

Environmental and Social Monitoring Fourth Report

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MYA: Myingyan Natural Gas Power Project Part 1

Prepared by Environ Myanmar Co Ltd.

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

Date

January 2019




Project Number

331000018-002

MYINGYAN CCPP FOURTH ENVIRONMENTAL AND SOCIAL MONITORING REPORT

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

Project No. **331000018-002**
Issue No. **4**
Date **January 2019**
Made by **Sharon Maharg and Sharmini Ramanathan**
Checked by **Juliana Ding**
Approved by **Juliana Ding**

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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
SOP	Standard Operation Procedure
TSS	Total Suspended Solids
WAMP	Workers Accommodation Management Plan
WBG	World Bank Group

EXECUTIVE SUMMARY

In August 2018, 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 (Sembcorp) Combined Cycle Power Plant (CCPP) project in Myingyan, Myanmar (the 'Project').

The August trip was the fourth of several IESC monitoring visits scheduled to occur 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, Sembcorp 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.

A positive community service initiative undertaken by Sembcorp includes the recently constructed medical waste incinerator at the Myingyan Hospital, as reported in ENVIRON's January 2018 report. This will provide 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 Sembcorp in 2018 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. As of August 2018, a total of 65 community development projects were completed in the thirteen villages, and four additional projects are scheduled for completion before year-end 2018.

The project is generally compliant with the requirements of the Environmental and Social Action Plan (ESAP), however, the monitoring visit identified five 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.

The key moderate significance environmental finding is related to the off-site waste disposal site that does not meet lender standards. Sembcorp reviewed disposal options and the disposal site (landfill) operated by the Myingyan Municipality was the only available facility in the area. While not an ideal option, an assessment of potential impacts revealed that there are no sensitive receptors in close proximity and the disposal site is a municipal landfill where all types of wastes are disposed. Sembcorp should 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.

In terms of land acquisition and compensation, 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.

The river water pipeline was buried 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, 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.

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.

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 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 is compensated MMK 10,000 per year for each piece of bridge pipe on their land for the next 2 years. The PCo will then top-up the payments for the subsequent 20 years. This compensation process is to be completed before COD 2 and PCo began the compensation process after receiving a formal letter from EPGE dated 13 July 2018¹.

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 above. The compensation payments to these 8 PAPs were made in August 2018.

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 expected to be in July 2019.

¹ The compensation ceremonies for the 8 PAPs were in process during the last week in August 2018 while ENVIRON was on our most recent site visit to the Project area. ENVIRON will review the results of the compensation process and provide a summary in our next monitoring report.

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, (“Project Company” or “PCo”) has been established in Myanmar and ultimately will be beneficially owned by the Sponsor for the sole purpose of developing and operating the Project.

The Project has two phases. The Commercial Operation Date (COD) of Open Cycle Mode was in May 2018 (delayed from the original target date of 21st December 2017) and the COD of Combined Cycle Mode is targeted for November 2018.

A Power Purchase Agreement (PPA) has been signed for 22 years from Phase 1 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 Agency² (MIGA) which is a member of the World Bank Group (WBG).

This Fourth Environmental and Social Monitoring Report covers the period from February 2018 to August 2018 and provides our findings following an August 2018 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 realisation.

² Insurer for the lenders to Sembcorp Myingyan Power Company Limited.

2. SCOPE AND STRUCTURE OF THE REPORT

2.1 Scope and Methodology

This Fourth 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 parties³. It addresses the various components of the Project (as defined in Section 3, Project Description).

The report presents the findings of the monitoring exercise based on information gained through the following activities:

- a review of updated Project documentation, initially reviewed during the 4Q 2016 monitoring period;
- a review of ESAP implementation;
- a review of Health, Safety, Environment Management System (HSE-MS) documentation;
- interviews held with senior management representatives, HSE and community liaison staff within the Project Company and one main Engineering, Procurement and Construction (EPC) contractors, Jurong Engineering (Myanmar) Ltd (JEM);
- visual observations made during walkover inspection of Project facilities (including the one associated facility) and the off-site waste disposal facility;
- visits to two affected local communities near the river water supply pipeline (i.e., Tha Pyay Thar and Nyaung Kan Villages), and one affected local community in the vicinity of the T- Line towers (i.e., Sa Khar Village) where some stakeholder engagement took place and Sembcorp's progress was observed in completion of projects under its CDP, including the following;
 - a visit with the Village Head at the Sa Khar Village GAD office, which has been completely re-constructed (Photos 35 to 38). The GAD office reconstruction was financed by the Project under its CDP.
 - a visit to the primary school in Sa Khar Village where upgrades to the school fence, toilets and classrooms were observed (Photos 39 to 41). The school upgrades were financed by the Project under its CDP.
 - a visit to the primary school in Nyaung Kan Village where new teachers' living quarters and a kitchen were constructed, in addition to two new toilets for the school, and classroom upgrades were made (Photos 28 to 30 and 32). The school upgrades were financed by the Project under its CDP.
 - a visit to the primary school in Tha Pyay Thar Village where major upgrades to the school were made including a new roof, brick walls, concrete floor and ceiling and two new toilets (Photos 23, 24 and 27). The school upgrades were financed by the Project under its CDP.
 - During visits to Nyaung Kan Village and Tha Pyay Thar Village, ENVIRON observed the fully constructed 500-gallon underground water storage tanks for fire protection and the solar-powered water treatment facilities (Photos 25, 26, 31, and 33). These human health and safety related projects were financed by the Project under its CDP; and

³ Relying parties include other lenders.

- informal discussions with the Sa Khar Village Head and teachers at the primary schools in Sa Khar Village, Nyaung Kan Village and Tha Pyay Thar 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 site visit. Some of the activities planned did not take place since the IESC had limited time on site. The activities that did not take place in this monitoring visit will be included in our next site visit's agenda. The site visit was undertaken from 28 to 30 August 2018 by Sharmini Ramanathan and Sharon Maharg of Ramboll, on behalf of ENVIRON.

A full list of Project documentation reviewed during preparation of this Fourth Environmental and Social Monitoring Report is provided in Appendix 3 (each item has a reference number, and, in the text of this report, specific named documents are provided with their reference numbers).

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 licence 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;
 - PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
 - PS8: Cultural Heritage;
- 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.

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 Licences 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 backlog of ESIA's awaiting 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 August 2018.

A letter from the Ministry of Natural Resource and Environmental Conservation's Environmental Conservation Department (ECD), dated 17th March 2017, acknowledges that the Project ESIA report meets the requirements of the Myanmar Environmental Impact Procedure of 29th December 2015. It also highlights 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, below, 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 construction 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 Third 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. Future activities will be the subject of forthcoming monitoring visits.

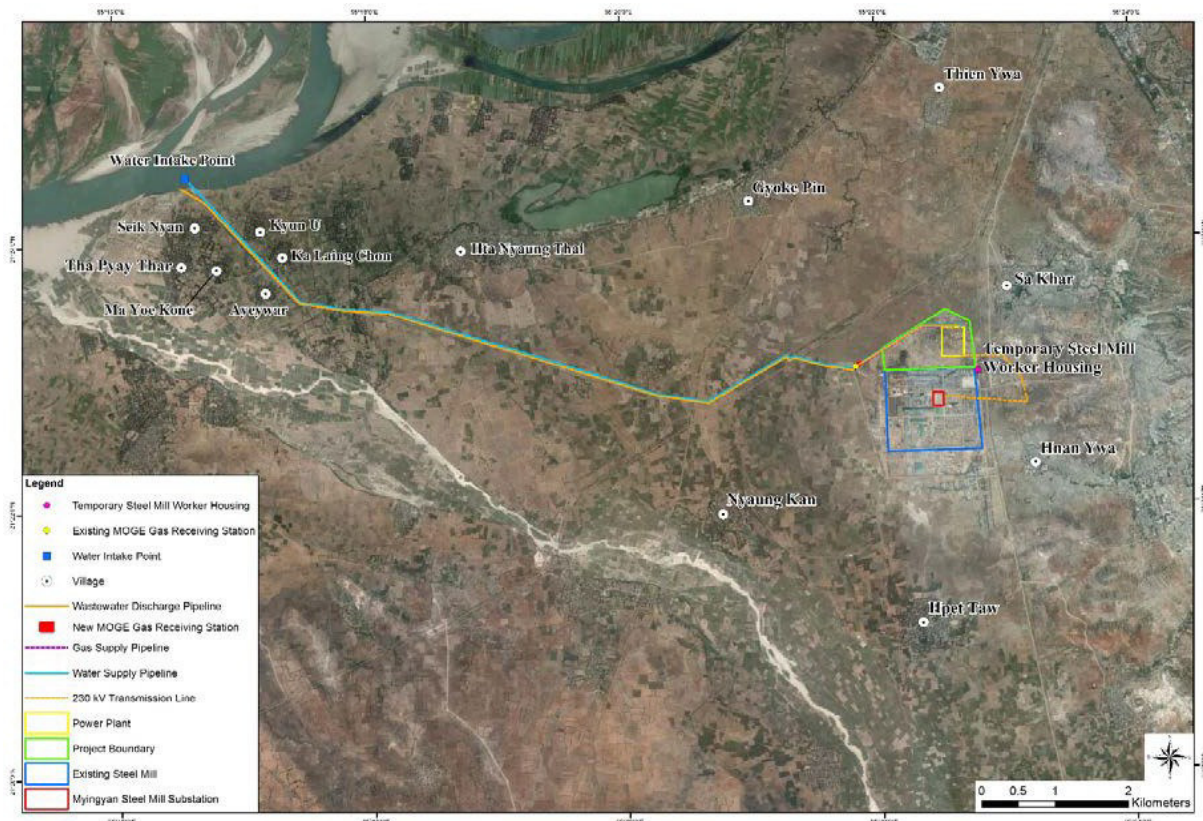
3. PROJECT DESCRIPTION

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 predominately greenfield 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 is constructing a natural gas fired power plant. Project facilities include:

- A 225 MW CCGT power plant (photo 001) comprising two sets of Gas Turbines (GT) units (photo 003), 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 017) 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 will supply power to the pumping station. At the time of the IESC inspection the poles had been erected and power cable stringing was complete.
- A buried 14 km 12" diameter wastewater discharge pipeline parallel to the river water supply pipeline, which will discharge 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 has been physically reinstated. Land users (farmers) were allowed to reinstate crops from July 2017, but large trees will not be permitted 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 Fourth Monitoring Assignment

The project is currently in an advanced stage of construction. Open cycle power generation commenced in January 2018, and combined cycle operation started in May 2018. At the time of fourth monitoring assignment, engineering and procurement was 100% complete, and construction work was 99.9% complete, giving the overall project a value of 98.24% complete.

