar	Resident	Galone Quarter (Ahlone)	09-259928537
51	Mr.Aung Myint	Resident	Kayin Chan Quarter (Ahlone)	09-427156323
52	Ms.Swe Swe Pyone	Resident	BEHS (2) Ahlone	09-32277333
53	Mr.Thein Yee	Resident	Saw/East Quarter (Ahlone)	09-9420153996
54	Mr.Htay Win	Resident	Saw/East Quarter (Ahlone)	09-451245868
55	Mr.Than Zaw	Resident	Ahlone Township	
56	Mr.Kyaw Kyaw	Government Staff	Ministry of Agriculture, Livestock and Irrigation	09-260414817
57	Mr.Aung Oo	General Aminstration Officer	Ahlone Township	09-5109855
58	Mr.Hla Moe	Resident	Ahlone Township	09-41006522
59	Ms. Naing	Resident	Ahlone Township	09-251204994
60	Ms.Thandar Aung	Resident	Ahlone Township	
61	Mr.Thura Kyaw	Resident	Ahlone Township	09-696696857
62	Mr.Myint Aung	Resident	Ahlone Township	09-956031750
63	Mr.Kyaw Swe	Resident	Ahlone Township	09-254116821
64	Ms.Phyu Phyu Sein	Resident	Ahlone Township	09-254516292
65	Ms.Sandar Kyi	Resident	Ahlone Township	09-443002612
66	Mr.Kyaw San Naing	Resident	Sin Min Quarter (Ahlone)	09-254784741
67	Mr.Than Oo	Resident	Ahlone Township	09-420158400
68	Ms.Myint Myint Kyi	Resident	Latha Township	09-250178237
69	Ms.Win Kya Khine	Resident	Ahlone Township	09-258545176

70	Mr.Htain Lin	Adminstration Officer	Ahlone Township	09-44052045
71	Mr.Sithu Soe Lwin	Government Staff	Township Committee	09-954491988
72	Mr.Thandar Aung	Resident	Ahlone Township	
73	Ms.Ngu Wah	Resident	Ahlone Township	09-400013603
74	Ms.Nyunt Nyunt Khine	Resident	Ahlone Township	09-421059660
75	Ms.Nay Chi Hlaing	Resident	Ahlone Township	09-420133291
76	Ms.Myint Thet Khine	Resident	Ahlone Township	09-782077190
77	Ms.Ye Htet Aung	Resident	Ahlone Township	09-400785054
78	Mr.Than Kyaw Sein	Resident	Ahlone Township	09-262645256
79	Mr.Kyaw Zin Win	Resident	Ahlone Township	09-404922900
80	Mr.Thura Zaw	Resident	Insein Township	09-421117935
81	Mr. Soe Lwin	Government Staff	Moe Kaung Electrical Compound	09-42520542
82	Ms.Ei Ei Mon	Resident	Ahlone Township	09-254061203
83	Mr.Zin Phyo Htet	Resident	Ahlone Township	09-762299069
84	Mr.Hla Than	Resident	Ahlone Township	09-254061169
85	Mr.Khin Kway	Resident	Moe Kaung Electrical Compound	
86	Mr.Soe Nyunt	Resident	Ahlone Township	
87	Mr.Naing Lin Tun	Resident	Ahlone Township	
88	Mr.Kyaw Soe	Resident	Ahlone Township	
89	Mr.Myo Win	Resident	Ahlone Township	
90	Mr.Tin Nyunt	Resident	Ahlone Township	09-254061216
91	Mr.Ohm Thein	Resident	Ahlone Township	09-310701117
92	Mr.Zayar Myint Soe	Resident	Ahlone Township	09-5021071
93	Ms.Ma Ma Lay	Resident	Ahlone Township	
94	Mr.Aung Aung	Resident	Ahlone Township	
95	Mr.Naing Zaw	Resident	Ahlone Township	
96	Mr.Thurein Tun	Resident	Saw/South Quarter (Ahlone)	09-400722405
97	Mr.Zay Yar	Resident	Ahlone Township	
98	Ms.Htay Htay Win	Resident	Ahlone Township	09-401444510
99	Ms.Mar Lar Myo	Resident	Ahlone Township	09-2216421
100	Mr.Ye Htut	Resident	Ahlone Township	
101	Ms.Hnin Hnin Oo	Resident	Ahlone Township	
102	Mr.Aung Aung	Resident	Ahlone Township	
103	Mr.Khin Hlaing Win	Resident	Ahlone Township	
104	Ms.Zin Myat Thu	Resident	Ahlone Township	09-894425188
105	Ms.Khin Yee	Teacher	Ministry of Education	
106	Mr.Aung Khine Myint	Resident	Saw/West Quarter (Ahlone)	09-793113090
107	Mr.Tun Tun	Resident	Saw/West Quarter (Ahlone)	09-421109324
108	Mr.Kalar	Resident	Saw/West Quarter (Ahlone)	09-795335243

109	Ms.Theint New Ni Tun	General Aminstration Officer	Ahlone Township	09-442537313
110	Ms.Moe Moe Win	Resident	Ahlone Township	09-5189751
111	Mr.Soe Min	Journalist	Kyay Hmone Newspaper	09-250149039
112	Mr.Maung Myo Kyaw	Journalist	Myawaddy Daily	09-422429203
113	Mr.Kon Lin Aung	General Aminstration Officer	Ahlone Township	09-421109361
114	Mr.Sein Lin	Resident	Ahlone Township	09-32186032
115	Mr.Myint Htay	Government Staff	Ministry of Agriculture, Livestock and Irrigation	09-421045033
116	Mr.Hla Win	Resident	Saw/South Quarter (Ahlone)	01-211010
117	Mr.Than Htike	Resident	Saw/South Quarter (Ahlone)	09-5011648
118	Ms.Thae Phyu Khine	Resident	Saw/West Quarter (Ahlone)	09-250085203
119	Mr.Phyo Theinkha	Resident	Kayin Chan Quarter (Ahlone)	09-402722062
120	Mr.Ba Maung	Resident	Ahlone Township	09-799633602
121	Ms.Lum Hone	Resident	Ahlone Township	09-250500494
122	Ms.Ei Ei Swe	Resident	Ahlone Township	09-781878070
123	Ms.Myat Mar Lar	Resident	Ahlone Township	09-440725118
124	Ms.Zin Mar Kyaw	Government Staff	Ministry of Electricitiy & Energy	09-421068835
125	Ms.Khin Cho Win	Resident	Ahlone Township	09-420599595
126	Ms.Cherry Wint Thu	Resident	Ahlone Township	09-421001784
127	Mr.Tin Aung	Government Staff	Myanmar Industrial Port	09-425306162
128	Ms.Aye Than	Government Staff	Yangon City Development Committee	
129	Ms.Cho May Lin	Government Staff	Yangon City Development Committee	
130	Ms.Zin Mar Kyaw	Government Staff	Yangon City Development Committee	
131	Ms.San Yee	Government Staff	Yangon City Development Committee	
132	Ms.Chit Su	Government Staff	Yangon City Development Committee	
133	Ms.Tin Mar Htwe	Government Staff	Yangon City Development Committee	
134	Ms.Soe	Government Staff	Yangon City Development Committee	
135	Mr.Soe Tint	Government Staff	Yangon City Development Committee	
136	Mr.Aung Myint	Resident	Ahlone Township	09-5075608
137	Mr.Nyan Win	Resident	Ahlone Township	09-254116642
138	Mr.San Lin	Resident	Ahlone Township	
139	Mr.Thiha Kyaw	Resident	Ahlone Township	

140	Mr.Kaung Htet Aung	Resident	Ahlone Township	09-423976628
141	Mr.Tin Oo Lwin	Resident	Ahlone Township	09-250050083
142	Mr.Hla Win Htay	General Manager	MOGE	09-5021649
143	Ms.Hla Hla Kyi	Government Staff	Myanmar Maternal and Child Welfare Association	09-31643198
144	Ms.Than Than Nwe	Government Staff	Myanmar Maternal and Child Welfare Association	09-788299665
145	Mr.Zaw Aung	Government Staff	Myanmar Maternal and Child Welfare Association	
146	Mr.Soe Than	Government Staff	Myanmar Maternal and Child Welfare Association	
147	Mr.Hla Moe	Government Staff	Myanmar Maternal and Child Welfare Association	09-252029150
148	Mr.Hla Htay	Resident	Galone Quarter (Ahlone)	09-250043450
149	Mr.Ye Phyo Aung	Resident	Saw/West Quarter (Ahlone)	09-251046256
150	Ms.San Nyunt Tun Myint	Deputy Officer	Department of Social Security Welfare	
151	Ms.Zay Yar Win	Resident	Kyauktada Township	09-454276066
152	Ms.San San Myint	Resident	Ahlone Township	
153	Ms.Kyi Lae Lae Oo	Resident	Ahlone Township	09-266018739
154	Mr.Kaung Sett	Resident	Ahlone Township	09-250638547
155	Mr.Phyo Thit Aung	Resident	Ahlone Township	09-250638547
156	Mr.Myint Oo	Resident	Ahlone Township	09-250155655
157	Mr.Soe Htoo Aung	Resident	Ahlone Township	09-421011795
158	Mr.Win Myint	Resident	Saw/South Quarter (Ahlone)	09-5126067
159	Mr.Kyaw Thura Win	Resident	Thuwana Township	09-978970447
160	Mr.Soe Thein Win	Government Staff	Ahlone EPC Compound	09-448022130
161	Mr.Thit Lwin	Resident	Ahlone Township	09-43075290
162	Mr.Si Thu Tun	Company Staff	IGE Power	09-253070217
163	Mr.Swe Swe Aung	General Aminstration Officer	Ahlone Township	09-421061496
164	Ms.Aye Myint	Resident	Ahlone Township	
165	Ms.Tin Moe Moe Khine	Resident	Dagon Township	09-450044115
166	Mr.Maung Maung Soe	Journalist	Irrawaddy	09-5048151
167	Mr.Kyaw Thu	Government Staff	Ahlone EPC Compound	09-5312936

List of Participation (Photo)

LNG သုံးလျှင်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သာယာဝတီဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်အေးနီစိန်	ဂဠုန်			
၂။	ဦး သ နိ: ဝှိတ် နေ	ဧရာဝတီ	၀၉-၄၂၀၀၈၆၂၈၅		
၃။	ဒေါ်အေးအေး	မလှ	၀၉-၇၅၄၀၁၅၈၅၆		
၄။	ဒေါ်ကေအေဦး	မလှ	၀၉-၄၇၇၈၃၈၅၄၃		
၅။	ဒေါ်ခင်မျိုးစွန်း	မလှ	၀၉-၄၅၀၀၆၅၀၆		
၆။	ဒေါ်အေးအေးအေး	မလှ	၀၉-၀၀၀၅၉၅		
၇။	ဦး သန်းကျော်စာ	မလှ	၀၉-၄၂၀၁၇၀၄၅၈		
၈။	ဒေါ် နှင်း ဖေ: ငွေ:	မလှ	၀၉-၂၅၂၀၇၃၇၃၇		
၉။	ဒေါ်ပန်းချီဇော်စိန်	မလှ/အေးမြ	၀၉-၂၆၇၄၂၇၇၄၅		
၁၀။	ဒေါ်အေးအေး	သာယာဝတီ FC	၀၉-၀၅၀၃၃၃၃		
၁၁။	ဒေါ်မေသက်စွန်း	မလှ/အေးမြ	၀၉-၄၅၆၃၆၆၄၀		
၁၂။	ဒေါ်အေးအေးအေး	မလှ	၀၉-၄၀၃၃၆၅၆၀		
၁၃။	ဒေါ်အိအိစိန်	မလှ-၄	၀၉-၂၅၀၃၇၅၂၃		
၁၄။	ဒေါ်အေးအေးအေး	မလှ	၀၉၂၂၆၄၉၃၀၂၃		
၁၅။	ဒေါ်အေးအေး	မလှ	၀၉၄၂၄၈၂၇၄၂		
၁၆။	ဒေါ်အေးအေးအေး	မလှ/အေးမြ	၀၉၄၇၀၁၂၇၅၄		
၁၇။	ဒေါ်အေးအေးအေး	မလှ/အေးမြ	၀၉၄၄၈၀၄၂၆၇၁		
၁၈။	ဒေါ်အေးအေးအေး	မလှ	၀၉-၂၅၃၀၇၀၉၆၆		
၁၉။	ဒေါ်အေးအေးအေး	မလှ	၀၉-၄၂၄၀၉၃၃၃		
၂၀။	ဒေါ်အေးအေးအေး	မလှ/အေးမြ	၀၉,၇၅၅၅၅၅၅၅		

