

Empowering Communities



Building a Better Future



**225MW Myingyan IPP | Sembcorp Myingyan Power Co., Ltd
November 2019**

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The purpose of today is to:

- Introduction
- Operational Phase
- Environmental and Social Updates
- Corporate Social Responsibilities Updates
- Grievance Committee

You can ask questions/ raise your concerns during this meeting or provide feedback at the end of the meeting

- Sembcorp Industries is a leading energy, water and marine group with operations **across 14 Countries in 4 continents worldwide**

- | | | | | |
|-------------------|-------------|---------------|-------------------|----------------|
| 1. United Kingdom | 2. Panama | 3. Brazil | 4. Chile | 5. UAE |
| 6. Oman | 7. China | 8. India | <u>9. Myanmar</u> | 10. Bangladesh |
| 11. Philippines | 12. Vietnam | 13. Singapore | 14. Indonesia | |



- With facilities of over 12,400 megawatts of gross power capacity and over 8.7 million cubic metres of water per day in operation and under development, Sembcorp is a trusted provider of essential energy and water solutions to both industrial and municipal customers
- Myingyan IPP is the first international project financed Independent Power Producer (IPP) Project in Myanmar and is 100% owned by Sembcorp Myingyan Power Company Limited



Our role in Myanmar (1/3)



- Sembcorp Myingyan Power Company Limited has been selected by the Ministry of Electricity and Energy (MOEE) in 2015 to develop a 225MW Combined Cycle Gas Turbine (CCGT) power plant in Myingyan Township.
- The plant started Phase 1 commercial operation started on **7 May 2018** and full commercial operations started on **2 Oct 2018**.



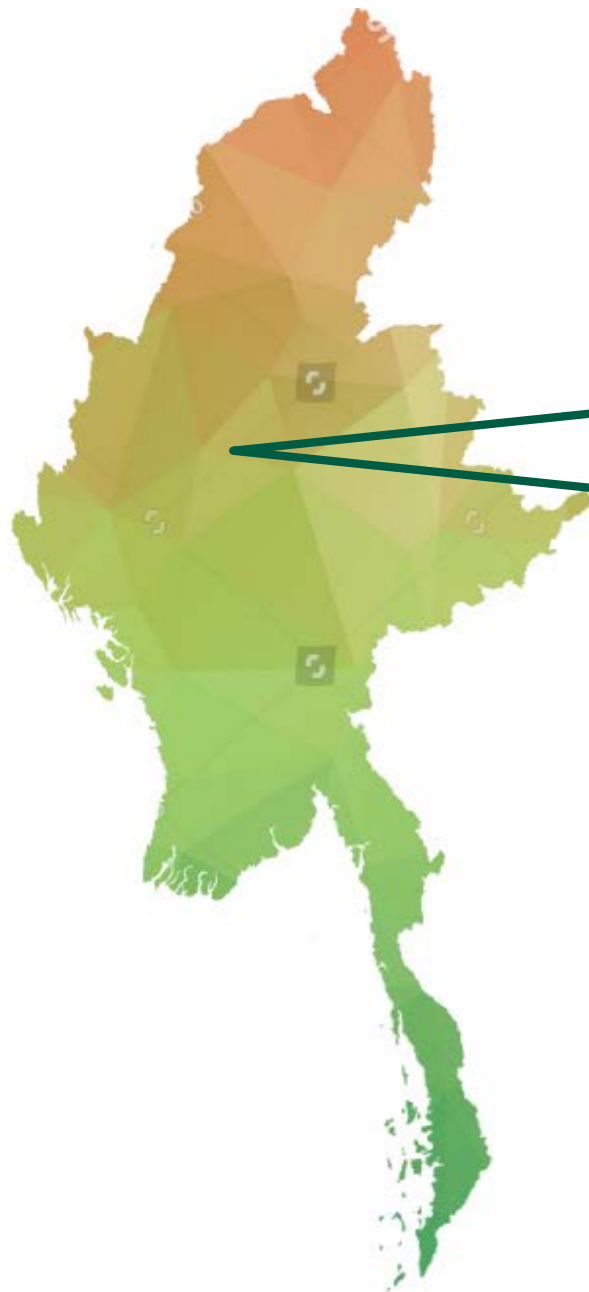
- The report on environment and social impacts has been undertaken by experts to understand potential environmental and social impacts and opportunities in accordance with national and international standards. Our ESIA has been approved by the Ministry of Natural Resources and Environmental Conservation (MONREC).