The two main EPC contractors were SDCI and JEM. In January 2018, 1,139 people were working at the Project site. In August 2018, the Project workforce was reduced to 102 (see Table 19 for details on the current project workforce and Table 20 for the workforce projected for November 2018). As the construction phase progressed towards completion, the number of personnel at the facility was reduced. For the operation phase, there will be four operations teams, with five members each on 12-hour shifts. PCo will eventually be transitioning to five operations teams with five members each on 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 will stay 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 subsection 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 January 2018 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 following four categories:

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 1: Example of the Summary Table Format

ID	Aspect	Issue Description	Phase⁴	Standard	IESC Recommendations	August 2018 Update	Significance
00	Storm water runoff monitoring	The ESAP requires <i>Company X</i> 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	<i>Company X shall expedite procurement of monitoring equipment with the support of senior management.</i>		Moderate

⁴ 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 20 construction-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. 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 Applicable Standards.

Two construction phase management plans are directly managed by PCo:

- Community Development; and
- Stakeholder Engagement.

While the remaining 18 construction phase management plans were implemented by the two main construction contractors (SDCI and JEM) with oversight by PCo, they are now also directly managed by PCo.

All 20 construction-phase environmental and social management plans will be in effect until COD2, which is projected for November 2018.

5.2 Environmental and Social Management System

5.2.1 Construction Phase Environmental and Social Management System

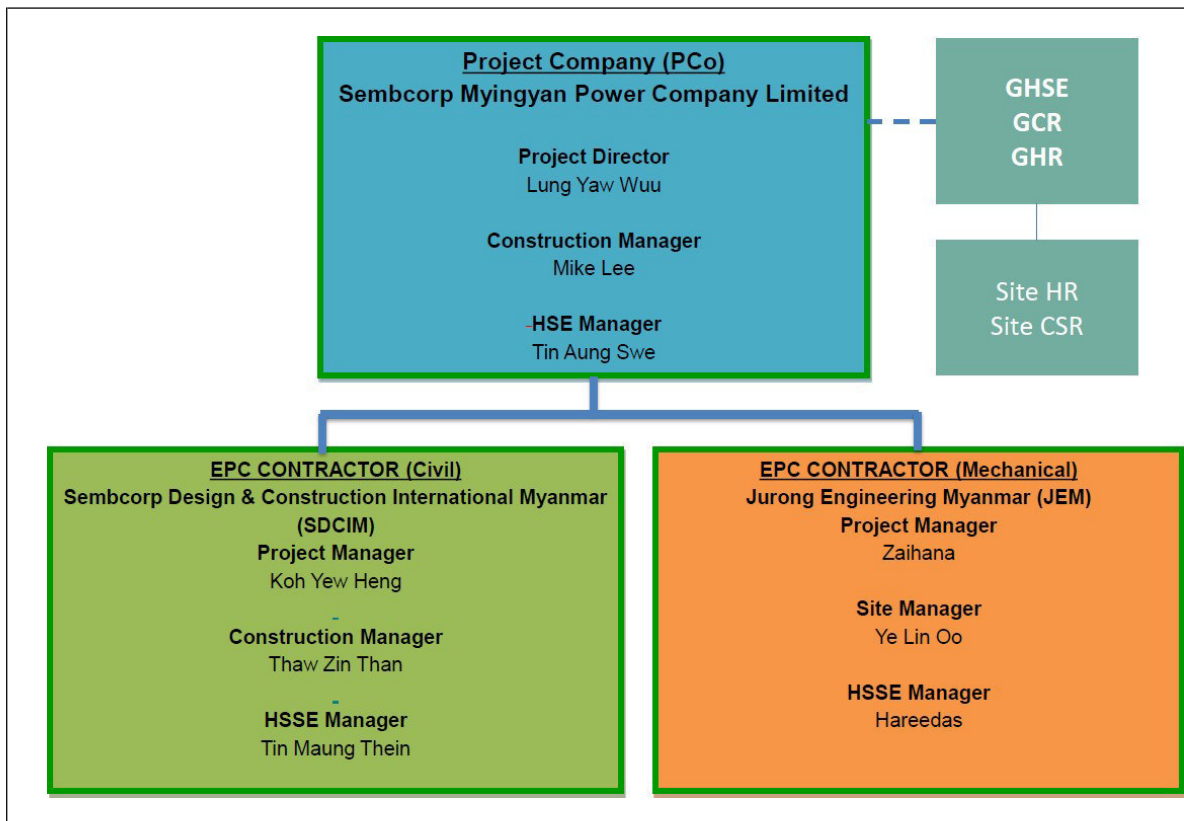
The construction phase ESMP is implemented via the Project's HSE Management System (HSE-MS), which is based on Sembcorp's corporate HSSE-MS. The management system is described in the Project's Occupational Health and Safety Management Plan (see section 5.13 of this report) and in the Project HSE Plan (Rev 1, 1st April 2016). No major deficiencies or concerns have been identified in the HSE-MS.

Implementation of the Project's ESMP, which forms the main operational control element of the management system was reviewed during the July 2017, January 2018 and August 2018 IESC monitoring visits. Section 5 of this report highlights some opportunities for improvement in the implementation of the ESMP and in the actual content of the 20 management plans that collectively form the ESMP. Since the issuance of the Second Environmental and Social Monitoring Report (August 2017), numerous improvements have been 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, but some issues have not yet been addressed. Some of the management plans do not provide a full and accurate description of environmental and social measures employed by the project so the IESC had previously recommended a thorough review of the plans to remove irrelevant sections (e.g. descriptions of surface water management measures that are not used), add missing information (e.g. a full list of hazardous materials stored and wastes generated) and address other issues highlighted in this report.

In view of the near completion of the construction and minor documentation issues, the review of the plans is of low significance at this stage. During the IESC's monitoring visit in August 2018, Sembcorp is striving to complete the Operational phase ESMPs. ENVIRON will provide comments on the seven operations phase plans, in a separate report.

The Project's construction phase environmental and social organization chart (see Figure 2, below) illustrates how roles and responsibilities were assigned between the Project Company and the EPC Contractors.

Figure 2: Project Environmental and Social Organisation Chart



Audits and inspections are completed regularly. Based on a review of recent reports and discussions with site HSE personnel, no major issues have been identified. Most findings relate to the incorrect use of Personal Protective Equipment (PPE) which were addressed on the spot with affected workers and reinforced at contractor workers meetings.

The Sembcorp Group HSE Incident Classification, Investigation and Reporting Procedure (G/014-5/GHSE), dated 4th December 2013 is used to document and track audit findings.

5.2.2 Contractor Management

Environmental and social requirements were built into the major contracts between Sembcorp and its EPC contractors and major suppliers, namely:

- Installation, Erection, Construction and Commissioning (IECC) Agreement Contract No SEMBMIN-002, between Sembcorp Myingyan Power Company Limited (as Owner) and the SDCI / JEM joint venture (as Contractor); and
- Offshore Supply Agreement Contract No SEMBMIN-001, between Sembcorp Myingyan Power Company Limited (as Owner) and Jurong Engineering (Overseas) Pte Ltd and Sembcorp Project Engineering Company Pte Ltd (as Contractor).

Both contracts require the contractors to comply with applicable environmental, social and labour laws; IFC Performance Standards, WBG EHS Guidelines and any environmental, social and labour performance standards specified by any Financing Parties; the ESIA; and the Project HSE Plan.

They state that in the event of conflict between standards the most stringent standard applies, and also require the contractors to develop an environmental management system (EMS) to ensure that relevant standards are met.

Both contracts require that sub-contracts are consistent with the terms and provisions of the IECC contract or the Offshore Supply Agreement.

Prior to financial close, the contractors were each presented with copies of all 20 management plans and had to sign acknowledging receipt and committing to ensuring that the plans' terms and provisions were carried forward in their contracts with subcontractors. In addition, the Project Company reported that their HSE-MS documents were provided to all sub-contractors, who signed declarations that they will comply with the provisions. These signed declarations were sighted by the IESC.

5.2.3 Operations Phase Environmental and Social Management

The project proponent has prepared a series of plans that together form the operations phase ESMP. The seven 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 recommended that these plans be carefully tailored to the specific needs of the Myingyan project, and that lessons learned from the construction phase ESMP be considered. The IESC understands that around 200 technical operations phase procedures have already been developed.