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ဇော်မိုးမာ	ကျေး	၀၉.၇၅၀၂၇၄၀၈		
၂။	ဒေါ်စို၊ စို၊ မာ	ကျေး	၀၉.၂၅၀၂၂၇၂၆၂		
၃။	ဒေါ်အေးအေး	ကျေး	၀၉.၂၅၀၂၂၇၂၆၂		
၄။	ဒေါ်အေးအေး	ကျေး	၀၉.၇၅၅၄၁၃၆၆၄		
၅။	မောင်				
၆။	ဒေါ်ခင်ခင်	ကျေး	-		
၇။	အေးအေး	ကျေး			
၈။	ဒေါ်ခင်ခင်	ကျေး	၀၉.၂၅၀၂၂၇၂၆၂		
၉။	ဒေါ်ခင်ခင်	ကျေး	၀၉.၂၅၀၇၁၃၈၃		
၁၀။	ဒေါ်ခင်ခင်	ကျေး	၇၆၅၃၄၁၁၆		
၁၁။	ဒေါ်ခင်ခင်	ကျေး	၀၉-၃၁၆၇၁၁၃၇		
၁၂။	ဒေါ်ခင်ခင်	ကျေး	၀၉၇၇၇၆၃၂		
၁၃။	ဒေါ်ခင်ခင်	ကျေး	၀၉ ၂၆၀၂၇၂၅၀		
၁၄။	ဒေါ်ခင်ခင်	ကျေး	၀၉၄၂၀၇၂၅၅၅		
၁၅။	ဒေါ်ခင်ခင်	ကျေး	၀၉ ၈၉၀၀၄၈၀၀		
၁၆။	ဒေါ်ခင်ခင်	ကျေး	၀၉၄၂၇၇၈၁၇၈၆		
၁၇။	ဒေါ်ခင်ခင်	ကျေး	၀၉၄၂၇၇၅၇၅		
၁၈။	ဒေါ်ခင်ခင်	ကျေး	၀၉၄၂၀၁၁၅၅၃		
၁၉။	ဒေါ်ခင်ခင်	ကျေး	၀၉-၂၅၀၁၇၈၀၀		
၂၀။	ဒေါ်ခင်ခင်	ကျေး	၀၉.၇၅၅၄၈၇၅၈		

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ကျော်စွာစွာစွာ	အလုံမြို့နယ်	၀၉၄၇၆၂၇၇၃၅	[Signature]	
၂။	ဦးကျော်စွာ	အလုံမြို့နယ်	၀၉၅၇၄၉၄၄၅	[Signature]	
၃။	ဦးကျော်စွာ	အလုံမြို့နယ်	၀၉၄၄၅၀၀၃၂၀၃	[Signature]	
၄။	ကျော်စွာ	အလုံမြို့နယ်	၀၉-၇၇၆၂၄၂၃၄	[Signature]	
၅။	ဦးကျော်စွာ	အလုံမြို့နယ်	၀၉ ၂၆၄၄၄၂၀၂	[Signature]	
၆။					
၇။					

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ကျော်စွာစွာစွာ	အလုံမြို့နယ်	၀၉၂၅၀၅၀၀၄၇၄	[Signature]	
၂။					
၃။					
၄။					

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံမီမီကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးစောစော	ကျိုင်းတုံမြို့နယ်	၀၉၅၀၄၁၉၁၁		
၂။	မောင်ကျော်စွာ	ကျိုင်းတုံမြို့နယ်	၀၉-၄၂၆၂၂၁၃၉၉		
၃။	မောင်စန်းစန်း	ကျိုင်းတုံမြို့နယ်	၀၉၇၉၅၅၆၉၀၈		
၄။	မောင်အောင်	ကျိုင်းတုံမြို့နယ်	၀၉-၄၂၆၁၁၂၃၃၁		
၅။	ဦးစိုးဇော်	ကျိုင်းတုံမြို့နယ်	၀၉-၂၅၉၉၂၅၅၃၇		
၆။	ဦးကျော်စွာ	ကျိုင်းတုံမြို့နယ်	၀၉-၄၂၇၁၅၂၃၃၃		
၇။	ဒေါ်စန္ဒာစန္ဒာ	ကျိုင်းတုံမြို့နယ်	၀၉၃၂၇၇၃၃၃		
၈။	ဒေါ်အိမ်အိမ်	ကျိုင်းတုံမြို့နယ်	၀၇၄၂၀၁၅၃၉၇၆		
၉။	ဒေါ်အေးအေး	ကျိုင်းတုံမြို့နယ်	၀၉၄၅၁၂၄၅၈၆၈		
၁၀။	အောင်အောင်	ကျိုင်းတုံမြို့နယ်			
၁၁။	ဦးကျော်စွာ	ကျိုင်းတုံမြို့နယ်	၀၉-၂၅၉၉၁၉၈၇		
၁၂။	ဦးကျော်စွာ	ကျိုင်းတုံမြို့နယ်	၀၉-၅၁၀၀၈၈၈		
၁၃။	ဦးအောင်အောင်	ကျိုင်းတုံမြို့နယ်	၀၉-၄၁၀၀၆၅၂၃		
၁၄။	မောင်အောင်	ကျိုင်းတုံမြို့နယ်	၀၉၅၁၁၁၀၅၀၅		
၁၅။	အောင်အောင်	ကျိုင်းတုံမြို့နယ်			
၁၆။	မောင်အောင်	ကျိုင်းတုံမြို့နယ်	၀၉-၆၉၆၆၉၆၈၅၇		
၁၇။	ဒေါ်အေးအေး	ကျိုင်းတုံမြို့နယ်	၀၉-၇၅၆၆၃၁၇၈၀		
၁၈။	မောင်အောင်	ကျိုင်းတုံမြို့နယ်	၀၉-၂၅၄၁၁၆၈၂၁		
၁၉။	ဒေါ်အေးအေး	ကျိုင်းတုံမြို့နယ်	၀၉-၂၅၄၅၆၆၉၉၂		
၂၀။	ဒေါ်အေးအေး	ကျိုင်းတုံမြို့နယ်	၀၉-၄၄၃၀၀၂၆၁၇		

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သာယာဝတီတိုင်းဒေသကြီးနှင့် လှပဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ကျွန်းကျွန်းမြို့နယ်	ကျွန်းကျွန်းမြို့နယ်	၀၉၉၅၄၇၈၄၇၇		
၂။	ပုသိမ်မြို့နယ်	ပုသိမ်မြို့နယ်	၀၉၇၄၂၀၁၅၅၀၀		
၃။	မော်ကွန်းမြို့နယ်	မော်ကွန်းမြို့နယ်	၀၉၂၅၀၁၇၈၂၅		
၄။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၂၈၅၄၅၇၇၆		
၅။	ဦးစံမြို့နယ်	ဦးစံမြို့နယ်	၀၉၇၇၈၅၅၅၅၆		
၆။	ဦးစံမြို့နယ်	ဦးစံမြို့နယ်	၀၉၇၅၄၇၇၇၈၉		
၇။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်			
၈။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉ ၄၀၀၀၃၅၀၀၅		
၉။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉ ၄၇၇၅၅၅၅၅၅		
၁၀။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၇၇၀၁၅၅၅၅၅		
၁၁။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၇၈၂၀၅၅၅၅၅		
၁၂။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၇၈၀၇၅၅၅၅၅		
၁၃။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၂၅၂၅၅၅၅၅၅		
၁၄။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၇၀၄၇၅၅၅၅၅		
၁၅။	အင်္ဂါတောင်မြို့နယ်	အင်္ဂါတောင်မြို့နယ်	၀၉၇၂၅၅၅၅၅၅၅		
၁၆။					

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့ ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦး နိုးဗွင်	ဦးတောင်းလှမ်း	၀၉-၄၂၅၆၀၉၄၂		
၂။	ဒေါ်မိမိဗွင်	၇၄/ဆင်ဖွားလမ်း	၀၉-၂၅၄၀၆၁၂၀၅		
၃။	ဒေါ်အိမ်အိမ်	ဆင်ဖွားလမ်း	၀၉-၇၆၉၂၄၄၀၆၄		
၄။	ဦးလှသိန်း	ကမာရွတ်လမ်း	၀၉-၂၅၄၀၆၂၂၆၉		
၅။	ဦးအောင်	မြောက်ပိုင်းလမ်း			
၆။	ဦးလှိုင်	အလုံ			
၇။	ဦးစိုးဝင်း	အလုံ			
၈။	ဦးကျော်စွာ	အလုံ			
၉။	ဦးတင်အောင်	အလုံ	၀၉/၂၅၄၀၆၂၂၆၉		
၁၀။	ဦးအောင်	အလုံ	၀၉/၂၅၄၀၆၂၂၆၉		
၁၁။	ဦးစိုးစိုး	အလုံ	၀၉/၂၅၄၀၆၂၂၆၉		
၁၂။	ဦးစိုးစိုး	အလုံ	၀၉/၂၅၄၀၆၂၂၆၉		
၁၃။	ဒေါ်အိမ်အိမ်	အလုံ	၀၉/၂၅၄၀၆၂၂၆၉		
၁၄။	ဒေါ်အိမ်အိမ်	အလုံ			
၁၅။	ဒေါ်အိမ်အိမ်	အလုံ			
၁၆။	ဒေါ်အိမ်အိမ်	အလုံ	၀၉-၄၀၀၂၂၂၄၀၅		
၁၇။	ဒေါ်အိမ်အိမ်	အလုံ	၀၉-၅၅၆၆၇၇		
၁၈။	ဒေါ်အိမ်အိမ်	အလုံ	၀၉-၄၀၀၂၂၂၄၀၅		
၁၉။	ဒေါ်အိမ်အိမ်	အလုံ	၀၉-၂၅၄၀၆၂၂၆၉		
၂၀။	ဒေါ်အိမ်အိမ်	အလုံ			

LNG သုံးလျှပ်စစ်ဓာတ်အားပေးစက်ရုံစီမံကိန်း

သာယာဝတီတိုင်းနှင့် လှပူဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒုဗျဉ်ဗျဉ်	အမာအလုံမြို့နယ်		ဒုဗျဉ်	
၂။	ဦးအေး	h		ae	
၃။	ဦးစိုးကျော်စိုး	h			
၄။	အောင်စွယ်	ဒဂုံ	၀၉-၈၉၄၄၂၅၁၈၈	စွယ်	
၅။	ဖေအောင်	ထ/စ		ဖေ	
၆။	ဦးအောင်စိုး	ထ/စ	၀၉၇၇၅၁၁၃၀၉၀		
၇။	ဦးကျော်စွာ	h	၀၉၄၂၁၁၀၅၃၂၄		
၈။	ဦးကျော်	h	၀၉၇၇၅၅၃၅၂၄၃		
၉။	အောင်စွယ်	ထ/စ	၀၉-၄၄၂၅၅၇၅၁၅		
၁၀။	ဖေအောင်	ထ/စ	၀၉-၅၁၈၉၇၅၁		
၁၁။	ဦးစိုး	ထ/စ	၀၉၂၅၀၁၄၉၀၃၅		
၁၂။	ဦးကျော်စွာ	ထ/စ	၀၉၄၇၇၄၅၅၅၅		
၁၃။	ဦးကျော်စွာ	ထ/စ	၀၉၄၅၁၀၉၅၅၅		
၁၄။	ဦးစိုး	ထ/စ	၀၉၅၅၅၅၅၅၅၅		
၁၅။	ဦးကျော်စွာ	ထ/စ	၀၉၄၅၅၅၅၅၅၅		
၁၆။	ဦးကျော်စွာ	ထ/စ	၀၁၂၁၅၅၅		
၁၇။	ဦးကျော်စွာ	— u —	၀၉၅၀၁၁၅၅၅		
၁၈။	ဦးကျော်စွာ	ထ/စ	၀၉-၅၅၅၅၅၅၅၅		
၁၉။	ဦးကျော်စွာ	ထ/စ	၀၉-၄၀၅၅၅၅၅၅		
၂၀။	ဦးကျော်စွာ	ထ/စ	၀၉၇၅၅၅၅၅၅၅		

LNG သုံးလျှင်စစ်တတ်အားပေးစက်ရုံစီမံကိန်း

သဘာဝပတ်ဝန်းကျင်နှင့် လူမှုဝန်းကျင် သက်ရောက်မှုဆန်းစစ်ခြင်း လုပ်ငန်းစဉ်များအား ဒေသခံပြည်သူလူထုသို့

ရှင်းလင်းတင်ပြသော အခမ်းအနား (Public Participation Meeting No. 2)

နေရာ - အလုံမြို့နယ် (အနောက်ပိုင်းခရိုင်)

နေ့ရက် - ၂၀၁၉ ခုနှစ်၊ ဇွန်လ ၁၂ ရက်

စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဒေါ်ဒက်ဒက်ခွေ	ဒလုံ	၀၉၇၈၁၈၇၈၀၇၀		
၂။	ဒေါ်မြတ်စာသေ	။	၀၉၄၄၀၇၂၅၁၈		
၃။	စောဇော်မာကျော်	စလုံမြို့နယ်လှိုင်စင်	၀၉-၄၂၁၀၆၈၈၃၅		
၄။	ဒေါ်ခင်စုဝင်း	စာမုံ	၀၉-၄၂၀၅၉၅၅၅		
၅။	ဒေါ်အယ်ဂျွန်အု	။	၀၉-၄၂၁၀၀၁၇၈၄		
၆။	ဒေါ်အောင်အောင်	MIP. အလုံ	၀၉-၄၂၅၃၀၆၁၆၂		
၇။	ဒေါ်အေးအေး	စလုံမြို့နယ် (ခရိုင်)			
၈။	ဒေါ်အေးအေး	။ ။			
၉။	ဒေါ်အေးအေး	။ ။			
၁၀။	ဒေါ်အေးအေး	။ ။			
၁၁။	ဒေါ်အေးအေး	။ ။			
၁၂။	ဒေါ်အေးအေး	။ ။			
၁၃။	ဒေါ်အေးအေး	။ ။			
၁၄။	ဒေါ်အေးအေး	။ ။			
၁၅။	ဒေါ်အေးအေး	။ ။	၀၉ ၅၀၇၅၆၀၈		
၁၆။	ဒေါ်အေးအေး	။ ။	၀၉ ၂၅၄၁၁၆၆၄၃		
၁၇။	ဒေါ်အေးအေး	။ ။			
၁၈။	ဒေါ်အေးအေး	။ ။			
၁၉။	ဒေါ်အေးအေး	။ ။	၀၉/၄၂၃၃၉၇၆၆၂၈		
၂၀။	ဒေါ်အေးအေး	။ ။	၀၉၂၅၀၀၅၀၀၇၃		

