

Intended for

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

Date

July 10, 2020




Project Number

331000018-004

MYINGYAN CCPP FIFTH ENVIRONMENTAL AND SOCIAL MONITORING REPORT

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

Project No. **331000018-004**
Issue No. **3**
Date **July 10, 2020**
Made by **Sharon Maharg and Sharmini Ramanathan**
Checked by **Juliana Ding**
Approved by **Juliana Ding**

Made by:	Sharon Maharg, Sharmini Ramanathan
	 
Checked/ Approved by:	Juliana Ding
	

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

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

ENVIRON Myanmar
Co., Ltd MICT Park,
Building 17
4th Floor, Hlaing
Township Yangon
Myanmar
T +95 1 654914

www.ramboll-environ.com

Version Control Log

Revision	Date	Made by	Checked by	Approved by	Description
Issue 1	2/16/2020	S Maharg and S Ramanathan	J Ding	J Ding	Draft report issued to client
Issue 2	7/03/2020	S Maharg and S Ramanathan	J Ding	J Ding	Final report issued to client
Issue 3	7/10/2020	S Maharg and S Ramanathan	J Ding	J Ding	Updated Final report issued to client

CONTENTS

EXECUTIVE SUMMARY	ix
1. INTRODUCTION	1
2. SCOPE AND STRUCTURE OF THE REPORT	2
2.1 Scope and Methodology	2
2.2 Applicable Standards	3
2.3 Status of Environmental Licenses and Permits	4
2.4 Project Categorization	4
2.5 Structure of the Report	4
2.6 Limitations	5
3. PROJECT DESCRIPTION.....	6
3.1 Project Site	6
3.2 Associated Facilities.....	7
3.3 Socio-economic Context.....	7
3.4 Status of the Project at Time of the Fifth Monitoring Assignment.....	8
4. SIGNIFICANCE ASSESSMENT	9
4.1 Review Findings.....	9
4.2 Assessment of Significance.....	9
5. ASSESSMENT OF ENVIRONMENTAL AND SOCIAL CONFORMANCE WITH PROJECT COMMITMENTS	11
5.1 Introduction.....	11
5.2 Environmental and Social Management System	11
5.2.1 Construction Phase Environmental and Social Management System	11
5.2.2 Operations Phase Environmental and Social Management System.....	11
5.3 Air Quality and Dust.....	16
5.3.2 Dust	16
5.3.3 Operations Phase Emissions Monitoring.....	16
5.4 Plant and Vehicle Management and Maintenance.....	19
5.5 Traffic Management	20
5.5.1 General Traffic Management	20
5.5.2 Onsite Traffic Management	20
5.5.3 Offsite Traffic Management.....	21
5.5.4 Deficiencies Against Applicable Standards	21
5.6 Noise and Vibration.....	23
5.6.1 Mitigation Measures	23
5.7 Surface Water	25
5.7.1 Water Use	25
5.7.2 Sanitary Wastewater Management in the Operations Phase	26
5.7.3 Surface Water Runoff.....	27
5.7.4 Wastewater Treatment in the Operations Phase	27
5.7.5 Surface Water Quality Monitoring	28
5.7.6 Other Observations	29
5.8 Soil and Groundwater	32
5.9 Biodiversity.....	34
5.10 Waste Management	35
5.10.1 On-site Waste Management	35
5.10.2 Off-site Waste Disposal.....	35
5.10.3 Waste Hierarchy.....	36
5.11 Oil and Chemical Spill Contingency	39
5.12 Emergency Preparedness and Response	41
5.13 Occupational Health and Safety	42
5.14 Stakeholder Engagement	43
5.14.1 Stakeholder Engagement	43
5.14.2 Stakeholder Activities during ENVIRON’s December 2019 Site Visit	45
5.14.3 Public Disclosure.....	48
5.14.4 Community Relations	49
5.14.5 Community Grievance Mechanism.....	50
5.15 Community Development.....	57
5.16 Community Health	60
5.17 Workers’ Accommodation	61
5.18 Local Recruitment and Procurement	62