An HSE organization chart for the operations phase was available and it is understood that the Construction HSE Manager will continue in a similar role after construction ends. The IESC 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 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).

5.2.4 Simultaneous Operations

The Project has 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 will

retain overall control of the Project site until COD2, which is projected for November 2018. However, construction personnel require a Permit to Work (PTW) to enter operational areas after COD1, and a Lock Out Tag Out (LOTO) system provides 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 are held between construction and O&M teams to ensure that both teams are aware of current and planned activities.

Table 2: Summary of Findings - Environmental and Social Management System

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Operations phase ESMS	The ESMS for the Project's operations phase has not yet been developed.	Operations	<ul style="list-style-type: none"> • IFC PS1 • ADB-ES Principle 4 	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.	7 operations phase plans have been developed, as listed in Section 5.2.3. These plans will be reviewed by the Lenders and IESC prior to Project COD.	Minor: Ongoing Activity
002	SIMOPS	Simultaneous operations protocols for environmental and social issues have not yet been defined.	Operations	<ul style="list-style-type: none"> • IFC PS1 • ADB-ES Principle 7 	Environmental and social procedures must be defined for the SIMOPS phase, when construction and operations activities will both occur at the same time.	As noted in the January 2018 update, SIMOPS protocols have been developed and implemented.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
003	ESMP	The construction phase ESMP contains a number of errors and omissions (outlined in section 5 of this report).	Construction	<ul style="list-style-type: none"> • IFC PS1 • ADB-ES Principle 7 	Review the 20 management plans to remove irrelevant sections, add missing information and address other issues highlighted in this report.	<p>In view of that the construction is 99.9% complete and that the construction plan documentation issues are minor, further review of the plans is now of marginal benefit.</p> <p>The operational phase ESMPs will be reviewed by the Lenders and IESC prior to Project COD.</p>	Minor
004	Contractor Management	Sembcorp has not reviewed the environmental and social provisions in the sub-contracts.	Construction	<ul style="list-style-type: none"> • IFC PS1 • ADB-ES Principle 4 	Sembcorp should review all sub-contracts by the end of August 2017 to ensure that they reflect the Project's environmental and social management standards.	As noted in the January 2018 update, this issue has been closed. The HSE risks are managed through monthly performance monitoring of contractors carried out by Sembcorp.	Issue Closed

5.3 Air Quality and Dust

Considerable effort has been put into managing air quality, including dust, during the Project's construction phase. The Air Quality and Dust Management Plan (SDC-HSSEC-SMP-001, Rev E, 24th January 2018) includes a number of management and mitigation measures designed to meet Applicable Standards and Good International Industry Practice (GIIP). The Project HSE Manager has provided awareness training on minimising air emissions and dust, and performance in this area has improved.

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.

In accordance with the requirements of the air quality and dust management plan, each EPC contractor maintains its equipment in accordance with a planned preventive maintenance schedule. Each month a colour-coded sticker is affixed to each piece of plant and equipment to indicate that it has been maintained and is fit for use. This is one of the primary mechanisms used by the Project to minimise emissions to air, including combustion exhausts and fugitive emissions of volatile substances. Sembcorp periodically inspects the maintenance records of its EPC contractors.

5.3.2 Dust

Given the relatively dry climate, dust is a challenge for the construction project. However, the construction phase is 99.9% complete and no new issues were noted during the August 2018 monitoring visit. The following effective measures have been taken to reduce dust generation, including:

- Approximately 80% of the site has been laid with asphalt, gravel or grass cover. By COD2, the remaining areas of the site will be fully landscaped.
- Trucks used to carry construction and project materials are covered. No breaches of this Project commitment were observed during the site inspections.
- The concrete batching plant (CBP) including the hoppers and conveyor belts were dismantled and removed from the site in July 2018.
- The site is surrounded by 2 m high hoardings, which reduce the potential for dust to be blown to surrounding areas.
- A 15 km/hour speed limit is strictly enforced at the construction site, which reduces dust generation by vehicles.

Site management reported that soil stockpiles were removed from the site in June 2018. During the August 2018 site inspection, no remaining stockpiles of soil and sand were noted.

No new issues with the implementation of this management plan were identified in the August 2018 monitoring visit, and the issue raised in the previous monitoring visit has now been closed or is considered not relevant at this advanced stage of construction of the project.

Ambient Air Quality Monitoring

Monitoring data for ambient air quality of four external locations for May 2018 (sampling period from May 28, 2018 to June 1, 2018) and July 2018 (sampling period from July 23, 2018 to July 27, 2018) were reviewed. The parameters monitored were for Sulphur dioxide (SO₂), Nitrogen Dioxide (NO₂), Particulate Matter (PM₁₀ and PM_{2.5}), carbon monoxide (CO) and carbon dioxide (CO₂). The ambient air quality monitoring stations are as follows:

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

The monitoring results were compared against 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 parameters monitored were compliant against the stipulated standards.

5.3.3 Operations Phase Emissions Monitoring

Continuous Emissions Monitoring Systems (CEMS) supplied by Yokogawa, have been installed for both Gas Turbines and have recently been calibrated. They will provide continuous monitoring of NO_x, SO₂, CO₂, CO, O₂, dust and flow.

In addition, ambient air quality and noise will be monitored at monthly intervals for the first three months of operation, followed by quarterly monitoring. The ambient air quality monitoring will include 1-hour and 24-hour averaged NO₂ and SO₂, and 24-hour averaged PM, PM₁₀ and PM_{2.5} at the following locations:

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

During the operations phase, ambient air quality and noise will be monitored by a contractor called E-Guard Environmental Services.

Table 3: Summary of Findings - Air Quality and Dust

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Combustion gases	The CBP does not use grid electricity.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • General EHS Guidelines • ADB-ES Principle 9 	Evaluate opportunities to use grid electricity for other activities to reduce reliance on diesel generators.	As noted in the January 2018 update, this issue is considered closed. The concrete batching plant was dismantled and removed from the site in July 2018.	Issue Closed
002	Idling vehicles	Idling vehicles (some with no occupants) were noted in construction areas.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • General EHS Guidelines • ADB-ES Principle 9 	Better enforcement of management plan requirements.	No idling vehicles were noted during the site inspection. Drivers have been reminded about this requirement.	Issue Closed
003	Vehicle wash facilities	The Project has no vehicle nor tyre wash facilities.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • ADB-ES Principle 9 	The benefits of vehicle wash facilities are marginal, so it is recommended that the management plan is amended rather than to install tyre wash	<p>ENVIRON agrees with the site's assessment that vehicle wash facilities would be of marginal benefit for dust control at the site.</p> <p>This issue is considered closed as construction is 99.9% complete and revision to the construction phase management plan at this stage is no longer relevant.</p>	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
004	Soil stockpiles	Soil stockpiles are not covered nor sprayed with water.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • General EHS Guidelines • ADB-ES Principle 9 	Implement the measures detailed in the management plan or amend management plan if a change can be justified.	As noted in the January 2018 update, this requirement has been removed from the latest version of the management plan (Rev E, dated 24 January 2018).	Issue Closed
005	Aggregate storage	Aggregate with a grain size of 5mm or less is not stored in enclosed areas.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • General EHS Guidelines • ADB-ES Principle 9 	Implement the measures detailed in the management plan or amend management plan if a change can be justified.	<p>The January 2018 update noted that the PCo has removed enclosed storage as construction activities are coming to completion.</p> <p>This requirement has been removed from the management plan (Rev E, dated 24 January 2018).</p>	Issue Closed

5.4 Plant and Vehicle Management and Maintenance

The Plant and Vehicle Management and Maintenance Plan (SDC-HSSEC-SMP-002, Rev E, 24th January 2018) includes a number of management and mitigation measures designed to meet Applicable Standards and Good International Industry Practice (GIIP).

As noted in section 5.3.1, compliance with the machinery and equipment inspection and maintenance system, using colour coded labels, is good. During the site inspections no major issues were noted with the condition of plant and equipment.

Operators complete a daily checklist before operating plant and vehicles and send the completed forms to their supervisors. Should any maintenance issues be identified the maintenance department is immediately notified.

The IESC was informed that the EPC contractors audit their sub-contractors every six months and that the process includes an inspection of maintenance records.

No issues with the implementation of this management plan were identified in the August 2018 monitoring visit, and the issue raised in the previous monitoring visit has now been closed.

Table 4: Summary of Findings – Plant and Vehicle Maintenance and Management

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Diesel fuel quality	The management plan requires ultra-low sulphur diesel to be used, but the Project uses Premium Diesel.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • General EHS Guidelines • ADB-ES Principle 9 	Check the specifications of Premium Diesel to determine whether it is low or ultra-low sulphur content.	<p>As noted in the January 2018 update, this requirement has been removed from the management plan (Rev E, dated 24th January 2018).</p> <p>The Project uses Premium Diesel, which is the best quality available in Myanmar.</p>	Issue Closed

5.5 Traffic Management

5.5.1 General Traffic Management Issues

The Traffic Management Plan (SDC-HSSEC-SMP-003, Rev E, 24th January 2018) specifies measures to reduce adverse environmental, health & safety, and social impacts associated with Project-related traffic, including approved traffic routes (onsite and offsite), training and competency standards, speed limits and a requirement to wear seat belts.