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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	ဦးဖွားဦး	ရွာ (မဝရွာ)	၀၉၅၀၂၂၆၄၅		
၂။	ကျော်စွာဦး	ကျောက်ဆည်ရွာ	၀၉-၂၁၇၅၂၁၉၈		
၃။	ကျော်စွာဦး	၂	၀၉-၇၈၈၂၉၉၅၅		
၄။	ကျော်စွာဦး	၃			
၅။	ကျော်စွာဦး	၄			
၆။	ကျော်စွာဦး	၅	၀၄၂၅၂၀၂၇၆၆		
၇။	ကျော်စွာဦး	၆	၀၉၂၅၀၀၄၃၅၅		
၈။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉၅၀၂၄၆၅၆		
၉။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉၅၀၂၄၆၅၆		
၁၀။	Zay Mar Khin	Bakun, Tonaw	၀၉၄၅၇၂၇၆၀၆၆		
၁၁။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-		
၁၂။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-၂၆၆၀၁၈၇၃၅		
၁၃။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-၂၅၀၆၇၈၅၅		
၁၄။	ကျော်စွာဦး	ကျောက်ဆည်	၄၀၂၅၅၅၅၅		
၁၅။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-၃၅၀၁၅၅၅၅		
၁၆။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-၄၂၀၁၁၇၅၅		
၁၇။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉၅၀၂၆၀၆၇		
၁၈။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-၄၇၅၅၅၅၅၅		
၁၉။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉-၄၄၅၅၅၅၅၅		
၂၀။	ကျော်စွာဦး	ကျောက်ဆည်	၀၉၄၃၀၇၅၅၅၅		

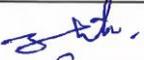
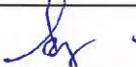
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စဉ်	အမည်	နေရပ်လိပ်စာ (မြို့နယ်)	ဖုန်းနံပါတ်	လက်မှတ်	မှတ်ချက်
၁။	U Si Thu Tun	IG&B Power	၀၉-၂၅၃၀၇၀၂၁၇		
၂။	Soe Soe Aung	အွန်/၄၇၆	၀၉-၄၂၁၀၆၁၄၉၆		
၃။	ဒေါ်စားဖြင့်	၀၈/၅၅၅၅၇၆			
၄။	Daw Tin Mye Mue Khin	United Condylagn	၀၉၄၅၀၀၄၄၁၁၅		
၅။	Mg Mg Soe	B, Tonmady	၀၉၅၀၀၄၅၅၅		
၆။	U Kyaw Shu	Ahl. E.P.C.	၀၉၅၅၅၅၅၅၅		
၇။					
၈။					









APPENDIX X HIGH LEVEL FLOOD LIKELIHOOD EVALUATION (FLE)



High Level Flood Likelihood Evaluation (FLE): *Ahlong Township, Myanmar*

Final Report

September 2018

www.erm.com

Toyo Thai Power Myanmar Company Limited

High Level Flood Likelihood Evaluation (FLE): Ahlone Township, Myanmar

September 2018

0439461

Prepared by: ERM-Siam Co Ltd

For and on behalf of ERM-Siam Co Ltd
Approved by: <u>Kamonthip Ma-oon</u>
Signed: <u></u>
Position: <u>Partner</u>
Date: <u>21 September 2018</u>

This report has been prepared by ERM-Siam Co Ltd with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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Toyo Thai Power Myanmar Company Limited (**'TPMC' or 'the Project Proponent'**) is planning to expand its current operation of Ahlone Combined Cycle Power Plant in Yangon, Myanmar. An additional of 356MW Combined Cycle Power Plant (CCPP) will be added to the existing Ahlone Power Plant to supply the power to the Republic Union of Myanmar.

ERM was commissioned by **TPMC** to conduct a High Level Flood Likelihood Evaluation (FLE) for the expansion of their power plant at their site located next to Myanmar Industrial Port in Ahlone Township (hereinafter referred to as 'subject property' or 'Site' see *Figure 2.1*). The Site is spread over an area of 8.97 acres (~36,300 m²). The Site reconnaissance and field survey was conducted between 04th May and 05th May 2018 by ERM professional Adam Stickler and additional field data were collected on 15th June 2018, during a period of heavy rainfall event.

The objective of this FLE is to support TPMC in understanding any likelihood of flooding hazard to the subject property.

1.1

SCOPE OF WORK

The scope of work was as below:

- A visit of the subject property, including a visual survey of the surrounding drainage area as identified from the maps;
-
- Discussions with some key informants in the neighbouring properties to understand the historical flood events and levels in this area;
- Collection of relevant information for the subject property and surrounding area. This included preparation of Site area maps and identification of land-use;
- Collection of historical rainfall data Yangon airport Meteorological data and other available relevant information on the existing natural drainage system in the area;
- A review of readily available records and documents on hydrology of the area, to assist in determining surface water drainage patterns for the subject property and adjacent areas; and
- Broad level recommendations for mitigating the identified flood risks for the Site.

1.2 *LIMITATIONS*

1.2.1 *Scope of Activity*

The report is based upon the application of engineering principles and professional judgement to certain facts with resultant subjective interpretations. Professional judgements expressed herein are based on the currently available facts within the limits of the existing data, scope of work, budget and schedule. ERM makes no warranties, express or implied, including, without limitation, warranties as to merchantability or fitness for a particular purpose. In addition, the information provided to the Client in this report is not to be construed as legal advice.

1.2.2 *Limitations of Use of This Report*

ERM is not engaged in such studies and reporting for the purposes of advertising, sales promotion, or endorsement of any Client's interests, including raising investment capital, recommending investment decisions, or other publicity purposes. Client acknowledges that this report has been prepared for the exclusive use of the Client and agrees that ERM's reports or correspondence will not be used or reproduced in full or in part for such purposes, and may not be used or relied upon in any prospectus or offering circular. Client also agrees that none of its advertising, sales promotion, or other publicity matter containing information obtained from this assessment and report will mention or imply the name of ERM.

Nothing contained in this report shall be construed as a warranty or affirmation by ERM that Site and subject property described in the report are suitable collateral for any loan or that acquisition of such property by any lender through foreclosure proceedings or otherwise will not expose the lender to potential liability.

1.3 *STRUCTURE OF REPORT*

The remainder of the report is structured as follows:

Section 2: Hydrological and Geomorphological Data;

Section 3: Hydro-meteorological Data;

Section 4: Secondary Data from Local Civic Authorities;

Section 5: Likelihood of a Flooding Event;

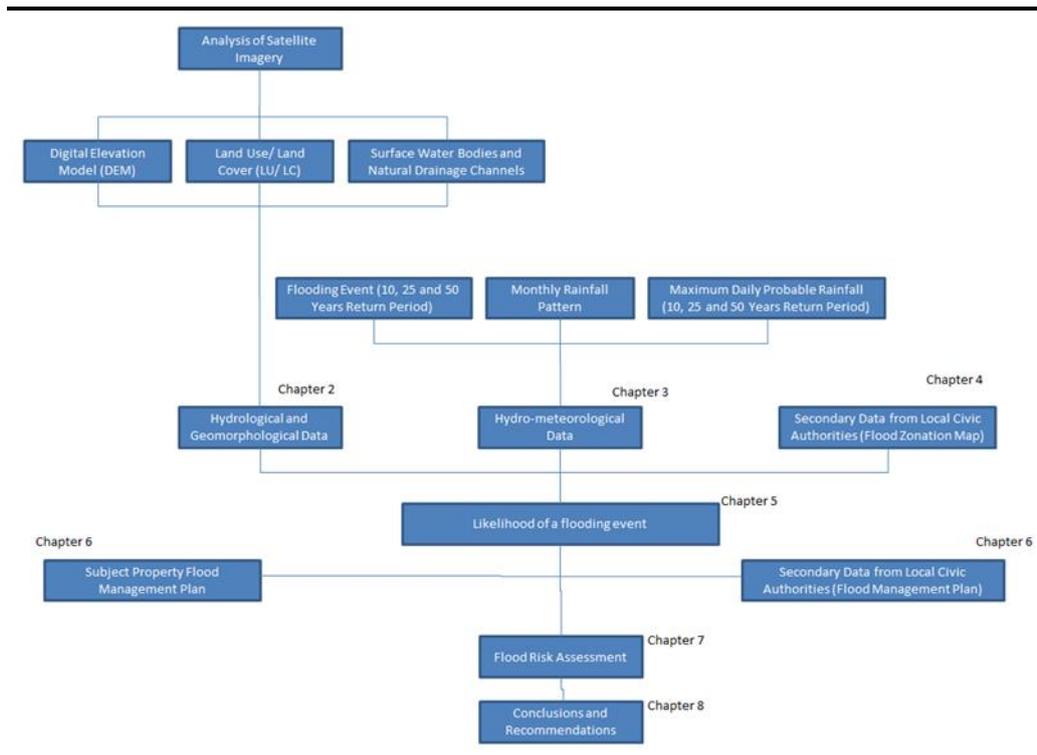
Section 6: Existing Flood Management Plans;

Section 7: Flood Risk Assessment; and

Section 8: Conclusions and Recommendations.

Figure 1.1 shows the detailed structure of the report

Figure 1.1 Detailed Structure of the Report



1.3.1 Risk Categorization

ERM has adopted a qualitative risk based categorization to identify potential risks and vulnerabilities associated with flooding, inundation and waterlogging. The risks are defined considering the likelihood of their occurrence and potential severity of the impact broadly following the risk matrix presented in the table below.

Risk = Likelihood of an impact occurring x Potential severity of the impact.

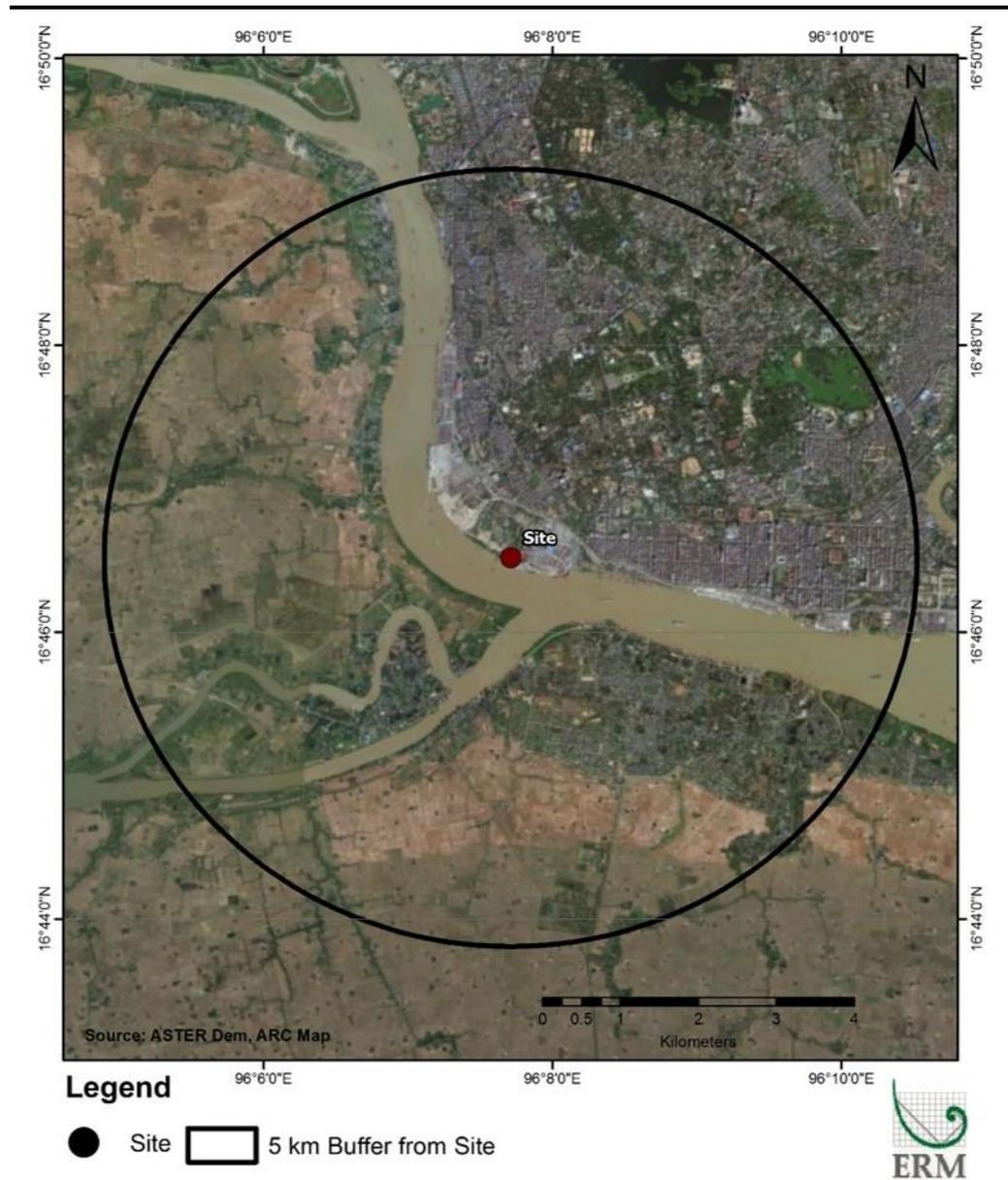
		Probability of Occurrence		
		Low	Medium	High
Potential Impact	Low			
	Medium			
	High			

Note: The study was carried out to evaluate and understand the likelihood of flood impact on the Site only. Risk categorization has been adopted merely for providing broad level perspective on the potential for impact from floods / inundation / water logging on the Site and to emphasize specific areas for further evaluation prior to developing Site specific mitigation measures only.

