

Intended for

**International Finance Corporation, Asian Development Bank, Asian Infrastructure  
Investment Bank and Multilateral Investment Guarantee Agency**

Date

**June 14, 2021**

Project Number

**335000259**

# **MYINGYAN CCPP SIXTH ENVIRONMENTAL AND SOCIAL MONITORING REPORT**

**MYINGYAN CCPP  
SIXTH ENVIRONMENTAL AND SOCIAL  
MONITORING REPORT**

Project No. **331000259**  
Issue No. **3**  
Date **June 14, 2021**  
Made by **Sharon Maharg and Cara Quinn**  
Checked by **Juliana Ding**  
Approved by **Juliana Ding**

*This report has been prepared by Ramboll with all reasonable skill, care and diligence, and taking account of the Services and the Terms agreed between Ramboll and the Client. This report is confidential to the Client, and Ramboll accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Ramboll beforehand. Any such party relies upon the report at their own risk.*

*Ramboll disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the Services.*

Ramboll Environ  
Singapore Pte Ltd  
20 Harbour Drive  
Singapore 117612  
T +65 6469 9918

[www.ramboll.com](http://www.ramboll.com)

### Version Control Log

Revision	Date	Made by	Checked by	Approved by	Description
Issue 1	25/03/2021	S Maharg and C Quinn	J Ding	J Ding	Draft report issued to client
Issue 2	31/05/2021	S Maharg and C Quinn	J Ding	J Ding	Final report issued to client
Issue 3	14/06/2021	S Maharg and C Quinn	J Ding	J Ding	Final report issued to client (minor amendments)

## CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. INTRODUCTION .....</b>	<b>4</b>
<b>2. SCOPE AND STRUCTURE OF THE REPORT .....</b>	<b>5</b>
2.1 Scope and Methodology .....	5
2.2 Applicable Standards .....	5
2.3 Status of Environmental Licenses and Permits .....	6
2.4 Project Categorization .....	6
2.5 Structure of the Report .....	7
2.6 Limitations .....	7
2.7 Covid-19 Situation .....	7
<b>3. PROJECT DESCRIPTION.....</b>	<b>9</b>
3.1 Project Location .....	9
3.2 Project Description .....	10
3.3 Associated Facilities.....	11
3.4 Socio-Economic Context.....	11
3.5 Status of the Project at Time of the Sixth Monitoring Assignment.....	14
<b>4. SIGNIFICANCE ASSESSMENT .....</b>	<b>15</b>
4.1 Review Findings.....	15
4.2 Assessment of Significance.....	15
<b>5. ASSESSMENT OF ENVIRONMENTAL AND SOCIAL CONFORMANCE WITH PROJECT COMMITMENTS .....</b>	<b>17</b>
5.1 Introduction.....	17
5.2 Environmental and Social Management System .....	17
5.2.1 Construction Phase Environmental and Social Management System .....	17
5.2.2 Operations Phase Environmental and Social Management System.....	17
5.3 Air Quality and Dust.....	21
5.3.2 Dust.....	21
5.3.3 Emissions Monitoring .....	21
5.3.3.4 Ambient Air Quality Monitoring .....	23
5.3.3.5 Greenhouse Gas Emissions .....	25
5.4 Plant and Vehicle Management and Maintenance.....	27
5.5 Traffic Management .....	28
5.5.1 General Traffic Management .....	28
5.5.2 On-site Traffic Management.....	28
5.5.3 Off-site Traffic Management .....	28
5.5.4 Deficiencies Against Applicable Standards.....	29
5.6 Noise and Vibration.....	31
5.6.1 Introduction.....	31
5.6.1 Ambient Noise Monitoring.....	31
5.7 Water Resources.....	32
5.7.1 Introduction.....	32
5.7.2 Water Use .....	32
5.7.2 Sanitary Wastewater Management .....	33
5.7.3 Surface Water Runoff.....	34
5.7.4 Wastewater Streams and Treatment .....	34
5.7.5 Water Quality Monitoring.....	36
5.7.6 Other Observations .....	37
5.8 Soil and Groundwater .....	39
5.9 Biodiversity.....	41
5.10 Waste Management .....	41
5.10.1 Waste Generation and Handling.....	41
5.10.2 Off-site Waste Disposal.....	42
5.11 Hazardous Substances Spill Contingency .....	46
5.12 Emergency Preparedness and Response .....	48
5.13 Occupational Health and Safety .....	49
5.14 Stakeholder Engagement .....	50
5.14.1 Stakeholder Engagement .....	50
5.14.2 Stakeholder Activities during the December 2020 Virtual Site Visit .....	52
5.14.3 Public Disclosure.....	55
5.14.4 Community Relations .....	56
5.14.5 Community Grievance Mechanism.....	57

<b>5.15</b>	<b>Community Development</b> .....	<b>63</b>
<b>5.16</b>	<b>Community Health</b> .....	<b>66</b>
<b>5.17</b>	<b>Workers' Accommodation</b> .....	<b>67</b>
<b>5.18</b>	<b>Local Recruitment and Procurement</b> .....	<b>68</b>
<b>5.18.1</b>	<b>Local Recruitment and Procurement for the Operations Phase</b> .....	<b>68</b>
<b>5.18.2</b>	<b>Workers' Training and Capacity Building</b> .....	<b>69</b>
<b>5.19</b>	<b>Project Influx</b> .....	<b>70</b>
<b>5.20</b>	<b>HSE Training</b> .....	<b>71</b>
<b>5.20.1</b>	<b>Construction Phase</b> .....	<b>71</b>
<b>5.20.2</b>	<b>Operations Phase</b> .....	<b>71</b>
<b>5.21</b>	<b>Cultural Heritage</b> .....	<b>72</b>
<b>5.22</b>	<b>Security</b> .....	<b>73</b>
<b>5.23</b>	<b>Land Acquisition &amp; Resettlement</b> .....	<b>74</b>
<b>5.23.1</b>	<b>Resettlement Framework</b> .....	<b>74</b>
<b>5.23.2</b>	<b>Land Acquisition and Resettlement Plan Observer Report</b> .....	<b>74</b>
<b>5.23.3</b>	<b>Land and Crop Compensation</b> .....	<b>75</b>
<b>5.23.4</b>	<b>Consultations with the 8 PAPs</b> .....	<b>77</b>
<b>5.23.5</b>	<b>Update on the Informal Settlers and other PAPs</b> .....	<b>77</b>
<b>5.23.6</b>	<b>Previous Gaps as per the Observer Report</b> .....	<b>77</b>
<b>5.24</b>	<b>Labor &amp; Working Conditions</b> .....	<b>80</b>
<b>5.24.1</b>	<b>SMPC's Covid-19 Business Continuity Plan (BCP) Implementation</b> .....	<b>80</b>
<b>5.24.2</b>	<b>Sembcorp's Code of Business Conduct and Global Human Rights Policy</b> .....	<b>80</b>
<b>5.24.3</b>	<b>Human Resources Procedures</b> .....	<b>81</b>
<b>5.24.4</b>	<b>Employment Contracts</b> .....	<b>81</b>
<b>5.24.5</b>	<b>Project Workforce</b> .....	<b>81</b>
<b>5.24.6</b>	<b>Local Recruitment and Procurement Management Plan</b> .....	<b>82</b>
<b>5.24.7</b>	<b>Workers' Grievance Mechanism</b> .....	<b>82</b>
<b>5.24.8</b>	<b>Workers Engaged by Third Parties</b> .....	<b>82</b>
<b>5.24.9</b>	<b>Retrenchment</b> .....	<b>82</b>
<b>6.</b>	<b>STATUS OF ESAP</b> .....	<b>85</b>
<b>7.</b>	<b>SUMMARY</b> .....	<b>94</b>

## TABLE OF TABLES

Table 1: Significance Ranking	15
Table 2: Example of the Summary Table Format	16
Table 3: Summary of Findings - Environmental and Social Management System	20
Table 4: Maximum Monitored Stack Emissions – Hourly NOx	22
Table 5: Minimum and Maximum Monitored Stack Emissions during Normal Operations for Unit 1 – Hourly NOx	22
Table 6: Minimum and Maximum Monitored Stack Emissions during Normal Operations for Unit 2 – Hourly NOx	22
Table 7: Ambient Air Quality Monitoring at Sensitive Receptors	24
Table 8: Summary of Findings - Air Quality and Dust	26
Table 9: Summary of Findings – Traffic Management	30
Table 10: Average Ambient Noise Levels for the Operations Phase	31
Table 11: Wastewater Discharge Monitoring Results from January 2020 and June 2020	37
Table 12: Summary of Findings – Surface Water	38
Table 13: Summary of Findings – Soil and Groundwater	40
Table 14: Summary of Findings – Waste Management	44
Table 15: Summary of Findings – Oil and Chemical Spill Contingency	47
Table 16: Grievances Registered from December 2019 –December 2020 and Status of Resolution	59
Table 17: Summary of Findings – Stakeholder Engagement	60
Table 18: Summary of Findings – Community Development	65
Table 19: Summary of Number of PAPs, Power Poles and Fertilizer Bags Received	77
Table 20: Summary of Findings – Land Acquisition & Resettlement	79
Table 21: Project Workforce in November 2020	81
Table 22: Summary of Findings – Labor & Working Conditions	84
Table 23: Status of ESAP	86

## TABLE OF FIGURES

Figure 1: Project Location	9
Figure 2: Project Site Layout	10
Figure 3: Project Aerial (Photo from Sembcorp)	11
Figure 4: Community Map (Provided by SMPC)	13
Figure 5: Project Operational Phase Environmental and Social Organisation Chart	19
Figure 6: Ambient Air Quality and Noise Monitoring Locations	23
Figure 7: Site Traffic Flow for Operations Phase	28
Figure 8: Approved Site Access Routes	29
Figure 9: Location of Sanitary Wastewater Disposal Site and Landfill Site	33
Figure 10: Sanitary Wastewater Disposal Site	34
Figure 11: Water Monitoring Locations	36
Figure 12: Municipal Waste Landfill Site	42

## APPENDICES

Appendix 1A	Virtual Site Visit Photo Log (2020)
Appendix 1B	Site Visit Photo Record (2019)
Appendix 2	Monitoring Plan
Appendix 3	Environmental Monitoring Results – Air and Noise
Appendix 4	Environmental Monitoring Results – Water
Appendix 5	2020-2021 CSR Investments, Ongoing Activities - Table of Projects
Appendix 6	2021 CSR Activities Planned - Table of Projects
Appendix 7	Stakeholder Engagement Database Year 2020
Appendix 8	Annual Public Stakeholder Engagement Report December 2020
Appendix 9	Annual Public Stakeholder Engagement Presentation December 2020
Appendix 10A	Community Grievance Mechanism Database July 2017 – December 2020

Appendix 10B	November 2020 Community Grievance Worksheet
Appendix 11	Off-Site Sludge Storage Area
Appendix 12	Covid-19 Business Continuity Plan (BCP) Implementation
Appendix 13	Project Documentation Reviewed for the Sixth Monitoring Round
Appendix 14	Summary of Stakeholder Meetings 2020

## GLOSSARY OF TERMS/ACRONYMS

<b>Acronym</b>	<b>Abbreviation</b>
ADB	Asian Development Bank
ADB-ES	Asian Development Bank – Environmental Safeguards
ADB-IPS	Asian Development Bank – Indigenous Peoples Safeguards
ADB-IRS	Asian Development Bank – Involuntary Resettlement Safeguards
AIIB	Asian Infrastructure Investment Bank
AoI	Area of Influence
BOT	Build, Operate and Transfer
BCP	Business Continuity Plan
CCGT	Combined Cycle Gas Turbine
CCPP	Combined Cycle Power Project
CDP	Community Development Plan
CEMS	Continuous Emissions Monitoring System
CGM	Community Grievance Mechanism
CHMP	Community Health Management Plan
COD	Commercial Operation Date
CP	Community Person
CPP	China Petroleum Pipeline Bureau
CRO	Community Relations Officer
CSR	Corporate Social Responsibility
DAI	Direct Area of Influence
ECC	Environmental Compliance Certificate
ECD	Environmental Conservation Department
E&S	Environmental and Social
ESAP	Environmental and Social Action Plan
EHS	Environmental, Health and Safety
ENVIRON	Environ Myanmar Co Ltd
EPC	Engineering, Procurement and Construction
EPGE	Electric Power Generation Enterprise
EPR	Emergency Preparedness & Response
EMS	Environmental Management System
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESAP	Environmental and Social Action Plan
GIIP	Good International Industry Practice
GOM	Government of Myanmar
GT	Gas Turbine
HRSG	Heat Recovery System Generator
HSE	Health, Safety and Environment
HSE-MS	Health, Safety and Environment Management System
HSSE	Health, Safety, Security and Environment
IECC	Installation, Erection, Construction and Commissioning
IESC	Independent Environmental and Social Consultant
IFC	International Finance Corporation
ILO	International Labour Organization
IMS	Integrated Management System
IPP	Independent Power Producer
JEM	Jurong Engineering (Myanmar) Ltd
LOTO	Lock Out Tag Out



<b>Acronym</b>	<b>Abbreviation</b>
LRPMP	Local Recruitment and Procurement Management Plan
LTI	Lost Time Injury
MDC	Min Dharma Co Ltd
MEPE	Myanmar Electric Power Enterprise
MIGA	Multilateral Investment Guarantee Agency
MOC	Management of Change
MOE	Ministry of Environment
MOEP	Ministry of Electric Power
MOGE	Myanmar Oil & Gas Enterprise
MOI	Ministry of Industry
MONREC	Ministry of Natural Resources and Environmental Conservation
MTKK	MTKK Electrical Services Company Limited
O&M	Operations and Maintenance
OHS	Occupational Health and Safety
PAP	Project-Affected Person
PCo	Project Company
PIIM	Project Induced In-Migration
PPA	Power Purchase Agreement
PPE	Personal Protective Equipment
PS	Performance Standard
Ramboll Environ	Ramboll Environ Singapore Pte Ltd
ROSPA	Royal Society for the Prevention of Accidents
ROW	Right of Way
RWI	River Water Intake
SBS	ADB's Safeguard Policy Statement
SDCI	Sembcorp Design and Construction International
Sembcorp	Sembcorp Utilities Pte Ltd.
SEP	Stakeholder Engagement Plan
SIMOPS	Simultaneous Operations
SMPC	Sembcorp Myingyan Power Company Limited
SOP	Standard Operation Procedure
TSS	Total Suspended Solids
WAMP	Workers Accommodation Management Plan
WBG	World Bank Group

## EXECUTIVE SUMMARY

Ramboll Environ Singapore Pte Ltd (Ramboll Environ), acting in the role of Independent Environmental and Social Consultant (IESC)<sup>1</sup>, monitored the environmental and social performance of the Sembcorp Myingyan Power Company Limited (SMPC or Project Company or PCo) Combined Cycle Power Plant (CCPP) project in Myingyan, Myanmar (the "Project") in December 2020.

The Sixth Environmental and Social Monitoring Round was the second annual IESC monitoring activity scheduled to occur during the Project's operational phase; four IESC monitoring activities occurred at six-monthly intervals during the Project's construction phase. A two-person team assessed the Project's management of environment and social matters, with a particular emphasis on the implementation of the Project's Environmental and Social Action Plan (ESAP); the adequacy of the Health, Safety, and Environment Management System; and the implementation of a suite of environmental and social management plans intended to address applicable Project standards, notably the IFC Performance Standards and ADB Safeguard Policy Statement. The monitoring round was carried out virtually, given the restrictions on travel during the Covid-19 (coronavirus) pandemic situation.

This Sixth Environmental and Social Monitoring Report reports the findings of the monitoring the period December 2019 to December 2020.

Throughout the monitoring process, SMPC cooperated fully and responded to all Ramboll Environ's requests. The monitoring visit covered a broad range of topics and Health, Safety, Environment and Social matters were found to be well managed for the most part.

Ramboll Environ reviewed the Project's Covid-19 Business Continuity Plan Implementation (**Appendix 12**), limitations in 2020 on the implementation of the Stakeholder Engagement Plan and Community Development Plan and modifications to Human Resources procedures that were put in place to limit any potential impacts from the Covid-19 pandemic on the Project's workforce and local communities. Ramboll Environ anticipates that these Project changes will be reversed once the Covid-19 restrictions are lifted in the Myingyan area.

SMPC conducted an Annual Public Stakeholder Engagement Meeting during this monitoring round (December 2020); and due to the Covid-19 restrictions in place, 13 meetings took place, one in each of the villages, with an average of ten villagers attending each meeting. Summaries of these meetings are included in **Appendices 8 and 9**.

Ramboll Environ reviewed the Project's Stakeholder Engagement Database (**Appendix 7**) and the Summary of Stakeholder Engagement Meetings (**Appendix 14**) of actions taken and results achieved under the Stakeholder Engagement Plan (SEP). SEP Key Performance Indicators (KPIs) for 2020 were provided to Ramboll Environ. The Project exceeded the SEP KPIs for 2020: 587 engagements were conducted in 2020 as compared to 365 engagement goals included in the KPIs. The Project only received one grievance in December 2020 and it was closed out the next day.

The Project is generally compliant with the requirements of the ESAP, however, the monitoring identified five ESAP items that are work in progress. In addition, a number of opportunities for

<sup>1</sup> The responsibility for serving as the Project's IESC was transferred from Environ Myanmar Co Ltd (ENVIRON) to Ramboll Environ, both wholly owned subsidiaries of Ramboll Group, in 2020.

improvement in the Project's environmental and social performance have been identified.

A positive community service initiative undertaken by SMPC includes the installation of a medical waste incinerator at the Myingyan Hospital, as reported in the January 2018 monitoring report. This provides a safe means for the disposal of clinical and medical wastes which previously were burnt at the unlined municipal landfill. Other positive community service initiatives undertaken by SMPC in 2018-2019 include the construction in each of the thirteen villages within the Project's area of influence of water treatment facilities to provide potable water and 500-gallon underground water storage tanks for fire protection. These projects improved the health and safety of residents of the thirteen local communities. From August 2018 - November 2019, a total of 21 community development (referred to by SMPC as corporate social responsibility or CSR) projects were completed in the thirteen villages. In 2020, there were 13 ongoing CSR projects, (one per village), all with estimated completion dates of mid-January 2021. There are an additional 18 CSR activities planned for 2021 (for details, refer to **Appendices 5 and 6**).

There are no high or moderately significant environmental findings. There are some minor environmental or social findings related to the implementation of the operational phase management plans that need to be addressed; minor gaps were also noted in the overall management of environmental monitoring data. In particular, SMPC is to provide details of an annual pollutant release inventory to monitor GHG emissions and report on GHG generation in an appropriate unit such as CO<sub>2</sub> equivalent.

There are no high or moderately significant social findings. A minor gap identified during the Fifth Monitoring Round was that KPIs were not established for the Operations Phase Labor Recruitment and Procurement Management Plan (LRPMP). Ramboll Environ has since been advised that LRPMP KPIs will not be established due to the specialized nature of the operations and SMPC will hire from the national workforce including from the local community where feasible. However, Ramboll Environ still recommends that KPIs be established for the Operations Phase LRPMP so that goals can be established and tracked for local recruitment and procurement of goods and services. As of December 2020, the Project's total national workforce, including the Yangon workforce, security team and EPGE was 114, representing 98.28% of the total workforce; foreign skilled workers (2) made up only 1.72% of the total Project workforce. At the time of the December 2019 site visit at least 2 personnel working as security guards were from the local community. It is not known if they continue to work at the plant.

In terms of land acquisition and compensation, the Government of Myanmar (GOM) compensated farmers for the temporary disruption to their livelihood where they farm on privately-owned land along the river water pipeline route, adopting national requirements. The resettlement framework required SMPC to bridge the gaps in compensation between the national requirements and SPS/IFC PS requirements; and SMPC complied with these requirements.

A section of the river water supply pipeline was buried and the section closest to the river was elevated; and the land uses (mostly agriculture and also some cattle grazing) are continuing undisturbed post laying of the pipelines. Similarly, for the transmission lines and towers, there was no permanent land acquisition, and rights of use of the footprints required for the transmission towers and electric poles were obtained after negotiations with the landowners and payment of compensation for the loss of yields (see Updated Final Third Environmental and Social Monitoring Report (July 2018), Section 5.23.3. Land & Crop Compensation).

There are no permanent livelihood impacts due to the Project. The temporary impacts have been addressed at full replacement costs, and the permanent impacts associated with the footprints of

the transmission towers and electric poles as well have been compensated at full replacement cost. The gap in compensation standards for the electric poles has been met through additional non-cash compensation (in the form of fertilizer bags, one each per power pole). Livelihoods of project affected persons were not adversely impacted by the Project as full replacement costs for loss of land, temporary and permanent, were made.

As of 12 April 2017, all PAPs were compensated (at full replacement cost) for land and crop loss, with the exception of the 8 PAPs impacted by the elevated section of the river water supply pipeline towards the river, described below, who were compensated between 27- 30 August 2018.

SMPC provided the following confirmation of the land procurement process for the elevated section of the pipeline towards the river: The compensation process for individuals affected by the elevated section of the pipeline was the responsibility of Electric Power Generation Enterprise (EPGE), in collaboration with the relevant Government Administrative Divisions (GAD), acting on behalf of the Government of Myanmar. EPGE identified 8 PAPs in the area and drew up a methodology whereby each individual was compensated MMK 10,000 for each pier on the bridge on their land. The PCo then topped-up the payments for the subsequent 20 years.

Ramboll Environ was informed that PCo began the compensation process after receiving a formal letter from EPGE dated 13 July 2018, and that the compensation process was completed before COD 2 (from 27-30 August 2018).

According to SMPC, the elevated link bridge design was changed from the original plan, whereby the pipeline was to be buried underground. Before SMPC started the construction of the elevated link bridge, SMPC liaised with EPGE to confirm the changing of design. They also worked with the Myingyan local authorities (GAD & LRD) to confirm the owners of the land who would be affected (permanently) by the elevated link bridge. The land measuring process was a very time-consuming and laborious exercise. The alteration of the original design, identification of PAPs and calculation of necessary compensation was the reason why the compensation process for the 8 PAP's affected by the elevated link bridge was done after its construction.

Ramboll Environ confirms that the compensation payments to these 8 PAPs were made between 27- 30 August 2018, and that ENVIRON received details on the compensation paid to each of the 8 PAPs. ENVIRON reviewed all the compensation documentation provided including the notarized English translations of the 8 sets of compensation agreements and payment acknowledgements and can confirm, based on the documents reviewed, that the amount and form of compensation provided was deemed adequate for each of the 8 PAPs (see Section **5.23.3**). Ramboll Environ's one-on-one interviews with 4 of the 8 PAPs to assess the compensation process, the adequacy of consultation and the compensation amount and their level of satisfaction is discussed in **Section 5.23.4**.

Summaries of Ramboll Environ's meetings with 3 of the 8 PAPs were included the Fifth Monitoring Report. Covid-19 restrictions limited the number of meetings with PAPs that could take place in December 2020. A summary of the December 2020 meeting with a 4<sup>th</sup> PAP is included in **Section 5.14.2** of this report. Ramboll Environ confirms that the 4 PAPs consulted were satisfied with their compensation and their livelihoods were restored. Ramboll Environ recommends that meetings with the remaining 4 PAPs take place during the next monitoring round.

The findings presented in this report should be incorporated within SMPC's safeguards compliance and corrective action tracking system. The IESC will assess evidence of close-out of each issue in the next monitoring round, which is anticipated to be in December 2021.

## 1. INTRODUCTION

Sembcorp Utilities Pte Ltd (the "Sponsor") was selected by the Ministry of Electric Power (MOEP) of the Government of Myanmar (GOM) as a private sector Independent Power Producer (IPP) to develop a 225 MW Combined Cycle Gas Turbine (CCGT) Power Plant (the "Project") on a Build, Operate and Transfer (BOT) basis in Myingyan Township, in the Mandalay region of Union Republic of Myanmar. A special purpose company, Sembcorp Myingyan Power Company Limited, ("SMPC", "Project Company" or "PCo") was established in Myanmar and is beneficially owned by the Sponsor for the sole purpose of developing and operating the Project.

The Commercial Operation Date (COD) of Open Cycle Mode (Simple Cycle) was in May 2018 (delayed from the original target date of 21 December 2017) and the COD of Combined Cycle Mode was in November 2018.

A Power Purchase Agreement (PPA) was signed for 22 years from COD with the Myanmar Electric Power Enterprise (MEPE), which is a government-owned utility enterprise responsible for power generation, transmission and system operations throughout Myanmar.

Environ Myanmar Co Ltd, (ENVIRON), which is a wholly owned subsidiary of Ramboll Group, was commissioned in 2016 by Sembcorp Myingyan Power Company Limited to act as the Lenders' Independent Environmental and Social Consultant (IESC) on the Project. The responsibility for serving as the Project's IESC was transferred from ENVIRON to Ramboll Environ Singapore Pte Ltd (Ramboll Environ), a wholly owned subsidiary of Ramboll Group, in 2020.

In fulfilling the role of Lenders' IESC, Ramboll Environ has a duty of care to a consortium of lenders (the "Lenders") to the Project, including the International Finance Corporation (IFC), Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), and the Multilateral Investment Guarantee Agency<sup>2</sup> (MIGA) which is a member of the World Bank Group (WBG).

This Sixth Environmental and Social Monitoring Report covers the period from December 2019 to December 2020 and provides our findings following a December 2020 virtual monitoring visit to the Project and includes an assessment against Applicable Standards, specifically, the IFC Performance Standards (2012), applicable WBG Environmental, Health and Safety (EHS) Guidelines, and the ADB Safeguard Policy Statement 2009 and related ADB safeguard policies including ADB Social Protection Strategy, 2001, thereby identifying any environmental and social risks associated with the Project's development to completion.

Ramboll Environ reviewed the Project's Covid-19 Business Continuity Plan (BCP) Implementation (**Appendix 12**), limitations in 2020 on the implementation of the Stakeholder Engagement Plan and Community Development Plan and modifications to Human Resources procedures that were put in place to limit any potential impacts from the Covid-19 pandemic on the Project's workforce and local communities. Ramboll Environ anticipates that these Project changes will be reversed once the Covid-19 restrictions are lifted in the Myingyan area.