EPCs and their sub-contractors completed a risk assessment of all activities that could have a potentially significant traffic-related impact, for example abnormally large loads which may require temporary road closures and removal of obstructions such as overhead lines. Sembcorp reviewed all such risk assessments.

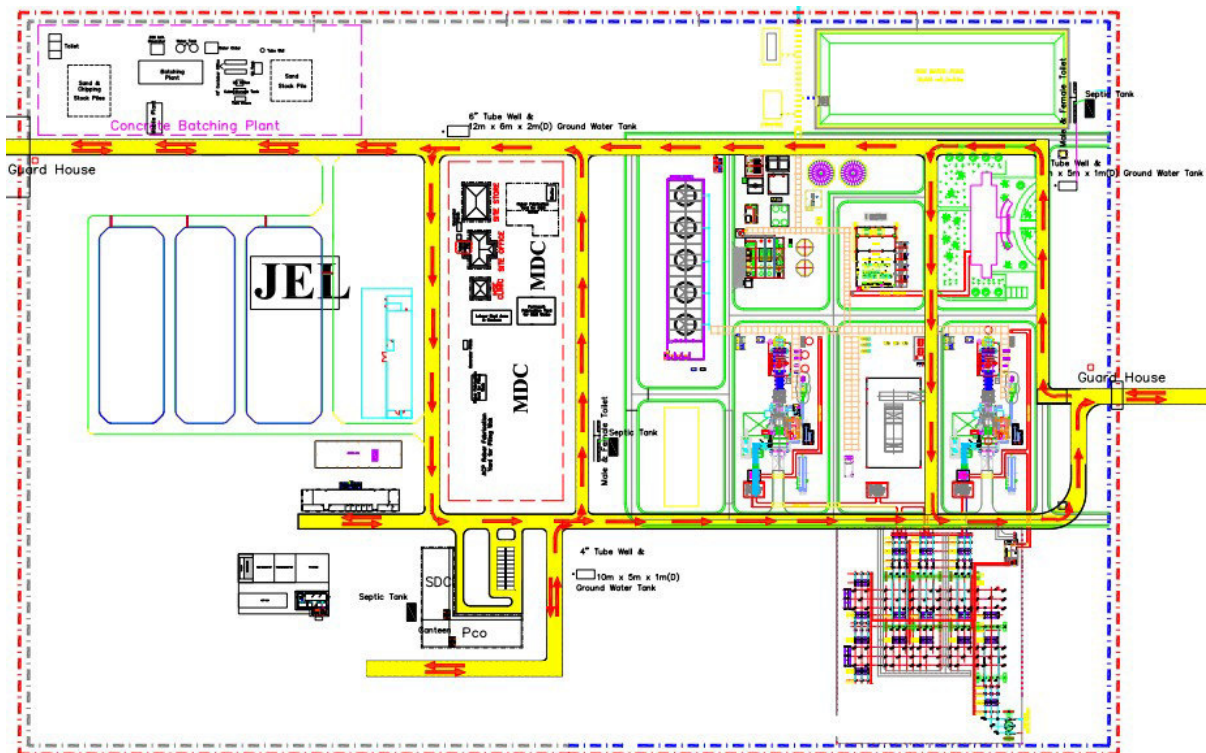
EPC contractors complete random breath tests of workers and security staff are trained to look for signs of intoxication in drivers.

Minor vehicle maintenance is carried out on site in designated workshops, but more significant repair work is performed in specialist off-site facilities.

5.5.2 Onsite Traffic Management

Figure 3 shows the internal traffic layout within the main construction site. A one-way system is used and there are several signs clearly displaying the speed limit of 15 km/hour. Security personnel at the entrance check that all vehicle occupants are wearing a seat belt before vehicles are allowed to enter.

Figure 3: Construction Site Traffic Layout



5.5.3 Offsite Traffic Management

Figure 4 shows the approved access routes to the Project site. Heavy loads were conveyed by barge to Nyaung Hla jetty, approximately 32 km South-West of the Project site, and then by road using a route which enters the construction site from the West, thereby avoiding impacts on nearby communities such as the small informal settlement near the main site entrance (Route 2 (ii)). Deliveries of heavy loads have now been completed.

Figure 4: Approved Site Access Routes



5.5.4 Deficiencies Against Traffic Management Plan and Applicable Standards

All issues raised in the July 2017 and January 2018 monitoring visit have been closed, largely via modifying the requirements of the Traffic Management Plan. The use of seatbelts was excellent, and no deficiencies on seatbelt use was noted in the August 2018 visit.

Table 5: Summary of Findings – Traffic Management

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Use of vehicle horns	Drivers do not sound their horn prior to reversing or driving from a stationary position.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 • ADB-ES Principle 10 	Enforce management plan requirements or revise management plan.	As noted in the January 2018 update, this requirement has been removed from the management plan (Rev E, dated 24 th January 2018).	Issue Closed
002	Reversing alarms	Many vehicles are fitted with reversing alarms but not with non-tonal alarms (i.e. white sound) as specified in the management plan.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • ADB-ES Principle 9 	Ensure that all vehicles are fitted with reversing alarms, preferably non- tonal alarms to reverse potential noise nuisance.	As noted in the January 2018 update, this requirement has been removed from the management plan (Rev E, dated 24th January 2018).	Issue Closed
003	Vehicle lights	Headlights and hazard lights are not turned on when vehicles drive within the construction site.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 • ADB-ES Principle 10 	Enforce management plan requirements.	As noted in the January 2018 update, this requirement has been removed from the management plan (Rev E, dated 24th January 2018).	Issue Closed
004	Pedestrian walkways	No pedestrian walkways meeting Project specifications are used on site.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 • ADB-ES Principle 10 	Provide safe pedestrian access and egress on site, based on specifications in the management plan.	Safe pedestrian access and egress has been provided on site, based on specifications in the management plan. This issue is considered closed.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
005	Seatbelts	One instance of seatbelts not being used in a Project vehicle was noted on a public road.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 • ADB-ES Principle 10 	Refresher training on use of seatbelts on and off-site.	The use of seatbelts was excellent, and no deficiencies on seatbelt use was noted in the August 2018 visit.	Issue Closed

5.6 Noise and Vibration

The Noise and Vibration Management Plan (SDC-HSSEC-SMP-004, Rev D, 14th July 2016) details measures to mitigate and monitor noise and vibration as specified in the Project ESIA.

5.6.1 Mitigation Measures

Construction is limited to daytime (08.00 to 18.00 Monday to Friday and 08.00 to 13.00 on Saturdays) to reduce the potential for noise nuisance.

Piling work, which created significant noise and vibration, is complete. Noise insulation around equipment was generally good in all areas inspected and no particularly noisy processes were noted. Given the lack of sensitive nearby receptors noise and vibration are not a significant concern at this advanced stage of the construction process. Workers were observed using hearing protection in relatively noisy areas.

The Second Environmental and Social Monitoring Report recommended that the site speed limit in the Noise and Vibration Management Plan be changed from 20 km/hr to 15 km/hr to be consistent with other Project management plans and the enforced speed limit at the site. Whilst this change was not made, drivers adhered to the speed limit of 15 km/hr which was also sign posted at the site.

Ambient Noise Monitoring

Noise monitoring is conducted monthly by trained Project personnel at several locations within the CCPP construction site (at eight (8) locations along the site boundary) and at the six (6) noise-sensitive receptors monitored in the ESIA.

The WBG General EHS Guidelines specify that daytime noise levels should not exceed 70 dBA in industrial areas or 55 dBA in residential areas.

Data for off-site noise monitoring of the six external locations (to the south and east of the site) for May 2018 and July 2018 were reviewed. The average noise levels recorded in May 2018 and July 2018 are as follows:

Sampling Locations at Noise Receptors (NR)	Distance from the Site	May 2018 results	July 2018 results
NR1: Permanent Steel Mill Construction Worker Accommodation	2080 m	46.38 dBA	57.74 dBA
NR2: Monastery & Pagoda in Taung Tha Township	2750 m	56.41 dBA	57.97 dBA
NR3: Hnan Ywa Village, Taung Tha Township	2040 m	63.74 dBA	57.47 dBA
NR4: Sa Khar Village	1040 m	55.99 dBA	45.71 dBA
NR5: Steel Mill Worker Housing	330 m	65.09 dBA	55.78 dBA
NR6: Government Technical High School	1750 m	52.56 dBA	58.55 dBA

Monitoring location NR2-Monastery & Pagoda in Taung Tha Township (located approximately 2750 m from site) and NR3- Hnan Ywa Village, Taung Tha Township (located approximately 2040 m from site) have exceeded the WBG General EHS Guidelines daytime noise levels for both the May and July 2018 monitoring events. The closest residential area is NR 4 (Sa Khar Village) which is located approximately 1040 m from the site and there was only a marginal exceedance of the May 2018 results and the July 2018 results were well below the stipulated limits for this location.

The environmental and social impact assessment (ESIA) baseline noise measurements conducted in 2015 at each NR (NR 1-4) provided measured background noise levels which were in the range of 50 – 69 dB(A) during the day time and 44 – 67 dB(A) during the night-time. The averaged background noise level at each NR was obtained by averaging the noise levels measured over an eight (8) months period. The initial baseline noise monitoring indicated daytime averaged background noise levels at Monastery and Pagoda (NR2) and Hnan Ywa Village (NR3) exceeded the Myanmar NEQ / IFC guideline values, while measured noise levels at Permanent Steel Mill Construction Worker (EPC) Accommodation (NR1) and Sa Khar Village (NR4) also exceeded the Myanmar NEQ / IFC Guidelines on some of the months. Night-time averaged background noise levels at all four NRs (NR 1-4) exceeded the Myanmar NEQ / IFC guideline values.