The Site ($96^{\circ} 7'43.75''\text{E}$, $16^{\circ}46'31.58''\text{N}$) is located in Ahlone Township in Yangon City, in the Southern Yangon Region of Myanmar.

The Site location map is presented in *Figure 2.1*.

Figure 2.1 Site Location Map



Source: ASTER DEM, ARC Map

The Site occupies an area of 8.97 acres (~36,300 m²) and is located adjacent to the container yard of Myanmar Industrial Port (MIP). During the Site visit, it was observed that the Site was covered in thick vegetation and was largely undeveloped. Few temporary buildings were observed to be located on the eastern portion of the Site. Southern and southwestern portion of the Site was observed to be part of the inter-tidal zone of the River Yangon which was heavily silted at the time of field visit. Dense mangrove trees occupied the western portion of the Site. A gully / ditch originate in the central portion of the Site and passes along northeast to southwest vector. A pier and a docking station were located at the southwestern portion of the Site extending through the silted inter-tidal zone into River Yangon.

The Site is surrounded by various features as shown in *Figure 2.2*.

Figure 2.2 *Salient Features at Site and Surrounding Area*



Source: Google Earth Pro

See *Table 2.1* for more details.

Table 2.1 *Surrounding Land Features of the Site*

Direction w.r.t. Site	Feature
West	A tidal stream adjoining the western boundary and mangrove trees followed by largely vacant undeveloped land with some temporary buildings
North	A residential settlement is located in the north approximately 50 m from the northern boundary of the Site. Vegetated land and the government owned Ahlone gas power plant are located north-north east of the Site.
East	Myanmar Industrial Port
South	Inter-tidal zone of River Yangon along the south western boundary followed by River Yangon and Myanmar Industrial Port along the south eastern boundary followed by River Yangon.

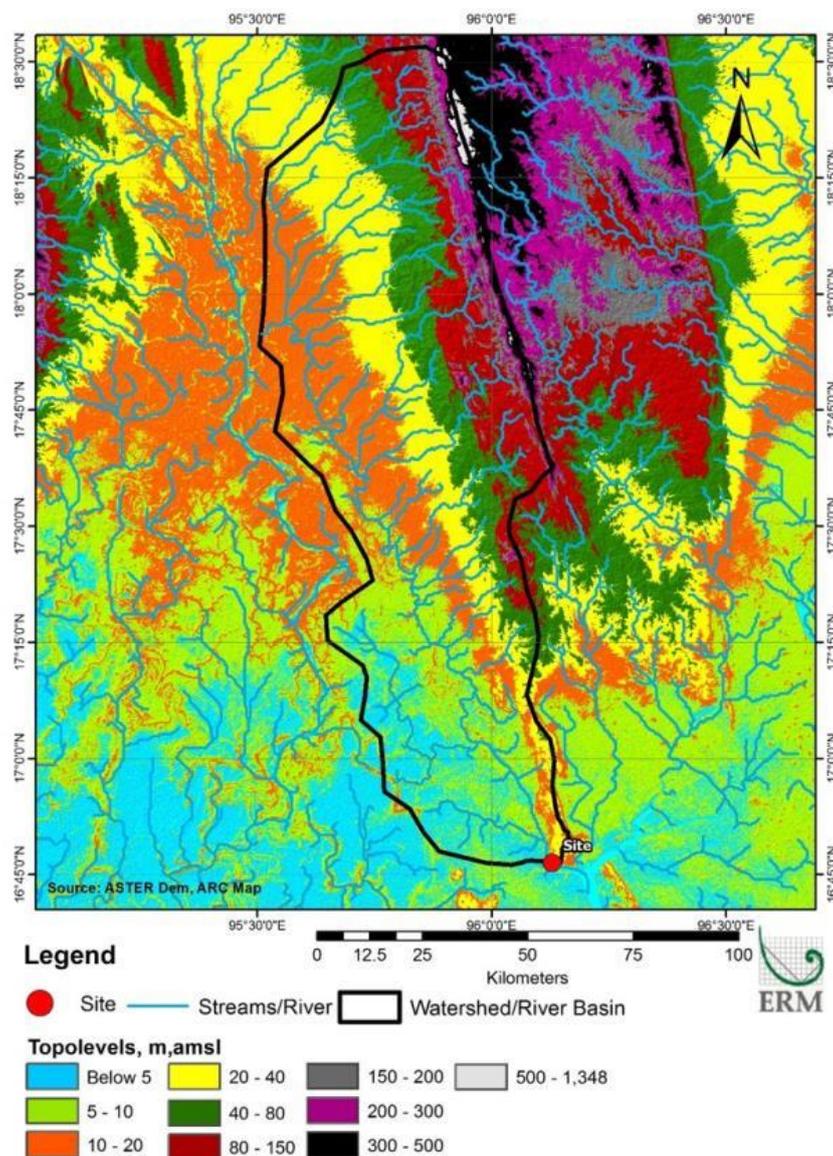
2.2

DIGITAL ELEVATION MODEL (DEM)

Based on the Digital Elevation Model developed for the Site from USGS ASTER GDEM data set, LANDSAT and Google Earth Imagery available and the Site visits undertaken, ERM identified key topographic features in the study area such as topographic highs and lows, natural drainage network and delineated the catchment area of the micro-watershed in which the Site is located. An ASTER GDEM having a 30 m resolution was used for detailed mapping of the micro watershed in which the Site lies.

The ground slope leads the drainage from the area to *River Yangon* which is situated at a distance of ~ 50 m south-west of the Site. The Site is located down-gradient of the catchment¹. The digital elevation model (DEM) of the watershed and the area around the Site are presented in *Figure 2.3* and *Figure 2.4*.

Figure 2.3 *Digital Elevation Model of the Watershed in which the Site is Located*



Source: Developed by ERM using data from ASTER GDEM

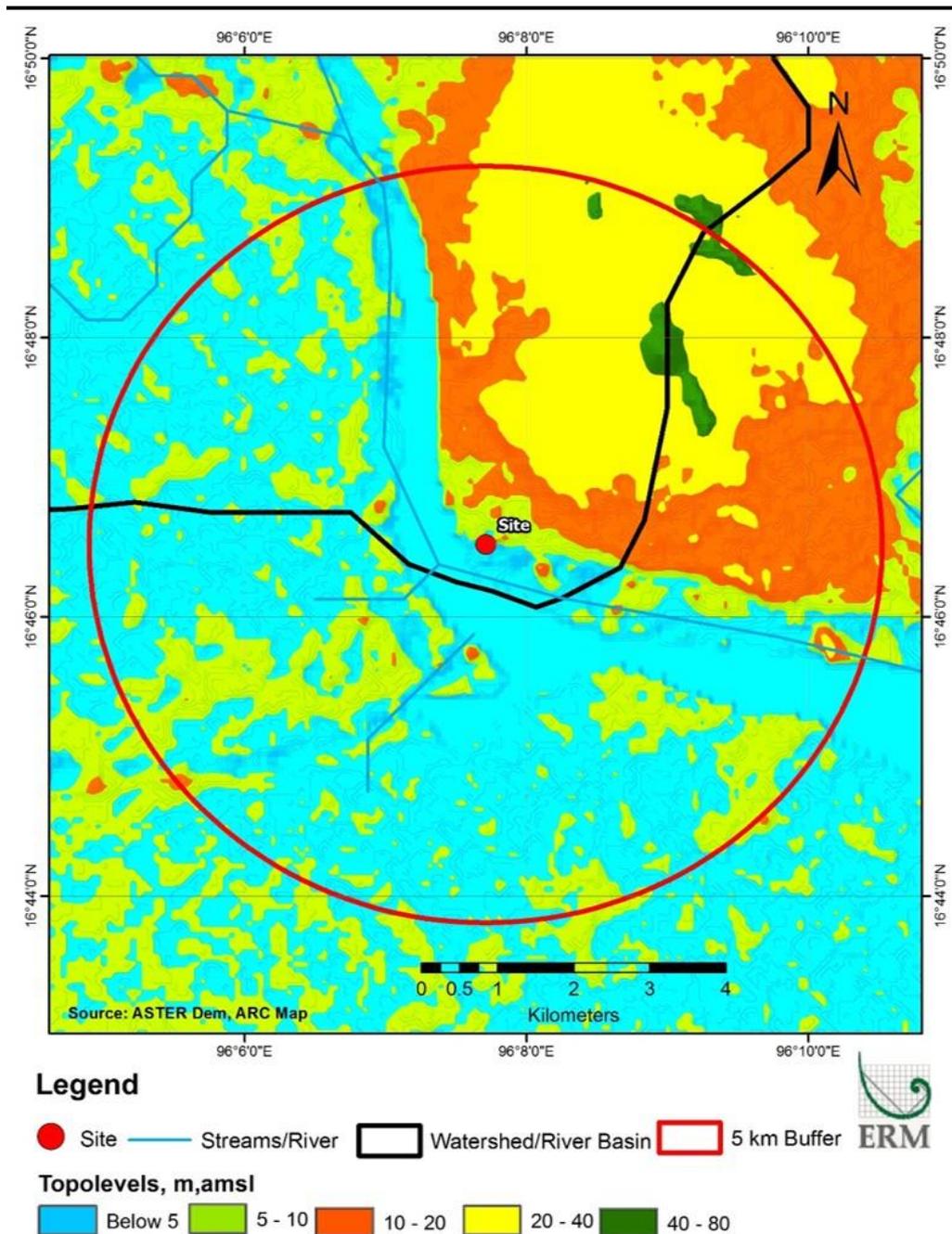
¹ Catchment is a topographically defined area, draining surface water to a single outlet point. It may frequently include an area of tributary streams and flow paths as well as the main stream.

The topography of the watershed within which the Site is located varies from 500 - 1,350 m amsl (above mean sea level) near the upper reaches in the north to < 5 m amsl near the lower reaches of the watershed in the south. The Site is located at the downstream portion of the watershed at the discharge point/outlet. This makes the Site prone to flooding / inundation.

The watershed has physical extent of 8,340 sq.km and extends over north-south vector.

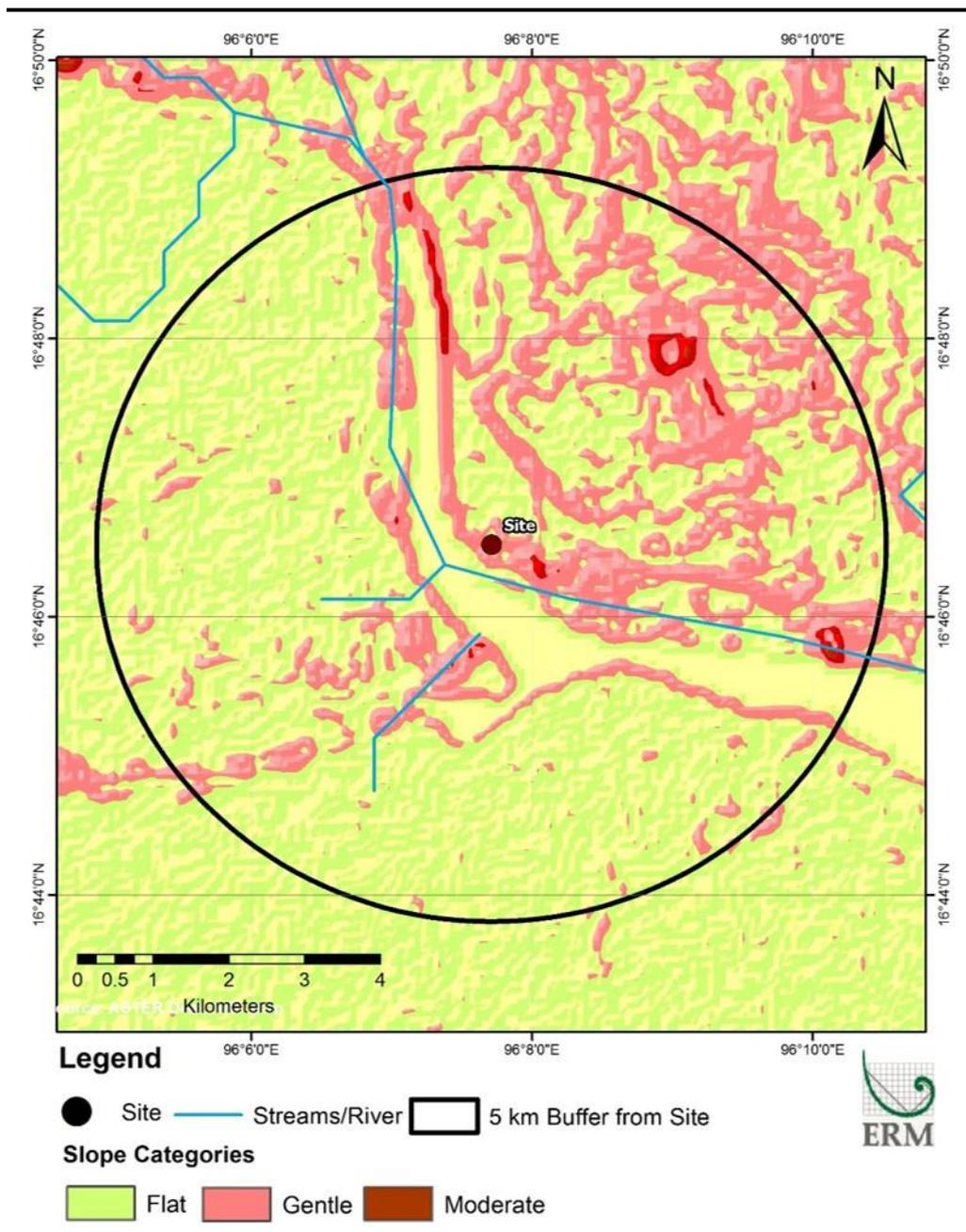
In order to understand the topography of the area surrounding the Site, a DEM and a slope map have been developed for a 5 Km radius buffer area around the Site as presented in *Figure 2.4* and *Figure 2.5* respectively.