5.18.1	Local Recruitment and Procurement for the Operations Phase	62
5.18.2	Workers' Training and Capacity Building	63
5.19	Project Influx.....	64
5.20	HSSE Training	65
5.20.1	Construction Phase	65
5.20.2	Operations Phase	65
5.21	Cultural Heritage.....	66
5.22	Security	67
5.23	Land Acquisition & Resettlement	68
5.23.1	Resettlement Framework	68
5.23.2	ENVIRON's Land Acquisition and Resettlement Plan Observer Report.....	68
5.23.3	Land and Crop Compensation	69
5.23.4	Consultations with the 8 PAPs	70
5.23.5	Update on the Informal Settlers and other PAPs	70
5.23.6	Previous Gaps as per the Observer Report	71
5.24	Labour & Working Conditions	73
5.24.1	Sembcorp's Code of Business Conduct and Global Human Rights Policy	73
5.24.2	Human Resources Procedures	73
5.24.3	Employment Contracts	73
5.24.4	Project Workforce	74
5.24.5	Local Recruitment and Procurement Management Plan	76
5.24.6	Workers' Grievance Mechanism.....	76
5.24.7	Workers Engaged by Third Parties	76
5.24.8	Retrenchment	76
6.	STATUS OF ESAP	79
7.	SUMMARY.....	89

TABLE OF TABLES

Table 1: Significance Ranking	9
Table 2: Example of the Summary Table Format	10
Table 3: Summary of Findings - Environmental and Social Management System	15
Table 4: Summary of Findings - Air Quality and Dust	18
Table 5: Summary of Findings – Traffic Management	22
Table 6: Average Ambient Noise Levels for the Operations Phase	23
Table 7: Summary of Findings – Surface Water	30
Table 8: Summary of Findings – Soil and Groundwater	33
Table 9: Summary of Findings – Waste Management	37
Table 10: Summary of Findings – Oil and Chemical Spill Contingency	40
Table 11: Grievances Registered from August 2018 – November 2019 and Status of Resolution	52
Table 12: Summary of Findings – Stakeholder Engagement	54
Table 13: Summary of Findings – Community Development	59
Table 14: Summary of Number of PAPs, Power Poles and Fertilizer Bags Received	71
Table 15: Summary of Findings – Land Acquisition & Resettlement	72
Table 16: Project Workforce in November 2019	75
Table 17: Summary of Findings – Labour & Working Conditions	78
Table 18: Status of ESAP	80

TABLE OF FIGURES

Figure 1: Project Location	6
Figure 2: Project Operational Phase Environmental and Social Organisation Chart	13
Figure 3: Site Traffic Flow for Operations Phase	20
Figure 4: Approved Site Access Routes	21
Figure 5: Location of Sanitary Wastewater Disposal Site and Landfill Site	26
Figure 6: Sanitary Wastewater Disposal Site	27
Figure 7: Municipal Waste Disposal Site	36

APPENDICES

Appendix 1	Site Visit Photo Log
Appendix 2	Monitoring Plan
Appendix 3	Summary of Construction Phase Findings
Appendix 4	Myingyan Environmental Monitoring Results
Appendix 5A	River Water Sampling Locations and Results
Appendix 5B	River Water January 28, 2020 Sampling Locations and Results
Appendix 5C	Village Participation of Q1 January 2020 River Water Sampling
Appendix 6	2018 - 2019 CSR Investments - Table of Projects
Appendix 7	2020 CSR Activities Planned - Table of Projects
Appendix 8	Stakeholder Engagement Database September 2018 – November 2019
Appendix 9	Stakeholder Engagement Report November 2018
Appendix 10	Stakeholder Engagement Report November 2019
Appendix 11	Community Grievance Mechanism Database 2017- November 2019
Appendix 12	Employee Training Courses Completed during 2018
Appendix 13	Project documentation reviewed for the Fifth Environmental and Social Monitoring Report

GLOSSARY OF TERMS/ ACRONYMS

Acronym	Abbreviation
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
BCE	Bedok Construction & Engineering Company Limited
BOT	Build, Operate and Transfer
CBP	Concrete Batching Plant
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
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

Acronym	Abbreviation
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
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
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

In December 2019, Environ Myanmar Co., Ltd, (ENVIRON) acting in the role of Independent Environmental and Social Consultant (IESC), 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').