Prior to any construction activity that may potentially create noise and vibration issues, the IESC was informed that notices in English and the local language are posted at various locations to inform the general public about the work that will be conducted that may temporarily increase the noise levels and the expected duration of this work. Project personnel indicate that there have been no complaints from nearby communities about noise in the six months prior to this monitoring visit.

5.7 Surface Water

The Surface Water Management Plan (SDC-HSSEC-SMP-005, Rev E, 24th January 2018) describes measures required to minimise adverse environmental impacts and specifies standards for water use, protection of surface and groundwater from contamination and the management of wastewater generated by the project. The plan includes several statements that are not relevant to this Project, such as references to silt traps on the surface runoff drainage system (there is no surface runoff system).

The IESC recommended in the Second Environmental and Social Monitoring Report that the plan be reviewed and comprehensively updated to remove irrelevant information and accurately describe measures taken to manage water and wastewater during the Project's construction phase. Some improvements were made to the January 2018 revision of the plan. The IESC notes from the August 2018 visit that construction is 99.9% complete and that the construction plan documentation issues are minor. Therefore, further review of the plans is now of marginal benefit.

5.7.1 Water Use

Construction Phase

Potable water is supplied to the construction site in plastic bottles and water coolers. At the CCPP construction site, water for other purposes (e.g. washing, toilet flushing and dust suppression) is abstracted from three on-site boreholes, which together abstract around 700 m³/month. Water analysis certificates from the Public Health Laboratory dated 4th May 2017 indicate that the water from each borehole is below the maximum permissible levels for a range of parameters, classifying it as potable. No microbiological monitoring is conducted on the groundwater. The Second Environmental and Social Monitoring Report recommended that groundwater from each borehole be tested for pathogens and that the Project consider whether any control measures should be used to avoid exposure. However, groundwater was no longer used from August 2018 onwards and therefore, the requirement for testing of pathogens is no longer relevant.

The Third Environmental and Social Monitoring Report recommended the monitoring of associated draw down (a requirement of the Soil and Groundwater Management Plan). This requirement is no longer considered relevant as groundwater will no longer be used for the operations phase.

Operations Phase

During the operations phase, 340 m³/hour of water will be 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 m³ capacity river water reservoir on site (Photo 004). Over 9,000 m³ per day of water from the reservoir will be 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 is expected to produce over 1,000 l/day of sludge. The sludge will be transferred from hoppers to trucks for disposal. Sembcorp has ear marked a suitable site for sludge disposal and this location was visited by the IESC during the 4th monitoring visit. It is understood that discussions are being held with OK Service to finalise the location and sludge handling procedures.

The water treatment infrastructure inspected during the August 2018 site visit appeared to be well constructed. However, the IESC noted that the agitator in the sludge thickener tank was faulty which resulted in an overflow of water sludge mixture into the recycle water tank, the gravel layer surrounding the tank and an adjacent internal drain (Photo 005 and 006). The excess sludge water mixture overflowed into the neutralization pit and into one of the chemical stores (Photo 007). The overflow was contained within this area and rectification works was underway by the contactor with oversight from the PCo.

In general, adequate secondary containment was provided for chemical storage tanks that is used for water treatment chemicals. However, some improvements could be made to the secondary containment for water treatment chemical storage areas (Photo 008).

5.7.2 Sanitary Wastewater Management in Construction Phase

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

- sewage and handwash effluent from toilet blocks;
- wastewater from kitchens; and
- wastewater from shower and handwashing facilities.

Sewage

Section 3.1.2 of the Surface Water Management Plan states that "liquid effluents arising from construction activities will be treated to the standards shown in Table 1.3.1 of the IFC EHS Guidelines, General Guidelines, Water and Ambient Water Quality (2007)". Section 2.6.1 of the Project's ESIA report states that sewage will be treated on site or transferred to an offsite septic tank. The report also states that "no untreated sewage will be disposed of on land for the duration of the project lifecycle".

In April 2018, the construction of the sanitary wastewater treatment plant was completed. Therefore, all sanitary wastewater from the site is routed to the onsite sanitary wastewater treatment plant from April 2018 onwards. Untreated sanitary wastewater from the site is no longer disposed offsite.

During the August 2018 visit, the IESC was informed that the sanitary wastewater from the cess pit at the JEM Office and warehouse is periodically removed by the Myingyan Municipality, using vacuum tankers. The contents of 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 5). The sanitary wastewater is pumped into an unlined soil pit, measuring around 5 m x 4 m (Figure 6). The quality of wastewater disposed of at this location is not monitored, which breaches the requirements of the Surface Water Management Plan. However, JEM was supposed to pump their sewage from their cess pit into the Sembcorp sewage injector pit and this will be routed to the site's operational sanitary wastewater treatment plant. The IESC was informed that this issue will be rectified and the contents of JEM's cess pit will be sent to the site's sanitary wastewater treatment plant moving forward.

Figure 5: Location of Sanitary Wastewater Disposal Site and Landfill Site

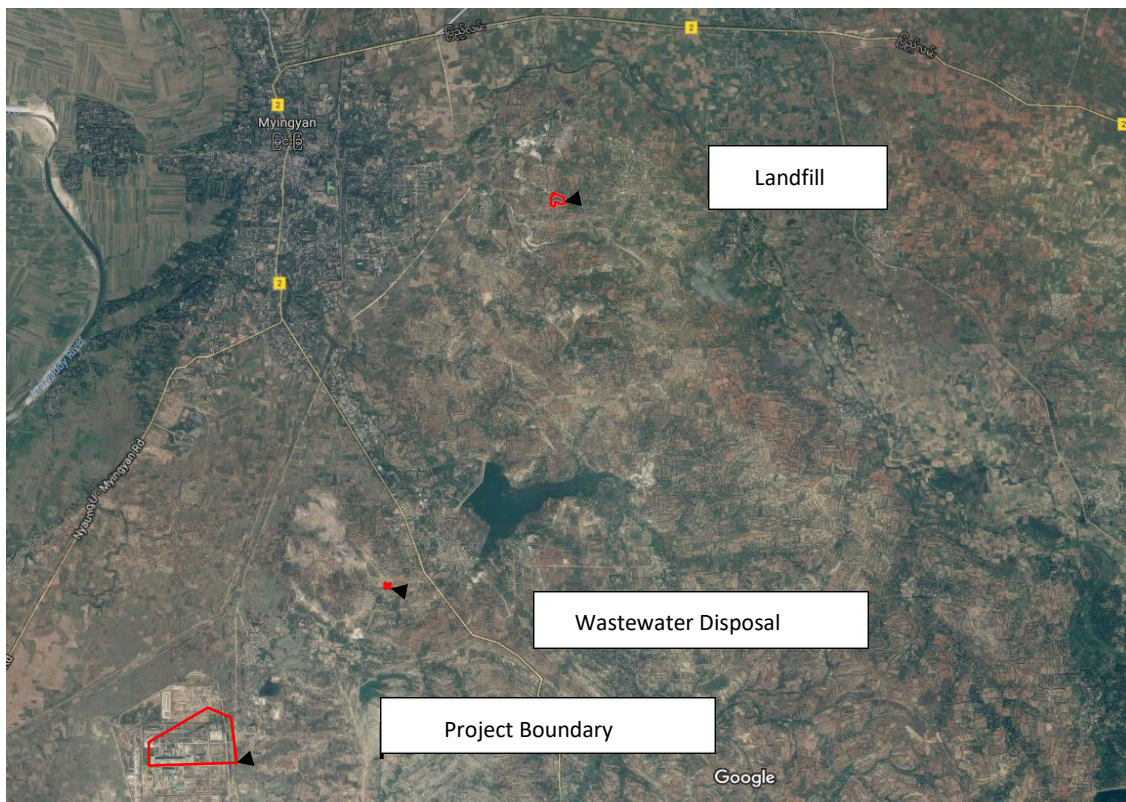
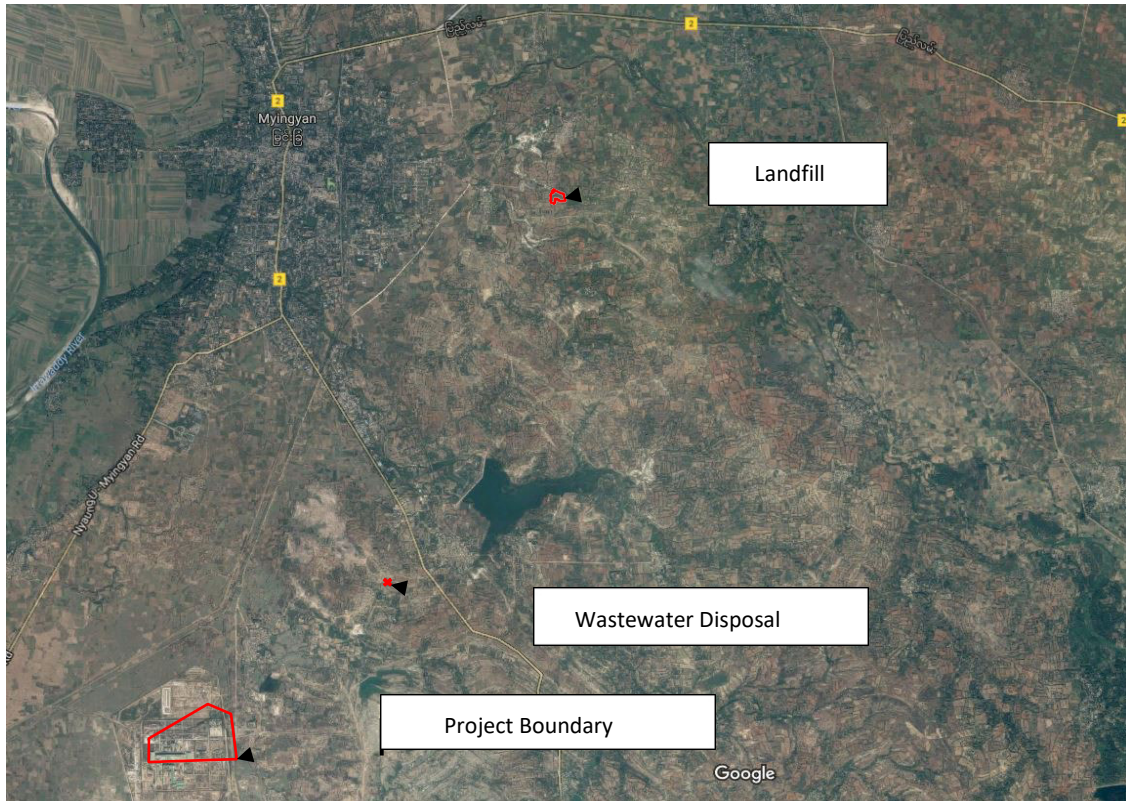