Figure 2.4 Digital Elevation Model of the 5 Km Buffer Zone around the Site



Source: Developed by ERM using data from ASTER GDEM

Figure 2.5 Slope Map



Developed by ERM using data from ASTER GDEM

The topography of the 5 Km buffer zone around the Site was observed to be largely flat with gentle slopes in the north eastern quadrant and pockets of moderate slopes in the north and north east. General slope of the catchment area / watershed is from North to South. Topographic elevation within the 5 Km buffer zone varies from 40 - 80 m amsl near the northeast to < 5 m amsl which may be observed in most part of the buffer zone. This may be indicative of large tracts of low lying areas within the buffer zone which may be prone to localized flooding / inundation during rainy season. The Site was observed to be located in an area with elevation of < 5 m amsl. Considering the topographical features of the area surrounding the Site, risk associated with flooding / inundation in the area around the Site may be considered as "High".

2.3

ANALYSIS OF HISTORICAL SATELLITE IMAGERY

ERM analyzed the historical satellite imagery of the Site and its surrounding area to identify any events of flooding or inundations.

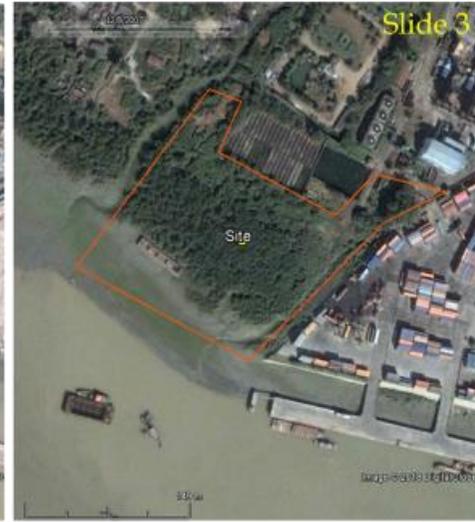
Figure 2.6 Historical Satellite Imagery



Dated: 25th November 2003



Dated: 6th November 2004



Dated: 8th December 2007



Dated: 26th December 2009



Dated: 25th November 2010



Dated: 6th January 2011

Figure 2.7 Historical Satellite Imagery



Dated: 30th January 2012



Dated: 8th December 2012



Dated: 16th November 2013



Dated: 9th March 2015



Dated: 15th March 2016



Dated: 12th December 2017

For assessing potential for impacts from flood, inundation and waterlogging at Site, ERM reviewed satellite imagery of Site and surrounding area as available from GoogleEarth Pro from 2003 till present. Review of historical satellite imagery indicates considerable developmental activity including clearance of vegetation, construction of temporary structures (buildings), piers/jetties, and soil excavation and/or compaction. Further, significant land use change was observed in the surrounding area since the year 2003 particularly in the southeast which is associated with the expansion of container yard of the Myanmar Industrial Port.

Based on review of satellite imagery, high tide period of River Yangon extends between October to April of the year with considerable ebbs and waning over shorter spans within this period possibly associated with the precipitation in the catchment area. Between 2003 and present, Site was observed to be affected due to water ingress from the River Yangon on twelve (12) instances as apparent from available satellite imagery. Maximum water level during this period was observed to extend up to 73 m inside the Site (from southwestern boundary) submerging ~50% of the Site area. During these instances, impact on Site varied from High (some part of the Site was inundated) to Extreme (significant part of the Site was submerged in flood water).

Table 2.2 Historical Floods near the Site as Observed from Satellite Imagery

Satellite Image Date	Spatial Extent of Inundation/Submergence at Site	Observations on Tidal Stream (located adjoining western boundary of the Site)	Observations on Site and Surrounding Area
6 th Nov 2004	>30% area of Site flooded	Discharge into the Site area (SW portion)	~50% of Site appears to be intertidal zone
22 nd Nov 2005	>30% area of Site flooded	Discharge into the Site area (SW portion)	Levee built across tidal stream adjoining the western boundary of Site is breached
23 rd Feb 2007	20 - 30% area of Site flooded		A barge is docked in the intertidal zone within the Site; Container yard of MIP is observed to have been expanded by 60 m into the intertidal zone.
26 th Dec 2009	>20% area of Site flooded		Most of the Site is covered in thick mangrove vegetation
25 th Jan 2010	>20% of Site flooded		
25 th Nov 2010	Some part of Site flooded along the southwestern boundary	Stream course, particularly the discharge point appears to have changed to westerly direction and away from the Site	Vegetation in central and eastern portion of the Site is cleared; 2 jetties have been constructed in the southern boundary of Site.
30 th Jan 2012	Some part of Site flooded along the southwestern boundary		Both jetties have disappeared indicating possible damages caused by flood waters; Container yard of MIP under further expansion.
8 th Dec 2012	>10% of Site flooded		Vacant site located west of the Site has been cleared of vegetation in preparation for development; New jetty has been constructed at the southern boundary of Site; Container yard expansion appears to have been completed.
5 th October 2014	Some part of Site flooded along the southwestern boundary		New jetty has disappeared indicating possible damages caused by flood waters.
1 st Jan 2016	Some part of Site flooded along the southwestern boundary		Another new jetty has been constructed in the south western boundary of Site.
15 th Mar 2016	Some part of Site flooded along the southwestern boundary	Water course of the tidal stream appears to have breached into the Site	
12 th Dec 2017	Some part of Site flooded along the southwestern boundary		

Review of historical satellite imagery indicates considerable changes in flooding pattern in the Site and surrounding area, particularly from the end of 2012 which marks the completion of container port expansion near the Site. Expansion of the container port of MIP has resulted in extension of the port 80 m into the River Yangon. This expansion may have altered the river course near the immediate vicinity of the Site resulting in subsidence of extent of flooding at Site. Considering the apparent historical impacts of flooding at Site and changes in flooding pattern at the Site and surrounding area over time based on historical satellite imagery, risk associated with flooding and inundation at Site may be considered as “High”.

Note: Extent of flooding and land submergence observed from historical satellite imagery may not be representative of the actual scenario. Impact from flooding during an extreme weather event which coincides with high tide period may be significantly higher than that presented in Satellite Imagery. This is because the satellite images may not have captured the precise moments of peak river flow. Peak river flow may even occur over short time span of few hours during an extreme weather event which may coincide with high tide period.

2.4 NATURAL DRAINAGE AND SURFACE WATER BODIES

The Site is located on the left bank in the lower reaches of the Yangon River basin. The Yangon River (aka Rangoon river), is about 40 km long (25 miles), and flows from southern Myanmar as an outlet of the Irrawaddy (Ayeyarwady) river into the Ayeyarwady delta. It empties into the Gulf of Martaban of the Andaman Sea. Yangon River is linked west to the Irrawaddy River by the Twante Canal which is located ~850 m south and downstream from the Site.

Figure 2.8 Water Bodies and Drainage Channels near the Site



Drainage within the 5 Km study area around the Site is largely defined by the Yangon River. Surface runoff from the Site mostly drains directly into Yangon River. Surface runoff from area immediately upstream of the Site drains into the tidal stream which lies adjoining the western boundary of the Site. This tidal stream extends over north to southwest vector before discharging into Yangon River ~80 m from the western boundary of the Site.

Other surface water bodies within the study area include Kandaygyi Lake which is spread over an area of ~142 acres and located ~3,700 m northeast of Site. No other major water infrastructure such as dams, reservoirs, and levees were observed within 5 Km radius around the Site. Review of satellite imagery did not indicate presence of any significant flood controlling structures constructed across Yangon River upstream of the Site. Drainage network and major water bodies in the area are presented in *Figure 2.8*.

Figure 2.9 *Tidal Stream located Adjoining the Western Boundary of Site*



The Study Area (Site and surrounding area) is located 40 Km upstream from the mouth of the Yangon River. Based on secondary information, the average tidal range of the Yangon River is about 5.85 m at spring tide and 2.55 m at neap tide. Further, a modelling based study of the discharge of Yangon River indicates discharges ranging from $500 \text{ m}^3/\text{s}$ in April to approximately $7,000 \text{ m}^3/\text{s}</math> in August, with tidal water level variations of ~1 m to ~6 m based on water level measurements at Monkey Point downstream of Project Site (confluence point of River Yangon and River Bago ~7.4 Km east-southeast from Site)¹. In the Irrawaddy Delta which includes the Yangon River, drainage, salt intrusion and flood protection are major concerns (EO Earth Website, 2016).$

¹ Theilen-Willige, Barbara & Pararas-Carayannis, George. (2009). Natural hazard assessment of sw myanmar - a contribution of remote sensing and gis methods to the detection of areas vulnerable to earthquakes and tsunami / cyclone flooding. Science of Tsunami Hazards.

Information on historical flooding from the Yangon River in Ahlone area was not available from secondary sources. Information on peak water flow in the tidal stream located adjoining the Site was not available from secondary sources for review.

Considering the close proximity of Yangon River to the Site and the high degree of variation in its tidal range, risk associated with flooding and inundation at Site from Yangon River may be considered as “*High*”.

A first order natural drainage channel was observed to have been formed within the Site due to erosion from surface runoff, largely generated within the Site and area immediately up-gradient to the Site. The natural drainage of this channel was towards South-Southwest direction predominantly stretching through the central portion of the Site.

Figure 2.10 *Water Logged Area and Low Lying Area at Site and immediate Vicinity*



Based on observation during field reconnaissance, the waterlogged areas were observed at two (2) locations within the Site in the west central portion. In addition to the waterlogged areas, southwestern portion of the Site was observed to be covered in mangrove vegetation spread over ~0.84 acres of land and extending beyond the Site boundary. Mangrove vegetation may be considered as indicative of intertidal zone in-turn suggesting high potential for frequent inundation and waterlogging.

Figure 2.11 *Water Logged Area and Low Lying Area at Site*



A follow up field visit was carried out in September 2018 to observe ground conditions post rainfall event. During this field visit, most of the Site area was

observed to be water logged and covered in thick vegetation. Based on field visits, water logging in significant portion of the Site was observed to last throughout the wet/rainy season.

Figure 2.12 *Inundation and Waterlogging at Site in the Month of September 2018*



Figure 2.13 *Intertidal Zone of Yangon River as viewed from Southern Boundary of Site*



Further, much of the southern and south eastern portion of the Site was observed to be low lying and covered in vegetation at the time of field visit.

Based on field observations, storm water during rainy season may be anticipated to cause inundation / waterlogging within the Site at the identified areas. Further, rise in water level in Yangon River during high tide may cause flooding/inundation in the southern and south western portion of the Site. Hence, likelihood of inundation and waterlogging at Site during rainy season may be considered as “High”.

- Subject property is located on the left bank in the lower reaches of Yangon River with a tidal stream adjoining the western boundary of the Site;
- The Site is located at the downstream portion of the watershed at the discharge point/outlet;
- The topography of the area around the Site was observed to be largely flat with gentle slopes;
- Waterlogged areas were observed at two (2) locations within the Site in the west central portion;
- Southwestern portion of the Site was observed to be covered in mangrove vegetation which is indicative of intertidal zone with high potential for frequent inundation;
- Much of the southern and south eastern portion of the Site was observed to be low lying and covered in vegetation;
- Yangon River experiences large variation in tidal levels during the course of the year and during rainy season;
- Tidal stream was observed to change its course due to influx of large stream flow;
- Review of historical satellite imagery indicates significant land use change in the surrounding area since the year 2003 particularly in the southeast which is associated with the expansion of container yard of the Myanmar Industrial Port;
- As per historical satellite images, high tide period of River Yangon extends between October to April of the year with considerable ebbs and waning over shorter spans within this period;
- Between 2003 and present, Site was observed to have been affected due to high tide level in River Yangon on twelve (12) instances as apparent from available satellite imagery;
- Maximum water level during this period was observed to extend up to 73 m inside the Site (from southwestern boundary) submerging ~50% of the Site area;
- Jetties at the Site were observed to have been newly constructed on multiple occasions at different locations which were not visible during lean period after a flooding event indicating possible damage / destruction caused by the floods.
- Levee constructed across the tidal stream was observed to have been overtopped and severely damaged due to flood water on more than one occasion;
- Flooding pattern in the Site and surrounding area changed considerably over time, particularly from the end of 2012 which marks the completion of container port expansion adjacent to the Site;

- Considering the close proximity of Yangon River to the Site and the high degree of variation in its tidal range, risk associated with flooding and inundation at Site from Yangon River may be considered as “*High*”;
- Considering the topographical features of the area surrounding the Site, risk associated with flooding / inundation in the area around the Site may be considered as “*High*”; and
- Considering the apparent historical impacts of flooding at Site and changes in flooding pattern at the Site and surrounding area over time based on historical satellite imagery, risk associated with flooding and inundation at Site may be considered as “*High*”.