The December 2019 trip was the first annual IESC monitoring visit scheduled to occur during the Project's operations phase; four IESC monitoring visits 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 Environmental and Social Action Plan; 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.

Throughout the monitoring process, SMPC cooperated fully and responded to all 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.

SMPC conducted two annual Public Stakeholder Engagement Meetings during this monitoring period (November 2018 and November 2019). Summaries of these meetings are included in **Appendices 9** and **10**. ENVIRON reviewed the Project's report of actions taken and results achieved under the Stakeholder Engagement Plan (SEP) Key Performance Indicators (KPIs) for 2019. The Project exceeded the KPIs: 421 engagements were conducted (goal was 365) and the Project closed out 100% of grievances (goal was to close out 80% of grievances).

A positive community service initiative undertaken by SMPC includes the installation of a medical waste incinerator at the Myingyan Hospital, as reported in ENVIRON's January 2018 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 will improve the health and safety of residents of the thirteen local communities. From August 2018- November 2019, a total of 21 community development projects were completed in the thirteen villages (for details, refer to **Appendix 6**).

The project is generally compliant with the requirements of the Environmental and Social Action Plan (ESAP), however, the monitoring visit identified four ESAP items that are 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 findings. There are some minor gaps that need to be addressed in the operational phase management plans and minor gaps were also noted in the overall management of environmental monitoring data.

There are no high or moderately significant social findings. A minor gap identified was that KPIs were not established for the Operations Phase Labor Recruitment and Procurement Management Plan. However, ENVIRON has since been advised that SMPC KPIs will not be established due to the specialised nature of the operations and SMPC will hire from the national workforce including from the local community where feasible. As of December 2019, the Project's total national workforce,

including the Yangon workforce, security team and EPGE was 119, representing 96.64% of the total workforce; foreign skilled workers (4) made up only 3.36% of the total Project workforce. At the time of the site visit at least 2 personnel working as security guards were from the local community.

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 Sembcorp to bridge the gaps in compensation between the national requirements and SPS/IFC PS requirements; and Sembcorp 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 undisrupted 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 have 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 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 river water supply pipeline towards the river, described below, who were compensated between 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 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 per year for each pier on the bridge on their land for the next 2 years. 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 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.

Summaries of ENVIRON's meetings with 3 of the 8 PAPs are included in **Section 5.23.4** of this report. Meetings with the remaining 5 PAPs should take place during ENVIRON's next monitoring site visit.

The findings presented in this report should be incorporated within Sembcorp's safeguards compliance and corrective action tracking system. The IESC will assess evidence of close-out of each issue in our next site visit, which is anticipated to be in December 2020.

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, was commissioned in 2016 by Sembcorp Myingyan Power Company Limited to act as the Lenders’ Independent Environmental and Social Consultant (IESC) on the Project.

In fulfilling the role of Lenders’ IESC, 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 Agency¹ (MIGA) which is a member of the World Bank Group (WBG).

This Fifth Environmental and Social Monitoring Report covers the period from August 2018 to November 2019 and provides our findings following a December 2019 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.

¹ Insurer for the lenders to Sembcorp Myingyan Power Company Limited.

2. SCOPE AND STRUCTURE OF THE REPORT

2.1 Scope and Methodology

This Fifth 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 parties². It addresses the various components of the Project (as defined in Section 3, Project Description).

The report presents the findings of the 5th monitoring exercise 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 site visit undertaken from December 3-5, 2019 by Sharmini Ramanathan and Sharon Maharg, on behalf of ENVIRON, which included the following activities:
- Interviews held with senior management representatives, HSE and community liaison staff within the Project Company;
- Visual observations (site visit photolog provided in **Appendix 1**) made during walkover inspection of Project facilities (including the one associated facility) and the off-site sludge storage facility (**Photo 13**);
- Visit to the Myingyan District Police Station for a meeting with the Police Chief (**Photo 19**);
- Visit to the Myingyan District Hospital for a meeting with a male nurse (**Photo 20**);
- Visits to two affected local communities near the elevated river water supply pipeline (i.e., Tha Pyay Thar and Seik Nyan Villages) where the following activities took place:
 - A meeting took place with a fisherman, the Village Head of Tha Pyay Thar Village; and some community members (**Photo 21**).
 - Consultations with three PAPs (**Photos 29 and 31-33**)².
 - Observations of completed projects under its CDP (i.e., two water treatment plants, (**Photos 23 and 26**).