Figure 6: Sanitary Wastewater Disposal Site



No sensitive receptors were identified around the wastewater disposal site. The nearest building is the town's crematorium, 110 m to the South of the pit, and the nearest residential dwelling appears to be around 600 m to the North-East. The site is otherwise surrounded by agricultural land, and a wooded area immediately to the West, between the pit and the graveyard.

5.7.3 Hydrotesting Wastewater

River water was used in the second half of 2017 for hydro-testing of the gas, water and wastewater pipelines prior to commissioning. After the leak tests were completed the water was discharged to the river water pond in the power plant site or to the Ayeyarwady River. No chemicals (e.g. biocide or corrosion inhibitor) were added to the hydrotest water and no treatment was carried out prior to discharge. Laboratory analysis of a sample taken on 3rd October 2017 shows that the discharged water was chemically potable as it met the chemical limits prescribed by the World Health Organisation for drinking water.

In addition, demineralised water was used to pressure test the boiler. Following that procedure, the water drained to the river water reservoir.

5.7.4 Surface Water Runoff

Surface water disposal is not a significant issue at the CCPP construction site. The surface water is channelled into several pits within the site, from where it percolates into the ground or evaporates.

It is understood that perimeter ditches around the site are designed to stop surface runoff from flowing onto, rather than from the construction site.

The IESC site visit was conducted during a period of dry weather, and no issues were observed with surface water runoff.

Two non-conformances against the requirements of the Surface Water Management Plan was identified from the Second Environmental and Social Monitoring Report:

- The plan requires open stockpiles or construction materials and construction wastes to be covered with tarpaulin or similar fabric during rainstorms. This issue is no longer relevant as there were no remaining open stockpiles and construction wastes seen during the August 2018 visit.
- Surface runoff is not directed to silt removal facilities. However, this is not an issue as surface runoff is contained on site.

5.7.5 Wastewater Treatment in the Operations Phase

The main wastewater streams during the operations phase will be:

- 80 m³/hour from cooling tower blowdown.
- 35 m³/hour from the oil water interceptor (intermittent source i.e. only when raining).
- 1.0 m³/hour from the neutralising pit (part of the water treatment process), after treatment.
- 0.1 m³/hour from the sewage treatment plant (Photo 009). Sewage will be treated using methanol (for denitrification), sodium hydroxide (for pH control), ferric sulphate (a coagulant) and chlorine (for disinfection).

Each of these wastewater streams will be collected in the 500 m³ capacity central monitoring basin. It is anticipated that 80 to 116 m³/hour of treated wastewater will be discharged from the central monitoring basin to the Ayeyarwady River, via a pipe 1 m above the river bed, and 80 m downstream of the RWI pump barge. The Project has committed to meeting the following discharge limits, which are based on the WBG EHS Guidelines for Thermal Power Plants:

pH	6-9
Total Suspended Solids (TSS)	50 mg/l
Oil and Grease	10 mg/l
Total Residual Chlorine	0.2 mg/l
Chromium – Total (Cr)	0.5 mg/l
Copper (Cu)	0.5 mg/l
Iron (Fe)	1.0 mg/l
Zinc (Zn)	1.0 mg/l
Lead (Pb)	0.5 mg/l
Cadmium (Cd)	0.1 mg/l
Mercury (Hg)	0.005 mg/l
Arsenic (As)	0.5 mg/l
Temperature	Not to exceed 3°C of the RWI ambient temperature

The quality of wastewater will be monitored during the operations phase by a contractor called E-Guard Environmental Services. The wastewater treatment systems inspected during the August 2018 site visit appeared to be well constructed. Adequate secondary containment was seen around all storage tanks that will be used for treatment chemicals.

A concrete hardstanding area has been constructed outside the Administration Building, which will be the car park during the operations phase (Photo 002). Runoff, which could potentially be contaminated with oil or fuel from vehicles could contaminate surface water drainage. It is recommended that Sembcorp considers installing an oil interceptor on the drainage system serving this area.

5.7.6 Ambient Water Quality Monitoring

As detailed in the Second Environmental and Social Monitoring Report, Section 5 of the Surface Water Management Plan 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. No visible evidence of soil or water contamination was found. As the jetty has not been used since 2017, no further action is required.

5.7.7 Other Observations

Section 3.1.2 of the Surface Water Management Plan requires the Project to carry out contaminated land assessments to identify legacy contaminated areas. No such assessments have been carried out but Project HSE management representatives reported that no evidence of contamination was detected during site excavations. Based on the limited industrial development in the area, contamination at the site from industrial activities is considered low. Other potential site contamination sources could be from illegal dumping of wastes and from application of chemicals for agriculture. As noted, no visual evidence of wastes was detected during site excavations, and the area where the power plant is located was not heavily used for agricultural purposes. No further action is recommended by the IESC.

Table 6: Summary of Findings – Surface Water

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Content of management plan	The plan includes a number of statements that are not relevant to this Project, such as references to silt traps on the surface runoff drainage system (there is no surface runoff system).	Construction	<ul style="list-style-type: none"> Management Plan 	The IESC recommends that the plan is reviewed and comprehensively updated to remove irrelevant information and accurately describe measures taken to manage water and wastewater during the Project's construction phase.	<p>Some revisions have been made to the Surface Water Management Plan since the second IESC monitoring visit.</p> <p>The reference to silt traps has been removed but the plan still refers to the use of septic tanks (the project actually uses cess pits rather than septic tanks).</p>	Minor
002	Sanitary wastewater treatment	<p>Sanitary wastewater is not properly treated before off-site disposal. Sewage is collected in cess pits (sealed tanks with no treatment) and other wastewater is discharged to the environment untreated.</p> <p>Wastewater from the kitchen at the JEM accommodation camp is discharged directly to the ground, without passing through a grease trap or any other form of treatment.</p>	Construction	<ul style="list-style-type: none"> ESIA report Surface Water and Soil & Groundwater Management Plans IFC PS3 WBG EHS Guidelines ADB-ES Principle 9 	All sanitary wastewater should be treated to meet Applicable Standards, either on site or off-site, before its disposal.	<p>Issues related to sanitary wastewater treatment and disposal identified in the January 2018 report has significantly improved.</p> <p>All sanitary wastewater from the site is routed to the onsite sanitary wastewater treatment plant from April 2018 onwards. Untreated sanitary wastewater from the site is no longer disposed offsite.</p> <p>There are no more accommodation camps. However, JEM (office and warehouse) was supposed to pump into their sewage from their cess pit into the Sembcorp sewage injector pit where it will be routed to the site's sanitary wastewater treatment plant.</p> <p>During the visit, the pipe leading from the toilet sink to the cess pit was damaged at two locations (which is a potential route for rainwater ingress into the cess pit). The IESC notes that the broken pipe was repaired the next</p>	Minor

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
						<p>day.</p> <p>JEM safety and health personnel indicate that the sanitary wastewater was still being collected and disposed by the municipal council during the August 2018 monitoring visit. Moving forward, the IESC was informed that it will be pumped to the site's injector pit and treated at the sanitary wastewater treatment plant.</p>	
003	Sanitary wastewater monitoring	The quality of sanitary wastewater is not monitored before disposal.	Construction	<ul style="list-style-type: none"> • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	Sanitary wastewater should be monitored before disposal to ensure it meets Applicable Standards.	<p>All sanitary wastewater from the site is routed to the onsite sanitary wastewater treatment plant from April 2018 onwards. The treated effluent from the site is monitored before discharge.</p> <p>However, sanitary wastewater from JEM's office and warehouse area was still being collected and disposed by the municipal council during the August 2018 monitoring visit. The impact of intermittent washwater discharges to the immediate environment at the site is considered low.</p>	Minor