In Yangon, the average annual temperature is 27.3 °C. The warmest month of the year is April with an average temperature of 30.5 °C while the coolest month of the year is January with an average temperature of 24.7 °C.

The area receives an annual average rainfall of 2,790 mm. The contribution from rainfall between the months of May till September accounts to 85% of annual precipitation. The wettest month is June with an average of 582 mm. Much of this is attributed to the South-Western monsoon. In addition to this, post-monsoon showers contribute ~10 - 15% of the total rainfall. The maximum yearly rainfall (3,577.63 mm) was observed in the year 1999 and minimum (2,021.02 mm) in 1986.

According to a study on rainfall variability, the lowest variability in Myanmar is observed at Putao, the Eastern Highlands, and coastal area of deltaic region and coastal strip of Tanintharyi with a value of 10 percent to 15 percent. Yangon region is one of the coastal areas considered to have lowest rainfall variability¹.

3.1 MONTHLY RAINFALL PATTERN

The monthly variation of the rainfall for Yangon region was studied for the period 1979-2013 as available for the nearest weather monitoring station (located ~25 Km from the Site) from the Climate Forecast System Reanalysis (CFSR) of the National Centre for Environmental Prediction (NCEP). Details are provided in *Table 3.1*. Long term (40-year) average annual rainfall in Yangon is about 2,796 mm.

Table 3.1 *Monthly Rainfall Pattern for the Period 1979-2013*

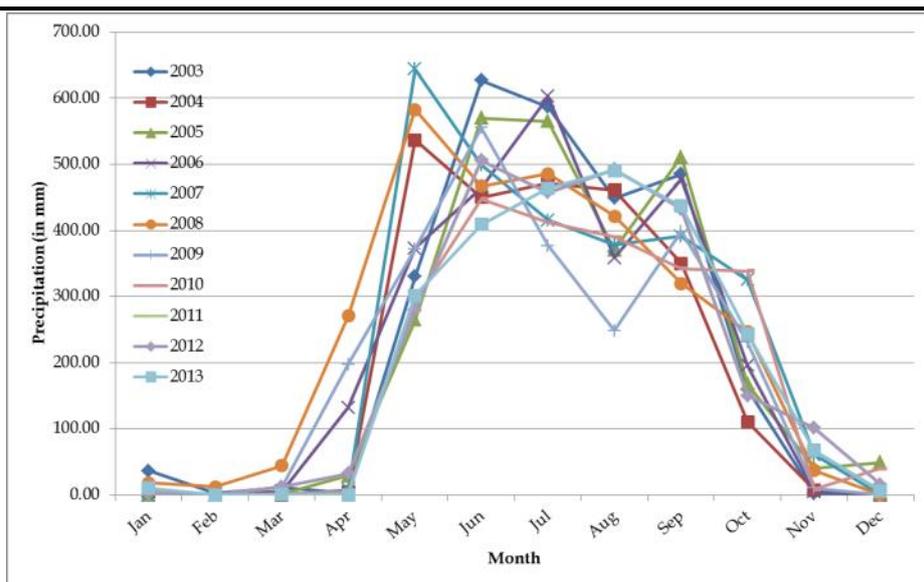
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average	3.29	2.05	12.38	45.02	410.39	582.03	499.58	472.03	424.98	271.64	75.97	9.53	2,796
Maximum	36.59	24.23	120.79	270.79	774.68	1,021.45	686.23	637.33	617.38	507.42	355.92	49.04	3,577
Minimum	0.00	0.00	0.00	0.00	144.35	388.00	284.54	248.53	270.72	110.63	0.03	0.00	2,021

Source: National Centre for Environmental Prediction (NCEP), All values in mm

The monthly rainfall variation observed for the Yangon Region for the period (2003-2013) is shown in *Figure 3.1*.

¹ http://shodhganga.inflibnet.ac.in/bitstream/10603/25676/9/09_chapter%203.pdf

Figure 3.1 Monthly Variation of Rainfall at Yangon Region (2003-2013)



Source: Climate Forecast System Reanalysis (CFSR) of National Centre for Environmental Prediction (NCEP)

From the *Figure 3.1* it is evident that May-September months receive substantial monsoon rains and also the wettest days of some of the years have occurred in the month of June. Smooth drainage of storm water from the Site would be largely dependent on tidal level in the Yangon River and/or the tidal stream located along the western boundary of the Site. Loss of storm water buffer areas / sinks in the lower reaches of the Site, particularly along the southwestern boundary may lead to increase in storm water runoff at the Site. This in conjunction with high tide in Yangon River may result in disruption of flow, which may in-turn lead to flooding / inundation at the Site.

3.2 MAXIMUM DAILY PROBABLE RAINFALL (25, 50 AND 100 YEARS RETURN PERIOD)

Maximum daily probable rainfalls for different return periods for the area as observed from CFSR data are presented in *Table 3.2*.

Table 3.2 Maximum Daily Probable Rainfall at Yangon Region

Return period in years	Maximum daily probable rainfall in mm
25	181
50	352
100	Not available

Source: CSFR

The heaviest rainfall recorded at Yangon in a 24-hour period from available data was 352 mm recorded on 21st May 2002 which was a ~50 year return period rainfall event (CSFR).

3.3

FLOODING EVENT (25, 50 AND 100 YEARS RETURN PERIOD)

Information regarding historical flood events at the Site and surrounding area was not available for review. However, based on secondary sources, flood event in the year 2015 is considered as one of the major flood events in the recent past. No scientific studies were available for review to understand the return periods of those flooding events and hence the actual return period of such events is unknown.

3.3.1

Flash Floods

A flash flood is a rapid flooding of geomorphic low-lying areas due to high-intensity and short duration rainfall events. Based on review of historical daily rainfall data, Yangon area receives high intensity short duration rainfall events occasionally, creating a flooding situation in the Yangon area similar to a flash flood particularly along the banks of Yangon River and low lying areas. A similar situation may be expected for the Site area as well.

Images of the most recent flood at Yangon River caused due to heavy rainfall overnight were available for reference. According to local sources, the high flood level observed during this event was during low tide period. Images of the flood water in Yangon River, its impact on the Site, and reference flood level rise are presented in *Figure 3.2*, *Figure 3.3*, and *Figure 3.4*.

Figure 3.2 shows the rise in Yangon River water level from 15:00 hours on 14th June 2018 to 09:00 hours on 15th June 2018 as observed from the jetty located at the south western boundary of the Site.

Figure 3.2 Flash Flood in Yangon River in June 2018



Left: Water level in Yangon River on 14th June 2018;

Right: Rise in water level due to flash flood in Yangon River as observed on 15th June 2018.

During this flood event, Site was observed to have been partially submerged with significant waterlogging even in the interior parts of the Site (central and eastern portion).

Figure 3.3 *Site Partially Submerged during Flash Flood in Yangon River in June 2018*



Figure 3.4 *Water logging near the Internal Access Paths at the Site during Flash Flood in Yangon River in June 2018*



Figure 3.5 *Water Level Marker located at the Site's Jetty indicating Abrupt Rise in Yangon River Water Level in June 2018*



Note: The numeral marking on the pole circled in Red indicate flood monitoring scale. Scale represents 3 feet (~0.91 m) per unit rise in water level. Flood monitoring scale is located at the end of the jetty constructed at the southwestern boundary of the Site.

A flood level marking pole is located at the end of the jetty located at the Site. Marking on the pole has maximum of 4 units with each unit scaled at 3 feet (0.91 m). From available images of the rise in water level, flash flood resulted in rise of water level from ~1.5 unit to ~3.5 unit (approximately 1.82 m) within a span of 12 hours.

Based on information available from local sources, water level of Yangon River periodically and routinely reaches levels up to 3 units. During this period, water may submerge the Site partially reaching up to the internal access paths located in the interior portion of the Site.

3.3.2 Consultations

Community consultations were not carried out as part of this assessment. Hence incident reports of past flooding events from communities are not available for review.

Based on consultations with the personnel at the existing power plant at Ahlone located ~300 m north of Site, highest water level during peak flood had reached up to the settling pond in the year 1996. This settling pond is located ~30 m north of the northcentral boundary of the Site.

Figure 3.6 Satellite Image showing High Flood Level in 1996



Based on the high flood level (HFL) reference point from the year 1996, Yangon river waters would have flooded/inundated the entire Site area during this event. Due to lack of historical data on high flood levels, intensity of this flooding event could not be confirmed.

Likelihood of recurrence of an event in the future similar to the magnitude of 1996 floods cannot be ruled out. Considering the HFL reference point from 1996 flood event, risk associated with flooding and inundation at Site from Yangon River may be considered as "High".

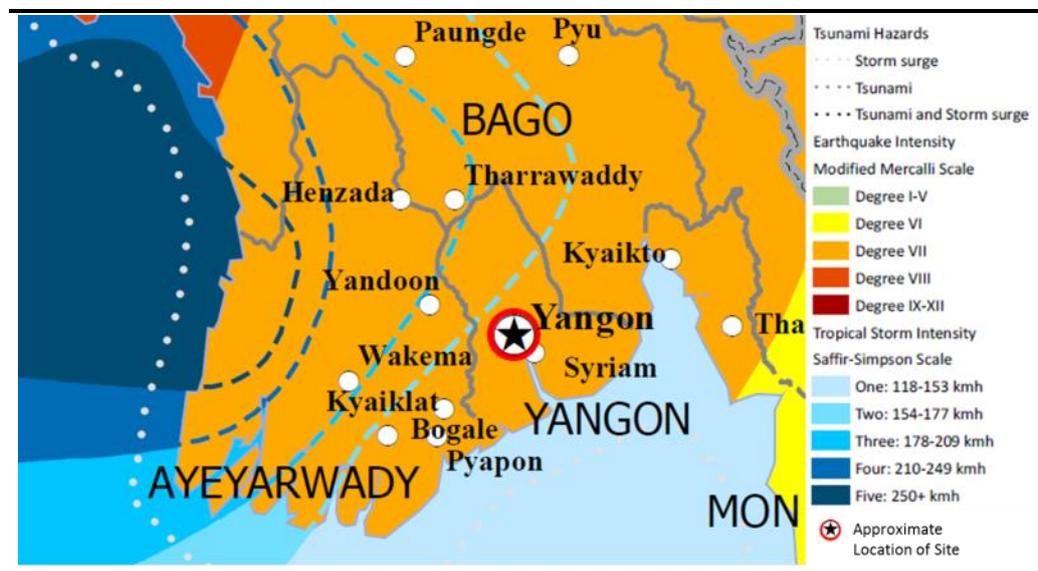
KEY FINDINGS

- Area receives high rainfall to the order of 2,796 mm annually with significant high intensity rainfall events;
- The heaviest rainfall recorded at Yangon in a 24-hour period from available data was 352 mm recorded on 21st May 2002 which was a ~50 year return period rainfall event;
- Smooth drainage of storm water from the Site would be largely dependent on tidal level in the Yangon River and/or the tidal stream located along the western boundary of the Site;
- Loss of storm water buffer areas / sinks in the lower reaches of the Site, particularly along the southwestern boundary may lead to increase in storm water runoff at the Site;
- Yangon area receives high intensity short duration rainfall events occasionally, creating a flooding situation in the Yangon area similar to a flash flood particularly along the banks of Yangon River and low lying areas;
- Images from most recent flooding event reported on 14th June 2018 show partially submerged Site with considerable inundation and waterlogging even in interior parts (central and eastern parts) of the Site;
- Water level of Yangon River increased by ~1.82 m within a short span of 12 hours;

4.1 NATURAL HAZARD RISK

The Office for the Coordination of Humanitarian Affairs (OCHA) at the United Nations (UN) has prepared a natural hazard risks map for Myanmar. This map presents various risk categories for Tsunami, Earthquake, and Tropical storms for Myanmar as presented in *Figure 4.1*. According to the natural hazard risk map, Yangon region has been categorized as Degree VII zone with respect earthquake intensity. The map does not indicate any hazard associated with Tsunami for Yangon Region. However, tropical storms with intensity ranging between 118 - 153 Km/h may be anticipated in this region.