<sup>2</sup> Insurer for the lenders to Sembcorp Myingyan Power Company Limited.

## 2. SCOPE AND STRUCTURE OF THE REPORT

### 2.1 Scope and Methodology

This Sixth Environmental and Social Monitoring Report details the Project's compliance with the Applicable Standards listed in **Section 2.2**, and in doing so, presents the environmental and social risks associated with the Project. It has been prepared for the attention of Sembcorp, IFC, ADB, AIIB, MIGA, and other entities defined as relying parties<sup>3</sup>. It addresses the various components of the Project (as defined in Section 3, Project Description).

The report presents the findings of the Sixth Monitoring Round based on information gained through the following activities:

- A review of updated Project documentation.
- A review of ESAP observations and implementation.
- A review of Health, Safety, Environment Management System (HSE-MS) documentation.
- A virtual site visit undertaken from December 10-18, 2020 by Juliana Ding, Sharon Maharg and Cara Quinn, on behalf of Ramboll Environ, which included the following activities:
  - Interviews held with senior management representatives, HSE, Community Relations/Development and Human Resources management within SMPC.
  - Visual observations (site visit photolog provided by SMPC in **Appendix 1A**) made during the community consultations.
  - Virtual Visits to five affected local communities near the elevated river water supply pipeline (i.e., Tha Pyay Thar, Hta Naung Pin Su, Nyaung Kan, Gyoke Pin and Aye Villages) where the following activities took place:
    - Consultation with U Nyunt Kyi (PAP): Hta Naung Pin Su Village;
    - Meeting with U Shu Maung; Village Head of Nyaung Kan Village;
    - Meeting with U Kyaw Min Wai; Gyoke Pin Village;
    - Meeting with U Kyaw Htun, a fisherman; Tha Pyay Thar Village;
    - Meeting with U Win Shiw; Village Head of Tha Pyay Thar Village; and
    - Meeting with U Myint Swe – Village Head of Aye Village.

The Monitoring Plan presented in **Appendix 2** of this report details the scope and objectives of the monitoring visit, specifies the activities planned and presents the proposed work schedule for the virtual site visit. Some of the activities planned did not take place due to the Covid-19 restrictions that were in place at the time of the visit (i.e., consultations with 4 of the remaining 5 PAPs, meeting with the hospital director, and visit to the hospital's medical waste incinerator). The activities that did not take place during this monitoring visit will be included in our next site visit's agenda.

A full list of Project documentation reviewed during preparation of this Sixth Environmental and Social Monitoring Report is included in **Appendix 13**.

### 2.2 Applicable Standards

In accordance with Ramboll Environ's Terms of Reference, the Project was assessed against the following standards, guidelines, and project-specific legal requirements (the Applicable Standards):

<sup>3</sup> Relying parties include other lenders.

- Applicable laws and regulations of Myanmar, including specific environmental license conditions (if any);
- International Law including conventions and treaties adopted by Myanmar and applicable to the Project;
- IFC Environmental and Social Performance Standards (1st January 2012) applicable to the Project, including:
  - PS1: Assessment & Management of Environmental & Social Risks & Impacts;
  - PS2: Labor and Working Conditions;
  - PS3: Resource Efficiency and Pollution Prevention;
  - PS4: Community Health, Safety, and Security;
  - PS5: Land Acquisition and Involuntary Resettlement;
- WBG Environmental, Health and Safety (EHS) Guidelines in force at the time of this agreement applicable to the Project, including General EHS Guidelines (2007), Thermal Power EHS Guidelines (2008), and Electricity Transmission and Distribution EHS Guidelines (2007); and
- ADB Safeguard Policy Statement 2009 and related ADB safeguard policies including ADB Social Protection Strategy, 2001.

IFC PS7 (Indigenous Peoples) was excluded from the scope of the monitoring assignment on the basis that the Environmental and Social Impact Assessment (ESIA) performed prior to financial close concluded that no Indigenous Peoples are affected by the Project.

A construction phase Biodiversity Management Plan was prepared. However, it was later determined that IFC PS6 (Biodiversity Conservation and Sustainable Management of Living Natural Resources) would not be applicable to the Project.

In addition, **Section 5.21** references the construction phase Cultural Heritage Management Plan that was prepared for the Project. At a later date, it was determined that PS8 (Cultural Heritage) would not be applicable to the Project.

The Project was also assessed against the requirements of the Environmental and Social Action Plan (ESAP) agreed between IFC and the Project Company (IFC Project # 36627).

### **2.3 Status of Environmental Licenses and Permits**

The Project has not yet been issued an Environmental Compliance Certificate (ECC) by the Ministry of Natural Resources and Environmental Conservation (MONREC), but approval to commence construction was issued by the Ministry of Electric Power (MOEP). This situation is common in Myanmar due to a longer timeframe for ESIA approval by MONREC since the introduction of a new national ESIA standard in 2015. There has been no change to this status since the IESC's visit in December 2019. It is recommended that SMPC follows up with MONREC regarding the matter of the ECC for the Project.

A letter from the Ministry of Natural Resource and Environmental Conservation's Environmental Conservation Department (ECD), dated 17 March 2017, acknowledged that the Project ESIA report meets the requirements of the Myanmar Environmental Impact Procedure of 29 December 2015. It also highlighted many commitments given in the ESIA report, which the ECD expects to be met.

### **2.4 Project Categorization**

The Lenders have determined that the Project is a Category A project under the IFC PSs and the

following categorizations under the ADB Safeguard Policy Statement (2009):

- Environmental: Category A;
- Involuntary Resettlement: Category B; and
- Indigenous Peoples: Category C; and Ramboll Environ concurs with these assessments.

In accordance with IFC's and ADB's categorization requirements, the Project undertook a full ESIA, with public disclosure and a public consultation process. The initial ESIA was developed in September 2015 and two revisions were subsequently issued (November 2015 and August 2016).

## 2.5 Structure of the Report

**Section 3** provides a description of the Project facilities, activities and timelines. **Section 4** describes how different levels of significance are attributed to issues highlighted in the report, and **Section 5** presents the findings of this environmental and social monitoring exercise. To avoid unnecessary repetition when commenting on compliance with IFC and ADB standards our findings have been structured around the Project's operation phase Environmental and Social Management Plan (ESMP), and additional topics not covered by the ESMP (i.e., Land Acquisition & Resettlement and certain topics under Labor & Working Conditions). The key issues identified against each topic are summarized in 'significance tables' for each Plan. **Section 6** provides a commentary on the status of ESAP issues and **Section 7** presents a summary of our key findings.

Within the report we have endeavored to provide a balanced opinion, providing examples of good practice and identifying improvements made in closing gaps that were noted in the Fifth Environmental and Social Monitoring Report. However, due to the nature of a monitoring report, and the broad range of aspects covered, it does focus on the remaining gaps in compliance with the Applicable Standards and recommended actions to close these gaps.

## 2.6 Limitations

The IESC only considered activities relevant for the current monitoring period, and ongoing Project activities.

The IESC's findings of the Project's compliance with its construction phase ESMP, and additional topics not covered by the ESMP (as described above) were transferred to Appendix 3 in the Fifth Monitoring Report

Future activities will be the subject of forthcoming monitoring visits.

## 2.7 Covid-19 Situation

The Covid-19 (coronavirus disease 2019) pandemic is a rapidly changing global event which unfolded in 2020. Due to movement restrictions, the IESC Audit Team was unable to physically travel to Myanmar to conduct the Sixth Monitoring Round. A virtual monitoring round was conducted, comprising of Microsoft Teams videoconference calls, review of 'real time' video footage taken by SMPC as well as a documentation, record and photograph review.

Environmental and Social monitoring in accordance with the Project Commitments was affected by the Covid-19 situation. Documents were reviewed related to the impact of the Covid-19 situation on the environmental and social operations, as follows:

- SMPC Covid-19 Business Continuity Plan (BCP) implementation presentation (**Appendix 12**)
  - Reduction in workforce size and schedule changes for the workforce at the plant



(for further details see **Section 5.24.1**).

- Letter from Golden Dowa Eco-System Myanmar Co Ltd (water quality vendor) dated October 27, 2020, to state that water sampling services is on hold from September 2020 due to Covid-19 and the lock down announcement by MOHS Order No 107/2020;
- Letter from E-Guard Environmental Services Myanmar Co Ltd (air and noise monitoring vendor) dated October 7, 2020, to state that environmental quality monitoring cannot be conducted due to Covid-19 and the lock down announcement by MOHS Order No 107/2020;
- Information provided by SMPC on the following Covid-19 imposed Project limitations from March – December, which caused SMPC to not be able to fully meet the commitments under the Stakeholder Engagement Plan and Community Development Plan:
  - Government imposed restrictions on crowd size at the Annual Public Stakeholder Engagement Meeting in December 2020 (a maximum 15 people per village);
  - Restrictions on entering the villages which caused the CRO and Development Manager to not be able to engage face-to-face with the PAPs, CPs and other stakeholders from March- December 2020;
  - Restrictions on meeting with the police and the hospital personnel as part of stakeholder engagement;
  - Slowdown in completion of the 13 CSR activities (investment projects) planned for 2020;
  - Cancellation for 2020 of the Medical Officer providing health awareness clinics for members of the 13 villages; and
  - Cancellation for 2020 of skills training (English language courses) being provided to members of the 13 villages.

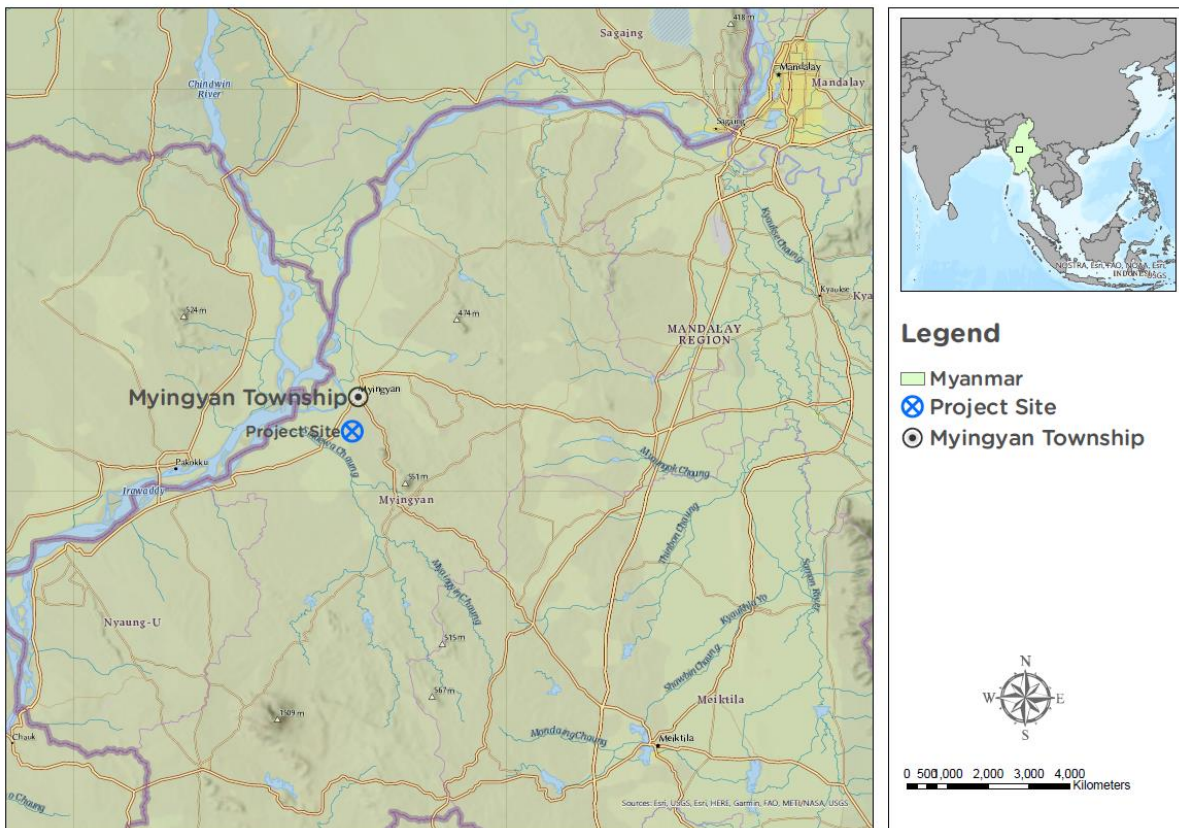
### 3. PROJECT DESCRIPTION

This section is intended to provide a brief description of the Project activities and current status. It provides a high-level summary of the Project based on the description in the Project’s Final ESIA report and associated documentation, with emphasis on those elements of the Project that could give rise to environmental, social and health impacts.

#### 3.1 Project Location

The Project is located approximately 8 km south of the Myingyan Township, which is around 500 km north of Yangon and 90 km south-west of Mandalay, Myanmar.

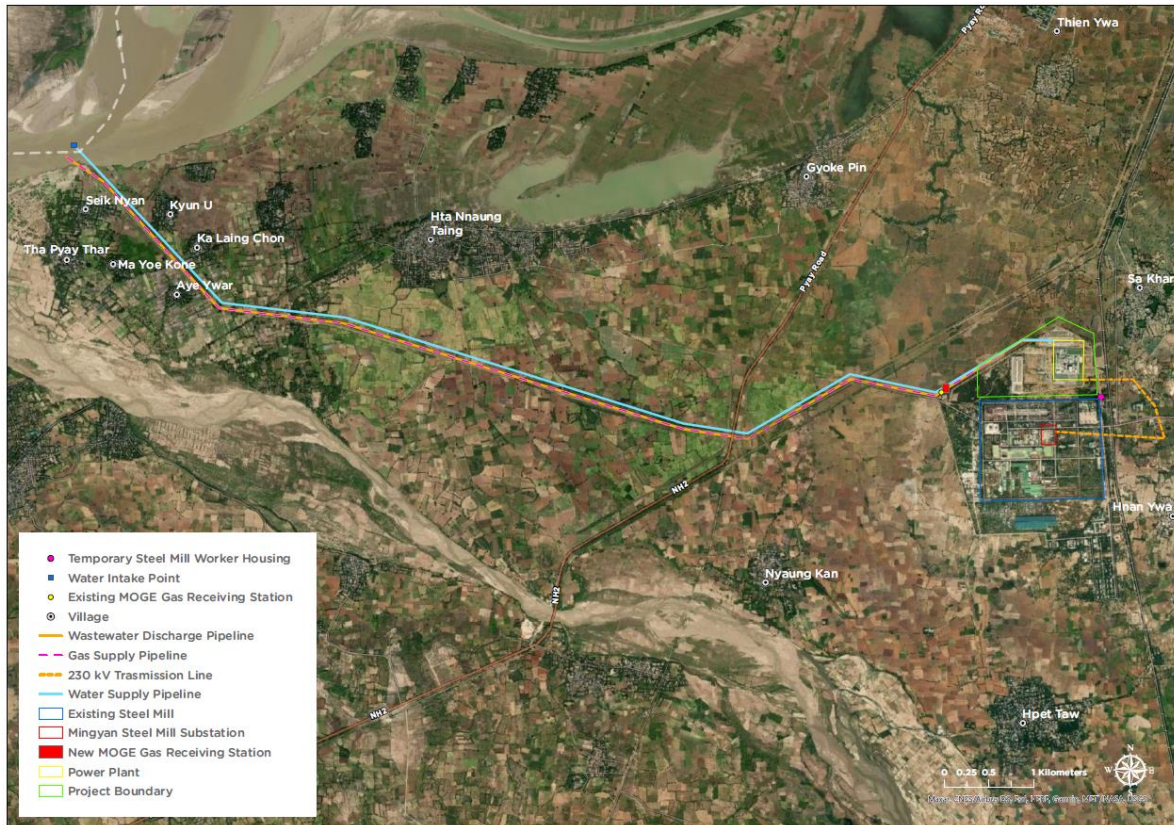
Figure 1: Project Location



The 11.6 hectares Project Site is immediately north of an existing steel mill (Myingyan Steel Mill No. 1) owned by the Ministry of Industry (MOI), occupying a total area of 280 hectares.

### 3.2 Project Description

Figure 2: Project Site Layout



The Project, Sembcorp Myingyan Independent Power Plant (IPP), is a 225-megawatt combined-cycle, gas-fired power plant project. This project was developed under a build-operate-transfer agreement between Sembcorp Myingyan Power Company Limited and the Ministry of Electricity and Energy (MOEE) of Myanmar signed in January 2017. Under the agreement, SMPC will build and operate the power plant for 22 years, after which the facility will be transferred to the government<sup>4</sup>.

Project facilities, now completed, include:

- A 225 MW CCGT power plant comprising two sets of Gas Turbines (GT) units, two sets of Heat Recovery System Generators (HRSG), one steam turbine generating unit with associated auxiliary equipment, switchyard area, cooling water system, demineralized water system, and a wastewater treatment facility;
- A 1.2 km 10" gas supply pipeline from a new gas receiving station installed by Myanmar Oil & Gas Enterprise (MOGE) to supply gas to the Project site, the steel mill and a temporary Aggreko gas-fired power plant;
- A 2.5 km 230 kV overhead transmission line (with eight towers – four in the steel mill site and four in Sa Khar village) between the power plant and a substation in the adjacent steel mill (connection beyond the steel mill is GOM's responsibility);
- A buried 14 km 12" diameter river water supply pipeline linked to a water intake pumping station on the Ayeyarwady River, to the west;
- An overhead line adjacent to the river water supply pipeline supplies power to the pumping station; and
- A buried 14 km 12" diameter wastewater discharge pipeline parallel to the river water supply pipeline, discharging around 75 – 100 m downstream of the water intake pipeline.

<sup>4</sup> Refer to Sembcorp website for further details. <https://www.sembcorpmyingyanipp.com/index.html>



**Figure 3: Project Aerial (Photo from Sembcorp)**



The river water supply and wastewater pipelines are both buried 2 m below the ground surface in a right of way (RoW) 2 m wide, and mostly aligned next to an existing irrigation canal. The RoW was physically reinstated. Land users (farmers) were allowed to reinstate crops beginning in July 2017, but large trees were not permitted in order to avoid damage to the pipelines.

### **3.3 Associated Facilities**

The Project's Associated Facility, as defined by IFC PS1 and ADB's SPS, is limited to the new gas receiving station that was installed by MOGE.

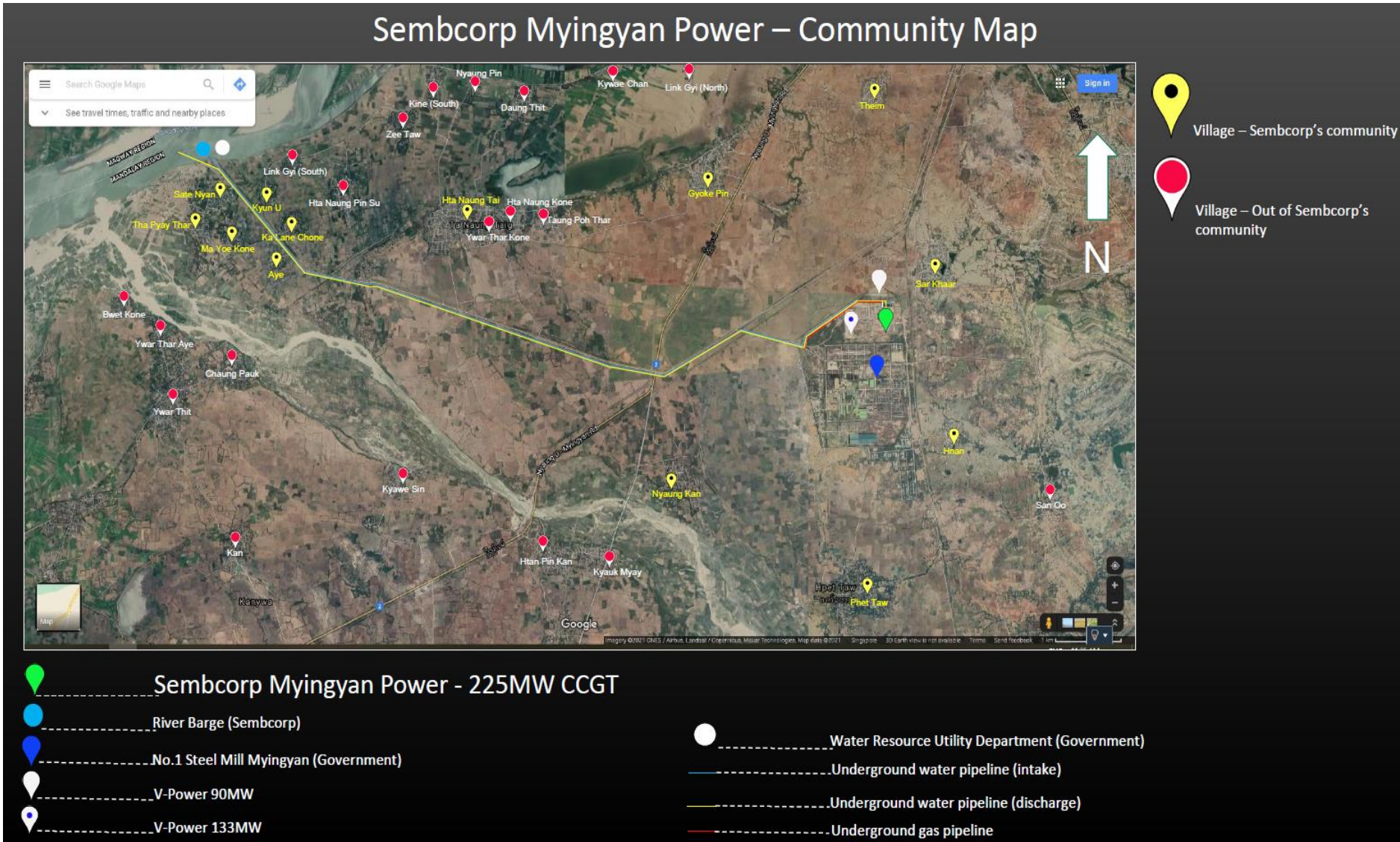
### **3.4 Socio-Economic Context**

As indicated in the ESIA (Revision no. 2, August 2016), the Stakeholder Engagement Plan (SEP), (see also **Figure 4**, there are 13 villages located within the Project's area of influence (AoI). These are:

- Sa Khar village;
- Hnan Ywa village;
- Hpet Taw village;
- Nyaung Kan village;
- Gyoke Pin village;
- Thien Ywa village;
- Tha Pyay Thar village;
- Kyun U village;
- Ka Laing Chon village;
- Aye village;
- Seik Nyan village;

- Ma Yoe Kone village; and
- Hta Hnaung Taing.

Figure 4: Community Map (Provided by SMPC)



### **3.5 Status of the Project at Time of the Sixth Monitoring Assignment**

The Project is currently in the operations phase. Open cycle (Simple Cycle) power generation commenced in May 2018, and combined cycle operation started in November 2018. At the time of the Sixth Monitoring Round, engineering, procurement and construction were 100% complete.

In December 2020, 116 people were working at the Project (see **Table 16** for details on the project workforce), which includes SMPC plus external parties (i.e., external security team and EPGE). For the operations phase, during the pandemic, there are two 12-hour shifts (see **Section 5.24.1**).

There is no longer the need for any workers' accommodation camps; the two remaining workers' accommodation camps were closed prior to ENVIRON's August 2018 site visit. For the operations phase, workers from outside the area stay in rental houses or hotels.

## 4. SIGNIFICANCE ASSESSMENT

### 4.1 Review Findings

A summary of the review findings is presented in a significance table at the end of each sub-section in **Section 5** of this report. For each item, we present:

- The topic/aspect;
- A description of the issue, for example deficiencies or omissions;
- The phase(s) to which an issue relates;
- Identification of the standard(s) against which the issue has been identified;
- Ramboll Environ’s recommendation, where applicable, to resolve/manage the deficiency;
- Where applicable, updated status based on the December 2020 virtual monitoring visit; and
- The significance on a three-point scale (based on the current status, using the criteria below).

### 4.2 Assessment of Significance

A ranking system has been used to indicate the relative significance of an issue identified during the monitoring visit. As well as highlighting the most important areas requiring attention, it can also be used to aid the tracking and rectification of specific items requiring improvement.

Identified issues have been placed into one of the four categories in **Table 1** below:

**Table 1: Significance Ranking**

<b>Minor:</b>	Minor non-compliance, risk or minor technical breach of Applicable Standards and commitments with no material, actual or likely potential: environmental or social consequences; or significant human injury or harm.
<b>Moderate:</b>	Moderate non-compliance or risk with actual or likely potential: localised and short-term environmental or social consequences; minor human injury or harm; or material short-term breach of Applicable Standards and commitments.
<b>High:</b>	Major non-compliance or risk with actual or likely potential: spatially extensive and/or long-term environmental or social consequences; serious human injury/death or harm; or material and extensive breach of Applicable Standards and commitments.
<b>Issue Closed:</b>	An issue that was raised in a previous monitoring visit, which has now been addressed to the satisfaction of the IESC.
<b>Ongoing Activity:</b>	An issue that was raised in a previous monitoring visit, which the Project is actively addressing to close a gap and meet the Applicable Standards.

Where time-critical recommendations for specific actions are made a timeframe linked to Construction/Operational phase milestones is indicated in the IESC recommendation column. Time critical issues can lead to a higher classification of significance.



**Table 2: Example of the Summary Table Format**

ID	Aspect	Issue Description	Phase <sup>5</sup>	Standard	IESC Recommendations	December 2019 Update	Significance
00	Storm water runoff monitoring	<p>The ESAP requires Company X monitors the quality of surface water run-off from facilities.</p> <p>To date the Company has been unable to procure monitoring equipment – no monitoring has been undertaken.</p>	Ops	WBG EHS Guidelines ADB ES Framework	Company X shall expedite procurement of monitoring equipment with the support of senior management.		<b>Moderate</b>

<sup>5</sup> Phases can include: construction; operations; decommissioning or any combination of these phases.