Our role in Myanmar (2/3)



- Sembcorp Myingyan IPP is a landmark Power Plant in Myanmar. Myingyan 225 MW Combine Cycle Power Plant is one of the largest and the most efficient Power Plant.

- Sembcorp Myingyan IPP is the first Power Plant in Myanmar which generate enough renewable energy to the power by Solar Panel more than 100 Kilowatt Peak entire Admin Building and Warehouse.



Solar Panel in Warehouse



Solar Panel in Admin Building

Our role in Myanmar (3/3)



- Not only the Sembcorp Myingyan IPP generates enough electricity to power need of 5.3 millions people.



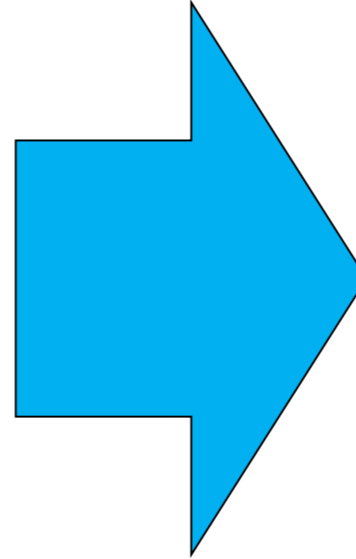
- Sembcorp Myingyan IPP also contribute significantly in terms of Empowering the Community.



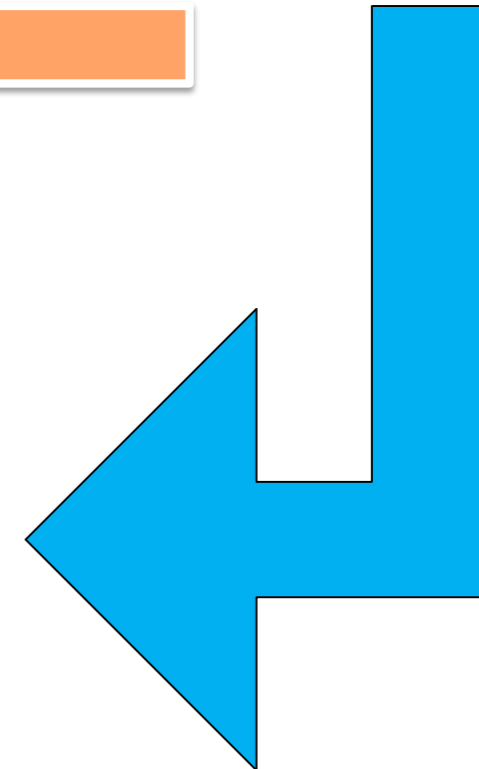
- As of today, Sembcorp Myingyan Power Company 95 % Staffed by Myanmar National.