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 site visit. Some of the activities planned did not take place since ENVIRON had limited time on site (i.e., consultations with 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 Fifth Environmental and Social Monitoring Report is included in **Appendix 13**.

² Relying parties include other lenders.

2.2 Applicable Standards

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

- 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: Labour 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.

As mentioned in **Section 5.9**, 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 with 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.

A letter from the Ministry of Natural Resource and Environmental Conservation's Environmental Conservation Department (ECD), dated 17th March 2017, acknowledged that the Project ESIA report meets the requirements of the Myanmar Environmental Impact Procedure of 29th 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 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 Labour & Working Conditions). The key issues identified against each topic are summarised 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 endeavoured to provide a balanced opinion, providing examples of good practice and identifying improvements made in closing gaps that were noted in ENVIRON's Fourth 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) have been transferred to **Appendix 3**.

Future activities will be the subject of forthcoming monitoring visits.

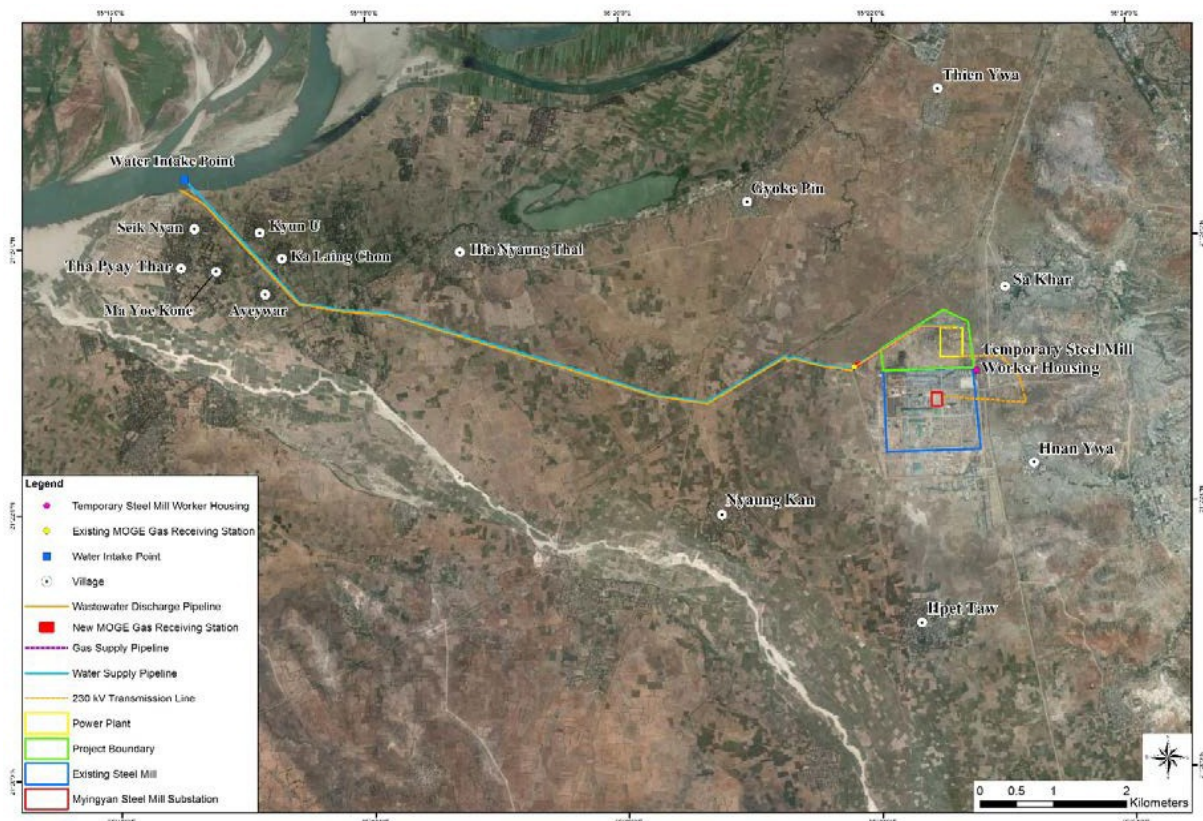
3. PROJECT DESCRIPTION

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 Site

The Project site 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. The 11.6 hectares 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.