## 5. ASSESSMENT OF ENVIRONMENTAL AND SOCIAL CONFORMANCE WITH PROJECT COMMITMENTS

### 5.1 Introduction

The results of the environmental and social monitoring are presented in **Section 5** of this report, structured around the 7 operation-phase environmental and social management plans, plus two additional sub-sections covering Land Acquisition & Resettlement and certain additional topics under Labor & Working Conditions. The operation-phase management plans were developed by SMPC to implement the mitigation and monitoring measures recommended in the Project's ESIA and to meet Applicable Standards and all 7 management plans are directly managed by SMPC. After the overview of the Project's Environmental and Social Management System (ESMS) in **Section 5.2**, the following sub-sections confirm compliance with and highlight any gaps identified against the management plans and against the Applicable Standards.

### 5.2 Environmental and Social Management System

#### 5.2.1 Construction Phase Environmental and Social Management System

The construction phase ESMP was implemented via the Project's HSE Management System (HSE-MS), which was based on Sembcorp's corporate HSSE-MS. The management system is described in the Project's Occupational Health and Safety Management Plan and in the Project HSE Plan (Rev 1, 1 April 2016). No major deficiencies or concerns were identified in the construction phase HSE-MS. Implementation of the Project's ESMP, which formed the main operational control element of the management system was reviewed during the July 2017, January 2018 and August 2018 IESC monitoring visits. Since the issuance of the Second Environmental and Social Monitoring Report (August 2017), numerous improvements were made to environmental plans covering air quality and dust management, plant and vehicle management and maintenance, traffic management, surface water management, soil and groundwater management, waste management, and oil and chemical spill contingencies; and to social plans covering stakeholder engagement, community development, community health management, and local recruitment and procurement. The site has since transitioned to the operations phase and the details of the Project's Operations Phase HSE Management System (HSE-MS) are detailed in **Section 5.2.2**.

#### 5.2.2 Operations Phase Environmental and Social Management System

SMPC prepared a series of plans that together form the operations phase ESMP. The operations phase ESMP was implemented via the Project's HSE Management System (HSE-MS), which was based on Sembcorp's Corporate HSSE-MS. The management system is described in the Project's Occupational Safety and Health Management Plan (Document No. 3.02.01.010 dated October 2, 2018). The seven (7) operations phase plans are:

- Environmental Management Plan which combines the following topics into one consolidated plan:
  - Air Quality Management
  - Noise and Vibration Management
  - Surface Water Quality Management
  - Waste Management
- Occupational Health and Safety Management Plan
- Plant Emergency Preparedness and Response Plan
- Security Management Plan

- Community Development Plan which includes Community Health Management
- Stakeholder Engagement Plan
- Local Recruitment and Procurement Management Plan

The plans were developed based on similar documents used in Sembcorp operations in Singapore and the Sembcorp Salalah Power and Water Company in Oman. Ramboll Environ understands that around 200 technical operations phase procedures have already been developed.

An updated HSE organization chart including the change in senior management (for the operations phase was made available (**Figure 5**). In August 2018, ENVIRON reviewed the job description for the operations phase HSSE Manager's role and concluded that it was comprehensive and fit-for-purpose. The Operations and Maintenance (O&M) team received one-month of training by the construction team staff on technical and HSE issues. In addition, O&M representatives visited the Sembcorp power plant in Jurong Island (Singapore). During the December 2019 site visit, the IESC visited the operations phase control room and was satisfied that operators have access to adequate information to manage HSE issues (e.g. process safety parameters, emissions data from the CEMS system, and wastewater treatment plant data). The control room was also viewed during the virtual plant walkthrough during the Sixth Monitoring Round. No issues were identified.

Recommendation:

The IESC recommends that the emissions data from the CEMS is shared for internal review with the Project HSSE Team on a regular basis.

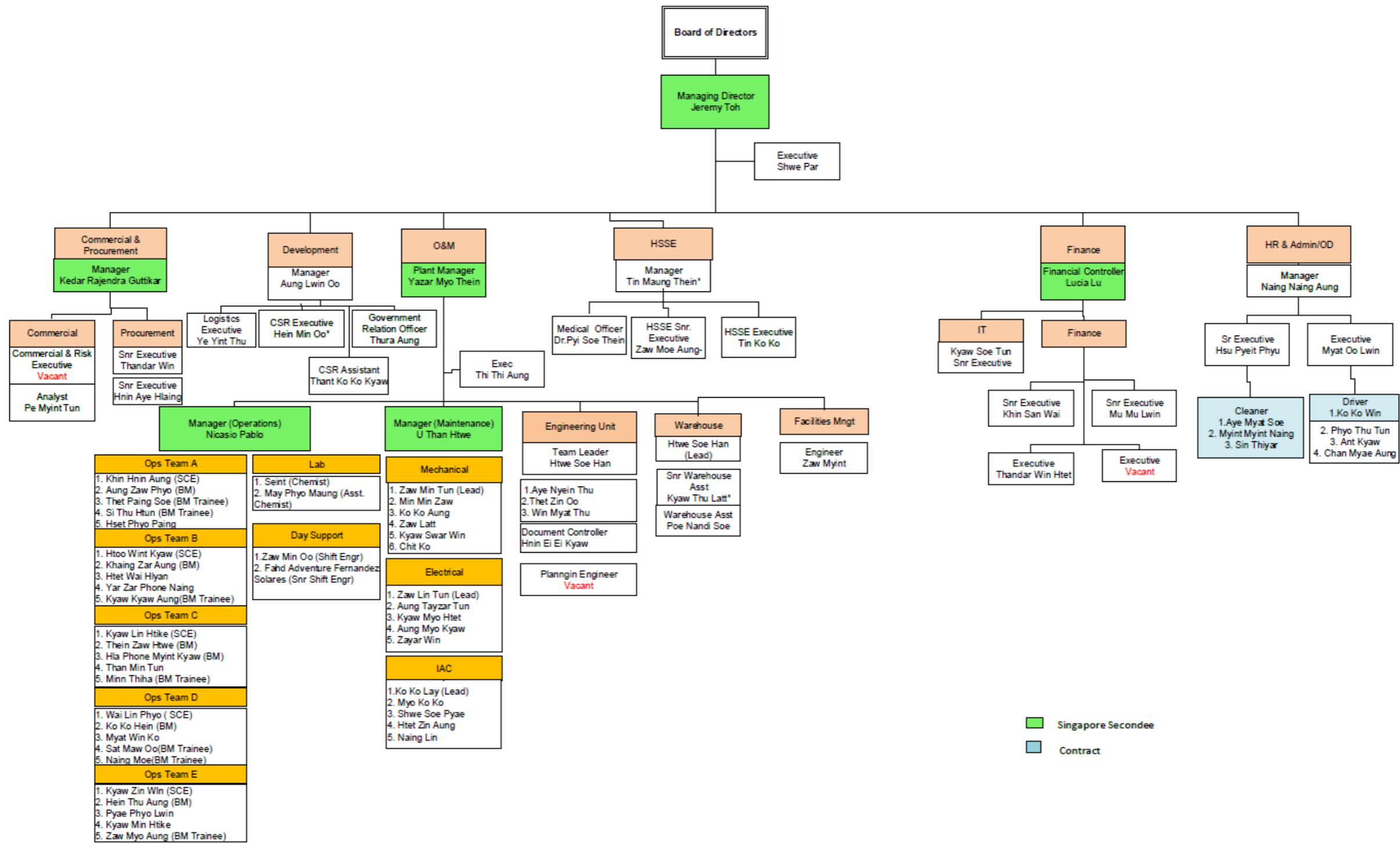


Figure 5: Project Operational Phase Environmental and Social Organisation Chart

**Table 3: Summary of Findings - Environmental and Social Management System**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Operations phase ESMS	<p>The operations phase ESMP was implemented via the Project's HSE Management System (HSE-MS), which was based on Sembcorp's corporate HSSE-MS. Seven (7) operational phase plans have been developed. However, not all of the recommendations for improvements provided by the Lenders and IESC have been incorporated into the plans.</p>	Operations	<ul style="list-style-type: none"> <li>• IFC PS1</li> <li>• ADB-ES Principle 4</li> </ul>	<p>An operations phase ESMS should be developed for the project prior to commencement of operations. The ESMS should include an ESMP, which could include several individual plans if necessary. Lessons learned from the construction phase ESMP should be applied.</p>	<p>Seven operations phase plans were developed, as listed in Section 5.2.2. These plans were reviewed by the Lenders and IESC prior to Project COD and recommendations for improvement were submitted on February 12, 2019. Revised versions of some of these plans were issued in 2020, namely the Environmental Management Plan, the Plant Emergency Preparedness and Response Plan, the Occupational Health and Safety Management Plan and the Security Operations Plan</p> <p>The Stakeholder Engagement Plan and the Community Development Plan (new versions) were made effective as of January 2021.</p> <p>Based on our review of the final operations phase plans, most of the IESC recommendations have been incorporated into the latest versions of the plans. However, there are some gaps remaining and these are discussed under specific topics in subsequent sections of the report.</p>	<b>Minor</b>

### 5.3 Air Quality and Dust

Air quality and dust management have been included in the site's Environmental Management Plan (EMP) Rev 02 dated 7 July 2020. The key emission source associated with the operation of the Plant is the stack emissions from the combustion of natural gas during combined cycle and simple cycle operations i.e. the main and by-pass stacks of 40 m and 30 m height, respectively.

#### 5.3.1 Combustion Gases

All vehicles and equipment use premium diesel, which is the highest quality diesel available in Myanmar, to reduce sulphur emissions. For the operations phase, issues related to fugitive emissions of volatile substances are considered minimal. The details of the operations phase emissions monitoring from the main and by-pass stacks are discussed in **Section 5.3.3** below.

#### 5.3.2 Dust

The construction phase is complete and the site has been completely laid with asphalt, gravel or grass cover. All issues raised in the previous monitoring visits have now been closed or are considered not relevant for the operations phase of the project.

#### 5.3.3 Emissions Monitoring

The Project consists of two sets of gas turbine generating unit, two sets of heat recovery steam generator (HRSG) and one steam turbine generating unit with associated auxiliary equipment. The Project is designed to operate continuously throughout the year in either simple cycle or combine cycle mode. Each gas turbine is equipped with one bypass stack for simple cycle mode and one main stack for combined cycle mode. The main stack and the bypass stack do not operate concurrently at any one time.

Key emission sources associated with the operation of the Project are stack emissions from the combustion of natural gas during combined cycle and simple cycle operation. The main air pollutant of concern for a gas-fired combined cycle power plant is nitrogen dioxide (NO<sub>2</sub>) whilst emissions of sulphur dioxide (SO<sub>2</sub>) and particulate matters (PM) including respirable suspended particulates (PM<sub>10</sub>) and fine suspended particulates (PM<sub>2.5</sub>) is considered minimal provided that the combustion process is efficient.

A Continuous Emissions Monitoring System (CEMS), supplied by Yokogawa, has been installed for both Gas Turbines. They provide continuous monitoring of NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, CO, O<sub>2</sub>, dust and flow. However, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) was monitored using a portable monitoring device from November 2019 onwards as the meter was not functional. The particulates meter should be repaired or replaced as soon as possible by Sembcorp. A summary of the stack emissions monitoring results and the particulate matter monitoring via portable device was provided for review for the month of October 2020, however the monthly data for the facility for the monitoring period January – December 2020 was only provided for NO<sub>x</sub>.

The IESC recommends that the SMPC should provide the full CEMS set of data for review and include more detailed analysis, discussion and conclusions when assessing the monitoring results and the overall trends. In addition to the CEMS data, an annual stack emission test following USEPA method or equivalent is required by the EMP; this test should be conducted and reported to the IESC on an annual basis.

The available CEMS data (hourly NO<sub>x</sub> stack emissions monitored at 2 different emission units from January 1, 2020 to December 31, 2020) was reviewed by the IESC. The maximum hourly emissions are listed in **Table 4** below, The maximum hourly emissions are below the Myanmar National Environmental Quality (Emission) Guidelines Values for Thermal Power with a total rated heat input capacity above 50-megawatt thermal input on high heating value basis. The guideline

value is 100 mg/Nm<sup>3</sup> for NO<sub>x</sub> emissions caused by the operations of the natural gas power plant. The maximum emissions occurred during low load operations. The low load operations occurred rarely during 2020: 32 hours for Unit 1 and 26 hours for Unit 2, or 0.3% and 0.4% of total hours for Unit 1 and Unit 2, respectively.

**Table 4: Maximum Monitored Stack Emissions – Hourly NO<sub>x</sub>**

Emission Unit	Date, Time	Maximum Hourly Emission (ppmv)	Maximum Hourly Emission (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)
Unit 1	6 December 2020, 21:00 – 21:59	49.4	94.5
Unit 2	14 May 2020, 17:00 – 17:59	40.8	78.1

Note:

a. To convert NO<sub>x</sub> concentration from ppmv to mg/Nm<sup>3</sup>, molecular weight of 46.01 g/mol is used for a conservative estimate.

Compared with low load operations, normal operations produce less NO<sub>2</sub> in the emissions. The range of the stack emissions are listed month by month in **Table 5** and **Table 6** for Unit 1 and Unit 2.

**Table 5: Minimum and Maximum Monitored Stack Emissions during Normal Operations for Unit 1 – Hourly NO<sub>x</sub>**

Month	Min (ppmv)	Max (ppmv)	Min (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)	Max (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)
Jan	0	22.43	0	42.9
Feb	0	18.6	0	35.6
Mar	10.5	18.6	20.1	35.6
Apr	0	22.8	0	43.6
May	0	24.5	0	46.9
Jun	0	21.6	0	41.3
Jul	0	16.8	0	32.2
Aug	14	16.4	26.8	31.4
Sep	0	24.4	0	46.7
Oct	0	24.9	0	47.7
Nov	0	24.2	0	46.3
Dec	0	23.5	0	45

**Table 6: Minimum and Maximum Monitored Stack Emissions during Normal Operations for Unit 2 – Hourly NO<sub>x</sub>**

Month	Min (ppmv)	Max (ppmv)	Min (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)	Max (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)
Jan	0	13.7	0	26.2
Feb	0	13	0	24.9
Mar	8.4	13	16.1	24.9
Apr	0	13.3	0	25.5
May	0	13.4	0	25.6
Jun	0	15.7	0	30
Jul	0	21.6	0	41.3



Month	Min (ppmv)	Max (ppmv)	Min (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)	Max (mg/Nm <sup>3a</sup> @101.325 kPa, 293.15 K, dry)
Aug	12	13.4	23	25.6
Sep	0	24.9	0	47.7
Oct	0	24.7	0	47.3
Nov	0	22.3	0	42.7
Dec	0	23.4	0	44.8

A graphical representation of the results and the laboratory reports are presented in **Appendix 3**.

#### 5.3.3.4 Ambient Air Quality Monitoring

Ambient air quality monitoring was carried out at four external monitoring points in 2020.

The ambient air quality monitoring points are located at village houses in the vicinity of the Project, as follows (refer to **Figure 6**):

- Hnan Ywa village (ASR3);
- Sa Khar village (ASR4);
- Gyoke Pin village (ASR5); and
- Nyaung Kan village (ASR14).

**Figure 6: Ambient Air Quality and Noise Monitoring Locations**



The ambient air monitoring was conducted by E Guard Environmental Services, a third party appointed by SMPC.

Monitoring data was reviewed for March 2020 (sampling period from March 16, 2019 to March 20, 2020) and July 2020 (sampling period from June 29, 2020 to July 3, 2020). Note that data from



September 2020 and December 2020 was not available due to Covid-19 situation.

The parameters monitored were as follows:

- Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>);
- Carbon monoxide (CO);
- Carbon dioxide (CO<sub>2</sub>);
- Sulphur dioxide (SO<sub>2</sub>); and
- Nitrogen Dioxide (NO<sub>2</sub>).

The monitoring results were compared against the relevant assessment criteria, as follows: the Myanmar National Environmental Quality (Emission) (NEQ) Guidelines (2015), World Health Organization (WHO) Air Quality Guidelines Global Update 2005 as well as the National Ambient Air Quality Standards (NAAQS) issued by the US Environmental Protection Agency (US EPA). The results are provided in **Figure 7**.

**Table 7: Ambient Air Quality Monitoring at Sensitive Receptors**

Name of Sampling Locations	Approximate Distance from Site	Parameters	Units	Mar-20	Jun-20 *	Project Standard	Average Period
Sa Ka Village	630 m	CO	ppm	0	0	9	8 hrs
		CO <sub>2</sub>	ppm	447.89	427.62	5000	8 hrs
		SO <sub>2</sub>	µg/m <sup>3</sup>	0	0	20	24 hrs
		NO <sub>2</sub>	µg/m <sup>3</sup>	3.80	3.76	200	1 hr
		PM <sub>10</sub>	µg/m <sup>3</sup>	22.67	4.37	50	24 hrs
		PM <sub>2.5</sub>	µg/m <sup>3</sup>	13.74	2.09	25	24 hrs
Hnan Ywa Village	1,560 m	CO	ppm	0	0	9	8 hrs
		CO <sub>2</sub>	ppm	450.01	417.89	5000	8 hrs
		SO <sub>2</sub>	µg/m <sup>3</sup>	0	0	20	24 hrs
		NO <sub>2</sub>	µg/m <sup>3</sup>	3.76	3.76	200	1 hr
		PM <sub>10</sub>	µg/m <sup>3</sup>	23.61	3.23	50	24 hrs
		PM <sub>2.5</sub>	µg/m <sup>3</sup>	14.18	1.47	25	24 hrs
Gyoke Pin Village	2,720 m	CO	ppm	0	0	9	8 hrs
		CO <sub>2</sub>	ppm	529.58	431.19	5000	8 hrs
		SO <sub>2</sub>	µg/m <sup>3</sup>	0	0	20	24 hrs
		NO <sub>2</sub>	µg/m <sup>3</sup>	30.51	8.46	200	1 hr
		PM <sub>10</sub>	µg/m <sup>3</sup>	19.66	2.56	50	24 hrs
		PM <sub>2.5</sub>	µg/m <sup>3</sup>	11.04	1.20	25	24 hrs
Nyaung Kan Village	2,760 m	CO	ppm	0	0	9	8 hrs
		CO <sub>2</sub>	ppm	500.75	431.88	5000	8 hrs
		SO <sub>2</sub>	µg/m <sup>3</sup>	0	0	20	24 hrs
		NO <sub>2</sub>	µg/m <sup>3</sup>	28.71	6.26	200	1 hr
		PM <sub>10</sub>	µg/m <sup>3</sup>	28.43	2.86	50	24 hrs
		PM <sub>2.5</sub>	µg/m <sup>3</sup>	17.45	1.51	25	24 hrs

The parameters monitored were compliant against the stipulated criteria at all four monitoring locations. A graphical representation of the results and the laboratory reports are provided in **Appendix 3**.

#### 5.3.3.5 Greenhouse Gas Emissions

As reported in Section 8.3 of the EMP, during the operations phase, an estimated as 2,003.03 tonnes CO<sub>2</sub>e/day (731,106.32 tonnes CO<sub>2</sub>e/year) of greenhouse gas (GHG) emissions would be generated from the Project, mainly from the gas turbine generators in the CCGT Power Plant. The estimated GHG emission exceeds the threshold that defines significant emitters of GHGs by the ADB SPS and EP III (100,000 tonnes CO<sub>2</sub>e/year) and IFC PS3 (25,000 tonnes CO<sub>2</sub>e/year).

The EMP requires reporting of GHG generation on an annual basis during the operations phase. Measurements to be made as listed in the EMP include natural gas consumption. The EMP proposes the preparation of an annual pollutant release inventory to monitor GHG emissions from the Plant with GHG emission reported as a CO<sub>2</sub>e unit, and emissions off-sets, where feasible.

SMPC submitted a letter entitled EMP and GHG Report to MONREC in 2020 (reference: MONREC Letter\_SMPC-MM-2020-065 Submission of EMP and GHG, dated 9 September 2020). The EMP and GHG Report contained Sembcorp's Air Quality Monitoring Report and Water Quality Monitoring Report. A GHG inventory or details of GHG generation in tonnes CO<sub>2</sub>e unit were not provided in the report.

The IESC recommends that, in accordance with the EMP, SMPC report an annual pollutant release inventory to monitor GHG emissions from the Plant, with GHG emission reported as a CO<sub>2</sub>e unit (e.g. tonnes of CO<sub>2</sub>e per year). The GHG emission reported in a CO<sub>2</sub>e unit should be provided for the IESC to review on an annual basis as part of the operations phase E&S monitoring.

**Table 8: Summary of Findings - Air Quality and Dust**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Operations phase air emissions	The particulate matter sensors were not functioning during the site visit. Portable monitoring devices were being used to monitor particulate matter.	Operations	<ul style="list-style-type: none"> <li>Management Plan</li> <li>IFC PS3</li> <li>General EHS Guidelines</li> <li>ADB-ES Principle 9</li> </ul>	Data from the CEMS for continuous monitoring of NOx, SO2, CO2, CO and O2 is available. As the particulate matter sensors were not functioning during the site visit, the site was conducting monitoring for PM <sub>10</sub> and PM <sub>2.5</sub> via a portable particulate monitoring device. The site shall ensure that the particulate matter sensors are fixed.	Data from the CEMS for continuous monitoring of SO2, CO2, CO and O2 was not available; the full dataset for 2020 was provided only for NOx. The IESC recommends that the monitoring data from the CEMS is compiled, reviewed for potential exceedances, documented, and provided to the IESC for review on an annual basis.  In addition to the CEMS data, an annual stack emission test following USEPA method or equivalent is required by the EMP; this test should be conducted and reported to the IESC on an annual basis.	<b>Minor</b>
002	Greenhouse Gas (GHG) emissions	According to the EMP, an estimated 2,003.03 tCO2e/ day (731,106.32 t CO2e/year) of GHG emissions were estimated to be generated from the Project during the operations phase.  The estimated GHG emission exceeds the threshold that defines significant emitters of GHGs by the ADB SPS and EP III (100,000 tonnes CO2e/year) and IFC PS3 (25,000 tonnes CO2e/year).	Operations	<ul style="list-style-type: none"> <li>Management Plan</li> </ul>	-	The EMP requires reporting of GHG generation on an annual basis during the operations phase, reported as a CO2e unit, and emissions off-sets, where feasible.  The IESC recommends that, in accordance with the EMP, SMPC reports an annual pollutant release inventory to monitor GHG emissions from the Plant, with GHG emission reported as a CO2e unit (e.g. tonnes of CO2e per year). The GHG emission reported in a CO2e unit should be provided for the IESC to review on an annual basis as part of the operations phase E&S monitoring.	<b>Minor</b>

#### **5.4 Plant and Vehicle Management and Maintenance**

Plant and vehicle management and maintenance requirements have been incorporated into the operations phase Occupational Safety and Health (OSH) Management Plan (PPMS Document Reference: 3.02.01.010, First Issue, 2nd October 2018). The OSH plan describes the Project's operational phase occupational health and safety requirements and includes some elements related to plant vehicle management and maintenance in Section 17.2 of the OSH plan.

No significant issues were identified related to the condition of the plant or equipment for the Project during the IESC fifth monitoring visit in December 2019. Operators complete a daily checklist before operating equipment and send the completed forms to their supervisors. Should any maintenance issues be identified, the maintenance department is immediately notified.

## 5.5 Traffic Management

### 5.5.1 General Traffic Management

The operations phase Occupational Safety and Health (OSH) Management Plan (PPMS Document Reference: 3.02.01.010, First Issue, 2nd October 2018) describes the Project's operational phase occupational health and safety requirements and includes some elements related to traffic safety in Section 17.2 of the plan. The OSH Management plan specifies speed limits, requirement to wear seat belts and vehicle maintenance requirements.

### 5.5.2 On-site Traffic Management

**Figure 7** shows the internal traffic layout within the site. The Fifth Monitoring Round noted that there were several signs clearly displaying the speed limit of 15 km/hour at various locations within the site, and that there were three (3) security gates and security personnel at the entrance check that all vehicle occupants are wearing a seat belt before vehicles are allowed to enter.

It is recommended that on-site traffic management be reviewed again during the next IESC site visit.

**Figure 7: Site Traffic Flow for Operations Phase**



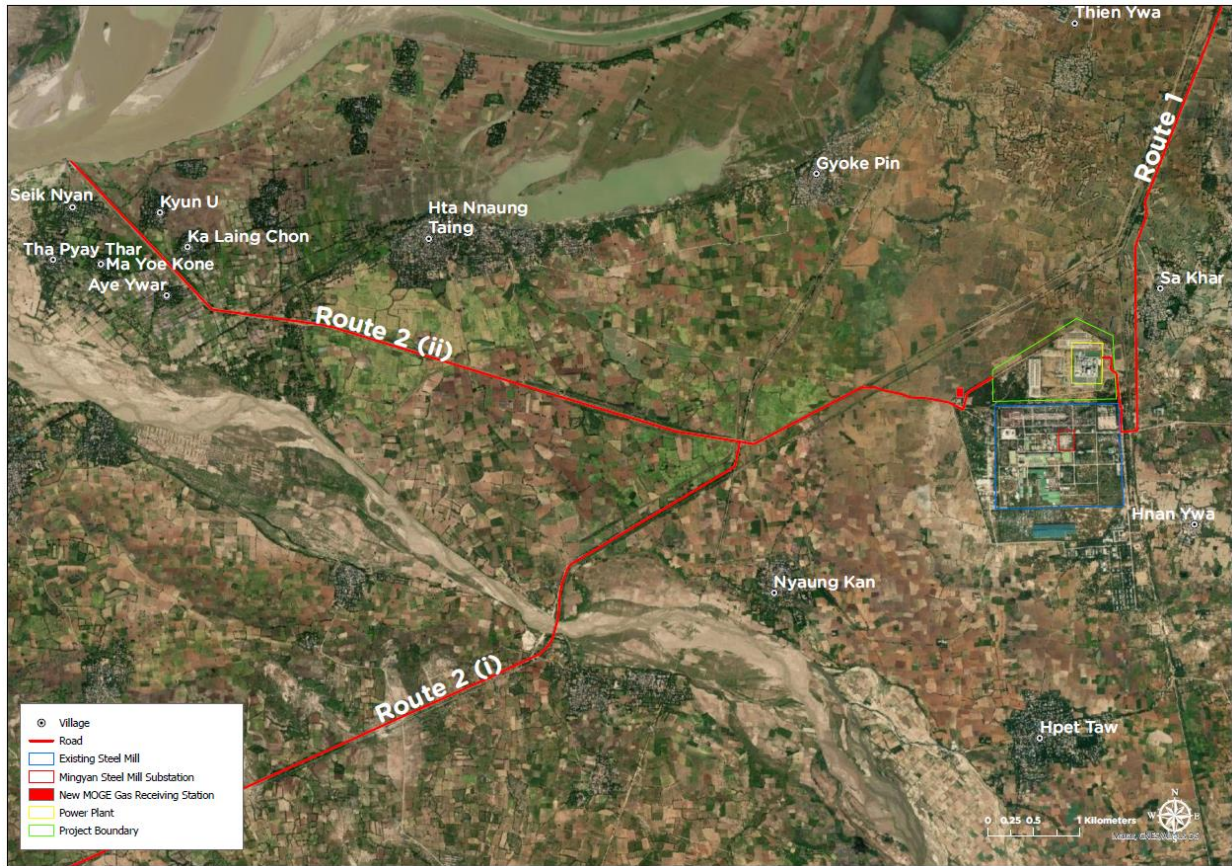
### 5.5.3 Off-site Traffic Management

The approved access routes to the Project site during the construction phase (refer to **Figure 8**) remain the main access routes to the facility during the operations phase.