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
004	Sanitary wastewater disposal	The off-site wastewater disposal site does not meet lender standards and represents an environmental risk.	Construction	<ul style="list-style-type: none"> IFC PS3 WBG EHS Guidelines ADB-ES Principle 9 	Evaluate options for on-site or off-site treatment of sanitary wastewater before it is disposed of.	<p>All sanitary wastewater from the site is routed to the onsite sanitary wastewater treatment plant from April 2018 onwards.</p> <p>However, sanitary wastewater from JEM's office and warehouse area was still being collected and disposed by the municipal council during the August 2018 monitoring visit. Moving forward, the IESC was informed that it will be pumped to the site's injector pit and treated at the sanitary wastewater treatment plant.</p>	Minor
005	Hydrotest wastewater	Wastewater will be generated by hydrotesting of pipelines during pre-commissioning, but plans have not yet been developed for its disposal.	Construction	<ul style="list-style-type: none"> IFC PS3 WBG EHS Guidelines ADB-ES Principle 9 	<p>Develop plans for sourcing water for hydrotesting and disposal of the water after the hydrotesting.</p> <p>Consideration may need to be given to treatment if chemical additives (e.g. corrosion inhibitor or biocide) are used in the process.</p>	Hydrotesting was completed in the second half of 2017 using river water. No chemicals were added, and analysis of water before discharge to the Ayeyarwady River demonstrated that it was chemically potable.	Issue Closed
006	Bund water	Water from banded areas does not pass through an oil interceptor nor a silt trap.	Construction	<ul style="list-style-type: none"> Management Plan IFC PS3 WBG EHS Guidelines ADB-ES Principle 9 	Water drained from banded areas should be tested before disposal, and storage tanks should be covered to avoid rainwater collecting in bunds.	<p>The requirement for water from banded areas to pass through an oil interceptor or a silt trap has been removed from the January 2018 version of the Surface Water Management Plan.</p> <p>There have also been improvements to bunding around storage tanks (i.e. addition of a roof to avoid rainwater collecting in banded areas).</p>	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
007	Stockpile covers	Stockpiles of construction materials and wastes are not covered during rainstorms.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	The IESC does not consider this to be a practical mitigation measure so recommends its removal from the management plan.	Stockpiles of construction materials and wastes were no longer present onsite during the August 2018 monitoring visit. This issue is no longer relevant and is considered closed.	Issue Closed
008	Wheel cleaning	Wheel washing facilities are not used.	Construction	<ul style="list-style-type: none"> • Management Plan 	The IESC does not consider this to be a practical mitigation measure so recommends its removal from the management plan.	The requirement for wheel wash facilities has been removed from the January 2018 version of the Surface Water Management Plan.	Issue Closed
009	Silt traps	Surface runoff is not directed to silt removal facilities.	Construction	<ul style="list-style-type: none"> • Management Plan 	The IESC does not consider this to be a practical mitigation measure so recommends its removal from the management plan.	The Surface Water Management Plan has not been revised to remove this requirement.	Minor
010	Car park runoff	A concrete hardstanding area has recently been constructed outside the Administration Building, which will be 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"> • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	-	It is recommended that Sembcorp consider installing an oil interceptor on the drainage system serving this area.	Minor

5.8 Soil and Groundwater

The Soil and Groundwater Management Plan (SDC-HSSEC-SMP-006, Rev E, 24th January 2018) details a range of measures to prevent contamination of soil and groundwater. The management plan was recently updated to address some issues raised in the July 2017 IESC monitoring visit.

The Second Environmental and Social Monitoring Report identified several deficiencies in the storage of materials that could lead to soil and groundwater contamination, including inadequate bund size, cracked bund walls, drainage hole which compromised bund integrity, and lack of rain covers. These have largely been addressed, and the IESC observed a dramatic improvement in the August 2018 site inspections.

In addition, as noted in Section 5.7.1, the volume of groundwater abstracted is monitored for chemical but not microbiological parameters, and there has been no monitoring of associated draw down (a requirement of the Soil and Groundwater Management Plan). The requirement for pathogen testing is no longer considered relevant as groundwater will not be used for the operations phase.

The August 2018 IESC monitoring inspection identified the following opportunities for improvement in the storage of chemicals and oils in drums:

- In the JEM construction yard, four 205 litre drums of oil were seen on a wooden pallet with no drip trays. All were unlabelled. However, the drums had covers to prevent rainwater accumulation, which could rust the drums (this is an example of good practice).
- Around 30 to 40 empty used drums (no labels and contents were unknown) were noted on bare ground at the JEM construction yard (Photo 015). They were stored on soil and were unprotected from the weather.
- Several drums were disformed, which is likely to be a result of exposure to the sun (Photo 016). Some of the drums were unlabelled.

During the August 2018 visit, the IESC was informed that Sembcorp had commenced discussions with a chemical supplier to potentially locate a warehouse in Myingyan for chemical storage, thereby reducing the quantity of chemicals stored onsite. Discussions with this supplier is also being held to accept used empty chemical and oil containers/drums for recycling/reuse. The waste oil, used containers and drums are all currently being stored onsite pending confirmation of acceptance by the chemical supplier.

Table 7: Summary of Findings – Soil and Groundwater

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Surface Water Management Plan	The Soil and Groundwater Management Plan contains a number of inaccuracies and does not reflect the actual situation at the construction site.	Construction	<ul style="list-style-type: none"> • Management Plan 	The Soil and Groundwater Management Plan should be revised to accurately describe measures taken to protect soil and groundwater. Project commitments should be retained but descriptions of non- existent processes and infrastructure should be removed.	The management plan was updated in January 2018 but still contains references to procedures that are not followed. It is recommended that descriptions of non- existent processes and infrastructure be removed from the plan.	Minor
002	Bund deficiencies	Several bunds around diesel storage tanks have deficiencies, including inadequate capacity, structural damage or open drains.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	Repair all bunds to ensure that they provide effective secondary containment. If valves are fitted to drainage pipes they should be kept closed until needed. Future site inspections should check on these issues.	Repairs to bunds were completed soon after the second IESC monitoring visit, including repairing cracked walls, installing covers to prevent rainwater accumulation, sealing valves and general housekeeping improvements.	Issue Closed
003	Drip tray	A portable generator was seen without a drip tray.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	Remind EPC contractors and their sub- contractors that all mobile equipment that contains fuel should have a drip tray.	Contractors have been reminded of the need for drip trays, and a tray was installed immediately after this issue was raised in the July 2017 IESC monitoring visit.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
004	Spill kits	No spill kits are available at the construction site nor on vehicles.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	Provide spill kits at all locations where fuel and chemicals are stored and in vehicles used to carry hazardous liquids.	No spill kits were procured for the construction phase, but two were ordered for the operations phase. This issue is considered closed.	Issue Closed
005	Groundwater monitoring	Groundwater is only monitored for chemical parameters and volume, but draw down is not monitored.	Construction and operation	<ul style="list-style-type: none"> • Management Plan • IFC PS1 • WBG EHS Guidelines • ADB-ES Principle 7 	Groundwater abstracted at the CCPP site should be tested for pathogens. Should elevated levels be detected the Project should implement measures to reduce exposure pathways. In addition, monitoring of draw down should be undertaken to assess the impact of abstraction on the water table.	No action has been taken to address these issues since the third IESC monitoring visit. However, from August 2018 onwards, groundwater will not be used for the operations phase moving forward. Therefore, this issue is considered closed.	Issue Closed
006	Drum storage	During the January 2018 visit a number of drums of chemicals and oils were noted with no secondary containment, no labels or in a poor condition, in particular in the JEM construction yard.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	N/A	The project proponent should ensure that all drums of chemicals and oils are in good condition, clearly labelled and have secondary containment (e.g. drip trays).	Minor

5.9 Biodiversity

No non-conformities were found against the requirements of the Biodiversity Management Plan (SDC-HSSEC-SMP-007, Rev D, 20th July 2016).

Table 8: Summary of Findings – Biodiversity

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Biological reinstatement	The Project only carries out physical reinstatement of excavated areas.	Construction	<ul style="list-style-type: none"> • IFC PS6 • ADB-ES Principle 4 	It is recommended that biological reinstatement is also carried out unless the landowner objects.	As noted in the January 2018 update, only physical reinstatement has been completed in most areas, but trees and shrubs have reportedly been planted in some locations. Landowners have not raised any concerns.	Issue Closed

5.10 Waste Management

The Waste (Hazardous and Non-Hazardous) Management Plan (SDC-HSSEC-SMP-008, Rev E, 24th January 2018) describes processes and procedures for on-site waste management, and has recently been revised to describe requirements for off-site disposal.

5.10.1 On-site Waste Management

Clearly labelled and colour-coded bins were observed on site, facilitating collection of recyclable materials. Waste storage areas are generally of an adequate standard, and the two waste storage opportunities for improvement identified in the Second Environmental and Social Monitoring Report have been rectified.

Based on waste disposal records from January 2018 to August 2018, the IESC notes that general waste disposal quantities have reduced from June 2018 onwards which is expected mainly due to the reduction of the workforce from 1,139 people working at the Project site in January 2018 to a project workforce of 102 in August 2018. In addition, the IESC notes that the site is in discussions with a chemical supplier to have a chemical warehouse located in Myingyan for chemical storage to reduce the quantity of chemicals stored onsite and potentially, to accept used empty chemical and oil containers/drums for recycling/reuse.