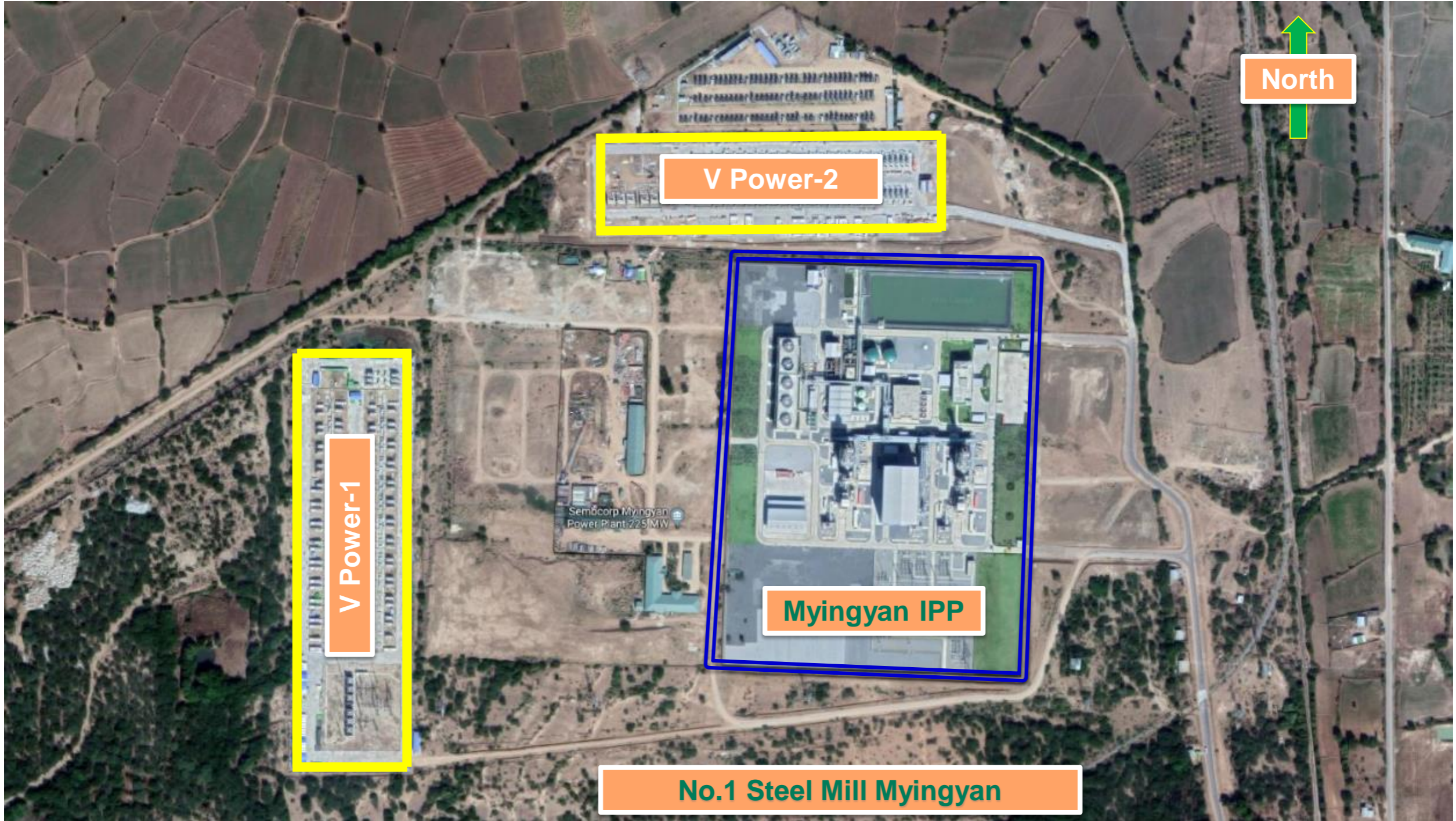
Project Facilities Overview



RIVER WATER INTAKE & DISCHARGE PIPE LINE



Plant Location



Plant Overview



- Currently in the Operational Phase, the company will continue to uplift the livelihood of the community with training and community investments.



Employee Job training in Omen and Singapore



Internship: Myingyan Technical College (mechanical & Electrical Final Year Students)



**Final Year Field Trip :
MCTI (Military Computer & Technological Institute) final year students**

Air Quality Management

The emissions by Myingyan project will be minimal. In addition, we have employed mechanisms to reduce and monitor our own emissions to ensure it is in line with the World Bank's existing requirements.

- ❖ Two air emission stacks – main and by-pass stacks of 40m and 30m height respectively were constructed to disperse air pollutants such that the ground level concentration of air pollutants do not exceed the relevant standards in the IFC EHS Guidelines for Thermal Power Plants (2008)
- ❖ Built-in dry low NO_x burners reduce NO_x emission at stack to below 25ppm at all times (Pic 1)
- ❖ Continuous Emission Monitoring System (CEMS) installed on BOTH GT Bypass Stack & Boiler Outlet Stack (Pic 2)
- ❖ Ambient air quality inside the Plant and around the Plant area monitored as per the Environment Monitoring Programme formulated for the Plant