Construction phase heavy vehicle movements have now ceased and traffic movements to the Project now, during the operations phase, is no longer considered a significant issue. However, it is recommended that off-site traffic management be reviewed again during the next IESC site visit to assess operations phase impact, if any, on nearby communities such as the small informal settlement near the main site entrance (Route 2 (ii)).



Figure 8: Approved Site Access Routes



#### 5.5.4 Deficiencies Against Applicable Standards

All issues raised in the past monitoring visits have been closed, largely via modifying the requirements of the construction phase Traffic Management Plan.

Requirements related to traffic for the operational phase have been incorporated into the Occupational Safety and Health (OSH) Management Plan (PPMS Document Reference: 3.02.01.010, First Issue, 2nd October 2018).

**Table 9: Summary of Findings – Traffic Management**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Management Plan	<p>Requirements related to traffic for the operational phase have been incorporated into the Occupational Safety and Health (OSH) Management Plan (PPMS Document Reference: 3.02.01.010, First Issue, 2nd October 2018).</p> <p>However, the OSH Management Plan refers to a Site Traffic Plan in Section 17.2. which is a document that does not exist for the operational phase as the traffic requirements have already been incorporated into the OSH plan itself.</p>	Operations	<ul style="list-style-type: none"> <li>Management Plan</li> </ul>	References to a Site Traffic Plan in the OSH Management Plan remains despite there being no such standalone document. The OSH Management Plan shall be reviewed and updated to ensure that information that is no longer relevant for the operations phase is removed.	OSH Management Plan has been revised and updated.	<b>Closed</b>

## 5.6 Noise and Vibration

### 5.6.1 Introduction

Noise and vibration management for the operations phase has been included in the site's Environmental Management Plan (EMP), Rev02, dated 7 July 2020.

The construction phase is now complete.

### 5.6.1 Ambient Noise Monitoring

Noise monitoring was carried out at two monitoring locations in 2020. The noise monitoring was conducted E Guard Environmental Services, a third party appointed by SMPC.

The noise monitoring points are located at the Project Site and at a village house in the vicinity of the Project, as follows (refer to **Figure 6**):

- Project Site; and
- Sa Khar Village, approximately 1040 m from the site (ASR4).

The assessment criteria at the WBG General EHS Guidelines. The guidelines specify that daytime noise levels should not exceed 70 dBA at industrial areas, and 55 dBA (daytime) and 45 dBA (night-time) at residential areas.

The average ambient noise levels recorded are as follows in **Table 10** below:

**Table 10: Average Ambient Noise Levels for the Operations Phase**

Name of Sampling Location	Location (time)	March 2020 Report (Leq)	June 2020 Report (Leq)	Assessment Criteria
Myingyan CCPP Plant	N1 (daytime)	64.02	48.90	70
	N1 (nighttime)	64.01	49.90	70
Sa Khar Village	N2 (daytime)	53.24	45.71	55
	N2 (nighttime)	<b>53.10</b>	<b>48.74</b>	45

The ambient noise levels for the site were well below the stipulated limits of 70 dBA in industrial areas. However, ambient noise levels at the closest residential area (N2 - Sa Khar Village) which is located approximately 1040 m from the site exceeded the nighttime limit for all both the March 2020 and June 2020 monitoring events.

The environmental and social impact assessment (ESIA) baseline noise measurements conducted in 2015 at each noise receptors (NR) provided measured background noise levels which were in the range of 50 – 69 dB(A) during the daytime and 44 – 67 dB(A) during the nighttime. The average background noise level at each NR was obtained by averaging the noise levels measured over an eight (8) months period.

It is noted that the initial baseline noise monitoring in 2015 indicated daytime averaged background noise levels at Sa Khar Village had exceeded the Myanmar NEQ / IFC Guidelines on some of the months. Nighttime averaged background noise levels at all the NRs (including Sa Khar Village) had also exceeded the Myanmar NEQ / IFC guideline values.



## 5.7 Water Resources

### 5.7.1 Introduction

For the operations phase, surface water management has been included in the site's Environmental Management Plan (EMP) Rev02 dated 7 July 2020.

The Surface Water Management Plan for the construction phase requires six-monthly monitoring of surface water quality at two locations on the Ayeyarwady River (upstream and downstream of the jetty) and monthly monitoring of water quality at the jetty for the duration of its use by the Project. The IESC inspected the jetty area in July 2017 and no visible evidence of soil or water contamination was found at the time. As the jetty has not been used since 2017, no further action is required for the operational phase.

### 5.7.2 Water Use

During the operational phase, 340 m<sup>3</sup>/hour of water is abstracted from the Ayeyarwady River, via two pumps on a floating river water intake (RWI) barge at Seik Yan, and pumped to a 20,000 m<sup>3</sup> capacity river water reservoir on site (**Appendix 1B, Photo 6**). Over 9,000 m<sup>3</sup> per day of water from the reservoir is treated on-site to provide water for cooling tower, service water and a potable supply. The process includes the following main steps:

- Dosing with sodium hypochlorite, iron (III) chloride, sodium hydroxide and polymer before clarification;
- Clarified water passes through a sand filter, a multimedia filter, then a carbon filter;
- Water destined for the cooling tower also passes through a reverse osmosis process and a mixed bed exchanger;
- Sludge from the clarifier is dewatered in a sludge thickener and a filter press, which produces over 1,000 L/day of sludge. The sludge is transferred from hoppers to trucks for transfer to an off-site sludge storage area.

The IESC noted during the Fifth Monitoring Round in December 2019 that, in general, adequate secondary containment was provided for chemical storage tanks that are used for water treatment chemicals. However, further improvements could be made to the containment area underneath the sludge hoppers. The containment at the sludge hoppers will be reviewed again during the next site visit.

The off-site sludge storage facility was visited by the IESC during the Fifth Monitoring Round in December 2019. The facility is surrounded by a one (1) metre concrete wall and the area is not under roof cover. In the event of heavy rains, there is a potential for the sludge to flow out of the demarcated area into the surrounding land. Based on discussion with the facility personnel and review of photos during the Sixth Monitoring Round, no improvements to containment at the facility have been made. This remains an open item.

### 5.7.2 Sanitary Wastewater Management

The main sources of sanitary wastewater generated during the Project's operations phase are:

- Sewage and wash water effluent from administration/office block; and
- Sewage and wash water effluent from canteen.

#### Sewage

In April 2018, the construction of the sanitary wastewater treatment plant was completed. Therefore, all sanitary wastewater from the administration/ office block is routed to the on-site sanitary wastewater treatment plant from April 2018 onwards. Untreated sanitary wastewater from the site is no longer disposed off-site.

During the December 2019 visit, the IESC was informed that the wash water effluent from the canteen is passed through a grease trap and the water is used for gardening. The sanitary wastewater from the canteen toilet is collected in a cess pit and will be removed by the Myingyan Municipality, using vacuum tankers periodically. During the Fifth and Sixth Monitoring Rounds, the IESC was informed that there has been no collection by the municipal council for this cess pit as yet due to the very small quantities of domestic wastewater being generated from the canteen toilet.

The contents of the cess pit are taken to a municipal wastewater disposal site adjacent to the Myingyan cemetery and graveyard, approximately 7 km south of the centre of Myingyan (**Figure 9**). Once collected by the Municipal Council, it will be pumped into an unlined soil pit, measuring around 5 m x 4 m (**Figure 10**).

**Figure 9: Location of Sanitary Wastewater Disposal Site and Landfill Site**



The Fifth Monitoring Round noted that no sensitive receptors were identified around the wastewater disposal site; the nearest building is the town's crematorium, 110 m to the south while the nearest residential dwelling appeared to be around 600 m to the north-east. The site was otherwise surrounded by agricultural land, and a wooded area immediately to the west, between the pit and the graveyard. This information will be reconfirmed during the IESC's next physical site visit to Myingyan.

**Figure 10: Sanitary Wastewater Disposal Site**



It is recommended that the wastewater disposal site is revisited during the next monitoring round to determine whether the Project's waste is disposed of appropriately.

### 5.7.3 Surface Water Runoff

The Fifth Monitoring Round, conducted during a period of dry weather, did not observe any surface water runoff. The IESC noted that a concrete hard standing car park area was located outside the Administration Building, and that run-off, potentially contaminated with oil or fuel from vehicles, could contaminate surface water drainage. It was recommended that SMPC consider installing an oil interceptor on the drainage system serving this car parking area. The oil interceptor is understood not to be installed, and thus this recommendation for an installation of an oil interceptor remains.

### 5.7.4 Wastewater Streams and Treatment

The main process wastewater streams during the operational phase are as follows:

- 65 m<sup>3</sup>/hour from cooling tower blowdown;
- 35 m<sup>3</sup>/hour from the oil water interceptor (intermittent source i.e. only when raining);
- 1.0 m<sup>3</sup>/hour from the neutralising pit (as part of the raw water treatment process), after treatment; and
- 0.1 m<sup>3</sup>/hour from the sewage treatment plant after treatment. Sewage is treated using methanol (for denitrification), sodium hydroxide (for pH control), ferric sulphate (a coagulant)



and chlorine (for disinfection).

Each of these wastewater streams is channeled to the 500 m<sup>3</sup> capacity Central Monitoring Basin (CMB).

The wastewater stream from the oil water interceptor comprises the following streams:

- Potentially contaminated run-off from all equipment containment drainage, spills,
- Floor wash downs; and
- Fire protection discharges

The CMB wastewater is monitored to ensure compliance to wastewater effluent quality before discharge. On average, approximately 80 to 116 m<sup>3</sup>/hour of treated wastewater is monitored and then discharged from the CMB to the Ayeyarwady River, via a pipe 1 m above the riverbed, and 80 m downstream of the RWI pump barge.

#### 5.7.5 Wastewater Quality Monitoring

Wastewater quality is monitored by an external vendor, Golden Dowa Eco-System Myanmar Co. Ltd. Monitoring is carried out at the following locations:

- Discharge pipeline sampling point (shown in **Appendix 1B - Photo 18**).

The following parameters are monitored at the discharge point:

- pH;
- Dissolved Oxygen;
- Suspended solids;
- COD;
- BOD;
- Total Coliform;
- Oil and Grease;
- Mercury, Zinc, Arsenic, Chromium, Cadmium, Copper, Lead, Iron;
- Turbidity;
- Conductivity;
- Total Chlorine;
- Total Nitrogen;
- Total Phosphorous.

The Project has committed to meeting wastewater discharge limits which are based on the WBG EHS Guidelines for Thermal Power Plants (2008) and the IFC General EHS Guideline: Environmental Wastewater and Ambient Water Quality (2007).

The results of the wastewater discharge monitoring in January 2020 and June 2020 were within the applicable limits. The results are summarised in **Appendix 4**. Monitoring was not conducted in September 2020 and December 2020 due to the Covid-19 situation.

Additionally, the temperature of the wastewater discharge from the CMB is monitored in real time from the Plant Control Room. Wastewater discharge temperature data for January to December 2020 was provided for review which showed that the temperature of the wastewater was within the applicable criteria.

### 5.7.5 Water Quality Monitoring

SMPC conducted two surface water monitoring rounds at the wastewater discharge point as well as upstream and downstream of the discharge point. Sampling was carried out on January 29, 2020 and June 16, 2020. From September 2020 to November 2020, SMPC conducted four additional surface water monitoring events at the wastewater discharge point.

Water quality laboratory analysis is conducted by an external vendor, Golden Dowa Eco-System Myanmar Co. Ltd. Monitoring is required to be conducted on a bi-annual basis.

Monitoring is carried out at the following locations (refer to **Figure 11**):

- Upstream (100 m from the discharge point at Sa Khar Village);
- Upstream mid-river; and
- Downstream (100 m from the discharge point at Sa Khar Village).

**Figure 11: Water Monitoring Locations**



The surface water monitoring results were compared to the relevant discharge limits, which are based on the WBG EHS Guidelines for Thermal Power Plants (2008) and the IFC General EHS Guideline: Environmental Wastewater and Ambient Water Quality (2007).

The results were in compliance to the stipulated limits with the exception of exceedances of Iron monitored at the discharge pipeline sampling point; exceedances of Iron were also noted at upstream and downstream of the discharge point except for the monitoring event on January 29, 2020. The

detailed results of the surface water monitoring are summarised in **Table 11** below.

**Table 11: Wastewater Discharge Monitoring Results from January 2020 and June 2020**

Parameters	Units	Discharge Limits	Jan-20	Jun-20
pH	-	6-9*	7.67	8.04
Dissolved Oxygen	mg/L	-	3.45	-
Total Suspended Solids (TSS)	mg/L	50*	10	24
Biochemical Oxygen Demand (BOD)	mg/L	30**	5.93	-
Chemical Oxygen Demand (COD)	mg/L	125**	17.6	-
Total Coliform Bacteria	MPN/100 ml	400**	130	-
Total Nitrogen	mg/L	10**	1.6	-
Total Phosphorus	mg/L	2**	0.67	-
Oil and Grease	mg/L	10*	< 3.1	< 3.1
Mercury	mg/L	0.005	≤ 0.002	≤ 0.002
Zinc	mg/L	1.0*	0.344	0.452
Arsenic	mg/L	0.5*	≤ 0.01	≤ 0.01
Chromium	mg/L	0.5*	≤ 0.002	≤ 0.002
Cadmium	mg/L	0.1*	≤ 0.002	≤ 0.002
Copper	mg/L	0.5*	≤ 0.002	≤ 0.002
Lead	mg/L	0.5*	≤ 0.002	≤ 0.002
Iron	mg/L	1.0*	<b>1.706</b>	<b>2.114</b>
Turbidity	NTU	< 50**	9.5	-
Conductivity	mS/cm	< 1.2**	0.977	-
Total Chlorine	mg/L	0.2*	0.1	-

\* Myanmar NEQ Guidelines – Effluent Standards for Thermal Power (2015) / IFC EHS Guidelines Thermal Power Plants (2008).  
 \*\* Myanmar NEQ Guidelines – Site Runoff and Wastewater Discharges 2015 / IFC General EHS Guideline: Environmental Wastewater and Ambient Water Quality (2007).

A graphical representation of the results and the laboratory reports are presented in **Appendix 4**.

#### 5.7.6 Other Observations

Two environmental spills/discharges were recorded as near misses in the HSSE KPI records; these were determined to be accidental discharges to the river. Further details were provided by Sembcorp, as follows.

On two occasions, 25 July 2020 and 2 August 2020, accidental discharges of low level pH water to the river occurred. The pH value is required to be between 6 and 9, however the discharged water, around 301 m<sup>3</sup> for a period of 128 minutes in total for both occasions, failed to meet this requirement. The lowest pH level of discharged water was 5.17 and 5.36 for July 25 and August 2, respectively.

Preventative actions listed in the incident log included replacement of the pH meter, however this had not been completed at the time of the monitoring round. Sembcorp reported that the pH meter could only be replaced during plant outage.

Grab samples are reportedly taken from the CMB by the Operations Team to check pH before every discharge. A pH paper stick is used to test the pH level, as, according to facility personnel, there is no time to send samples to the company lab for analysis. No laboratory analysis of pH is done, such as verification sampling and analysis of the reliability of the pH paper sticks. The IESC recommends that the pH meter is replaced, and properly set for both high and low pH level alerts. In the meantime, the IESC recommends that a pH probe is procured for taking hand-held readings rather than reliance on pH paper sticks, and that the pH levels recorded by paper sticks or a probe are verified by laboratory analysis.

**Table 12: Summary of Findings – Surface Water**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Wastewater discharge for operations phase	Some wastewater quality parameters were not meeting the discharge standards.	Operations	<ul style="list-style-type: none"> <li>• IFC PS3</li> <li>• WBG EHS Guidelines</li> <li>• ADB-ES Principle 9</li> </ul>	<p>The IESC recommends that site continues to monitor upstream and downstream of the discharge monitoring location periodically for better comparison of results and analysis of trends.</p> <p>Where possible, the monitoring reports should be clearer in attributing the cause of the recorded exceedances and in demonstrating and documenting the corrective measures that have been undertaken.</p>	<p>Ensure that the monitoring data from is compiled, reviewed for potential exceedances and documented.</p> <p>Following two occasions in 2020 of wastewater discharge to the river with pH levels outside of the permitted range, the IESC recommends replacement of the pH meter as soon as possible to alert both low and high pH levels prior to discharge to the river.</p>	<b>Minor</b>
002	Car park runoff	A concrete hard standing area has been constructed outside the Administration Building, which serves as the car park during the operations phase. Runoff, which could potentially be contaminated with oil or fuel from vehicles could contaminate surface water drainage.	Operations	<ul style="list-style-type: none"> <li>• IFC PS3</li> <li>• WBG EHS Guidelines</li> <li>• ADB-ES Principle 9</li> </ul>	It is recommended that SMPC consider installing an oil interceptor on the drainage system serving this area.	An oil interceptor has not yet been installed.	<b>Minor</b>



## 5.8 Soil and Groundwater

The Environmental Management Plan (EMP), Rev02, dated 7 July 2020, Section 7.7, and the Plant Emergency Preparedness and Response Plan, describe spill response and management protocols.

The Monitoring Round did not identify any new issues related to the storage of chemicals and oils in drums. The previous IESC recommendation regarding the location of the spill kits be clearly indicated in a site layout and included in the operational phase Plant Emergency Preparedness and Response Plan has been actioned.

During the Monitoring Round, the IESC was informed that SMPC has ongoing discussions with a chemical supplier to potentially located a warehouse in Myingyan for chemical storage, thereby reducing the quantity of chemicals stored on-site. Discussions with this supplier is also being held to accept used empty chemical and oil containers/drums for recycling/reuse. The used waste oil containers and drums are currently being stored and reused on-site pending confirmation of acceptance by the chemical supplier. This issue is discussed in further detail in **Section 5.10** of the report.

Soil monitoring is included in the EMP (Section 10.3) in order to assess potential soil and sediment contamination. A soil sample was collected by Sembcorp at Sa Khar Village on 16 June 2020, however the trigger for the sampling (e.g. accidental spillage area) was not recorded by Sembcorp. The soil laboratory analysis was conducted by an external vendor, Golden Dowa Eco-System Myanmar Co. Ltd. The following parameters were analysed: cadmium, arsenic, lead, mercury, selenium, chromium (hexavalent) and pH. Oil and grease, one of the parameters listed in the EMP and a potential soil pollutant from general industrial activities, was not analysed. All heavy metals parameters were below the limit of reporting with the exception of lead which was detected at a concentration of 53.72 mg/kg which was well below the Dutch Intervention Standard of 530 mg/kg. It is recommended that Sembcorp record the exact location and the sampling depth of the sample for subsequent soil sampling rounds.

**Table 13: Summary of Findings – Soil and Groundwater**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Soil sampling	A soil sample was collected by Sembcorp for subsequent analysis by a third party laboratory however the sample location and sampling depth have not been clearly stated in the records, and oil and grease, a potential contaminant of concern, was not analysed.	Operations	<ul style="list-style-type: none"> <li>• Management Plan</li> <li>• IFC PS3</li> <li>• WBG EHS Guidelines</li> <li>• ADB-ES Principle 9</li> </ul>	-	<p>It is recommended that Sembcorp record the exact location and the sampling depth of the sample, for subsequent soil sampling rounds</p> <p>It is recommended that oil and grease be analysed, in accordance with the EMP.</p>	<b>Minor</b>

## 5.9 Biodiversity

The IESC has not identified any issues relating to biodiversity for the operations phase.

## 5.10 Waste Management

### 5.10.1 Waste Generation and Handling

Waste management is included in the site's Environmental Management Plan (EMP), Rev02, dated 7 July 2020 and the Waste (Hazardous & Non-Hazardous) Management Procedure, Rev01, dated 20 August 2020.

During the Fifth Monitoring Round, the IESC noted that clearly labelled and colour-coded bins were observed on site, facilitating collection of recyclable materials. Waste storage areas were generally of an adequate standard. During the Sixth Monitoring Round, facility personnel reported continued waste segregation at the site.

The IESC noted during the Fifth Monitoring Round that general waste disposal quantities had significantly reduced mainly due to the reduction of the workforce from 1,139 people (January 2018) to 119 people (December 2019). The IESC was informed that approximately 1.5 metric tons (MT) per month of domestic waste was generated monthly during the operations phase.

During the Sixth Monitoring Round, facility personnel informed the IESC that an estimated 0.5 MT per month of general waste was generated in 2020. This is a reduction over previous years.

During the Sixth Monitoring Round, facility personnel reported that they are in continued discussion with a chemical supplier to have a chemical warehouse located in Myingyan for chemical storage to reduce the quantity of chemicals stored on-site and potentially, to accept used empty chemical and oil containers/drums for recycling/reuse. The IESC noted that progress on the discussion in 2020 was limited, possibly due to the Covid-19 restrictions.

During the virtual review of the plant, it was observed that empty plastic drums are still being stored at the site, in increasing numbers. One area was observed to store over 120 drums. The drums were not labelled and the facility personnel did not provide a record for review of their former contents or the total number of drums stored at the site.

Facility personnel reported that at least one donation of empty plastic chemical drums to the local community occurred during 2020 as part of a community outreach initiative. Records showed that a total of 6 cleaned plastic chemical drums (each with a capacity of 235 litres) had been donated to the Gyoke Pin Village School on 19 August 2020, at the request of the school's Head Master, for use during students' hand washing. The drums were reported to have previously contained lube oil and to have been thoroughly washed out by SMPC prior to donation to the school for handwashing water storage, thus risk to the community deemed low. However, despite the development of a Cleaning Empty Chemical Containers SOP, no records were available on proper testing of the drums to provide assurance of their suitability for community use.

In the absence of the implementation of a robust drum cleaning process including testing, maintenance of records and assurance by the HSE team of the suitability of the cleaned out drums for community use, the IESC recommends that the drum donation practice is discontinued until such time as measures can be in place to ensure the safety of the containers for use in the community.

### 5.10.2 Off-site Waste Disposal

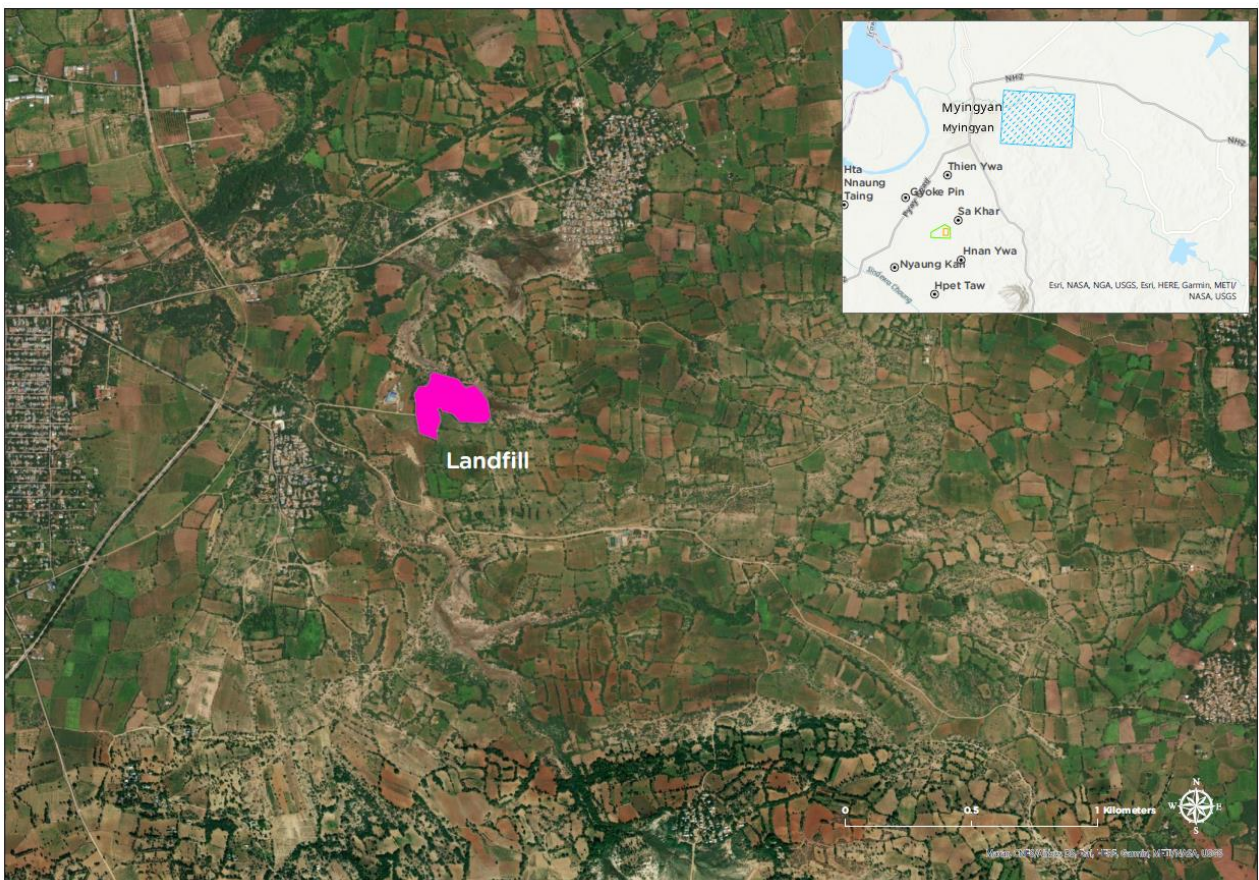
#### General Waste

General waste, with the exception of materials sent for off-site recycling, is collected by OK Company, a local licensed waste contractor, and transported to a designated municipal waste landfill site in Myingyan.