Figure 4.1 Myanmar: Natural Hazard Risks Map showing Yangon Region, March 2011

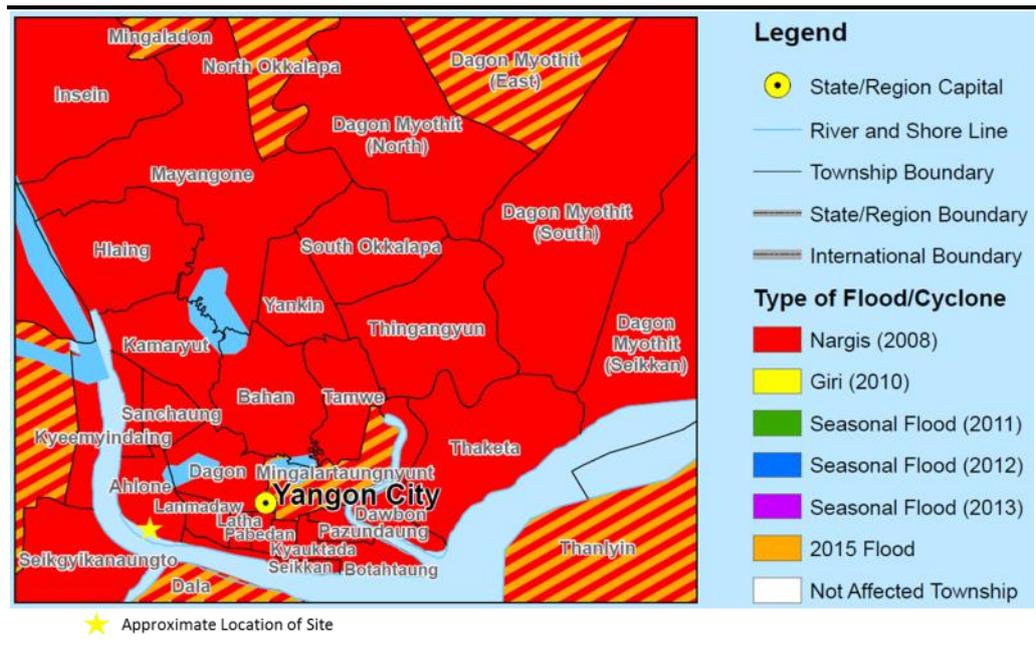


Source: UN Office for the Coordination of Humanitarian Affairs (OCHA).

4.2 AREAS OF POTENTIAL VULNERABILITY TO FLOOD/CYCLONE

Myanmar Information Management Unit (MIMU) has prepared a map of Myanmar indicating the areas of potential vulnerability to flood/cyclone events based on recent floods between the years 2008 and 2015 as presented in *Figure 4.2*. According to this map, Ahlone area where the Site is located in an area demarcated as “area impacted by floods (Nargis)” in the year 2008.

Figure 4.2 *Areas of Potential Vulnerability based on Recent Flood/Cyclone Events (2008 – 2015)*



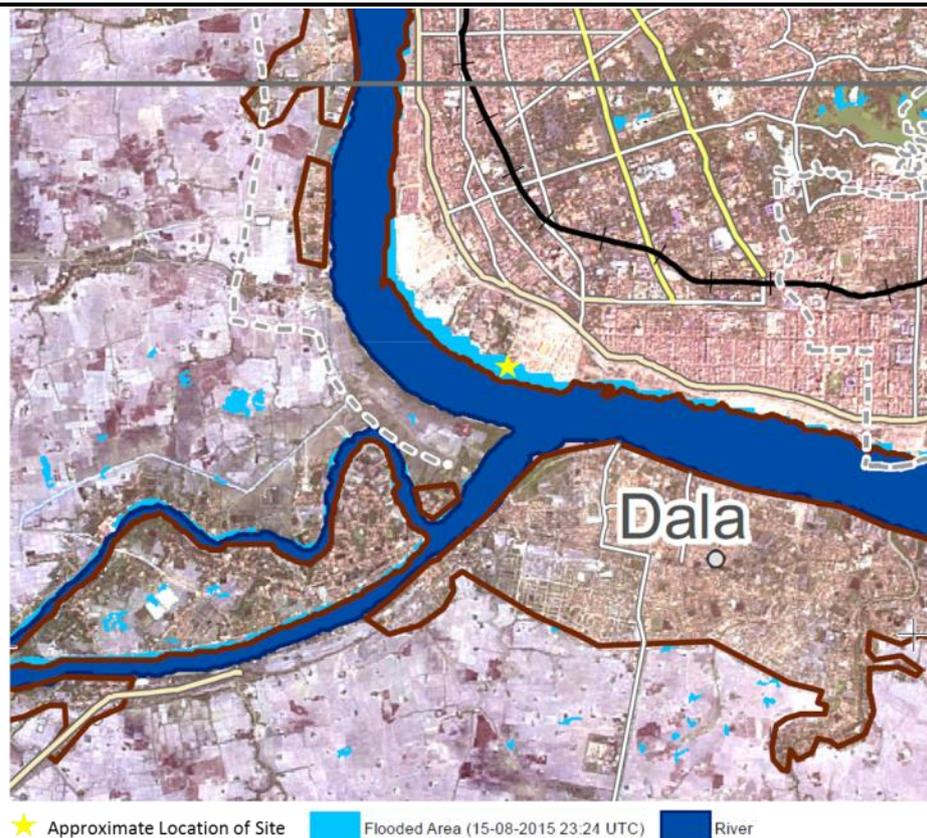
Source: Myanmar Information Management Unit (MIMU).

4.3 FLOOD DELINEATION IN YANGON WEST

According to secondary sources, flooding in the year 2015 is considered as one of the major flood events in the recent past. This flooding event was the result of unusual heavy monsoon which had caused river overflows and floods. Widespread damages to farmlands, roads, railway tracks, bridges, among other public infrastructure had been caused due to the torrential rainfall preceding this event. Emergency Management Services of Copernicus – a programme operated by European Commission (EC) in association with European Space Agency (ESA) has delineated the extent of floods from the 2015 torrential rainfall for the Yangon West region as presented in *Figure 4.3*.

According to this map, Ahlone area where the Site is located has been delineated as flood impacted area.

Figure 4.2 Flood Delineation in the Area of Yangon West (Myanmar)



Source: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR130>
http://reliefweb.int/sites/reliefweb.int/files/resources/EMSR130_11YANGONWEST_DELINEATION_OVERVIEW-MONIT01_v3_200dpi.pdf

4.4

KEY FINDINGS

- As per Natural Hazard Risks map developed by the UN, likelihood of impact associated with Tsunami on the Site and surrounding area may be considered as “Low”. Also, likelihood of impact from tropical storms may be considered as “Low”;
- As per map developed by MIMU, Ahlone area where the Site is located has been demarcated as an area of potential vulnerability to flood / cyclone. According to this map, Site and surrounding areas were impacted during 2008 flooding event (Nargis); and
- As per map developed by Copernicus (European Commission), Ahlone area where the Site is located has been delineated as flood impacted area during the recent major flooding event in the year 2015;

Based on the above-mentioned findings, a likelihood analysis of potential flooding event in and around the facility has been undertaken. The same has been presented in the following table.

Table 5.1 *Likelihood of Flood Evaluation*

Attributes	Likelihood		
	High	Medium	Low
<u>Digital Elevation Model and Slope Map</u> <ul style="list-style-type: none"> No abrupt slope changes were observed at the Site and nearby areas. The topography of the area around the Site was observed to be largely flat with gentle slopes 			
<u>Land use change</u> <ul style="list-style-type: none"> Review of historical satellite imagery indicates significant land use change in the surrounding area since the year 2003 particularly in the southeast which is associated with the expansion of container yard of the Myanmar Industrial Port. Flooding pattern in the Site and surrounding area changed over time, particularly from the end of 2012 which marks the completion of container port expansion adjacent to the Site. 			

Attributes	Likelihood		
	High	Medium	Low
<p><u>Surface water bodies and Natural drainage channels</u></p> <ul style="list-style-type: none"> • Site is located on the left bank in the lower reaches of Yangon River • A tidal stream is located adjoining the western boundary of the Site. • Yangon River experiences large variation in tidal levels during the course of the year and during rainy season. • Tidal stream was observed to change its course due to influx of large stream flow. • Per historical satellite images, Site was observed to have been affected due to high tide level in River Yangon on twelve (12) instances as apparent from available satellite imagery between 2003 and present. • Maximum water level of Yangon River during this period was observed to extend up to 73 m inside the Site boundary (from southwestern boundary) submerging ~50% of the Site area. • Jetties at the Site were observed to have been constructed newly on multiple occasions at different locations which were not visible during lean period after a flooding event indicating possible damage / destruction caused by the floods. • Levee constructed across the tidal stream was observed to have been overtopped and severely damaged due to flood water on more than one occasion; 			

Attributes	Likelihood		
	High	Medium	Low
<u>Site Setting and Flood Entrance</u> <ul style="list-style-type: none"> Waterlogged areas were observed at two (2) locations within the Site in the west central portion. Southwestern portion of the Site was observed to be covered in mangrove vegetation which is indicative of intertidal zone with high potential for frequent inundation. Much of the southern and south eastern portion of the Site was observed to be low lying and covered in vegetation Maximum water level during this period was observed to extend up to 73 m inside the Site (from southwestern boundary) submerging ~50% of the Site area. 	High	Medium	Low
<u>Hydro-meteorological Data</u> <ul style="list-style-type: none"> Area receives high rainfall to the order of 2,796 mm annually with significant high intensity rainfall events. The heaviest rainfall recorded at Yangon in a 24-hour period from available data was 352 mm recorded on 21st May 2002 which was a ~50 year return period rainfall event. Smooth drainage of storm water from the Site would be largely dependent on tidal level in the Yangon River and/or the tidal stream located along the western boundary of the Site. Yangon area receives high intensity short duration rainfall events occasionally, creating a flooding situation in the Yangon area similar to a flash flood particularly along the banks of Yangon River and low lying areas. Most recent flash flood (June 2018) caused from torrential rainfall over a short duration of 12 hours resulted in Yangon River water level to increase by ~1.82 m which submerged the Site partially and caused significant inundation and waterlogging even in central and eastern portion of the Site. 			
<u>Natural Hazard Risks as per UN</u> <ul style="list-style-type: none"> likelihood of impact associated with Tsunami on the Site and surrounding area may be considered as "Low". Likelihood of impact from tropical storms may be considered as "Low". 			Low

Attributes	Likelihood		
	High	Medium	Low
<u>Vulnerability to Floods/Cyclone as per MIMU and European Commission</u> <ul style="list-style-type: none"> As per map developed by MIMU, Ahlone area where the Site is located has been demarcated as an area of potential vulnerability to flood / cyclone. According to map prepared by MIMU, Site and surrounding areas were impacted during 2008 flooding event (Nargis) As per map developed by Copernicus (European Commission), Ahlone area where the Site is located has been delineated as flood impacted area during the recent major flooding event in the year 2015. 			

Based on the observations from the above-mentioned table, it appears that the overall likelihood of flooding event in and around the Site may be considered as “High”. The main high probability attributes are as follows:

- Site is located on the left bank in the lower reaches of Yangon River. A tidal stream is located adjoining the western boundary of the Site.
- Area receives high rainfall to the order of 2,796 mm annually with significant high intensity rainfall events.
- Yangon area receives high intensity short duration rainfall events occasionally, creating a flooding situation in the Yangon area similar to a flash flood particularly along the banks of Yangon River and low lying areas. Yangon River experiences large variation in tidal levels near the Site during the course of the year and during rainy season.
- Tidal stream was observed to change its course due to influx of large stream flow
- Per historical satellite images, Site was observed to have been affected due to high tide level in River Yangon on twelve (12) instances as apparent from available satellite imagery between 2003 and present.
- The topography of the area around the Site was observed to be largely flat with gentle slopes
- Maximum water level of Yangon River during this period was observed to extend up to 73 m inside the Site boundary (from southwestern boundary) submerging ~50% of the Site area.
- Waterlogged areas were observed at two (2) locations within the Site in the west central portion.
- Southwestern portion of the Site was observed to be covered in mangrove vegetation which is indicative of intertidal zone with high potential for frequent inundation.
- Much of the southern and south eastern portion of the Site was observed to be low lying and covered in vegetation
- Most recent flash flood (June 2018) caused from torrential rainfall over a short duration of 12 hours resulted in Yangon River water level to increase by ~1.82 m which submerged the Site partially and caused significant inundation and waterlogging even in central and eastern portion of the Site.

Peak river flow may even occur over short time span of few hours during an extreme weather event which may coincide with high tide period. Satellite images may not have captured the precise moments of such peak river flow. Hence, extent of flooding and land submergence observed from historical satellite imagery may not be representative of the actual scenario. Potential impact from flooding during an extreme weather event which coincides with high tide period may be significantly higher.

Information presented above is in reference to the Site only. Likelihood of flooding, inundation, and waterlogging and their potential impact beyond the Site boundary (including the area where the existing power plant is located) may vary considerably.

6.1

RECOMMENDATIONS

Based on the analysis, the following measures could be implemented to reduce the likelihood of occurrence of the flooding at the Site.

- Undertake a detailed flood risk assessment (FRA) with modelling of High Flood Level (HFL) to estimate the extent of flood impact on Site under varying scenarios of peak flow and tidal pattern.
- Based on the relative elevation of the Site with respect to the HFL, low lying areas in the south and southwestern portion of the Site may require backfilling to raise the level of the ground above the HFL;
- Construct flood prevention barriers (such as a flood wall, retractable wall, bunds / embankment) along the river bank and boundary neighbouring stream(s);
- Design earth embankment along the northern extent (inland) of mangrove vegetation and along the western boundary of the Site to restrict the flood plains and contain river /tidal stream overflow.
- Design final storm water discharge points (multiple outlets) to prevent backflow during high tide period / high river water level through adoption of sluice valves (one-way valve) and a robust pumping system at each outlet to pump out storm water from internal drainage network into the river manually in case of emergency.
- Locate all key utilities (particularly electrical units such as DG on raised platforms or higher elevations relative to HFL.