No abnormal findings of environmental parameters for the period¹

Parameters	Ambient Air Quality observed	National Guideline Value	World Bank Guidelines Value	Stack emission (from CEMS)	**EPM (Singapore)	Unit	Rating
PM ₁₀	10.25	-	50	Not Available	NA	µg/m ³	
PM _{2.5}	5.34	-	25	Not Available	NA	µg/m ³	
*CO	0	-	9	12.1	200 (250 mg/Nm ³)	ppm	
CO ₂	306.86	-	5000	3882	NA	ppm	
SO ₂	0	20	20	0.49	NA	µg/m ³	
NO ₂	5.69	200	200	16.20	400	mg/Nm ³	
Noise Industrial, commercial	52.60	70	70	NA	85 (8hr) *WSH (Noise) Reg.	dBA	
Waste Water Discharge (pH)	7.27	6-9	6-9	NA	6-9 (NEA Singapore)	S.U. ^a	
BOD Biochemical Oxygen Demand	4.8	50	30	-	50	mg/l	
COD Chemical oxygen demand	18.0	250	125	-	100	mg/l	

ENVIROMENTAL PERFORMANCE	
Emission (CO ₂ , SO ₂ , CO, NO ₂)	✓
Zero Environmental Breach	✓
Pollution (Water)	✓
Pollution (Noise)	✓
Pollution (Air Quality)	✓

Excellent

Non-compliance

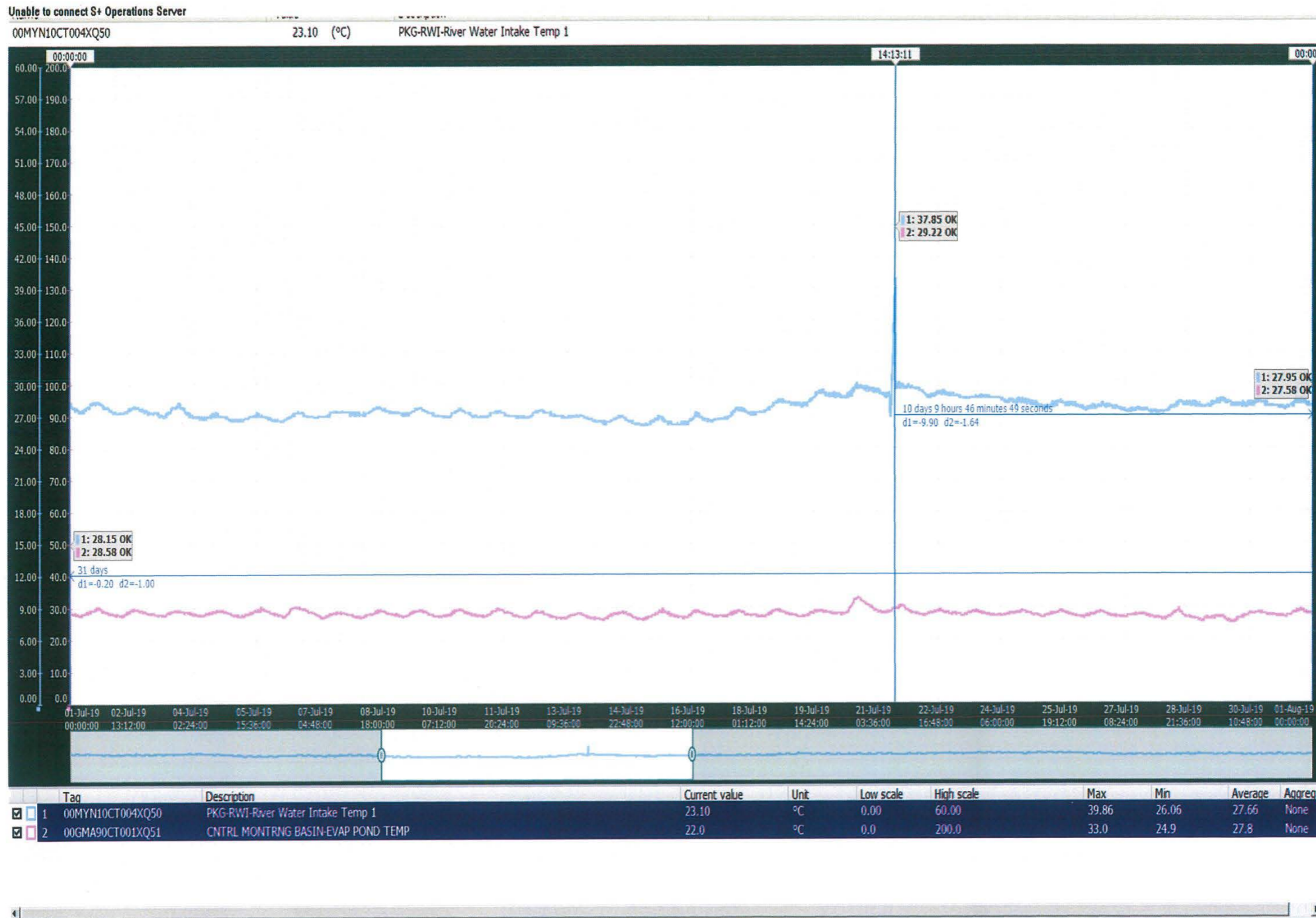
*Workplace Safety and Health (Noise) Regulations 2011