Facility personnel reported that OK Service is the only waste management company in the Myingyan region that has been approved by the regulatory agencies, and that the company disposes of all municipal waste collected in Myingyan.

OK transports and disposes of the general waste to a landfill site operated by the Myingyan Municipality, located around 4 km east of the centre of Myingyan (**Figure 12**). This facility, which was opened in approximately 2016, is not an engineered landfill. During the IESC's Fourth Monitoring Round (August 2018 visit), the facility was observed to be a poorly controlled and unlined waste dump. It was noted that the waste across much of the site was smoldering / burning and can cause nuisance in Myingyan, with scavengers combing through the waste. Whilst it is understood that the Project's waste stream is small compared to the town as a whole and the SMPC no longer maintains a specially demarcated area at the disposal site specifically for its waste, it is recommended that the landfill is revisited during the next monitoring round to determine whether the Project's waste is disposed of appropriately at the landfill.

**Figure 12: Municipal Waste Landfill Site**



### Wastewater Treatment Plant Sludge

During the Fifth Monitoring Round, the IESC was informed that the site generated approximately 10 MT of sludge per month from the water treatment plant. Facility personnel reported that the site had assessed options for sludge treatment and the IESC was informed that an off-site sludge storage location has been identified for the sludge to be dried and potentially used for land farming/ fertilizer. The facility was constructed by OK Services (also operating as Shwe Phyo Yan Co Ltd). The IESC visited the facility and noted that the bunding at this area could be improved. The IESC recommended that the sludge storage area be roofed to prevent rainwater infiltration and run-off controlled.

During the Sixth Monitoring Round, facility personnel reported that the site generated approximately 9 - 15 MT of sludge per month (or approximately 6 collections per month). The quantity is variable due to differences between the dry and rainy season, with higher turbidity and larger sludge volume compared to other seasons. The sludge storage facility was reviewed to determine whether the recommendations for roofing and control of run-off had been implemented. A schematic engineering drawing (**Appendix 11**) was provided for review. The IESC found that the facility is not fully contained, as the facility's road access area (labelled 'road into the water tank' in the engineering drawing) lacks a perimeter wall or bunding. The recommended shelter had also not been constructed. In the event of heavy monsoon rainfall, there is a potential for the sludge or sludge leachate to flow outside of the containment area. It is recommended that the facility be provided with full containment and shelter (roof).

The sludge is listed in the Waste (Hazardous & Non-Hazardous) Management Procedure as a hazardous waste, which is disposed of by an authorised disposal contractor. Should the sludge be used for land farming or other purposes, the characteristics such as ignitability, corrosivity, reactivity and toxicity should be tested and confirmed to be acceptable prior to use. It is recommended that the Waste Management Procedure describes the process for assessment of sludge suitability for use.

### Medical Waste

SMPC constructed the medical waste incinerator at the Myingyan Hospital, which has been used to dispose of medical waste produced at the hospital and from the Project site since September 2017. Medical waste produced at the SMPC doctor's office is collected and disposed of to the Myingyan Hospital's medical waste incinerator. During the Covid-19 period, facility personnel reported that the medical waste volumes had decreased (exact quantities were not recorded) and that the SMPC doctor was working from his home. Medical waste produced at the SMPC doctor's office is collected every two weeks and taken to the SMPC plant and onward to the hospital's medical waste incinerator.

### Recyclables

Some waste streams are segregated on site for off-site recycling, most notably wood, scrap metal, waste oil and plastics. No data were available on the amount of waste recycled nor the contractors engaged for recycling of each type of material.

### Chemical Drums

During the Sixth Monitoring Round, the facility personnel reported that a donation of cleaned drums to the community was carried out in 2020. The drum cleaning procedure was reviewed but gaps were noted such as lack of approach for assessing when a drum is deemed to be clean and suitable for re-use. Refer to **Section 5.10.1** for further details.

**Table 14: Summary of Findings – Waste Management**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Waste management	Information in the Environmental Management Plan (EMP) dated May 30, 2018 is lacking some details related to off-site waste disposal routes for each waste stream, information on expected quantities and on-site storage arrangements for each type of waste.	Operations	<ul style="list-style-type: none"> <li>IFC PS1</li> <li>WBG EHS Guidelines</li> <li>ADB-ES Principle 4</li> </ul>	Update the plan to include a description of each type of waste generated during operations phase, details of how much is produced per year, where it is stored, and how it is disposed of. Waste management has been included in the site's Environmental Management Plan (EMP) dated May 30, 2018. There are some minor gaps of waste related information in the EMP. Specifically, it shall be expanded to include precise details of the waste generated during the operational phase including the estimated quantity of sludge from the wastewater treatment plant, sanitary sludge from the STP as well as used chemical drums and containers. The EMP should clearly state the use of licensed contractors and specific disposal locations and names of the supplier if drums and containers are being returned to the supplier.	<p>The revised Waste Procedure tabulates the waste types, the estimated kilograms per year, the storage method and the authorized disposal contractor (refer to Appendix A of the procedure).</p> <p>With regards to the sludge, the disposal route following storage at the sludge storage facility, and the process for assessment of suitability for use in land farming should be clearly described in the procedure.</p> <p>With regards to the drums, the disposal route and the process for assessment of suitability for re-use, if any, should be clearly described in the procedure.</p>	<b>Minor</b>
002	Waste management monitoring and targeting	Waste minimisation targets have not been established and waste records do not meet the requirements of the management plan which requires chain-of custody documentation.	Operations	<ul style="list-style-type: none"> <li>Management plan</li> <li>IFC PS3</li> <li>WBG EHS Guidelines</li> <li>ADB-ES Principle 9</li> </ul>	<p>Evaluate opportunities to avoid or minimise waste, set reduction targets and maintain records as prescribed in the management plan, which as a minimum include the amount of each waste stream sent to off-site disposal and recycling each month. This should include hazardous and non-hazardous wastes.</p> <p>Progress of discussions with suppliers to potentially return used empty chemical drums and containers is not clear. No specific waste reduction targets have been set.</p> <p>The IESC recommends that the drum cleaning process for community reuse</p>	<p>Quantities of waste generated remain relatively low. However, opportunities to avoid or minimize waste have not progressed. Waste streams such as the empty drums and hazardous waste are largely stored at the site. Discussions with suppliers have not significantly progressed.</p> <p>Empty drums were provided to the local community through a CSR initiative in 2020. However, no records were available on proper testing of the drums to provide assurance of their suitability for community use.</p> <p>In the absence of a robust drum cleaning process including testing, maintenance of</p>	<b>Minor</b>

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
					is conducted under the close supervision of the HSE team and batch testing of pH is conducted at regular intervals for these drums. The test results for each batch shall be recorded and maintained by the site.	records and assurance by the HSE team of the suitability of the cleaned out drum for community use, the IESC recommends that the drum distribution discontinued until such time as measures can be in place to ensure the safety of the containers for use in the community.	
003	Off-site waste disposal	The municipal waste disposal site operates at a level well below what is considered Good International Industry Practice (GIIP).	Operations	<ul style="list-style-type: none"> <li>• IFC PS3</li> <li>• WBG EHS Guidelines</li> <li>• ADB-ES Principle 9</li> </ul>	<p>Work with OK Service and the municipality to improve conditions at the waste disposal site. In particular, effort should focus on improving containment of waste.</p> <p>The quantity of municipal waste generated during the operations phase has been drastically reduced compared to the construction phase due to a reduction in workforce. Therefore, this issue is considered to be minor for the operations phase.</p>	Quantities of waste generated remain relatively low. However, it is recommended that the IESC re-visits the landfill to ensure proper disposal of SMPC waste during the next site visit.	<b>Minor</b>



### 5.11 Hazardous Substances Spill Contingency

Contingency measures in the event of a hazardous substances spill (previously referred to as Oil and Chemical Spill Contingency) has been incorporated into the site's Plant Emergency Preparedness & Response Management Plan, Rev03, dated 7 July 2020. **Section 6.3** of the Plant Emergency Preparedness & Response Management Plan details the approach taken by the site for the management of oil and chemical spills. Measures have been taken to prevent spills and leaks (e.g. use of secondary containment around bulk storage containers and the main drum storage areas).

Based on the 2019 site visit, the IESC noted that there were spill kits available near the chemical storage areas and in maintenance areas where oil and waste oil is stored in drums. However, the IESC recommended that the location of the spill kits be clearly indicated in a site layout and included in the operational phase emergency response plan. The location of spill kits are indicated in the current version of the plan (Annex C Plant Emergency Evacuation Layout with EAA, AED, Clinic and Chemical & Oil spill kits Locations) and so this recommendation is now closed.

Two noteworthy issues remain for the operations phase:

- There is no information on unloading and loading protocols in the plan. No such procedures have been written, but it is understood that all deliveries of hazardous substances are supervised.
- Section 13 of the plan (Plant Evacuation Flowchart for Fire Incident and Other Emergency), previously Section 12, lacks detail. For example, it is not clear how recommendations from an incident investigation will be implemented after submission of the incident report to the SMPC Managing Director.

**Table 15: Summary of Findings – Oil and Chemical Spill Contingency**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Revisions to operations management plans	Section 7.7 of the operations phase EMP contains a list of hazardous materials stored on-site. However, information is lacking on loading and unloading protocols for hazardous substances. Additionally, it is not clear how recommendations from an incident investigation will be implemented after submission of an incident report.	Operations	<ul style="list-style-type: none"> <li>• IFC PS 1&amp;3</li> <li>• WBG EHS Guidelines</li> <li>• ADB-ES Principle 9</li> </ul>	Review and revise the operation phase management plans to ensure it has a comprehensive list of materials stored, develop written procedures for deliveries and dispatch of hazardous liquids, and add written instructions for responding to spills at all relevant locations within the site.	<p>There is no information on unloading and loading protocols for hazardous substances. The IESC recommends that loading and unloading protocols be included in the Occupational Safety and Health Management Plan under Section 19 'Control of Hazardous Materials'.</p> <p>Additionally, section 12 of the plan (Emergency response flowchart for Fire Outbreak, Hazardous Substances Spillage and Gas Pipe Leak) provides a basis for spill response but it lacks detail. For example, it is not clear how recommendations from an incident investigation will be implemented after submission of the incident report.</p>	<b>Minor</b>

## 5.12 Emergency Preparedness and Response

The Plant Emergency Preparedness & Response Management Plan (including Community Emergency Response, the ERP), Rev03 dated 7 July 2020, provides a comprehensive description of the likely emergency situations, actions to be followed in the event of an emergency, and emergency response drills. It includes a wide range of potential incidents, including fire, collapse of equipment / structures, chemical spillage, worker injuries, water or gas pipeline leakage, electrical power supply cable damage, civil disturbance & bomb threat, and natural disasters.

The IESC was informed that to date the Project has not had any major environmental incidents. The only recorded incidents relate to minor injuries (cuts and bruises) and equipment-related issues.

Records provided showed that, by October 2020, 11 out of the total of 12 planned monthly emergency drill exercises had been conducted by the site's emergency response team. Two plant wide emergency drills were conducted in 2020 at the Project site (an Emergency Response exercise for fire scenario at the WWTP in August 2020, and an Emergency Response exercise for in case of Chemical Spillage in September 2020. Photographic evidence of the exercises were reviewed by the IESC however reports were not provided for review.

Based on the IESC's review of the operations phase ERP, there were a number of opportunities for further improvement as follows:

- It is understood that a specialist contractor will be engaged to provide training on the EPR plan. However, there is no information on whether this has been completed.
- Section 11 (page 23 & 24) provides an overview of the Community Emergency Response Plan. The IESC notes that prior to the restrictions imposed by Covid-19, the Project's Community Relations staff regularly met with the local police, hospital staff and government agencies as part of community engagement. However, it is not evident whether the Project has contacted local hospitals or government agencies involved in emergency response to understand their capacity to help in the event of an emergency.
- The Annual Public Stakeholder Engagement Presentation December 2020, presented at the Annual Public Stakeholder Engagement Meeting in December 2020 to a limited number of residents of the 13 villages (on average, ten per village), due to Covid-19 restrictions, includes a high-level overview of the EPR plan, including Designated Emergency Assembly Areas, Preparedness for Fire Emergency, Emergency Response Drills, and the BCP for Covid-19. However, it is not evident whether SMPC has shared details of its EPR plan with the potentially Affected Community (i.e., the three closest communities, Sa Khar, Hnan Ywa and Hpet Taw) and relevant government agencies and conducted the necessary training with the Affected Community, as mentioned in the ERP's Community Emergency Response Plan.

No other noteworthy deficiencies have been identified in the Project's Emergency Preparedness and Response Plan.

### Recommendations:

SMPC to provide a copy of an updated ERP which includes any needed changes, including contact information (names and phone numbers), which resulted from the changes in project management (i.e., General Manager, HSSE Manager).

SMPC to provide information on (i) any outreach to local hospitals or government agencies involved in emergency response and (ii) the sharing of the ERP and training provided to the three closest communities (i.e., Sa Khar, Hnan Ywa and Hpet Taw).

### 5.13 Occupational Health and Safety

The operations phase Occupational Safety and Health Management Plan (PPMS Document Reference: 3.02.01.010, Rev02, 7 July 2020) describes the Project's operational phase HSE-MS, and is based on Sembcorp's corporate HSE-MS.

No significant issues were identified in the Project's occupational health and safety (OHS) performance during the IESC's monitoring visit in December 2020 and the IESC noted that the standards for OHS are very high. Examples of good practice include:

- Implementation Covid-19 measures such as temperature taking and use of PPE;
- HSSE Observation winners initiative recognising Sembcorp personnel for HSSE outstanding performance; and
- No issues identified during the Mingyan health authority inspection in June 2020 of Covid-19 preventive measure at plant.

The ESMPs Implementation stakeholder presentation dated October 2020 reported that the Project had achieved a total of more than 1.5 million man-hours (698 days) since the last lost time injury (LTI).

Based on the IESC's review of the Occupational Safety and Health Management Plan, there were a few opportunities for further improvement as follows:

- Section 1 (Purpose) provides a generic statement that the HSSE requirements are based on local HSSE regulation and local and international standards and code of practice. However, it is recommended that reference be made to specific relevant regulations and a description of applicability and of the key requirements of each item.
- Section 10 (Safety Training) mentions safety training requirements with a HSSE training matrix provided in Appendix B of the OSH Management Plan. However, no reference has been made to a comprehensive operational phase HSSE Training Plan which includes not just occupational health and safety training requirements but also environmental and social topics. The plan should explicitly state the training requirements for personnel with direct responsibility for the project's environmental and social performance will have the knowledge, skills and experience necessary to perform their work, including current knowledge of Myanmar's regulatory requirements and the applicable requirements of IFC Performance Standards 1 through 8.

It was noted that the Project uses Sembcorp's corporate Management of Change (MOC) procedure rather than a Project specific document. The IESC was informed that to date there have been no significant HSSE issues related to MOC.

## 5.14 Stakeholder Engagement

### 5.14.1 Stakeholder Engagement

Sembcorp/SMPC has a Stakeholder and Community Engagement Policy and a new Stakeholder Engagement Plan (SEP) for the Project's Operations Phase (SMPC-DEV-CSR-001), which became effective in January 2021 and will be reviewed in January 2022. The 2021 SEP supersedes the 2018 SEP (SCI- HSSEC-SMP-001, Rev No.1.3, dated 23 August 2018). The 2021 SEP included a change in management and a new hire to the CSR team, new organizational chart, updated roles and responsibilities. The 2021 SEP is well written with objectives, key standards and legislation, stakeholder identification and mapping, planned stakeholder activities, monitoring, KPIs and reporting. It also includes the community grievance mechanism (described in **Section 5.14.4**). However, the thirteen village grievance committees are not included in the 2021 SEP.

The SEP was originally prepared in July 2016, updated in January 2018, was further updated on 23 August 2018 to adjust the plan for the operations phase, and is now superseded by the 2021 SEP. The SEP is in place for the life of the concession (22 years), and SMPC has committed to ongoing stakeholder engagement with the local communities and Project-Affected Persons (PAPs). As noted in the ESIA, PCo/SMPC has engaged with multiple stakeholders including national and local governmental agencies and the local communities since 2015.

Prior to 2019, the Community Relations/Development Manager had contact at least once per month with MOEE, MONREC and EPGE, and he shared information with them on the local villages. Since 2019, SMPC is in contact with the relevant Government Agencies as and when necessary, and SMPC staff deliver the required reports (i.e., report on compliance with the Environmental Management Plan and the Greenhouse Gas Report) on a semi-annual basis to MONREC and EPGE, as per MONREC policy and instruction.

The SEP requires monthly dissemination of Project information to the 13 village leaders and quarterly face-to-face meetings. However, the face-to-face meetings are currently on hold due to Covid-19 restrictions; and all communications are by phone. As was confirmed by PCo/SMPC during all of ENVIRON's site visits (July 2017, January and August 2018, and December 2019), PCo/SMPC has ongoing open communication with the village leaders through which project information is channeled to the village residents. During each site visit, Ramboll Environ, while visiting local communities with SMPC's Community Relations Officer (CRO), has had the opportunity to participate in some scheduled and random/unscheduled meetings with local villagers. All villagers consulted exhibited a friendly and relaxed manner towards the CRO and Ramboll Environ.

The following Annual Public Stakeholder Engagement Meetings have taken place:

- The First Public Stakeholder Engagement Meeting took place in September 2015.
- The Second Public Stakeholder Engagement Meeting took place in June 2016.
- The Third Public Stakeholder Engagement Meeting was held in November 2017, before COD (i.e., before 20 December 2017).
- The Fourth Public Stakeholder Engagement Meeting took place in November 2018; and information was presented in the local language at meetings held in eleven villages. Residents of all 13 local villages were invited and attended. Representatives of IFC, ADB and AIIB also attended the meetings. ENVIRON received and reviewed copies of the meeting presentation and the Stakeholder Engagement November 2018 Report prepared by Sembcorp/PCo after the meetings took place. The Stakeholder Engagement November 2018 Report provided the meeting schedules, locations, number of people who attended, summary of villager

feedback/expectations and photos of each meeting.

- The Fifth Public Stakeholder Engagement Meeting took place in November 2019. The Stakeholder Engagement November 2019 Report provides the meeting schedules, locations, number of people who attended, summary of villager feedback/expectations and photos of each meeting.
- The Sixth Public Stakeholder Engagement Meeting took place in December 2020. The Annual Public Stakeholder Engagement Report December 2020 (**Appendix 8**) provides the meeting schedules, locations, number of people who attended, summary of villager feedback/expectations and photos of each meeting. The Annual Public Stakeholder Engagement Presentation December 2020 (**Appendix 9**) provides the meeting topics discussed, which includes an introduction to Sembcorp and a plant overview, job opportunities, results of the monitoring of the Environmental Management Plan (air, noise monitoring, waste management wastewater management), Emergency Response Plan overview, Corporate Social Responsibility and Grievance Mechanism. A copy of the 41-page hand-out of the meeting presentation in the local language was provided to each meeting attendee.

Ramboll Environ received a copy of the Stakeholder Engagement Database Year 2020 which includes details on the 587 meetings held with stakeholders in 2020 (**Appendix 7**) and the Summary of Stakeholder Meetings 2020 (**Appendix 14**). In addition, as mentioned above, Ramboll Environ received copies of the Annual Public Stakeholder Engagement Report December 2020 and the Annual Public Stakeholder Engagement Presentation December 2020 which serves as meeting minutes for the public annual meeting with village stakeholders.

For each of the Annual Public Stakeholder Engagement Meetings prior to 2020, Sembcorp representatives disseminated the agenda and meeting details to key stakeholders in the villages before the Public Stakeholder Engagement Meetings took place. All villagers were invited to attend the meetings: and they had adequate time to consider the agenda of the meeting and come up with meaningful questions for the Sembcorp representatives to address during the two-way dialogue meeting.

For the 2020 Annual Public Stakeholder Engagement Meeting, the following procedure was followed due to Covid-19 restrictions:

- SMPC prepared the agenda and PowerPoint presentation, informed municipal and village authorities; and communicated with village heads one week in advance of meetings.
- Village Heads selected the max. 15 villagers to attend the meetings; and were free to create their own restrictions above those imposed by the Government.

Topics that are of interest to the stakeholders are addressed during the meetings and can include:

- Employment opportunities: Impact & Mitigation;
- Procuring and recruiting from the local community;
- Air Quality: Impact & Mitigation;
- Wastewater Discharge: Impact & Mitigation;
- Soil and groundwater quality;
- Community health and safety;
- Noise and vibration management & dust control;
- Activities and traffic safety management;

- Biodiversity Management Plan;
- CSR initiatives for the local community; and
- Engagement and Grievance Management.

#### 5.14.2 Stakeholder Activities during the December 2020 Virtual Site Visit

##### December 10, 2020: Meeting with The Village Head of Nyaung Kan Village

The Village Head provided a brief demographic profile of the village: The village comprises 285 households with a total population of 1217 persons. There is one (01) primary school in the village. There are no medical clinics/hospitals present in the village. If the villagers need medical care, they go to Myingyan District Hospital. Livelihood: 90% agriculture (90% onions and 10% beans) and 10% carpenters, contractors, drivers.

The status of Community Development Programs undertaken in the village was provided. The programs are listed below:

1. Construction of Water Treatment Plant.
2. Construction of Fire Fighting Water Tank.
3. Construction of 217 ft. Fencing with a brick wall being constructed in 2020 for a School Boundary

Brief Discussions were undertaken on the major projects implemented in the village. The discussions have been presented below:

**Water Treatment Plant:** The Village Head stated that the community members of Nyang Kung Village were glad that SMPC had constructed the Water Treatment Plant (WTP) in the village. The WTP is located within the school premises and is accessible to the community members during the non-operational hours of the school; and the water is to be used only for drinking. At present, there is no pipeline that delivers water to the households of the village hence community members carry water from the water tank to their households. The maintenance of the WTP is undertaken through the collection of money from the community members on an as needed basis. However, a water filter is provided on a quarterly basis by SMPC. As Ramboll Environ was informed, there is no third-party water quality testing. The Village Head stated that the water from the WTP was notably different from that of the tube-well. It was also stated that since installation of the WTP, there have been no cases of diarrhea or water borne diseases in the village. The community members believe that the village's overall health has improved.

**Fire Water Tank:** A Fire Fighting Water Tank has also been constructed by SMPC in the village. The maintenance of the Fire Fighting Water Tank is undertaken by the village community members. However, it has not yet been utilized as there has been no fire incident in the village.

On providing feedback on the SMPC project, the Village Head stated that he and the village community members were happy with the Project as it has undertaken numerous community development activities such as construction of the WTP and Fire Fighting Water Tank as well as fencing of the school boundary. Further, he requested if SMPC could assist in a) upgrading the present village road to a bitumen road and b) fencing of the western side of the school boundary.

##### December 10, 2020: Meeting with a PAP; Hta Naung Pin Su Village

The PAP is a landowner who sold land to SMPC for the Project. He mentioned that it was a small piece of land that he had sold to SMPC but was not aware of the exact area of the land acquired by SMPC. 80% of his land had been acquired by the Government of Myanmar (GoM) for the construction of the canal. However, it has not resulted in landlessness and he is still in possession of some land. The



presently owned land area falls in the Link-bridge area. He confirmed that the area faces seasonal flooding problems; and flooding of crops (beans). Previously, he used to practice agriculture on the land wherein the major crop was the plantation of beans.

He presently resides with his daughter's family and is taken care of by her family. He informed that he does not have to worry about his livelihood. The daughter is engaged in selling cooked food and herbs/spices like dill, etc. in the village.

He stated that he is satisfied with the compensation he received from SMPC, as for the land acquired by the GoM, he did not receive any compensation. From the compensation he received from SMPC, he made a donation to the local monastery and used the remaining funds for living expenses.

#### December 11, 2020: Meeting with a PAP; Gyoke Pin Village

The PAP is a landowner who sold 0.8 acres of land to SMPC for the Project. The said land was acquired to construct the River Water Intake (RWI) pipeline for the Project. At the time of procurement, there were standing crops on the 0.8 acres of land (yellow beans) and he stated that he was compensated by SMPC for both the crops as well as the land area. He presently has five (05) acres of land on which he practices rice paddy cultivation; and he is presently growing yellow beans in the 0.8 acre of land area. He used his cash compensation to pay for investments in the paddy field and for living expenses.

When asked whether he has been compensated for the loss of productivity of his land, he confirmed that he has been compensated for two (02) years of loss of productivity. Furthermore, he stated that there is no difference in the crop yield, he does not face any problem in the productivity of the land and that there has been no impact on his livelihood. Furthermore, the PAPs were informed prior to procurement of land and hence did not face any restriction on planting/harvesting on the submerged pipeline.

He is aware of SMPC's Community Development Programs (CDP) in the village and the construction of a medical clinic that was planned for 2020. He also is aware that a WTP was constructed by SMPC in the village (2018), however, as he lives at a distance from the WTP he has not utilized the water from the treatment plant. The WTP is normally used by school children during the school hours as the treatment plant is located within the school premises. He was of the view that since there are 500 households in the village, one (01) WTP is not sufficient. One (01) more WTP could help improve accessibility to treated water. Additional community development projects include school fencing (2018), and a table and desks for the school (2019).

When asked whether there was a problem with the water discharge into the river, he stated that there were no problems with the discharge of water into the river.

Furthermore, he requested SMPC to assist in upgrading and completing the village road that is adjacent to the canal.