In addition to the broad level risk mitigation actions suggested above, development of a robust 'Flood Prevention and Mitigation Plan' and an 'Emergency Action Plan' are recommended for the Site. Flood prevention and mitigation plan must include both active (mitigation measures, short-, medium and long-term) and passive measures (preventive measures, medium and long-term).

Limitations

- *Community consultations were not carried out as part of the field data collection for this assessment;*
- *Information presented are as collected from secondary sources and visual observations made during field reconnaissance only;*
- *The assessment/ evaluation does not include topographical survey, hydrological modelling of catchment, flood plain modelling, and/or estimation of site specific high flood levels (HFLs).*

APPENDIX Y ESIA STUDY TERMS OF REFERENCE

This *Section* serves as the Terms of Reference (TOR) for the ESIA Study and sets out the following:

- Overview of activities to complete the ESIA process;
- Required technical studies to conduct the impact assessments;
- Recommended stakeholder engagement; and
- Outline structure for the ESIA report.

10.1

ESIA OBJECTIVES

The Project Proponent recognizes that comprehensive planning and management of environmental, health and social issues are essential to the execution of any successful project and, therefore, intends to fully integrate environmental and socio-economic considerations into the life cycle of the proposed Project.

To support this, the Project Proponent intends to commission a detailed, integrated ESIA Study to conform to Myanmar Regulatory requirements (refer **Section 3** of this report for details).

The purpose of the ESIA Study is to assess the potential impacts of the Project and Project-related activities on the environment (including biophysical and socioeconomic resources), and where applicable, to develop mitigation or enhancement measures to remove, reduce or avoid negative impacts to the environment and enhance positive impacts.

10.2

SCOPE OF WORK FOR ESIA STUDY

After the scoping phase of the Project, the ESIA consultant will:

- Update and finalize the technical Project description as further engineering details become available including conceptual design and work closely with the Project Proponent to confirm details such as the final layout, and construction and operation plans;
- Conduct additional stakeholder consultation and further refine the scope of the ESIA as necessary;
- Identify any gaps and collect additional baseline data through desktop research and field studies to complete a comprehensive description of the existing environmental and social conditions;
- Develop mitigation and enhancement measures and outline an Environmental and Social Management Plan (ESMP) including an approach for monitoring; and
- Report findings in a comprehensive ESIA report.

10.2.1

Baseline Data Collection

An initial site visit was conducted in February 2018. Dry season and wet season baseline surveys has been conducted in May 2018 and in June 2018, respectively. Aspects that has been sampled/monitored include ambient air quality, surface water quality, noise, land use, ecology, and sediment.

Further social baseline surveys, including socio-economic survey, fishermen and other livelihood groups consultations, etc. that would include identification and interviews with relevant local stakeholders and a complete assessment of the likely impacts and issues has been conducted in October 2018, to adequately identify the interactions between the proposed Project, and the surrounding social community and natural environment.

The results from baseline data collection will form the description of the existing environmental conditions, to be used as the basis for the Impact Assessment stage, and will be integrated into the ESIA Report.

Table 10.1 *Potential Project Impacts for ESIA Phase*

Potential Impacts
<ul style="list-style-type: none">• Air Quality impacts during construction and operation phase;• Noise impacts during construction and operation phase;• Surface water quality impacts through cooling water discharge;• Surface water quality impacts from Regasification Unit/ process;• Soil and ground water impacts through land excavation activities should the soil be contaminated through previous use;• Soil erosion and land degradation;• Generation of hazardous and non-hazardous waste and impacts on existing waste infrastructure to handle the waste appropriately;• Impacts on terrestrial ecology (flora, fauna) through land take, habitat loss and associated construction and operation activities;• Impacts on aquatic ecology (flora, fauna and fisheries);• Potential impacts on social and economic resources;<ul style="list-style-type: none">○ fisheries resources○ economy and livelihoods○ transportation○ impacts to vulnerable groups○ impacts on existing infrastructure through people influx to the area○ education and skills (through relocation of school)○ demographic patterns (including physical and economic displacement and compensation); and○ community health and safety• Landscape and Visual Impacts.

10.2.2

Further Studies recommended for the ESIA Study

Based on the information identified in this scoping report, the following additional studies are recommended for the ESIA (**Table 10.2**).

Table 10.2 *Studies Recommended for the ESIA*

Assessment Parameter	Scope and Justification
Air Quality	<ul style="list-style-type: none"> • Air dispersion modelling for operation phase of the power plant to be conducted based on final Project design; emission rates of key pollutants, final site layout and emission control technologies and included in base and project model scenarios. All receptors within a 5 km radius of the Project site will be included in the air dispersion modelling study and will be extended if deemed to be required; • Qualitative Air Quality impact assessment will be conducted for LNG Receiving Terminal during operation; • Qualitative Air Quality impact assessment will be conducted for construction phase for key Project components.
Surface water quality	<ul style="list-style-type: none"> • Thermal discharge will be assessed for operation phase to assess cooling water discharge impacts; • Plume modelling will be conducted for cold water discharge from Regasification unit (if required, pending selected technology/ process/ design); • Sedimentation assessments will be conducted for LNG unloading jetty and sub-river bed pipeline during construction if dredging and piling is required; • Qualitative assessments to be conducted for drainage, surface run-off and erosion control.
Noise Levels	<ul style="list-style-type: none"> • Noise modelling for construction and operation phase to be updated based on final Project layout.
Soil	<ul style="list-style-type: none"> • Identification of potential sources and contamination pathways from proposed Project layout and natural features;
Terrestrial , Aquatic biodiversity and ecosystem services	<ul style="list-style-type: none"> • Undertake stakeholder consultation and surveys for aquatic and terrestrial biodiversity values within the Project area and Study area focused on species of conservation significance including major groups: mammals, herpetofauna, birds, fish and flora. • Undertake Natural and Modified Habitat mapping within the Project Area and Area of Influence. • Conduct an invasive species survey within the Project Area and Area of Influence. • Conduct an assessment of ecosystem services utilized by local people through targeted stakeholder interviews
Socio-economic, Health and Safety	<ul style="list-style-type: none"> • Stakeholder identification shall be updated to include all Project affected people based on final Project layout (and inclusion of stakeholders within areas if applicable); • Socio economic baseline information to be collected including: <ul style="list-style-type: none"> ○ Demographics ○ Incomes and livelihoods ○ Worker skills ○ Religions ○ Cultural traditions ○ Education ○ Health disease ○ Infrastructure and Services Information to be gathered from household surveys, interviews with key informants, stakeholder meetings and participatory workshops and secondary data sources. • Number of households to be physically/economically displaced to be determined.

Assessment Parameter	Scope and Justification
	<p>Consultation and engagement with the Myanmar authorities will be required throughout this process to ensure that host country laws/practice are followed whilst taking into account all applicable standards.</p> <ul style="list-style-type: none"> • Development of Stakeholder Engagement Plan.
Land use, River use and River Traffic	<ul style="list-style-type: none"> • Land use survey will be conducted as well as the stakeholder engagement (including household survey) to understand the current land use and river use (especially Yangon River) • Land use/ River use (including river transportation/ traffic and fishery activities) will be assessed, including required safety zone and safety operation for LNGC.
Waste Management	<ul style="list-style-type: none"> • Hazardous substance identification and management to be assessed; • Disposal sites and methods to be determined for hazardous and non-hazardous waste. Details of locations of waste disposal facilities for general and hazardous waste and suitable transport companies should be confirmed. This information should be confirmed with local authorities.
Infrastructure and Utilities	<ul style="list-style-type: none"> • Further details of the use of access roads during construction and operation to be included in assessing impacts to nearby sensitive receivers; • Access to amenities such as hospitals, education facilities to supplement baseline socio-economic surveys.
Health and Safety and Emergency Control	<ul style="list-style-type: none"> • Review of the Project Proponent Health and Safety Management Plan to assess its adequacy in meeting IFC Performance Standards and applicable guidelines; • Mitigation measures/ monitoring programme/incident response with regard to accidental events/ spills shall be communicated to the EPC Contractor at the early stage; • Emergency Response Plan will be prepared by the Project Proponent and assessed as part of the full ESIA study and shall include all key Project components: Ahlone CCPP , LNG Receiving Terminal and NG pipeline.
Landscape and Visual	<ul style="list-style-type: none"> • Sensitivity of the landscape and visual system within a visual envelope and their ability to accommodate change will be assessed based on available sources such as land use and development plans if available
Cumulative Impact Assessment	<ul style="list-style-type: none"> • Evaluation of cumulative impacts taking into account various types of interactions such as: <ul style="list-style-type: none"> ○ a combination of different types of impact at a particular location; ○ the interaction of different impacts over time; ○ the interaction between impacts from the proposed development and other projects in close proximity to the scheme; and ○ a number of impacts of the same type at different locations, which are not necessarily significant individually, but which collectively, may constitute a significant impact. <p>Prediction and evaluation of cumulative impacts is not straightforward since it is not always possible to directly combine different types of environmental impacts on an objective basis. This is recognised in international good practice guidance; nevertheless it is still important that consideration is given to the issue.</p>

10.2.3

Stakeholder Engagement

Stakeholder engagement is required for the ESIA Study. A first round of stakeholder engagement has been conducted in October 2018 to present the Project and the Scope of the ESIA study to the local communities and stakeholders within the study area. A second round of stakeholder engagement is planned towards February 2019, in which the results and key findings from the ESIA process will be presented to the relevant stakeholders, as well as the proposed mitigation measures and monitoring programme.

It is envisaged that engagement activities carried out in the ESIA Study stage will include consultations designed to further inform local stakeholders about Project design, obtain their key concerns and high level issues and to inform the development of mitigation measures for the Project. This consultation will enable the ESIA team to refine the ESIA analysis by generating additional feedback on the ESIA approach, key issues and analysis of potential impacts (such as assessment of their relative significance).

Consultation is likely to be carried out with the same stakeholders as for the first round of stakeholder consultation, with press release in national newspaper to inform of the consultations details ahead of the meetings.

10.2.4

Structure of the ESIA Report

An outline of the proposed contents of the ESIA Report is provided in **Table 10.3** which follows the the ESIA Procedure. It is important to note that the table of contents may be revised based on the requirements of the local Myanmar authorities.

An Environmental and Social Management Plan (ESMP) will be prepared to form part of the ESIA Report. The ESMP will present mitigation and monitoring measures, the content will follow the Administrative Instruction document. A Draft Emergency Response Plan will also form part of the ESIA report.

Table 10.3 Proposed ESIA Report Structure

Chapter Number	Contents Heading	Explanatory Note
	Cover Pages	Title page, acknowledgements, authors and contributors, table of contents (including lists of figures, tables, and maps)
1	Executive Summary	Summary of the entire ESIA report (both English and Myanmar language).
2	Context of the Project	<ul style="list-style-type: none"> • Presentation of the Project Proponent / Project developer • Presentation of the Environmental and Social Experts • Presentation of Project Background and Project Overview
3	Policy, Legal and Institutional Framework	<ul style="list-style-type: none"> • Corporate Environmental and Social Policies Policy and Legal Framework, including existing laws and rules, other related environmental law and rules, International Conventions, Treaties and Agreements, and international standards, guidelines • Institutional Framework • Project's Environmental and Social Standards
4	Project Description and Project Alternatives	<ul style="list-style-type: none"> • Project Background • Project Location, Project Overview including maps and site layout and PFD is available. • Project description during construction, operation and decommissioning of key Project components. • Description of Project Alternatives
5	Description of the Surrounding Environment	<ul style="list-style-type: none"> • Setting the Study Limits (Study Area) • Methodology and Objectives • Physical Components including topographic maps, water resources map, geology maps, soil maps hydrology / hydrogeology data and maps, environmental quality data and climate data • Biological Components including biodiversity maps, vegetation cover maps • Socio-Economic Components including land use maps, population distribution, maps of other socio-economic indicators • Cultural Components including maps with location of cultural, historical, and religious importance • Visual Components including landscape
6	Impact and Risk Assessment and Mitigation	<ul style="list-style-type: none"> • Impact Assessment Methodology • Identify potential physical, biological, social, socio-economic, cultural, health and visual impacts; this shall include identification of potential impacts on climate change such as greenhouse gas emissions, and identification of impacts of climate change on the Project based on available climate change predictions from designated national authorities or international scientific research bodies; and develop mitigation measures and assess Residual Impacts • Relevant maps in proper scale clearly indicating the location of sources of Adverse Impacts, images, aerial photos, satellite images, the areas, people, assets or features impacted, sensitive habitats, vulnerable areas or settlements and the nature of the impacts
7	ESMP	<ul style="list-style-type: none"> • Prepare comprehensive management and monitoring plans for all impacts including role and responsibilities and proposed budget when possible.
8	Cumulative Impact Assessment	<ul style="list-style-type: none"> • Methodology and Approach • Cumulative Impact Assessment

Chapter Number	Contents Heading	Explanatory Note
9	Public Consultation and Disclosure	<ul style="list-style-type: none"> • Purpose of consultation undertaken for Project • Methodology and approach • Summary of consultation • Summary of main comments received and how comments taken into account during ESIA process • Minutes of meetings
10	Conclusions and Recommendations	Presents the main conclusions of the ESIA Report and recommendations for future actions as well as commitment of the Project proponent.
<i>Annexes</i>		These will include technical annexes with details of specific technical surveys, and other required information.

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