**CAP. 94A, Rg 8 Singapore Environmental Protection and Management (Air Impurities) Regulations

Note:

¹ All measures are one month averaged. The numbers provided were collected internally by Sembcorp and have not been reviewed or verified by a third party.

River Water Temperature Monitoring



River water intake temperate (RWI) is 27.66 °C (average).

Discharge water temperature (CNTRL MONITORING BASIC-EVAP POND TEMP) is 27.8 °C (average)

The difference of 0.14 °C is within limits of World Bank guidelines.

The numbers provided were collected internally by Sembcorp and have not been reviewed or verified by a third party.

Waste Management (1/2)

- During the Operation and Maintenance Phase, domestic waste generated by the operations workforce (including paper, plastics and putrescible wastes) as well as waste materials such as steel, excess cables etc. associated with routine and non-routine maintenance will be stored and disposed by an Authorized Collector.
- Both Hazardous and Non-hazardous waste will be collected & disposed by a Myingyan City Development Committee (MCDC)-approved contractor.
- Hazardous waste (e.g. used oil) are recycled and refined. Medical waste is incinerated in the Myingyan Hospital compound.



Proper temporary storage and disposal of domestic waste

Waste Management (2/2)



Proper disposal of intake water soil residue

Waste Water Management (1/2)

Liquid effluents arising from operations will be treated to the applicable IFC guideline prior to discharge. The sewage from the entire plant area will be collected and treated in a Sewage Treatment Plant (STP). No untreated sewage will be directly discharged into the Ayeyarwady River, or disposed of on land, for the duration of the project life cycle.



Checking temperature at

- Raw Water Pond
- Cooling Tower

Central Monitoring Basin (CMB)
Online sensors installed at Central Monitoring Basin

- PH Sensor
- Turbidity Sensor
- Chlorine Sensor

Regular monitoring of Water Temperature and Quality before discharge

Waste Water Management (2/2)

Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, will be discharged into sanitary sewers via grease traps. The sanitary sewer will then be treated prior to discharge or reuse as greywater. Regular monitoring of waste water quality will be conducted by internal & external parties.



Plant laboratory for day-to-day chemical analysis of process water quality

Regular Noise Monitoring (external & internal) (1/2)



Lender's E&S Auditor checking Continuous Emission Monitoring System (CEMS)

Regular Noise Monitoring (external & internal) (2/2)



Regular Noise Monitoring by External Party at Designated Place Around the Plant Area

Regular Audio Metric Test



Audio Metric Test by Ear, Nose and Throat Technician

Emergency Response Plan



Emergency
Assembly
Area 2

Emergency
Assembly
Area 1

Designated Emergency Assembly Area

Preparedness for Fire Emergency

Fire Fighting Team was formed with a Water 5000 Liter and Foam 1500 Liter Capacity Fire Truck and Fire Fighters who trained by Government Fire Department.