Figure 1: Project Location



The Project Company constructed a natural gas fired power plant. Project facilities include:

- A 225 MW CCGT power plant (**Photo 1**) comprising two sets of Gas Turbines (GT) units (**Photo 3**), 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 (**Photo 12**) 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. The gas pipeline and the gas receiving station are now complete.
- 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). The overhead line

construction is complete and physical reinstatement has been completed on land around each of the towers.

- A buried 14 km 12" diameter river water supply pipeline linked to a water intake pumping station on the Ayeyarwady River, to the West. The pipeline was completed in February 2018.
- An overhead line adjacent to the river water supply pipeline supplies power to the pumping station.
- A buried 14 km 12" diameter wastewater discharge pipeline parallel to the river water supply pipeline, which discharges around 75 – 100 m downstream of the water intake pipeline. The pipeline was completed in December 2017.

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.

Heavy plant equipment was delivered to the site via barge along the Ayeyarwady River to a landing site known as the Nyaung Hla jetty, approximately 32 km south-west of the Project site, then by road. The landing site, which was reinforced for the Project, is no longer used. ENVIRON visited the landing site in November 2016 and July 2017.

3.2 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.

3.3 Socio-economic Context

As indicated in the ESIA (Revision no. 2, August 2016), the Stakeholder Engagement Plan (SEP), and in **Figure 1**, 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.

3.4 Status of the Project at Time of the Fifth 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 fifth monitoring assignment, engineering and procurement and construction were 100% complete.

In December 2019, 119 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 operation phase, there are three 8-hour shifts.

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 are staying in rental houses.

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;
- ENVIRON’s recommendation, where applicable, to resolve/manage the deficiency;
- Where applicable, updated status based on the December 2019 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

Minor:	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.
Moderate:	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.
High:	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.
Issue Closed:	An issue that was raised in a previous monitoring visit, which has now been addressed to the satisfaction of the IESC.
Ongoing Activity:	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 ³	Standard	IESC Recommendations	December 2019 Update	Significance
00	Storm water runoff monitoring	The ESAP requires Company X monitors the quality of surface water run-off from facilities. To date the Company has been unable to procure monitoring equipment – no monitoring has been undertaken.	Ops	WBG EHS Guidelines ADB ES Framework	Company X shall expedite procurement of monitoring equipment with the support of senior management.		Moderate

³ 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 Labour & Working Conditions. The management plans have been developed by the Project Company (PCo) 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 PCo. 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, 1st 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

PCo 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
- Emergency Response Plan
- Security Management Plan