#### December 11, 2020: Meeting with a fisherman; Tha Pyay Thar Village

The fisherman provided a brief profile of his village wherein there are around 250 Households with approximately 1200 people. The village's livelihood activities are as follows; 50 percent of the population is engaged in fishing, 30 percent in agriculture and the remaining 20 percent in other skilled occupations. The number of people engaged in fishing is declining. However, there was not much difference in the fishing activities in the village. The fisherman was of the view that the fish stock had declined over the past year. He attributed the decline to the practice of the electrical shock method

used by illegal fishermen who practice fishing in the village. When asked whether they have reported it to the local authorities/ government, he said that they have brought it to the attention of the local authorities.

He further requested whether SMPC could provide a 22-horsepower motorboat engine to the village's fishermen community. As he was of the view that with the 22-horsepower motorboat engine, the faster motorboat would enable community members to patrol the areas closer to the shore and thereby increase the potential to accost the illegal fishermen who do not belong to the village. When asked whether they could use boats owned by the community members, he stated that the local fishermen's boat engines are comparatively weaker than the illegal fishermen's boat engines, making it difficult for them to confront the illegal fishermen. He further stated that if the illegal fishermen were caught, they would be surrendered to the local government authorities (i.e., Fisheries Department).

When asked whether he had earlier put forth the request to SMPC, he stated that in late 2019, they had approached SMPC with a request letter for the same. SMPC had provided a verbal response stating that they would put forth the request to its senior management and revert to him. The Lenders advised that as illegal fishing is beyond the control and purview of SMPC, approaching the governmental authorities with regards to the issue should be more fruitful. The fishermen and the governmental authorities should work together to secure the area. Ramboll Environ concurs with the Lenders that illegal fishing is beyond SMPC's control and recommends that the local fishermen work together with the governmental authorities to secure the area.

The Lenders inquired on the role of the villagers in the participatory monitoring of the water discharge from the pipeline. The fisherman stated that the community members are informed about monitoring through the village head. SMPC along with the villagers do check the water temperature and collect the water sample from the discharge.

Regarding the Annual Stakeholder Meetings, he was of the view that they were sufficient and transparent. These meetings provided adequate information about the Project and were valuable. He was aware of the Community Social Responsibility (CSR) activities undertaken in the village, the WTP, Fire Fighting Water Tank and school buildings improvement. Programs related to Fishing activities are yet to be undertaken in the area.

When asked whether he/community members had been contacted by any outsiders regarding the Project, he mentioned that he/community members have not been contacted by any outsider (NGOs) in the recent past. The last time they were approached was in the year 2017-2018.

#### December 11, 2020: Meeting with The Village Head of Tha Pyay Thar Village

The Village Head mentioned that the Annual Stakeholder Meeting was held on December 3, 2020. In light of the Covid-19 protocols, there were a limited number of people present at the meeting. He provided a brief profile of the village which has around 250 households and a total population of 1,150. Most of the population are engaged in agricultural activities and the rest in skilled and semi-skilled work including carpenters and general workers. Teachers at the school commute from other villages. Land from two (02) PAPs from the village was acquired for the Project and he was aware that both landowners have been well-compensated for the land that they sold to the Project.

The village has seasonal flooding each year and SMPC provides rescues of villagers and food and drinks during the floods. Furthermore, he elaborated on the number of Community Development Programs (CDP) implemented in the village by SMPC. Some of the programs implemented in the village were construction of a WTP, a two-story school building and two (02) sanitation facilities in the school, a Fire Fighting Water Tank, and for 2020, indoor teacher resting areas. He believes that the community

development programs were beneficial for the village.

#### December 11, 2020: The Village Head of Aye Village

The Village Head provided a brief profile of the village with around 281 households with a total population of 390. The agricultural crops grown in the area are corn, onions, yellow beans, red chilies and betel leaf. A primary school is located in the village. SMPC purchased land from community members of this village to build the RWI pipeline for the Project.

The Village Head provided a brief overview of the Community Development Plan projects undertaken in Aye Village by SMPC, which include a new primary school building, white-board for the school, and fencing of the school compound (2017-2018); a WTP, a Fire Fighting Water Tank, and a water pump for the village community members. Semi-Annual medical camps and doctor visits organized by SMPC in the village; and summer English speaking classes for students (17-24 years of age) of this village and the surrounding five villages, provided by SMPC, are temporarily all on hold due to Covid-19. The CSR programs he said were selected during the Annual Stakeholder Meetings. Programs are prioritized and submitted to SMPC. SMPC also entertains additional requests from the community members of the village.

The Village Head seemed satisfied with the presence of SMPC's community projects in the village and stated that SMPC honored their commitments made to the community members and well compensated the PAPs for their land. Prior to the pandemic, SMPC's CRO visited his village around 3-4 times in a month (once a week). The Village Head has also visited the SMPC Plant. He stated that there are no grievances from community members on the presence of the Project or the Project-related activities. Lastly, he requested SMPC to upgrade the canal road in his village.

#### 5.14.3 Public Disclosure

As described above, Sembcorp organizes Public Stakeholder Engagement Meetings on an annual basis in the local language and all stakeholders including PAPs and other members of the 13 local villages are invited to attend. During these meetings, Sembcorp and SMPC publicly disclose updated Project information including the topics listed above in **Section 5.14.1**.

In addition, ADB requires public disclosure of all findings including the monitoring results at all phases of the Project. Going forward, Sembcorp and SMPC have agreed to include monitoring results in their presentations to be provided at the annual Public Stakeholder Engagement Meetings.

Project monitoring results were included in the presentation given at the Sixth Public Stakeholder Engagement Meetings that took place in December 2020; and were included in the related Stakeholder Engagement Meeting Report prepared by Sembcorp/SMPC after the meetings took place (**Appendices 8 and 9**).

#### Recommendations:

Participatory monitoring of water temperatures should be continued after the Covid-19 restrictions are lifted, and results should be included in the Annual Public Stakeholder Engagement Meeting presentations. As Ramboll Environ was informed, Sembcorp and SMPC have agreed to resume participatory monitoring of water temperatures after the Covid-19 restrictions are lifted, and results will be included in the Annual Public Stakeholder Engagement Meeting presentations.

#### 5.14.4 Community Relations

Ramboll Environ met with the Community Relations and Development team during the December 2020 virtual site visit. The Community Relations and Development team organized meetings and participated with Ramboll Environ in the virtual site visits to five communities near the elevated river water supply pipeline (i.e., Nyaung Kan, Hta Naung Pin Su, Gyoke Pin, Tha Pyay Thar and Aye Villages). Due to the local governmental restrictions imposed by Covid-19, only the Project's CRO was permitted to enter the villages and he, along with the village heads and other stakeholders, participated in our meetings over Microsoft Teams. The CRO being given permission to enter the villages during the lockdown to conduct the meetings with Ramboll, the Lenders and villagers was an exception to the current restrictions in place.

Prior to the restrictions imposed by Covid-19, the Project's CRO made weekly visits (three visits per week) to the affected villages. In advance of these visits, he informed the village heads and they together opened the suggestion boxes and reviewed any grievances/suggestions submitted. If the village leader was not available, they discussed by phone the contents, if any, of the suggestion boxes. Due to the restrictions imposed by Covid-19, the Project's CRO currently engages with the village heads and other stakeholders only by phone.

The CRO also supports the Community Relations/ Development Manager in the planning and implementation of community investment projects under the Community Development Plan (CDP).

In early 2020 SMPC hired an additional CRO. In Ramboll Environ's opinion, the Community Relations/Development team of three is adequately staffed for the work required and its community relations activities, including frequent contacts with affected villages, are adequate.

Ramboll Environ reviewed the Project's Stakeholder Engagement Database (**Appendix 7**), Summary of Stakeholder Meetings (**Appendix 14**) and SEP Key Performance Indicators (KPIs) for 2020 of actions taken and results achieved under the SEP thru December 2020. The Project exceeded the KPIs for 2020: 587 engagements were conducted in 2020 as compared to 365 engagement goals in the KPIs. The Project only received one grievance in December 2020 and it was closed out the next day (see **Section 5.14.5** below).

#### 5.14.5 Community Grievance Mechanism

Sembcorp's Community Grievance Mechanism (CGM) is incorporated into the Project's SEP and includes detailed procedures. Sembcorp has a Community Grievance Management Policy, which provides guidance for the implementation of the Project's CGM procedures. In addition, a framework for a grievance mechanism for PAPs is included in the Resettlement Framework (see section on Land Acquisition & Resettlement). The Project's CGM is managed by SMPC and is supported by Sembcorp's Group Community Relations Department, and since 2017 has included an external grievance committee component. SMPC's external grievance committees, established in November 2017, involve the leaders of all 13 villages. There are, in essence, thirteen separate community grievance committees, one for each village, and the village heads are members for their respective villages, along with a representative of EPGE and SMPC's CRO, Community Development, HR, HSSE Managers and GAD Officer (optional). These thirteen community grievance committees and their members are all included in the Project's Grievance Committee.

The Grievance Committee Procedures that were included in Appendix E to the Stakeholder Engagement Plan for the Operation Phase (August 2018) are not included in the 2021 SEP.

##### Recommendation:

- The Grievance Committee Organization Chart included in the 2021 SEP's Grievance Committee Procedures should be revised to include the Grievance Committees for 13 Villages as members of the Project's Grievance Committee and then incorporated into the 2021 SEP.

As Ramboll Environ was informed, Sembcorp and SMPC have agreed that the Grievance Committee Organization Chart included in the 2021 SEP's Grievance Committee Procedures will be revised to include the Grievance Committees for 13 Villages as members of the Project's Grievance Committee and then the updated procedures will be incorporated into the updated 2021 SEP for the 7<sup>th</sup> monitoring round.

The same variety of methods through which stakeholders could lodge grievances that were available during the construction phase are now available in the Project's operations phase, and they include:

- Face-to-face meetings with the relevant Project representatives;
- Written communication (e.g. email, letter) directed to relevant Project representative or left in suggestion boxes, which enable anonymous submission of grievances, and can be found in the villages and at the plant site office. Villagers may choose to speak to their village tract leader or relevant village representative to help facilitate a written complaint;
- Telephone call placed to a relevant Project representative; and
- Input written grievances in the suggestion box placed in or near their village vicinity.

However, now, due to Covid-19 restrictions, face-to-face meetings with the relevant Project representatives are not permitted. The other procedures for lodging grievances remain the same.

All grievances are recorded in the stakeholder database. This includes a summary of the grievance, the resolution or agreement on proposed actions (between the Project and the complainant), and monitoring actions taken in response to the grievance. The grievance log and grievance close-out form are stored in the stakeholder database.

During previous IESC site visits, suggestion boxes was observed outside of several villages. However, no suggestion boxes were observed during the December 2020 virtual site visits; our observations were limited due to the nature of the virtual site visit.

Upon review of the most recent Community Grievance Database 2020 (**Appendix 10A**), Ramboll Environ noted only one grievance posted during this monitoring period; and the database includes the history of grievances received and resolved since 2017 and separate worksheets for recording details of each grievance submitted. While reviewing the recent Community Grievance Database, we did not see mention of the Village Head being involved in grievance resolution; and we also did not see the role of the external Grievance Committee.

**Table 11** below provides a summary of the 1 community grievance submitted during this monitoring period (from December 2019 to December 2020); the grievance was submitted by a PAP on 25 November 2020 and it was closed the next day (see **Appendix 10B**).

Recommendations:

Until the Covid-19 restrictions are lifted, SMPC should request that village heads check the suggestion boxes twice per month , as a back-up measure, and phone SMPC with updates on any grievances or inquiries left in the suggestion boxes to ensure that no grievances are overlooked. As Ramboll Environ was informed, SMPC has been in contact with the village heads and most have said that they will be able to comply with this request.

In addition, Ramboll Environ recommends, if Village Heads and/or the external Grievance Committees are involved in grievance resolution, they should be mentioned in the Outcome section for the grievances included in the Community Grievance Database.

**Table 16: Grievances Registered from December 2019 –December 2020 and Status of Resolution**

No	Date Submitted	PAP/CP	Nature of Grievance	Grievance Description and Resolution	Outcome	Status	Date Closed
1	20201125	PAP	Others	<p>Translated to Simple English</p> <p><i>The PAP submitted a letter stating that an EPGE representative had committed (verbally twice) to move the cart way over the side drain between WRUD canal and his farm (which did not exist before SMPC's project construction time). The PAP requested SMPC to fulfill what the EPGE representative had committed to him. The CSR team met with the PAP and explained that the canal side drain is belonging to the Government and SMPC has no right to repair/newly build. The PAP understood and wrote an acknowledgement letter to SMPC.</i></p>	PAP was satisfied with the CSR team's response	<b>Issue Closed</b>	20201126



**Table 17: Summary of Findings – Stakeholder Engagement**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Management Plan	SEP to be updated.	Construction/ Operations Ongoing	<ul style="list-style-type: none"> <li>Management Plan</li> <li>IFC PS1</li> <li>ADB ES Principle 4</li> </ul>	<p>The SEP should be updated to include</p> <p>(i) a revised organization chart that includes the Community Relations/Development Department and its reporting lines; and</p> <p>(ii) revised roles and responsibilities, to reflect the division of responsibilities between the Community Relations/Development Manager and the recently hired CRO.</p>	<p>As of January 2018, the SEP was updated to include a revised organization chart that includes the Community Relations/ Development Department and its reporting lines.</p> <p>As per the updated SEP, all responsibilities fall under the Community Relations/ Development Manager.</p> <p>As of August 2018, the SEP was updated for the Operations Phase and included a new requirement for monitoring Key Performance Indicators (KPIs).</p> <p>The actions taken and results achieved against the KPIs for 2019 were provided to ENVIRON for our review.</p> <p>As of January 2021, the actions taken and results achieved against the KPIs for 2020 were provided to Ramboll Environ for our review and were in compliance.</p>	<b>Issue Closed</b>
002	Stakeholder engagement	Stakeholder engagement with the 13 village leaders and PAPs.	Construction/ Operations Ongoing	<ul style="list-style-type: none"> <li>Management Plan</li> <li>IFC PS1</li> <li>ADB-SPS Paragraph No.54</li> </ul>	PCo should continue to engage in frequent and open communication with the village leaders and in face-to-face communication with the individual PAPs; and the PCo should keep detailed records of these meetings, including meeting minutes.	<p>The Stakeholder Engagement November 2017 Report evidences the amount of detail that is now documented for the Public Stakeholder Engagement Database, providing details on the Stakeholder Engagement Meetings.</p> <p>ENVIRON reviewed the further updated Stakeholder Engagement Database during our Fifth Monitoring Assignment, and can confirm that it includes sufficient detail.</p>	<b>Issue Closed</b>
003	Public Disclosure	During the ESIA process in Myanmar, the project owner's obligation to produce copies of the findings, as	Pre- Construction	<ul style="list-style-type: none"> <li>ADB-ES Principle 6</li> <li>IFC PS1</li> </ul>	Sembcorp to advise ENVIRON and the Lenders if copies of its Project presentation were distributed in the 13 local villages	Copies of the Project presentation were distributed during the public meetings that took place to develop the ESIA.	<b>Issue Closed</b>

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
		well as recommendations in the local language, and distribute them.					
004	Public Disclosure	ADB requires public disclosure of all findings, including the monitoring results at all phases of the project.	Construction/ Operations Ongoing	<ul style="list-style-type: none"> <li>ADB-ES Principle 7</li> <li>IFC PS1</li> </ul>	SMPC to provide details on how they share Project monitoring results with stakeholders.	<p>While it does not appear that Project monitoring results were shared with stakeholders during the November 2018 Public Stakeholder Engagement Meeting, monitoring results were included in the November 2019 meeting presentation.</p> <p>SMPC conducted river water sampling on January 28, 2020 with the participation of local villages (refer to Appendix 5C of the Fifth Monitoring Report for the participation records).</p> <p>SMPC again conducted river water sampling on June 16, 2020, however, due to Covid-19 restrictions, there was no participation of the local villages. It is recommended that participation of the local villages in the sampling activity be repeated in future years, once the Covid-19 restrictions are lifted.</p>	<b>Issue Closed</b>
005	Community Grievance Mechanism	While the community grievance mechanism is well structured and detailed, most timeframes for actions are too long.	Construction/ Operations Ongoing	<ul style="list-style-type: none"> <li>Management Plan</li> <li>IFC PS1</li> <li>ADB-SPS Paragraph 59</li> </ul>	The time frames for all actions should be reviewed. The acknowledgement of receipt of a grievance and also responses on Level 1 and 2 grievances to the claimant should be shortened from 10-14 days to one week.	As of January 2018, PCo had reduced its time for acknowledgement of receipt of a grievance from 10- 14 days to one week.	<b>Issue Closed</b>
006	Community Grievance Mechanism	The Project's community grievance mechanism is part of the SEP. Since the PCo personnel process the grievances, this does not fully	Construction/Operations Ongoing	<ul style="list-style-type: none"> <li>Management Plan</li> <li>ADB-SPS Paragraph 59</li> </ul>	PCo to ensure that its new external grievance committee, to be established within two months, involves all 13 village leaders, is managed by an individual from outside of PCo/Sembcorp and that its procedures are in compliance with the ADB 2009 SPS Paragraph 59 requirement for	<p>As of January 2018, the detailed Grievance Committee procedures did not include roles and responsibilities for the 13 external grievance committees and explain how they will interact with Sembcorp/PCo's grievance committee to resolve grievances.</p> <p>The Grievance Committee Procedures included in Appendix E to the Stakeholder Engagement Plan for the Operation Phase</p>	<b>Minor</b>

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
		meet the criteria set in the ADB 2009 SPS Paragraph 59.			managing complaints from the local communities.	<p>(August 2018) have been updated and include the roles and responsibilities of both the internal and external Grievance Committee members. However, the Grievance Committee Organization Chart included in Section 9.5.2 of the Grievance Committee Procedures does not include the Grievance Committees for 13 Villages as members of the Project's Grievance Committee.</p> <p>As of January 2021, the Grievance Committee Organization Chart included in the Grievance Committee Procedures should be revised to include the Grievance Committees for 13 Villages as members of the Project's Grievance Committee; and be included in the updated <u>2021 SEP for the 7<sup>th</sup> monitoring round</u>.</p> <p>Until the Covid-19 restrictions are lifted, SMPC should request that village heads check the suggestion boxes twice per month, as a back-up measure, and phone SMPC with updates on any grievances or inquiries left in the suggestion boxes to ensure that no grievances are overlooked.</p> <p>Records of grievance resolution in the Community Grievance Database should include mention of the Village Heads and members of the Grievance Committees for the Villages, when they are involved in the decision.</p>	

### 5.15 Community Development

Sembcorp/SMPC has a new Community Development Plan for the Project's Operations Phase (the 2021 CDP, SMPC-DEV-CSR-002), which became effective in January 2021 and will be reviewed in January 2022. The 2021 CDP supersedes the Updated Community Development Plan (2018 CDP, SCI- HSSEC-SMP-002, Revision No. 1.3, dated 23 August 2018), for the Operations Phase. The 2021 CDP included a change in management, new organizational chart, updated roles and responsibilities and other details. The CDP, which is included in the Project's Operations Phase ESMP, is intended to be a living document, to be updated periodically when CDP projects are selected and approved throughout the life of the Project. The Operations Phase CDP was initially prepared in February 2018, updated in August 2018, and superseded by the 2021 CDP.

The 2021 CDP, like the 2018 CDP, is based on the results of a needs assessment of the 13 villages and aims to develop projects in the 13 villages within the Project's area of influence with the goal of improving the quality of life in the villages. The CDP is well written and includes a plan scope and objectives; applicable standards including the ADB Safeguard Policy Statements (2009), the IFC Performance Standards (PS1, 2012), and Sembcorp's corporate policies, including its Corporate Social Responsibility Policy and Framework; community baseline assessments; a CDP Plan Table 2.4 (i.e., table of project types); implementation of the CDP; an organization chart; roles and responsibilities; monitoring, evaluation and reporting; and plan appendices: Appendix A with tables including village water sources, healthcare facilities, educational facilities and energy sources; Appendix B Stakeholder Expectations; and Appendix C List of Key Performance Indicators. ENVIRON provided comments on the Updated CDP and the other 6 operations phase plans, in a separate report (12 February 2019). ENVIRON's comments on the Updated CDP included the following: "As ENVIRON understood, the Construction Phase Community Health Management Plan (CHMP, SDC-HSSEC-SMP-015) was to be incorporated into the Operations Phase Community Development Plan (CDP), but the CDP only includes high-level community socioeconomic baseline data; and tables of village water sources and healthcare facilities are included in Appendix A". The 2021 CDP included a change in management, new organizational chart, updated roles and responsibilities, village baseline data as of 2020, and other details. However, the more detailed Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP (Tables 1 and 2) are still not included in the 2021 CDP (see Recommendation and Sembcorp/SMPC response below).

**Medical Services.** As ENVIRON was informed, prior to the Covid-19 restrictions being put in place, the SMPC Medical Officer twice per year visited the villages and conducted health awareness camps. In 2019, he held two health awareness camps and provided free consultations in the 13 villages. In May 2019, 967 people attended the health camp that was held over a period of 13 days; and in September 2019, 1,511 people attended the health camp that was held over a period of 13 days. For 2020, SMPC could not organize such camps due to COVID-19 restrictions.

**Skills development training for local communities.** Sembcorp/SMPC is partnering with a local technical school and providing skills training (i.e., English language classes) to local residents. Sembcorp/SMPC informed the community of the skills training opportunities through letters to their village heads as well as through a general announcement. All applicants who have completed high school are selected for the program. There is a cap of 100 participants for the program. This will be an ongoing program; however, the 2020 course was cancelled due to Covid-19 restrictions.

During the Summer 2019, there were three classes:

- Class 1: Sarkhaar with 40 students;
- Class 2: Tha Pyay Thar with 41 students; and
- Class 3: Gyoke Pin with 19 students.

**Community Projects.** According to SMPC's Development Manager, village heads' feedback is considered while SMPC prepares the annual CDP program. Once SMPC establishes the CDP budget, they agree with the village heads on how to spend the budget. Each of the 13 villages receives the same budget under the CDP. Also, SMPC obtains all types of feedback, including feedback for the CDP program, at the Annual Public Stakeholder Meetings in order to better understand the needs of the villagers, which helps in finalizing the CDP program for the following year. The CDP program is announced after SMPC reaches a final agreement with the contractor on the budget and estimated quotation process for villagers' requested items/program, so all village heads/school heads are aware of the planned community development projects and the project is started once final confirmation is received from the community.

**Appendix 6** includes the 13 community investment projects for 2020 that were approved for development in

the thirteen local villages; at year end 2020, all 13 projects were ongoing and projected to be completed in mid-January 2021. **Appendix 7** includes the 18 community investment projects planned for 2021. All construction work for the projects is contracted to a local contractor who engages four local sub-contractors.

The CDP demonstrates SMPC's sincere intentions to respond to the project requests made by the local communities and focuses on community infrastructure improvements (education and health) and not routine CSR activities, however, there is one area for improvement, as mentioned below.

Recommendation:

As previously recommended, the CDP should be updated to include the Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP (Tables 1 and 2).

As Ramboll Environ was informed, Sembcorp and SMPC have agreed to provide in the 7th monitoring round an updated 2021 CDP with the more detailed Community Health baseline studies on all 13 villages, studies that were included in the Construction Phase CHMP (Tables 1 and 2).

**Table 18: Summary of Findings – Community Development**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations prior to December 2020	December 2020 Update	Significance
001	Community Development Plan	CDP needs to be updated for the Operations Phase	Construction/ Operations Ongoing	<ul style="list-style-type: none"> <li>• IFC PS1</li> <li>• IFC PS4</li> </ul>	<p>PCo should update its CDP and add all health-related components of the Construction Phase CHMP. The Community Health baseline studies on all 13 villages that were included in the CHMP (<b>Tables 1 and 2</b>) were not included in the Operations Phase CDP and health-related programs with benefits beyond water and healthcare facilities were not included.</p>	<p>As of <u>August 2018</u>, the CDP was updated for the Operations Phase and some but not all health-related components of the Construction Phase CHMP were included. The Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP (<b>Tables 1 and 2</b>) should be included in the Operations Phase CDP.</p> <p>Also, the updated CDP included a new requirement for monitoring Key Performance Indicators (KPIs). The actions taken and results achieved against the KPIs for 2019 and 2020 were provided to ENVIRON for our review.</p> <p>The Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP (<b>Tables 1 and 2</b>) are still outstanding and should be included in the Operations Phase 2018 CDP</p> <p>As of <u>January 2021</u>, the Operations Phase 2018 CDP was superseded by the 2021 CDP. The Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP (<b>Tables 1 and 2</b>) are still outstanding and should be included in the Operations Phase Updated 2021 CDP which Sembcorp/SMPC have agreed to provide during the 7<sup>th</sup> monitoring round.</p>	<b>Minor</b>

## 5.16 Community Health

The purpose of the Community Health Management Plan (CHMP) (SDC-HSSEC-SMP-015, Rev C, 20 July, 2016) was to manage and mitigate the residual impacts to community health during the Project's construction phase, as identified in the Project's ESIA and the SDCI Health, Safety, Security and Environment Plan (HSSE Plan) (ref: SDCIM/JEM-HSSE-Myanmar-A001). The CHMP included objectives; Myanmar laws and regulations for Community Health and the IFC Performance Standards; a Community Health baseline study on the seven villages included in the initial ESIA (September 2015); health care facilities in relation to these seven villages; community health risks and receptors and stakeholders; mitigation and management measures; and monitoring and semi-annual reporting. The CHMP was updated to include a Community Health baseline study on the six additional villages that were included in the second revision to the ESIA (August 2016).

As ENVIRON learned during the July 2017 site visit, PCo had engaged an NGO to provide some training on AIDs/HIV/TB prevention.

ENVIRON had recommended in our Third Monitoring Report that the CHMP be updated to include an organisation chart, defined roles and responsibilities and an initial budget. ENVIRON then recommended that efforts be made to include this information in the operations phase CHMP, which we understood was to be included in the operations phase CDP.

During this Sixth Monitoring Round, Ramboll Environ reviewed the Operations Phase 2021 CDP and can confirm that some segments of the Construction Phase CHMP were incorporated into the CDP, including high-level community socioeconomic baseline data, and tables of village water sources and health-care facilities. However, the Community Health baseline studies on all 13 villages that were included in the CHMP (Tables 1 and 2) were not included in the Operations Phase 2018 and 2021 versions of the CDP. As mentioned in **Section 5.15**, Sembcorp and SMPC have agreed to provide in the 7th monitoring round an updated 2021 CDP with the more detailed Community Health baseline studies on all 13 villages, studies that were included in the Construction Phase CHMP (Tables 1 and 2).