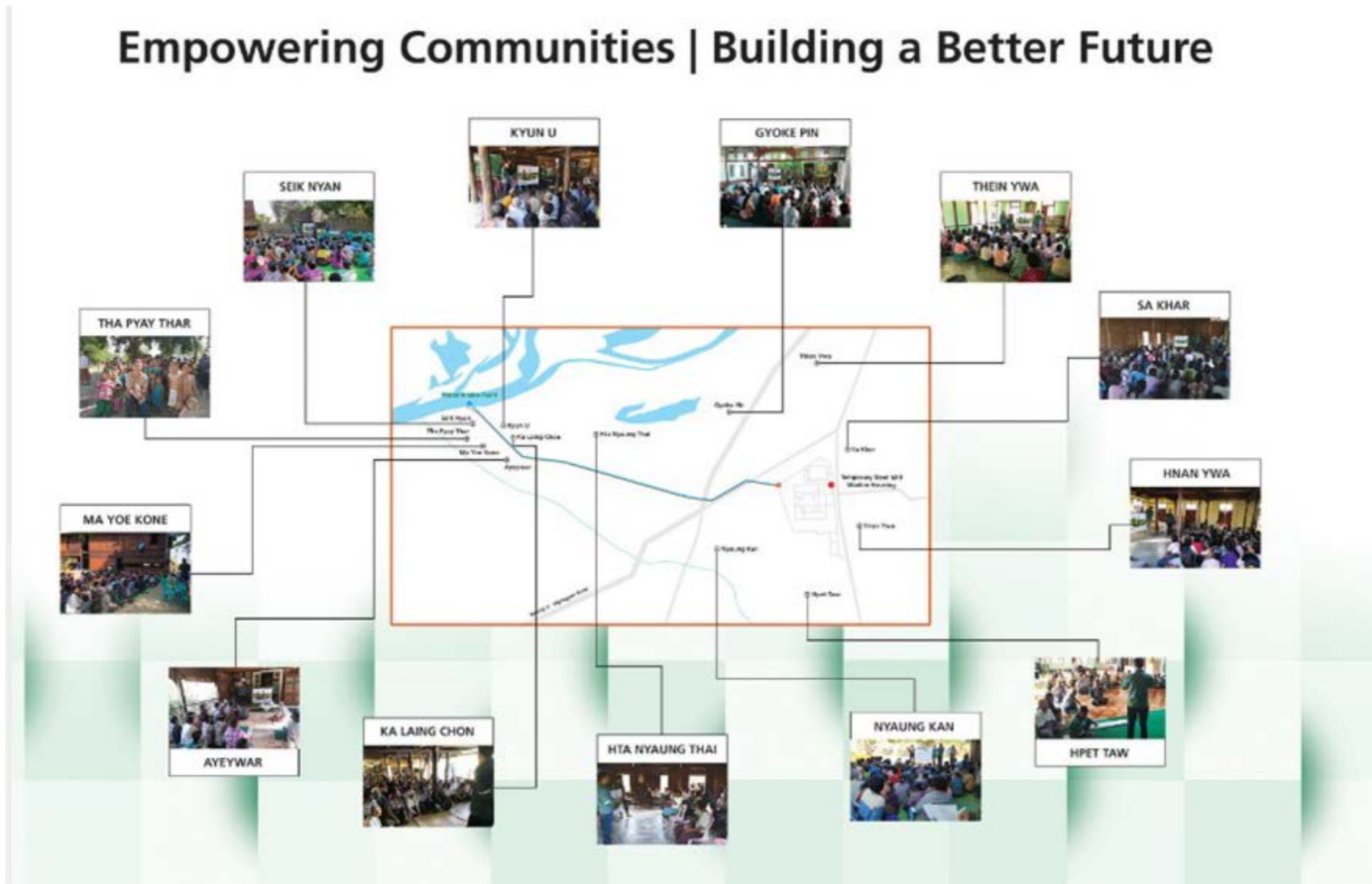
Emergency Response Plan



Emergency Response Drill Conducted Regularly

Our Community

Empowering Communities | Building a Better Future



1) Sarkhaar

2) Hnan

3) Phet Taw

4) Nyaung Kan

5) Thein

6) Gyoke Pin

7) Hta Naung Tai

8) Aye

9) Ma Yoe Kone

10) Tha Pyay Thar

11) Sate Nyan

12) Ka Lain Chone

13) Sate Nyan

Our Aims

- Educational Support
- Improve Community Infrastructure
- Enhance Access to Ground Water
- Only based on genuine needs (e.g. flood relief, poor existing infrastructure)