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

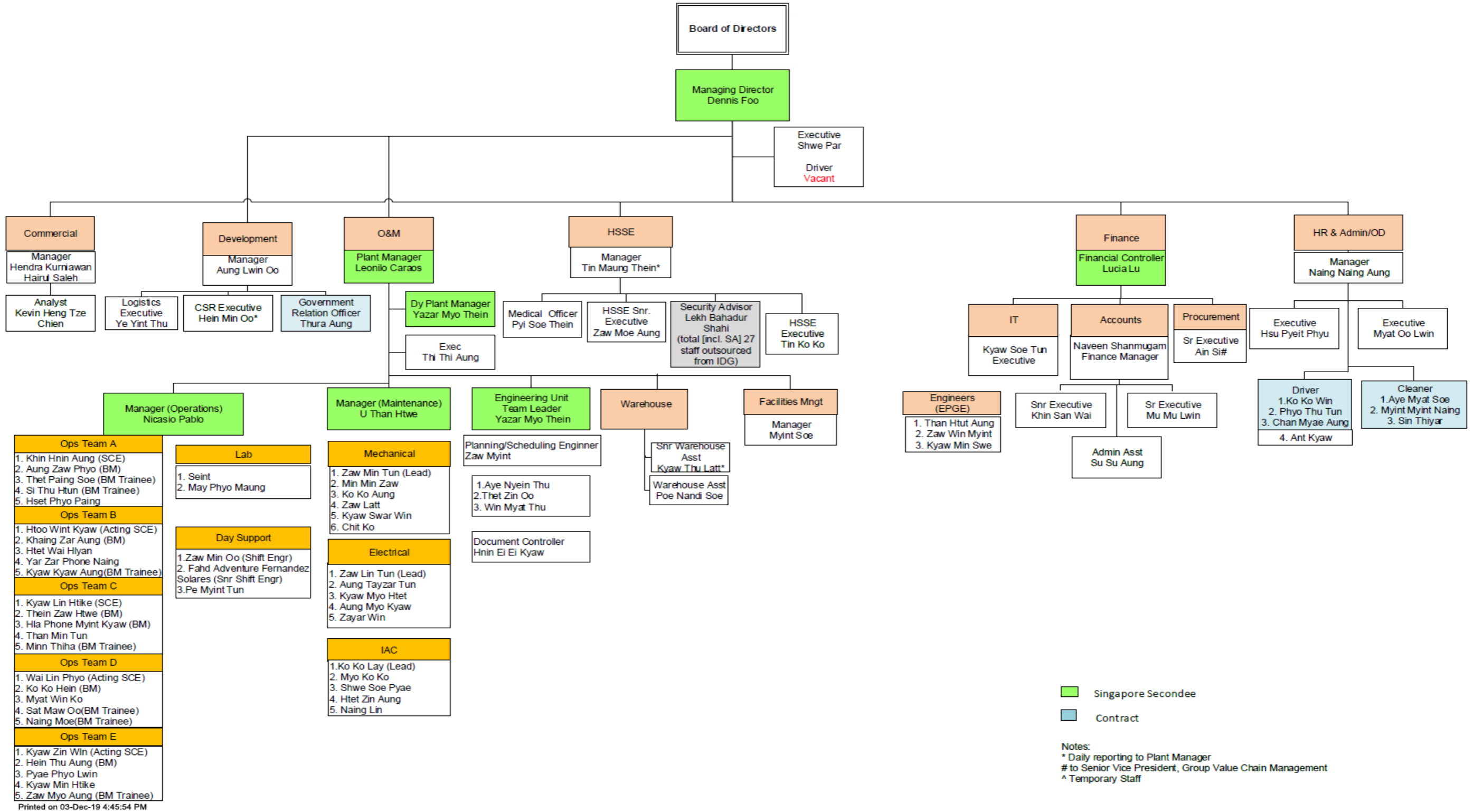
The plans were developed based on similar documents used in Sembcorp operations in Singapore and the Sembcorp Salalah Power and Water Company in Oman. ENVIRON understands that around 200 technical operations phase procedures have already been developed.

An HSE organization chart (**Figure 2**) for the operations phase was available. 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). 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 IESC recommends that the emissions data from the CEMS is shared for internal review with the Project HSSE Team on a regular basis.

Figure 2: Project Operational Phase Environmental and Social Organisation Chart

Sembcorp Myingyan Power Company Limited
 Organisation Chart

3 Dec 2019



■ Singapore Secondee
■ Contract
 Notes:
 * Daily reporting to Plant Manager
 # to Senior Vice President, Group Value Chain Management
 ^ Temporary Staff

Printed on 03-Dec-19 4:45:54 PM

5.2.3 Simultaneous Operations

The Project developed simultaneous operations (SIMOPS) protocols to manage HSE risks during the transition period from construction to operations, as documented in the Managing Simultaneous Works SOP (SOP-MYN-016, dated 3rd November 2017). The construction team retained overall control of the Project site until COD2 (Combined Cycle), which took place in November 2018. However, construction personnel required a Permit to Work (PTW) to enter operational areas after COD1 (Simple Cycle), and a Lock Out Tag Out (LOTO) system provided an additional level of control during the SIMOPS phase. During the site inspection, fences were noted around operations areas to restrict access. Daily coordination meetings were held between construction and O&M teams to ensure that both teams were aware of current and planned activities. In December 2019, the plant was 100% operational and issues related to SIMOPS are no longer considered relevant as the transition period from construction is essentially complete.