### **5.17 Workers' Accommodation**

The Project's Workers Accommodation Management Plan (WAMP, SDC-HSSEC-SMP-016, REV C, 20 July 2016), for the construction phase, was based on local regulations and IFC Guidelines, and was approved prior to financial close; although we were unable to find any reference to workers accommodation camps in the ILO Guide to Myanmar Labour Laws. The WAMP was prepared by SDCI's and JEM's HR and HSSE Managers, but still referred to only SDCI's commitments to comply with the plan; and it did not state that it was applicable to JEM's workers' accommodation camp or the subcontractors' camps (i.e., Bedok and Min Dhama). As stated in the WAMP, the purpose of the plan was to set out SDCI (Myanmar) Co., Ltd.'s approach to ensure that the construction workers of the Project had suitable accommodation in terms of health and safety throughout the Project's construction period and to ensure that the workers' accommodation had minimal impacts on the local communities and the neighboring environment. The WAMP is no longer in effect since all construction work has been completed and the three workers' camps have been closed, with camp details provided below:

During the January 2018 site visit, PCo confirmed to ENVIRON that Bedok, JEM and Min Dhama were made aware of the requirements included in the Workers Accommodation Management Plan, and their need to comply with this plan.

ENVIRON was informed that the three temporary workers camps were closed on the following dates:

- Bedok: 1 May 2018;
- JEM: 1 July 2018; and
- Min Dhama: 1 August 2018

Now that the Project is in the Operations Phase, workers from outside the area are staying in rental houses, apartments and/or hotels.

## 5.18 Local Recruitment and Procurement

The Project's Local Recruitment and Procurement Management Plan for the construction phase (LRPMP, SDC-HSSEC-SMP- 017, REV C, 20 July 2016) addressed the hiring of labour and capacity building for the local workforce. The LRPMP included objectives; legal and regulatory requirements, Sembcorp's policies and procedures, and the applicable IFC Performance Standards (PS1 and PS2); provisions for recruitment and procurement; monitoring measures and reporting; and roles and responsibilities. The LRPMP REV C referenced above, applied to the construction phase only and to all employment, procurement, contracting and acquisition activities associated with the Project regardless of the value. However, it is recognised that there were some products, goods or services that could not be sourced locally (within local communities or even within Myanmar). In that case, this plan was not applicable.

The Project's Local Recruitment and Procurement Management Plan for the Operation Phase (LRPMP, for the Operations Phase, First Issue, 26 February 2018) was reviewed by ENVIRON.

### 5.18.1 Local Recruitment and Procurement for the Operations Phase

Upon our review of the Project's LRPMP for the Operations Phase, it is noted that the one regulatory provision for local content in the Myanmar legislation is the Myanmar Foreign Investment Law of 2012 (the Myanmar Regulation). One of the core objectives of the LRPMP for the Operations Phase is to meet the Project's local content obligations in respect to agreements and other legislative and regulatory requirements, which include:

- a) Appoint, when appointing citizen skilled workers, technicians and staff, at least 25% of citizens within the first 2 years from the commencement date, at least 50% within second two years, and at least 75% within third 2 years, however, the time limit may be extended as deemed to be suitable by the commission; and
- b) Arrange to provide training and courses for the citizen employee to be appointed under section a) for the progress of competency.

However, the Myanmar Regulation does not include minimum requirements for local hires. Sembcorp has committed to give priority to the hiring of local residents, provided all employment applicants subject themselves to typical interview and skills testing requirements. This policy does not immediately entitle local residents to employment without due assessment of their capacity to safely and effectively undertake a specific role.

Local is defined under the LRPMP for the Operations Phase as including all thirteen communities within the Project's AOI, as mentioned in the Revised ESIA (August 2016), and having been expanded from six communities during the construction phase. According to the LRPMP for the Operations Phase, inhabitants are considered local as long as they were present in the local area before the first quarter of 2016 when construction was scheduled to commence, and local businesses are those owned by local inhabitants. As Ramboll Environ was informed by SMPC's HR Manager, as of November 2020, the Project employed 23 local workers from villages within the Project's DAI, which is 19.83% of the Project's total workforce.

KPIs were not established for the Operations Phase Labor Recruitment and Procurement Management Plan. However, ENVIRON has since been advised by SMPC that KPIs will not be established due to the specialized nature of the operations and SMPC will hire from the national workforce including from the local community where feasible since they need to hire only skilled labor for the Operations Phase. As of November 2020, the Project's total national workforce, including the Yangon workforce, security team and EPGE was 114, representing 98.28% of the total workforce; foreign skilled workers (2) made up only 1.72% of the total Project workforce (see **Table 16**).

Recommendation:

As mentioned in ENVIRON's comments on the OESMPs (12 February 2019), SMPC should revise the LRPMP and include a plan number and Table of Contents.

KPIs should be established for the Operations Phase LRPMP so that goals can be established and tracked for local recruitment and the procurement of local goods and services.

SMPC's HR Manager confirmed that the six Sembcorp policies and procedures included in section 2.1 of the LRPMP and listed below will be in effect throughout the operation phase:

- Procedure Manual for Material Procurement. Doc. No.: SDC-QP-207. on the procurement of material;
- Staff Requisition. Doc. No.: HR\_S\_SR. on the management of headcount;
- Use of Employment Agencies. Doc. No. HR\_S\_UEA. on the use of employment agencies;
- Probation and Confirmation. Doc. No.: HR\_S\_PC. on probation period;
- Offer of Employment. Doc No.: HR\_S\_OE. on priority to existing employees for job vacancy; and
- Employment of Temporary Employee. Doc. No: HR\_S\_ETE. on employment of temporary employee.

#### 5.18.2 Workers' Training and Capacity Building

Safety training is provided to each new employee; there are two training sessions per week for 1.5 hours per training, in accordance with the HSSE Training Plan. Based on the nature of a workers' job responsibilities, there is specialized safety training as well. In addition, first aid training (five-days) is provided to workers by the Red Cross.

Please refer to **Section 5.20.1** of this report for further information on HSSE training.

Refer to **Section 5.24**, Labor & Working Conditions for additional labor information, and for Ramboll Environ's observations and recommendations for closing additional gaps in the Project's compliance with PS2.

## 5.19 Project Influx

Project induced in-migration (PIIM) caused by an influx of in-migrants during construction was identified as a potential impact of the Project. The Influx Management Plan prepared for the construction phase (SDC-HSSEC-SMP- 018, REV C, 20 July 2016) presented the different measures to mitigate the adverse impact from migration of construction workers and opportunistic migrants during the construction phase. The key objectives of this Plan were to identify management strategies and actions that aim to:

- discourage in-migration into the Project's Area of Influence (AoI) that would otherwise not occur if the Project did not exist;
- strengthen Project security to protect the Project against negative PIIM impacts;
- stage the in-flow of migrants and plan Project access routes, so as not to encourage the emergence of in-migrant hotspots in other parts of the Myingyan area;
- manage, to the extent possible, the footprint of in-migrants who settle within the Project's AoI;
- ensure delivery of Project benefits among existing residents and PAPs in a way that does not encourage in-migrants;
- plan and communicate Project and EPC contractor management policies that mitigate PIIM; and
- identify which strategies will be purely Project-led strategies, and those which will require collaboration with local authorities.

As ENVIRON was informed, the Project's workers were recruited through contractors and/or subcontractors and there was no influx of job seekers. No influx of camp followers was observed during any of ENVIRON's site visits to date (November 2016, July 2017, January 2018, August 2018 and December 2019).

The small informal settlement located outside the Project perimeter has been there since before construction for the Project commenced and does not appear to be increasing in size. However, a few new houses were observed between the small informal settlement and the road leading to the highway to Myingyan.

The IESC has not identified any issues relating to influx management.

## **5.20 HSSE Training**

### **5.20.1 Construction Phase**

The HSSE Training Plan (SDC-HSSEC-SMP-019, Rev D, 20th July 2016) specifies the HSSE training and competency requirements for personnel working for the two EPC contractors and their sub-contractors. Most of the document focuses on OHS issues. This HSSE Training Plan is no longer relevant for the operations plans.

### **5.20.2 Operations Phase**

HSSE training requirements are included in the Occupational Safety and Health Management Plan (PPMS Document Reference: 3.02.01.010, First Issue, 2<sup>nd</sup> October 2018). As noted in Section 5.13 of the report, Section 10 (Safety Training) specifies safety training requirements with a HSSE training matrix provided in Appendix B of this plan.

As reported in the Fifth Monitoring Round, the Operations and Maintenance (O&M) team received one-month of training by construction team staff on technical and HSE issues. In addition, O&M representatives visited the Sembcorp power plants in Jurong Island (Singapore), and training was provided on technical issues including HV switching, PTW and fuel demand modelling.

The Training Matrix for 2020 (date of issue not stated) was provided for review. The Training Matrix categorises training into three sections: Practical Technical Training, HSSE Training and Office Management (Non-Technical) Training. Whilst Safety and Occupational Health and Safety topics are well covered, the E&S training is limited to topics such as Environmental Legal Compliance (ESMPs), WAH Awareness, Waste Management and Flu H1N1 Awareness. As recommended in the Fifth Monitoring Round Report, the plan should explicitly state the training requirements for personnel with direct responsibility for the project's environmental and social performance; and that they will have the knowledge, skills and experience necessary to perform their work, including current knowledge of Myanmar's regulatory requirements and the applicable requirements of Performance Standards 1 through 8.

## **5.21 Cultural Heritage**

The Cultural Heritage Management Plan prepared for the construction phase (SDC-HSSEC-SMP-020, Rev 0, 20th September 2016) described procedures to be employed in the event of a chance find of a suspected item of cultural heritage value. The Project ESIA concluded that no cultural heritage sites are located within close proximity of the Project, and it was reported that no cultural heritage materials had been found during site clearance and excavation work.

The IESC has not identified any cultural heritage related issues during the construction or operation phases.

## **5.22 Security**

The Security Management Plan (PPMS Document Ref: 3.02.01.008, not dated) describes the procedures to ensure that Project worksites are protected against unauthorized entry, theft and damage.

Security at the Project site continues to be provided by a private security company, who supplies 24- hour site security using unarmed personnel. Security personnel at the gate check gate passes issued to guests prior to visits, material delivery, and all other vehicles entering and exiting. Identification cards are issued to visitors and surrendered when exiting the Project site.

The Project maintains good communications with the Myingyan District Police. During ENVIRON's July 2017 site visit, ENVIRON and PCo met with the police chief and he confirmed that there is a procedure in place with the police to provide additional support, if needed, but this arrangement is not covered under a written agreement.

As of the date of ENVIRON's third visit to the Myingyan District Police Station during its December 2019 site visit, the police chief again confirmed that he had no record of any incident involving Project workers or any of its contractors.

The IESC has not identified any issues relating to security management.



## **5.23 Land Acquisition & Resettlement**

### **5.23.1 Resettlement Framework**

PCo developed a Resettlement Framework for the Project (November 2015). The Resettlement Framework was submitted on 27th October 2016 to the Ministry of Natural Resources and Environmental Conservation of Myanmar. ENVIRON's Land Acquisition and Resettlement Plan Observer Report (the Final Observer Report (August 2017), described below, serves the purposes of a Resettlement Action Plan and was disclosed on the ADB website.

### **5.23.2 Land Acquisition and Resettlement Plan Observer Report**

ENVIRON prepared its Final Observer Report (August 2017), based on information provided by the party/ies responsible for the land acquisition and observations made during its attendance at the following meetings to observe the land acquisition process:

#### Negotiation Meetings with PAPs

- 18 October 2016 Taung Thar Township;
- 19 October 2016 Hta Naung Taing Village; and
- 1 December 2016 Hta Naung Taing Village.

#### Compensation Ceremonies

- 23 November 2016 Hnann and Sa Khar Villages;
- 1 & 4 February 2017 Taung Thar Township;
- 2 February 2017 Myingyan Township; and
- 3 February 2017 Hta Naung Taing Village.

In addition, during meetings with stakeholders during ENVIRON's November 2016 monitoring site visit, to inform the Lenders on the land acquisition process followed by the Project, to identify gaps in compliance with Applicable Standards, and determine the actions required to bridge the gaps.

ENVIRON's findings are documented in its Final Observer Report.

### 5.23.3 Land and Crop Compensation

At the time of the resettlement framework preparation, GoM was to legally acquire the lands required for the transmission line towers' footprints, and to compensate farmers for the temporary disruption to their livelihood where they farm on privately-owned lands along the river water pipeline route, adopting national requirements. The resettlement framework required Sembcorp to bridge the gaps in compensation between the national requirements and SPS/IFC PS requirements.

Upon approval of the Project, there was a change in stance of the Government, and the lands required for the pipeline burial and the transmission towers and electric poles were not acquired permanently. Instead, the river water pipeline was buried under privately-owned lands and the land uses (mostly agriculture and also some cattle grazing) will continue undisrupted post laying of the pipelines. Similarly, for the transmission lines and towers, there was no permanent land acquisition.

With this approach, there is minimization of impacts on land. The permanent impacts occurred only to the footprints of the transmission towers and the footprints of the electric poles, all of which were on agricultural land. For all other sections of the river water pipeline and the route of the transmission line (stringing), the impacts were limited to the construction phase.

The compensation paid by the GoM for these temporary impacts on land have been assessed by ENVIRON and confirmed as at least equivalent to about 3 crop cycles of productivity loss, which is much higher than the actual impact of not more than 1 crop cycle of construction along any stretch of the pipeline/transmission line. The compensation is based on onions as a crop reference, which is the highest value crop, regardless if a PAP is growing a lower value crop.

The impacts on structures of the informal settlers and other private landowners have been compensated at the full replacement cost. The compensation was paid prior to the occurring of impact. In addition to consultations by the Project with the affected informal settlers/structure owners, ENVIRON has carried out consultations during the monitoring visits and confirms the payment of compensation at full replacement costs and also that there has been no permanent disruption due to the project and livelihood losses.

For the electric poles and transmission towers, based on the actual area of impacts (lands permanently lost due to the setting of towers and the erection of poles), there was an assessment of the potential productivity loss for the entire project period (22 years). The gap between the potential agricultural loss and the compensation paid by GoM was assessed, and the differential was not paid in cash, but in kind as fertilizer bags to the individual landowners, which was acceptable to the PAPs. The documentation of the distribution of fertilizer bags has been done by Sembcorp. Therefore, the compensation for the footprints of the electric poles and towers have been done satisfactorily to lender requirements.

The construction of the pipelines/transmission lines was taken up in stretches and the construction period along any particular section of the alignment was not more than a crop cycle. Replanting of the fields along the transmission line and the river water pipeline alignments was confirmed by

Sembcorp, site visits by ENVIRON and the consultations with the landowners.

In summary, there were no permanent livelihood impacts due to the Project. The temporary impacts have been addressed at full replacement costs, and the permanent impacts associated with the footprints of the transmission towers and electric poles as well have been compensated at full replacement cost. The gap in compensation standards for the electric poles have been met through additional non-cash compensation (in the form of fertilizer bags, one each per power pole).

Furthermore, a functional grievance mechanism exists on ground, in the event of any grievances from the PAPs. As of 12 April 2017, all PAPs were compensated (at full replacement cost) for land and crop loss, with the exception of 8 PAPs impacted by the elevated section of the pipeline towards the river, described below, who were compensated (at full replacement cost) for land and crop loss, from 27-30 August 2018.

Sembcorp provided the following confirmation of the land procurement process for the elevated section of the pipeline towards the river:

The compensation process for individuals affected by the elevated section of the pipeline is the responsibility of EPGE, in collaboration with the relevant Government Administrative Divisions (GAD), acting on behalf of the Government of Myanmar. EPGE identified 8 PAPs in the area and drew up a methodology whereby each individual was compensated MMK 10,000 for each pier of the bridge within their lands for the elevated section of the river water supply pipeline. The PCo then topped-up the payments for the subsequent 20 years.

ENVIRON was informed that PCo began the compensation process after receiving a formal letter from EPGE dated 13 July 2018, and that the compensation process was completed before COD 2.

According to Sembcorp, the elevated link bridge design was changed from the original plan, whereby the pipeline was to be buried underground. Before SMPC started the construction of the elevated link bridge, SMPC liaised with EPGE to confirm the changing of design. They also worked with the Myingyan local authorities (GAD & LRD) to confirm the owners of the land who would be affected (permanently) by the elevated link bridge. The land measuring process was a very time-consuming and laborious exercise. The alteration of the original design, identification of PAP's and calculation of necessary compensation was the reason why the compensation process for the 8 PAP's affected by the elevated link bridge was done after its construction.

Ramboll Environ confirms that the compensation payments to these 8 PAPs were made between 27- 30 August 2018, and that ENVIRON received details on the compensation paid to each of the 8 PAPs. ENVIRON reviewed all the compensation documentation provided including the notarized English translations of the 8 sets of compensation agreements and payment acknowledgements and can confirm, based on the documents reviewed, that the amount and form of compensation provided was deemed adequate for each of the 8 PAPs. Ramboll Environ's one-on-one interviews with 4 of the 8 PAPs to assess the compensation process, the adequacy of consultation and the compensation amount and their level of satisfaction is discussed in **Section 5.23.4** below.

5.23.4 Consultations with the 8 PAPs

During its December 2019 site visit, ENVIRON met with 3 of the 8 PAPs who were compensated in August 2018 for land along the elevated river water supply pipeline and we can confirm that all 3 PAPs were satisfied with their compensation and that they had no impacts to their livelihoods. Unfortunately, we did not have time to meet with all 8 PAPs, so we planned to meet with the 5 remaining PAPS during our next site visit. However, due to Covid-19 restrictions, we were only able to meet with one more PAP during the December 2020 virtual site visit; and we confirm that the PAP was satisfied with his compensation and that he had no impacts to his livelihood. As far as Ramboll Environ is aware, there were no grievances submitted by these 4 PAPs. Ramboll Environ recommends that we meet with the 4 remaining PAPS during our next monitoring round.

5.23.5 Update on the Informal Settlers and other PAPs

As ENVIRON observed during its December 2019 site visit, both the buried and elevated sections of the river water supply pipeline have been completed, the four T-line towers constructed, and T-line wires installed. PAPs began re-planting crops above the buried pipeline and under the T-line wires (as of the end of July 2017).

5.23.6 Previous Gaps as per the Observer Report

Gaps in compliance with the Applicable Standards, as noted in ENVIRON’s Final Observer Report, were carried forward into the Second and Third Environmental and Social Monitoring Reports, and were updated in the Fourth Environmental and Social Monitoring Report, and updates include the following:

- ADB disclosed the Resettlement Framework on its website, and as noted in the ESIA, consultation meetings took place in all the villages where people lived who were going to be affected by land impacts (both temporary and permanent).
- The framework for a grievance mechanism for the PAPs is included in the Resettlement Framework, and PCo created a separate category for PAPs’ grievances in the CGM database for 2017.
- Information has been provided to ENVIRON on the number of power poles for which each PAP was compensated due to being temporarily economically displaced during construction of the river water supply pipeline. As indicated in **Table 19** below, a total of 353 power poles were installed along the river water supply pipeline, and 117 PAPs received, in addition to its cash compensation, one bag of fertilizer as a form of additional compensation for each power pole that was installed essentially to bridge the gap between the national standards and the Lender requirement of each PAP receiving full replacement costs (for details per PAP, see Appendix 7 to ENVIRON’s Updated Third Monitoring Report).

**Table 19: Summary of Number of PAPs, Power Poles and Fertilizer Bags Received**

District	PAP	Power Poles & Fertilizer Bags
Myingyan	79	225
Taung Thar	38	128

Myingyan CCP

Total	117	353
-------	-----	-----

Livelihood impacts are limited. The impacts on livelihood due to the laying of the pipelines were temporary and livelihoods were restored after the completion of the construction activities. ENVIRON conducted consultations along the pipeline route and in several local villages during our five monitoring site visits to date and confirms that the land uses are restored to their original use and livelihood disruption is not occurring. See photos of farmland along the pipeline route taken by ENVIRON during the December 2019 site visit (Photos 36-37 included in the Fifth Monitoring Report).

Now that construction has been completed for the buried and elevated sections of the river water supply pipeline, T-line towers and T-line wires have been installed, and PAPs have been re-planting crops; PCo has conducted face-to-face meetings with each of these PAPs to assess resettlement outcomes.

**Table 20: Summary of Findings – Land Acquisition & Resettlement**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	December 2020 Update	Significance
008	Land Compensation	<p>Identification of all PAPs who will give up land for the elevated section of the pipeline near the river and determine compensation for each PAP.</p> <p>Compensation is to be completed before COD 2 and PCo is waiting to receive a formal letter from EPGE to begin the process of compensation.</p>	Construction	<ul style="list-style-type: none"> <li>• ADB-IRS Principle 6</li> <li>• IFC PS5</li> </ul>		<p>As mentioned in the January 2018 Update, PCo was to record details on all PAPs affected by the elevated section of the pipeline near the river, ensure consultation meetings took place with each PAP, and address any grievances submitted by these PAPs, as noted in the community grievance database, prior to compensation being paid.</p> <p>ENVIRON received an update on progress made on the final land compensation efforts with the 8 PAPs during the August 2018 site visit; and after the site visit, received documentation to confirm that compensation was paid, and consultations took place with each PAP.</p> <p>ENVIRON received Notarized English translations of the compensation documentation for the remaining 8 PAPs.</p> <p>During the December 2019 site visit, ENVIRON met with three of the eight PAPs.</p> <p>During the December 2020 virtual site visit, Ramboll Environ met with one additional PAP; and can confirm that all four PAPs were satisfied with their compensation and their livelihoods were restored.</p> <p>We plan to meet with the remaining four PAPs during our next monitoring round.</p>	<b>Minor</b>

## 5.24 Labor & Working Conditions

Human Resources documentation, listed below, was reviewed by ENVIRON in February 2018:

- Sembcorp's Code of Business Conduct;
- Global Human Rights Policy;
- Human Resources procedures;
- A sample employment contract;
- Workforce statistics;
- Local Recruitment and Procurement Management Plan; and
- Workers' Grievance Mechanism

### 5.24.1 SMPC's Covid-19 Business Continuity Plan (BCP) Implementation

During Ramboll Environ's virtual site visit meeting with SMPC's HR Manager and Development Manager in December 2020 we were informed that there were no policy changes due to Covid-19. However, there were some modifications in SMPC's labor & working conditions procedures under the Covid-19 BCP and also some Government imposed restrictions that were put in place to manage potential impacts from Covid-19 on the Project's workforce and local communities.

#### Information received includes the following:

- Government "stay at home" restrictions were extended on 12/13/20 until 12/31/20.
- SMPC is considered an essential service and must remain in operation 24/7.
- SMPC's Covid-19 BCP includes a change in shift hours and changes in Operation Team composition.
  - Change from 8-hour to 12-hour shift and then 2 days off, which is only for the Operation Shift Teams.
  - Change in Operations Team Composition:
    - Operation shift teams (4 shifts with 5 workers = 20 workers);
    - 2 Operation support teams (total 6 workers); and
    - 2 essential non-operation teams (maintenance).
- Workforce
  - Total workforce at the plant: 86, including 2 foreign workers.
  - Shift Team Workers are staying in hotels and/or apartments, away from their families.
  - Workers who are working from home: about 30 workers
  - Foreign workers: three went back to Singapore and two from the Philippines who are still working at the plant;
- Workers' Survey  
SMPC launched a workers' survey re: working conditions under Covid-19 in both April and July 2020, and survey questions and responses included:
  - How are they feeling? Anxiety, panics, from staying in Myingyan away from their families.
  - Does medical insurance cover Covid-19? Most local workers are under the Government's insurance. There is zero cost to workers if they do go into quarantine; if workers fall ill, they are paid their full salary.

### 5.24.2 Sembcorp's Code of Business Conduct and Global Human Rights Policy

Sembcorp's Code of Business Conduct and Global Human Rights policy prohibit any form of discrimination and emphasize equal opportunity for all. They also prohibit both child and forced labor. The Global Human Rights Policy also includes the right of freedom of association and collective bargaining. ENVIRON did not observe during any of its five monitoring site visits to date any child or forced labor or any other activities that would violate Sembcorp's Code of Business Conduct or Global Human Rights policy.



### 5.24.3 Human Resources Procedures

The Project has nine Human Resources (HR) operational procedures that address various HR topics: recruitment (with no discrimination); medical examination, if required for the position; performance appraisals; salary and overtime payments; and various types of paid leave (annual leave, medical leave, casual leave, maternity leave) and unpaid leave. All of the operational procedures are based on Myanmar labor laws and regulations. While the operational procedures are brief (about five pages each) they cover all the key points and are acceptable.

The Project's nine HR procedures apply to SMPC workers (full-time, part-time and temporary) and contract employees.

Sembcorp/SMPC, in order to assess the Project's compliance with ADB's Social Protection Requirements and IFC's PS2, has taken a proactive approach to engaging the communities, understanding their needs, rolling out CSR initiatives to address their health, sanitation, education as well as infrastructure needs.

### 5.24.4 Employment Contracts

ENVIRON, to assess the Project's compliance with ADB's Social Protection Requirements and IFC's PS2, reviewed the Project's compliance with its labor-related management plans, which were prior to financial close determined to be in compliance with national labor laws and the core labor standards.

As of January 2018, construction phase employment contracts were being executed with both skilled and unskilled workers. The sample Sembcorp employment contract reviewed was in compliance with IFC PS2 requirements.

Employment contracts for workers that were engaged by subcontractors are discussed in section 5.24.7 below.

### 5.24.5 Project Workforce

**Table 21** below includes a breakdown of the Project workforce for the operations phase, as of November 2020, (i) male vs. female workers, and (ii) the origin of the workers (i.e., local (from the 13 villages within the Project's AoI), (iii) Myanmar beyond the local area, (iv) foreigners, (v) Yangon workforce, and (vi) external parties (security team and EPGE).