Activities in Education (1/4)



Donated Blackboard/White Boards

Constructed new toilets



Activities in Education (2/4)



Newly Constructed the fence of the school compound



Provided chairs and benches for schools

Activities in Education (3/4)



Conducted works for the classrooms

Support Water Pump Engine for School (By Request)



Activities in Education (4/4)



Constructed quarters for teachers

Repair works on the school drainage system



Improve Community Infrastructure (1/2)



Conducted repair works on the Village's
General Administration Office

Constructed Water Pump House (By Request)



Improve Community Infrastructure (2/2)



Myingyan

Futsal Playground with Stage at Myingyan
Construct and transferred to Ministry of Sport and Physical
Education



Taung Tha

Futsal Playground with Stage at Taung Tha
Construct and transferred to Ministry of Sport and Physical
Education

Bi-annual (every 6 months) Community Health Awareness by Company's Medical Doctor



**Community Health Awareness Talk
(prevention of communicable diseases)**



**Plant's Medical Officer giving medical treatment
at affected communities**

Enhance Access to Ground Water



Installed water treatment plants and constructed shelters to house the plants.

Installed 5,000 gallon Under Ground Water Tank for firefighting purposes.



CSR on an ad-hoc basis (1/2)



Frequent interactions with Village Heads and authorities to find out genuine local needs.

Deliver basic living necessities to affected villagers as aid for flood relief



CSR on an ad-hoc basis (2/2)



Delivered basic living necessities to affected villagers as aid for flood relief



Delivered basic living necessities to affected villagers as aid for flood relief

Corporate Social Responsibility

Social Welfare and Youth Development (1/2)



Sembcorp Cup Year 2019
Futsal Tournament

Social Welfare and Youth Development (2/2)

3 Class in Community. 1.Sarkhaar 2.Gyoke Pin 3.Tha Pyay Thar.

100 Students was attended and 80 attendee were awarded the COURSE COMPLETING CERTIFICATE



English Speaking Class for Elementary Level

- Engagement will continue throughout the entire lifecycle of the Project.



- Public stakeholder meetings to be continued on regular basis

A Grievance Mechanism has been established to redress claims by affected individuals

- Available for anyone to report
- If you have any suggestion for improvement, issue or concerns, Sembcorp is happy to listen to them.
- Place it in suggestion boxes near your village or contact Sembcorp staff directly.
- Your village head is also part of the committee.



အကြံပြုစာထည့်ရန်
Sembcorp မြင်းခြံ 225 MW
လျှပ်စစ်ဓါတ်အားစီမံကိန်း
ဆက်သွယ်ရန်-ကိုရင်(၀၉-၄၃၁၆၄၆၂၆)
အီးမေးလ် - hein.minoo@sembcorp.com



Grievance Committee

1. Respective Village Head
2. U Than Htut Aung – Asst: Director (EPGE)
3. U Aung Lwin Oo – Development Manager (Site Personal)
4. Daw Naing Naing Aung – Human Resources Manager (Site Personal)
5. U Tin Maung Thein – HSSE Manager (Site Personal)
6. Hein Min Oo – CSR Executive
7. Township Officer – General Administration Department (Optional)

Village Head (13 Villages)

- | | | |
|-------------------|---|-------------------|
| 1. Sarkhaar | - | U Maung Myint |
| 2. Hnan | - | U Hein Min Lwin |
| 3. Phet Taw | - | U Kyaw Htay Naing |
| 4. Nyaung Kan | - | U Shu Maung |
| 5. Thein | - | U San Lwin |
| 6. Gyoke Pin | - | U Win Hlaing |
| 7. Hta Naung Tai | - | U Aye Ko |
| 8. Aye | - | U Myint Swe |
| 9. Ma Yoe Kone | - | U Win Maung |
| 10. Tha Pyay Thar | - | U Win Shwe |
| 11. Sate Nyan | - | U Chit Win |
| 12. Ka Lane Chone | - | U Zaw Khin |
| 13. Kyun U | - | U Kyaw Toe |



Comments, concerns, queries and questions are welcomed.

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Thank You