**Table 21: Project Workforce in November 2020**

	Gender		Plant Workforce				Security Team (External)	Yangon Workforce	EPGE	Total
			Local		National	Foreign				
	Male	Female	Permanent	Contract						
<b>Head-count</b>	98	18	19	4	50	2	28	10	3	116
<b>%</b>	84.48	15.52	16.38	3.45	43.10	1.72	24.14	8.62	2.59	100

#### 5.24.6 Local Recruitment and Procurement Management Plan

For details on this plan, refer to Section 5.18.

#### 5.24.7 Workers' Grievance Mechanism

During the Fourth Monitoring Round, ENVIRON reviewed the workers' grievance mechanism policy/procedures (Document No. HR/H15.6 Effective Date 1 January 2017), which includes the name of the new HR Manager; and the grievance mechanism database was split into two databases, one for the community grievances and one for the workers' grievances.

A suggestion box to receive anonymous grievances, inquiries and/or suggestions is located in the plant's administration building. As we understand, suggestion boxes where both workers' and communities' grievances can be submitted are now checked bi-weekly. However, as ENVIRON was informed, community members prefer to lodge complaints directly with the Project's CRO.

SMPC provided ENVIRON in 2019 with information on the Workplace Coordination Committee organization (2 representatives from SMPC management and two representatives from the workers). This Committee is structured in accordance with Myanmar's labor regulations and in our opinion is comparable to a Workers' Grievance Committee.

The Workers' Grievance Mechanism Database was not provided for Ramboll's review during this Sixth monitoring round. However, the Workers' Grievance Mechanism Database provided in 2019 during the Fifth Monitoring Round included two recorded grievances from 2017; and SMPC confirmed at the time that there were no workers' grievances submitted in 2018 & 2019. The SMPC Human Resources Manager confirmed to Ramboll Environ during the December 2020 virtual site visit that there were no worker grievances in 2020.

#### 5.24.8 Workers Engaged by Third Parties

As of 1 August 2018, no workers engaged by contractors were working at the Project. All workers now are hired directly by SMPC.

#### 5.24.9 Retrenchment

Retrenchment was not addressed in the construction phase ESMP. However, ENVIRON was informed by Sembcorp during the January 2018 site visit that, as the Project prepared to enter into the operational phase, retrenchment plans were in place to provide placement for employees who were hired during the construction phase. PCo and EPC contractors had two procedures in place:

- Communicate to the retrenched workers that they will be prioritized if there are any new projects within the country and region; and
- Place existing staff from EPCs to join the working team in the operational phase.

ENVIRON recommended in its Third Monitoring Report that the ESMP should identify potential impacts of the retrenchment phase and identify policies and procedures to minimize its impacts; and ENVIRON should be provided copies of the retrenchment plans.

As ENVIRON was informed during the August 2018 site visit, the Retrenchment Plan and Policy was included in Section 8 of the updated Local Recruitment and Procurement Management Plan. In ENVIRON's opinion, the brief text on the two procedures mentioned above, which was included in Section 8 of the updated construction phase Local Recruitment and Procurement Management Plan, does not constitute a plan or policy.

During ENVIRON's December 2019 site visit, we were informed by the HR Manager that a Retrenchment Plan was not prepared. The construction phase ended more than one year ago. Reviews of both the Community and Workers' Grievance Databases (2017-2019) indicate that no grievances were submitted concerning retrenchment. Therefore, one can assume that there were no significant impacts from retrenchment.

The following Labour & Working Conditions topics are addressed in other sections of this report:

- Occupational Health and Safety, Refer to Section 5.13;
- Workers' Accommodation Camp Management, Refer to Section 5.17;
- Local Recruitment and Procurement, Refer to Section 5.18; and
- Influx Management, Refer to Section 5.19.

**Table 22: Summary of Findings – Labor & Working Conditions**

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	December 2020 Update	Significance
005	Retrenchment	Retrenchment is not addressed in the ESMP.	Transition from Construction to Operations	IFC PS2	PCo should identify potential impacts of the retrenchment phase and identify policies and procedures to minimize its impacts.	<p>In August 2018, ENVIRON was informed by Sembcorp that, as the Project prepared to enter into the operational phase, retrenchment plans were in place to provide placement for employees who were hired during the construction phase. PCo and EPC contractors had two procedures in place:</p> <ol style="list-style-type: none"> <li>1) Communicate to the retrenched workers that they will be prioritized if there are any new projects within the country and region; and</li> <li>2) Place existing staff from EPCs to join the working team in the operational phase.</li> </ol> <p>In November 2019, ENVIRON was informed that a Retrenchment Plan was not prepared. The construction phase ended more than one year ago. Reviews of both the Community and Workers' Grievance Databases (2017-2019) indicate that no grievances were submitted concerning retrenchment. Therefore, one can assume that there were no significant impacts from retrenchment.</p>	<b>Issue Closed</b>

## **6. STATUS OF ESAP**

The IESC's observations on the status of the Environmental and Social Action Plan (ESAP) are presented below. Following each commentary, we have provided a status summary (Closed, Work in Progress, or Open).

**Table 23: Status of ESAP**

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
1/PS1	<p>Develop and implement construction phase E&amp;S Management Program (ESMP) consistent with ESIA recommendation and IFC requirements and which includes:</p> <ul style="list-style-type: none"> <li>• Dust Management Plan;</li> <li>• Traffic Safety Management Plan;</li> <li>• Noise and Vibration Management Plan;</li> <li>• Surface Water Management Plan;</li> <li>• Soil and Groundwater Management Plan;</li> <li>• Waste Management Plan (Hazardous and non-Hazardous Waste);</li> <li>• Oil and Chemical Spill Contingency Management Plan;</li> <li>• Emergency Response Plan (including Community Emergency Response Plan);</li> <li>• Stakeholder Engagement Plan (including Grievance Management Plan);</li> <li>• Community Development Plan (CDP);</li> <li>• Community Health Management Plan;</li> <li>• Occupational Health and Safety Management Plan;</li> <li>• Workers' Accommodation Management Plan;</li> <li>• Local Recruitment and Procurement Plan;</li> <li>• Influx Management Plan;</li> <li>• Cultural Heritage Chance Find Procedure; Security Plan; and</li> <li>• Contractor Management Plan.</li> </ul>	<p>Documented ESMPs in form and substance acceptable to IFC: by 15/05/2016 or prior to construction, whichever is earlier.</p> <p>Evidence of inclusion of plans in EPC HSE requirements: by 15/05/2016 or prior to construction, whichever is earlier.</p>	<p>The construction phase ESMP consists of 20 individual management plans, covering the topics included in the ESIA. The list is slightly different to that proposed in the ESAP. The main changes are:</p> <ul style="list-style-type: none"> <li>• The Project has not developed a Contractor Management Plan. Instead, roles and responsibilities of contractors are defined in the project's Occupational Health and Safety Management Plan (SDC-HSSEC-SMP-012) and in the Project HSE Plan.</li> <li>• The Project has developed three plans that are not mentioned in the ESAP: <ul style="list-style-type: none"> <li>○ Plant and Vehicle Management and Maintenance Plan;</li> <li>○ Biodiversity Management Plan; and</li> <li>○ HSSE Training Plan.</li> </ul> </li> </ul> <p>The construction phase ESMP was developed prior to construction.</p> <p>IESC observations on the implementation of each plan are detailed in section 5 of this report.</p> <p>The IESC has reviewed the EPC contracts (see section 5.2 of this report) and concluded that they are not directly referenced in the contract documentation. However, annexes to the contract refer to the ESMP.</p> <p>15 of the 20 plans were written by the EPC Contractors, and the EPC Contractors are responsible for implementation of each of the plans except for Community Development and Stakeholder Engagement, which are the responsibility of the Project Company.</p> <p><b>Status Summary: Closed</b></p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
	The sponsor will also complement the EPC HSE construction requirements to include the aforementioned aspects.		
2/PS1	Develop and implement Operational Phase E&S Management Program (ESMP) consistent with the outcomes of the ESIA, local legal requirements, and IFC PS requirements. The ESMP will cover applicable environmental, occupational health and safety, community health and safety, and social management aspects.	Documented Operational Phase ESMP in form and substance acceptable to IFC: 15/09/2018 or prior to commencement of operations, whichever is earlier.	<p>During the fourth IESC monitoring visit, it was reported that the OHS Management Plan will serve as the HSE manual for the operations phase, and that life-saving rules which are commonly used in oil and gas companies, will be enforced.</p> <p>The Operational Phase ESMP was prepared and seven operational phase plans were developed. These seven plans were reviewed by ENVIRON and its observations were reported in a separate report (February 12, 2019).</p> <p><b>Status Summary: Closed</b></p>
3/PS1	Assign a dedicated technically qualified construction phase ESHS management team comprised of a Head and supported by its own ESHS coordinators. Prior to the start of operations, define an ESHS organizational structure comprised of a Head of ESHS with supporting OHS and community affairs coordinators who will be fully responsible for implementation of the operational phase ESMP.	Assignment of construction ESHS team: 15/05/2016 or prior to construction, whichever is earlier.	<p>A technically qualified ESHS management team has been appointed by the Project Sponsor as detailed in section 5.2 of this report.</p> <p><b>Status Summary: Closed</b></p>
		Assignment of operation ESHS team: 15/09/2018 or prior to commencement of operations, whichever is earlier.	<p>The current operations phase HSSE Manager was part of the construction phase HSSE team during the IESC visit in August 2018. He took over the role of the HSSE Operations Manager in February 2019 and he will continue to manage environmental and social issues in the operations phase of the Project, supported by a HSSE team.</p> <p><b>Status Summary: Closed</b></p>



No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
4/PS1	<p>Expand scope of construction phase Emergency Preparedness &amp; Response (EPR) plans mentioned in the EPC contract to include all emergency scenarios including but not limited to emergencies arising from occupational accidents, accidents involving the public, health related emergencies, and from natural hazards.</p>	<p>Evidence of construction phase EPR scope expanded in EPC contract: 15/05/2016 or prior to construction, whichever is earlier.</p>	<p>The Project's Emergency Preparedness &amp; Response (EPR) Management Plan includes all foreseeable emergency response situations, including those specified in the ESAP.</p> <p><b>Status Summary: Closed</b></p>
	<p>Develop and implement an operational phase EPR Plan prior to commencing of testing and operational activities based on the outcome of the detailed quantitative risk assessment and after finalization of project design.</p> <p>The EPR Plan will define protocols to be followed in the event of emergencies or disasters; address both on-site and off-site emergency situations; disclose potential disasters/risks from the plant to the local community as well as the plan of action on emergency protocol in the event of any such eventuality.</p> <p>It will also include awareness programs for the Plant personnel, local community and local administration.</p>	<p>Operational phase EPR in form and substance acceptable to IFC: 15/09/2018 or prior to commencing plant testing activities whichever is earlier.</p>	<p>The site has completed a quantitative risk assessment and an operational phase EPR plan has been developed. The operational EPR Plan was reviewed by ENVIRON and its observations were reported in a separate report (12 February 2019).</p> <p>It is understood that a specialist contractor will be engaged to provide training on the EPR plan. However, there is no information on whether this has been completed.</p> <p>The IESC notes that prior to the restrictions imposed by Covid-19, SMPC's community relations officer regularly met with the local police, hospital staff and government agencies. However, it is not evident whether the Project has contacted local hospitals or government agencies involved in emergency response to understand their capacity to help.</p> <p>The Annual Public Stakeholder Engagement Presentation December 2020, presented to a limited number of residents of the 13 villages, due to Covid-19, includes a high-level overview of the EPR plan, including Designated Emergency Assembly Areas, Preparedness for Fire Emergency, Emergency Response Drills, and the BCP for Covid-19. However, it is not evident whether SMPC has shared details of its EPR plan with the potentially Affected Community (i.e., the three closest communities, Sa Khar, Hnan Ywa and Hpet Taw) and relevant government agencies and conducted the necessary training with the Affected Community, as mentioned in the ERP's Community Emergency Response Plan.</p> <p><b>Status Summary: Work in Progress</b></p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
5/PS1	<p>Develop and implement a detailed, project specific monitoring and reporting program with monitoring measures applicable to each of the relevant management plans. Monitoring and reporting activities will be reviewed by an independent E&amp;S consultant on a semi-annual basis during construction and annually thereafter for the first year of operation. A summary monitoring report will be disclosed to local communities semi-annually during construction and annually during first year of operation.</p>	<p>Program developed in form and substance acceptable to IFC: by 15/05/2016 or prior to construction, whichever is earlier. Independent reviews (construction): Semi-annually during construction phase (15/09/2016). Independent reviews (operation): By start of operations and annually for first year of operations (15/09/2019).</p>	<p>Rather than develop a stand-alone environmental and social monitoring plan the Project has included a monitoring and reporting section into each management plan where appropriate. ENVIRON has been appointed as the IESC on a semi-annual basis during construction and annually thereafter for the first year of operation. No summary monitoring reports had yet been disclosed to local communities, as of August 2018, but Sembcorp/PCo agreed that monitoring information would be included in the next Public Stakeholder Engagement Meeting in November 2018.</p> <p>While Sembcorp and PCo agreed to include project monitoring results in their presentations to be provided at the future annual Public Stakeholder Engagement Meetings, starting with the November 2018 meeting, ENVIRON did not find monitoring results included in the Stakeholder Engagement November 2018 Report prepared by Sembcorp/PCo after the Fourth Public Stakeholder Engagement Meeting that took place in November 2018. However, ENVIRON was provided with slides that were included in the Fifth Public Stakeholder Engagement Meeting presentation that took place in November 2019, and they included detailed monitoring results.</p> <p>Sembcorp and PCo agreed to include project monitoring results in their presentations to be provided at future annual Public Stakeholder Engagement Meetings.</p> <p><b>Status Summary: Closed</b></p>
6/PS1	<p>Develop and implement a community development and stakeholder engagement program - to include clearly defined objectives, stakeholder identification and analysis, performance indicators, activities, resource allocation, assigned implementation personnel, grievance mechanisms for local stakeholders, and mechanisms to appropriately disclose project related information to communities on an ongoing basis. The program will be communicated to project affected local communities on an ongoing basis, so that they are well aware of its existence and can also easily access the grievance mechanisms.</p>	<p>Documented program in form and substance acceptable to IFC: 15/05/2016 or prior to construction, whichever is earlier.</p>	<p><u>Community Development program</u></p> <p>As of February 2018, ENVIRON received an updated CDP and it includes an organisational chart with assigned roles and responsibilities, and <b>Table 2.4</b>.</p> <p>During the August 2018 site visit, Sembcorp provided ENVIRON with an updated CDP and its <b>Table 2.4</b> (Table of Projects) for 2018 which included updated information on the 69 projects approved for 2018 with the types of projects and villages identified).</p> <p>As of August 2018, the CDP was updated for the Operations Phase. The updated CDP incorporated some components of the Construction Phase CHMP, however, not all health-related components of the Construction Phase CHMP were included. The Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP (<b>Tables 1 and 2</b>) should be included in the Operations Phase CDP.</p> <p>In addition, the updated CDP included a new requirement for monitoring Key Performance Indicators (KPIs). The actions taken and results achieved under the KPIs for 2019 were provided to ENVIRON for our review and were in compliance.</p> <p>As of January 2021, an updated CDP (the 2021 CDP) superseded the 2018 CDP. The 2021 CDP included a change in management, new organizational chart, updated roles and responsibilities and other details. However, the Community Health baseline studies on all 13 villages that were</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
			<p>included in the Construction Phase CHMP (<b>Tables 1 and 2</b>) were still not included in the 2021 CDP. Sembcorp and SMPC have agreed to provide in the 7th monitoring round an updated 2021 CDP which will include the Community Health baseline studies on all 13 villages that were included in the Construction Phase CHMP.</p> <p><b>Status Summary: Re-opened: Work in Progress</b></p> <p><u>Stakeholder Engagement program</u>                      The SEP is well written with objectives, key standards and legislation, stakeholder identification and mapping, planned stakeholder activities, a Project Management Team organisation chart, roles and responsibilities, monitoring, KPIs and reporting. It also includes the community grievance mechanism.</p> <p>PCo has engaged with multiple stakeholders including national and local governmental agencies and the local communities since 2015. The SEP has been updated to include a revised organization chart that includes the Community Relations/Development Department and its reporting lines.</p> <p>As of August 2018, the SEP was updated for the Operations Phase and included a new requirement for monitoring Key Performance Indicators (KPIs). The actions taken and results achieved under the KPIs for 2019 were provided to ENVIRON for our review and were in compliance.</p> <p>As of January 2021, a new SEP was prepared that superseded the 2018 SEP. The 2021 SEP included an updated organizational chart to reflect a change in management and a new hire to the CSR team. However, the 2021 SEP does not include the Grievance Committees for 13 Villages as members of the Project's Grievance Committee. Sembcorp and SMPC have agreed that the Grievance Committee Organization Chart included in the 2021 SEP's Grievance Committee Procedures will be revised to include the Grievance Committees for 13 Villages as members of the Project's Grievance Committee and that the updated procedures will be incorporated into the updated 2021 SEP for the 7<sup>th</sup> monitoring round.</p> <p><b>Status Summary: Re-opened: Work in Progress</b></p>
7/PS2	Ensure relevant parts of project HR policies and procedures cover labour practices of contractors and sub-contractors.	Documented program in form and substance acceptable to IFC: 15/05/2016 or prior to construction, whichever is earlier.	<p>Contractors and sub-contractors are no longer engaged for work at the Project. All current workers at the Project are employed by SMPC and they are expected to follow SMPC's HR policies and procedures.</p> <p><b>Status Summary: Closed</b></p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
8/PS2	During construction, regularly monitor the labour practices of contractors and sub- contractors (e.g. non-use of child/forced labour) against a checklist to ensure compliance with national labour laws and regulations.	Monitoring reports in form and substance acceptable to IFC: Annually following the start of construction activities (15/03/2017).	<p>PCo through the monthly monitoring procedure does monitor contractors and subcontractors to ensure compliance with national labour laws and regulations, but additional monitoring needs to be put in place for subcontractors' engagement of unskilled workers (see section 5.24 of this report). Sembcorp completed the "mini-contract" template and provided it to subcontractors to use when engaging local unskilled and/or short-term workers. This new procedure went into effect in August 2017 and is no longer in effect since contractors and sub- contractors are no longer engaged for work at the Project. ENVIRON never received any details on how PCo monitors the subcontractors use of the mini-contracts.</p> <p><b>Status Summary: Closed</b></p>
9/PS2	Ensure that the housing provided by contractors/subcontractors to their workers meets standards required by the company as specified in the project HSE Plan and in IFC PS2, and are also consistent with principles of non- discrimination and equal opportunity.	Working housing specifications included in EPC contract making reference to IFC standards: 15/05/2016 or prior to construction, whichever is earlier.	<p>Workers accommodations provided by JEM and one remaining subcontractor (Min Dhama) are still not in full compliance with IFC PS2 and the Project's Workers Accommodation Management Plan (see section 5.17 of this report). However, all three camps were closed by 1 August 2018.</p> <p><b>Status Summary: Closed</b></p>
10/PS3	Ensure that wastewater discharge from construction and operational activities meets applicable World Bank Group (WBG) General EHS Guideline values including those applicable to sanitary wastewater, oily runoff, and cooling water blowdown.	Results submitted in AMRs (15/03/2017).	<p>Wastewater treatment facilities have been constructed for the operations phase and have been designed to meet the standards specified in the WBG EHS Guidelines for Thermal Power Plants. In general, the wastewater discharges meet the stipulated limits with the exception of a one-off exceedance of some parameters due to faulty equipment which was rectified by the site. However, iron had exceeded the limits on a number of occasions and the exact cause of the iron exceedances at the discharge location cannot be pinpointed. Monitoring of the downstream locations in 2019 and 2020 indicated iron levels were well below the stipulated limits. Therefore, the IESC recommends that the Project continues to monitor upstream and downstream of the discharge monitoring location for better comparison of results and analysis of trends.</p> <p><b>Status Summary: Work in Progress</b></p>
11/PS4	Mitigate traffic related accident risks during construction through measures such as: access control, barricading, reflectors, signage, community safety awareness programs, posting of traffic marshal, equipment back up alarms, proper securing of material while moving them from one place to another, planning material movement to cause minimum disruption, speed controls; alarms;	Evidence of inclusion in EPC HSE requirements: 15/05/2016 or prior to construction, whichever is earlier.	<p>Traffic related accident risks are well managed. The Project has a comprehensive Traffic Management Plan, which has been implemented effectively through a combination of physical controls (e.g. reversing alarms, vehicle maintenance), use of clear traffic signs on site, a strictly enforced speed limit, risk assessments for unusual loads, awareness training, and use of PPE such as reflective jackets. As a result, there have been no traffic related injuries.</p> <p>Community impacts have been considered in the construction phase Traffic</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
	<p>posting traffic marshals at high risk locations; undertaking appropriate measures to reduce fugitive emissions from storage and transport of construction and waste material, implementing driver safety management and training requirements for the transport of people and materials.</p> <p>Require the EPC contractor to prepare a detailed traffic and transport management plan including such elements as: implementation of a personnel and materials movement plan which takes daily life and traffic patterns into account; periodical monitoring of noise levels at community sensitive receptor points.</p>		<p>Management Plan. Designated traffic routes have been established to avoid populated areas, and the Project monitors noise at the six community sensitive receptor points identified in the ESIA report.</p> <p><b>Status Summary: Closed</b></p>
12/PS4	<p>Require EPC contractor to implement a management plan that will include: ensuring that appropriate medical facilities are available for all labour; a periodic health checkup program is in place; an awareness program on STI and HIV/AIDS; and measures to control disease vectors.</p>	<p>Evidence of inclusion in EPC HSE requirements: 15/05/2016 or prior to construction, whichever is earlier.</p>	<p>Immediate medical assistance is available at the Project site, and arrangements are in place with the medical centre in Myingyan for emergency services. A periodic (annual) health check-up program is in place, along with measures to control disease vectors. An NGO was engaged to provide training for an awareness program on STI and HIV/AIDS.</p> <p><b>Status Summary: Closed</b></p>
13/PS5	<p>Develop a resettlement framework with a set of project-level PS5 compliant procedures on land acquisition and involuntary resettlement which will be applied to all ongoing, and future land acquisition related activities should they occur.</p>	<p>Procedure in form and substance acceptable to IFC: 31/05/2016 or as advised by EPGE.</p>	<p>PCo developed a Resettlement Framework for the Project (November 2015) which was disclosed on ADB's website. ENVIRON's Land Acquisition and Resettlement Plan Observer Report serves the purposes of a Resettlement Action Plan (see section 5.23 of this report).</p> <p><b>Status Summary: Closed</b></p>
14/PS5	<p>Proactively work with EPGE during the river water supply pipeline and T-line RoW land acquisition process and demonstrate that the outcome and process are consistent with PS5 requirements.</p>	<p>RoW land acquisition work plan in place and consistent with PS5 requirements – 31/05/2016 or as advised by EPGE RoW outcome/process report prepared by the company verifies consistency with</p>	<p>PCo proactively worked with EPGE during the river water supply pipeline and T-line RoW land acquisition process. Livelihood impacts are limited. The impacts on livelihood due to the laying of the pipelines have been temporary and livelihoods were restored after the completion of the construction activities.</p> <p>As of 12th April 2017, all PAPs were compensated (at full replacement cost) for land and crop loss, with the exception of the 8 PAPs impacted by the elevated section of the pipeline towards the river, who received compensation (at full replacement cost) for land and crop loss, between 27 -30 August 2018 (as described below).</p> <p>After the construction was completed for the buried sections of the river water supply</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
		<p>PS5 requirements - prior to operations (15/09/2018).</p>	<p>pipeline, T- line towers and T-line wires had been installed, and PAPs had been re-planting crops; PCo conducted face-to-face meetings with each of the PAPs to assess resettlement outcomes. PCo met with the 147 PAPs along the river water supply pipeline, T-line towers and where T-line wires had been installed.</p>
			<p>The land acquisition process was to be completed before COD 2; and the land acquisition and compensation paid to the 8 PAPs for the elevated section of the pipeline towards the river took place in August 2018. The compensation process for individuals affected by the elevated section of the pipeline is the responsibility of EPGE, in collaboration with the relevant Government Administrative Divisions (GAD), acting on behalf of the Government of Myanmar.</p> <p>ENVIRON received an update on progress made on the final land compensation efforts with the 8 PAPs during the August 2018 site visit and after the site visit, received documentation in Myanmar to confirm that compensation was paid and consultations took place with each PAP.</p> <p>ENVIRON has received complete English translations of the land compensation documentation for the 8 PAPs.</p> <p>During the December 2019 site visit, ENVIRON met with 3 of the 8 PAPs who were compensated in August 2018. During the December 2020 virtual site visit, Ramboll Environ met with 1 more of the 8 PAPs who were compensated in August 2018. Ramboll Environ confirms that the 4 PAPs were satisfied with their compensation and their livelihoods were restored.</p> <p>Ramboll Environ will plan to consult with the remaining 4 PAPs during its next monitoring round and will report in the next monitoring report on the status of their restoring their livelihood. We anticipate being able at that time to bring closure to the Project resettlement impacts.</p> <p><b>Status Summary: Work in Progress</b></p>

## 7. SUMMARY

The Sixth Environmental and Social Monitoring Round has assessed the second year of operations since SMPC's Myingyan CCPP was commissioned in 2018. Under the ESAP, SMPC is required to implement the Operational Phase E&S Management Program (ESMP) consistent with the outcomes of the ESIA, local legal requirements, and IFC PS requirements. The ESMP covers applicable environmental, occupational health and safety, community health and safety, and social management aspects. The operations phase monitoring of the ESMP is to be conducted on an annual basis during the operations.

This Sixth Environmental and Social Monitoring Report reports the findings of the monitoring the period December 2019 to December 2020.

The IESC finds the Project is generally compliant with the ESAP with the exception of five actions that are still work in progress. In addition, a number of opportunities for improvement in the Project's environmental and social performance have been identified.

There are no high or moderately significant environmental or social findings.

Minor environmental or social findings are listed in the report under the relevant topics. Suggested corrective actions are provided within the report, but these are not prescriptive: instead the Project should define appropriate corrective actions and report on the implementation of such actions to the Lenders.