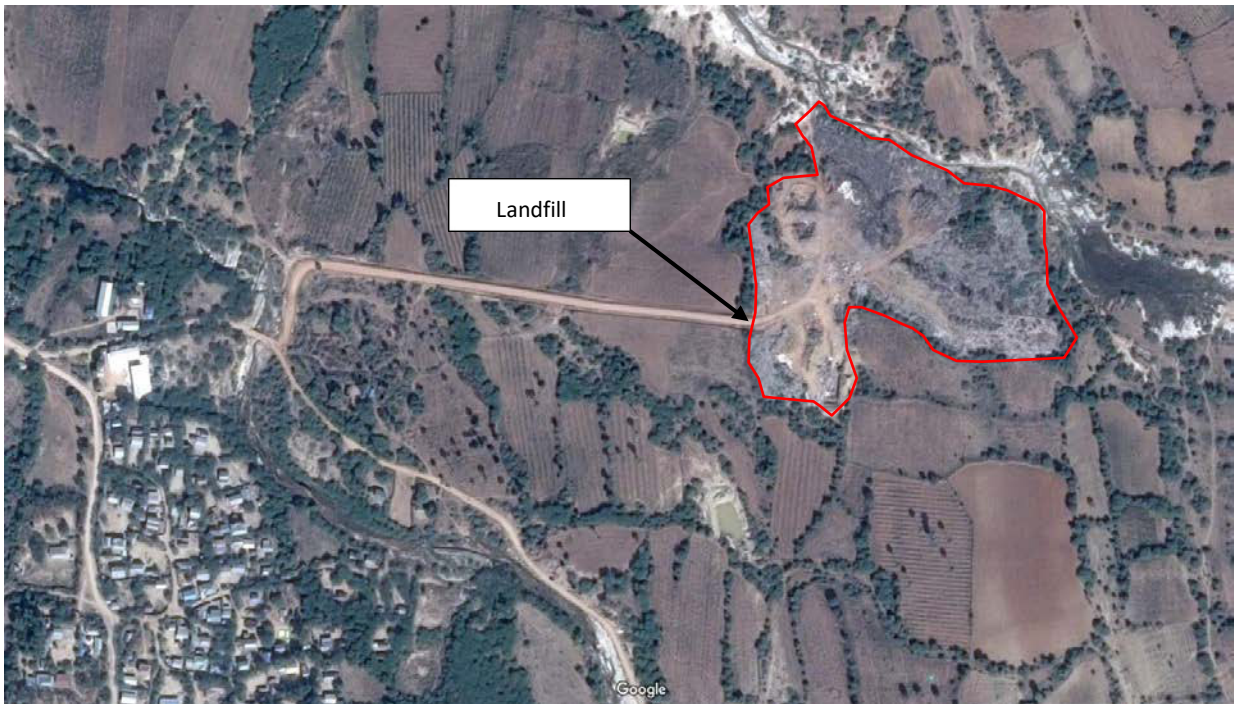
5.10.2 Off-site Waste Disposal

All waste produced during the Project's construction phase, with the exception of materials sent for off-site recycling, is disposed of by a company called OK Service. It is the only waste management company in the Myingyan region that has been approved by the regulatory agencies, and it also disposes of all municipal waste collected in Myingyan.

Solid general waste is collected from the CCPP construction site twice per week by OK Service, then transported to a landfill site operated by the Myingyan Municipality, around 4 km East of the centre of Myingyan (Figure 7). This facility, which was opened around three years ago, is not an engineered landfill but a poorly controlled and unlined waste dump. Most waste appears to be deposited on the surface, where it is neither compacted nor buried. Waste across much of the site is smouldering and the IESC understands that the waste is routinely burned. It is understood that smoke sometimes blows towards Myingyan, where it causes a nuisance. The Project keeps records of the type and volume of waste deposited at the municipal landfill site.

The site is currently assessing options for sludge treatment (sludge from raw water treatment and sanitary wastewater treatment plant) and the IESC was informed that discussions are being held with OK service. One off-site location (Photo 022) has been identified for the sludge to be dried and potentially used for land farming/ fertilizer. The suitability of the sludge for land farming will be confirmed upon testing of the sludge characteristics for ignitability, corrosivity, reactivity and toxicity. The IESC was informed that the plan and construction details for the sludge storage and drying area will be finalised by year end.

Figure 7: Municipal Waste Disposal Site



During the July 2017 monitoring visit, at least ten scavengers were seen collecting waste materials for recycling. They appeared to live in simple shacks made of waste materials, within the site, close to the entrance (Photo 021). The disposal site was visited during the August 2018 monitoring visit and the scavengers remain and live in simple shacks, within the site as noted in the July 2017 monitoring visit.

Waste is not properly contained in the disposal site as much of it is left on the surface and not covered with soil. Reportedly only hazardous waste is buried in unlined pits within the site. In addition, a considerable amount of wind-blown litter was observed in trees and on the ground surrounding the site.

The IESC was informed that the Project now uses a demarcated part of the municipal waste facility, in which waste is deposited in an excavated area, and which is fenced to restrict access. The waste contractor has appointed someone to supervise all disposal of Project waste at the site. The supervisor also discourages scavenging. During August 2018 monitoring visit, there was no fence and demarcation of Sembcorp's disposal area was not very clear. Sembcorp recently constructed a 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.

It is understood that no waste disposal facilities that meet international good practice are available in the Myingyan region. It is therefore recommended that the Project works with the municipality to improve waste management practices at the landfill site, though, for example:

- providing proper containment around the site such as an earth bund and a boundary fence to reduce wind-blown litter and control access to the site;
- applying daily cover to reduce odour and litter and deter scavenging animals; and
- providing proper personal protective equipment (PPE) to site employees and drivers who carry waste to the site.

Lender environmental and social standards (e.g. IFC PS 3, ADB's SPS SR1 and WBG EHS Guidelines) require waste to be disposed of in an environmentally sound manner.

5.10.3 Waste Hierarchy

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 each type of material.

Table 9: Summary of Findings – Waste Management

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Waste management plan	The waste management plan does not describe off- site disposal routes for each waste stream, nor provide information on expected quantities and on-site storage arrangements for each type of waste.	Construction	<ul style="list-style-type: none"> • IFC PS1 • WBG EHS Guidelines • ADB-ES Principle 4 	Revise the waste management plan to include a description of each type of waste generated during construction, along with details of how much is produced per year, where it is stored, and how it is disposed of.	The latest version of the waste management plan included information on waste types, expected quantity and disposal routes.	Issue Closed
002	On-site waste containment	A food waste bin was observed that did not securely hold its contents. Also, the main waste storage area on the CCPP site is not protected from wind and rain.	Construction	<ul style="list-style-type: none"> • Management plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	<p>Ensure that food waste is stored in closed containers to discourage rodents and other vermin.</p> <p>Store waste in a secure, covered area before its off-site disposal to prevent wind-blown litter.</p>	The specific issues raised on the July 2017 report have been addressed. During the August 2018 site inspection, two food waste skips next to a rest area in the JEM laydown area had no lid and food waste in plastic bags was left on the ground. However, prompt action was taken to rectify the issue before the end of the site visit.	Issue Closed
003	Waste management monitoring and targeting	Waste minimisation targets have not been established and waste records do not meet the requirements of the management plan.	Construction	<ul style="list-style-type: none"> • Management plan • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	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.	The site is evaluating opportunities to minimise waste. The IESC notes that the site is assessing its options for the sludge generated from the raw water treatment and sanitary wastewater treatment plant and used empty chemical drums and containers. However, these discussions are at the preliminary stage and no waste reduction targets have been set.	Minor

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
004	Off-site waste disposal	The municipal waste disposal site operates at a level well below what is considered Good International Industry Practice (GIIP).	Construction	<ul style="list-style-type: none"> • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	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.	Some improvements have been made to the municipal waste disposal site during the August 2018 visit, but overall containment of waste could be improved.	Moderate
005	Waste Segregation	It is unclear whether the waste disposal contractor (OK Service) mixes hazardous and non-hazardous wastes generated by the Project.	Construction	<ul style="list-style-type: none"> • IFC PS3 • WBG EHS Guidelines • ADB-ES Principle 9 	The Project Company should check whether hazardous and non-hazardous wastes are mixed and co-disposed. Steps may need to be taken to ensure the secure disposal of hazardous wastes.	No evidence of co-disposal of hazardous and non-hazardous waste was found in the August 2018 monitoring visit.	Issue Closed

5.11 Oil and Chemical Spill Contingency

The Oil and Chemical Spill Contingency Management Plan (SDC0HSSEC-SMP-010, Rev E, 24th January 2018) details the approach taken by the two EPC Contractors to 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) but a number of issues were identified during the environmental and social monitoring visit, as detailed in section of this report (Soil and Groundwater).

The main chemicals and liquid hydrocarbons observed during the site visit are:

- Diesel, which is stored in bulk storage tanks and in day tanks associated with generators.
- Oil, which is stored in 205 litre drums.
- Drums of other chemicals (mostly water treatment chemicals for the operations phase) stored at different locations around the site.

No spill kits are available at any project site other than buckets of sand in a few locations. It is recommended that spill kits (typically including absorbent materials and booms) are placed in strategic locations based on a risk assessment. The IESC would expect to see spill kits near all facilities for bulk storage of hazardous liquids, and in maintenance areas where oil and waste oil is stored in drums.

The Second Environmental and Social Monitoring Report highlighted three opportunities for improvement in the Oil and Chemical Spill Contingency Management Plan. One, which related to detailing chemicals stored at the construction site, has been closed following a revision of the management plan, but the following two issues remain:

- Section 3.1.B of the plan states that the Project Management team will prepare unloading and loading protocols. No such procedures have been written, but it is understood that all deliveries of hazardous substances are supervised.
- The procedures for responding to a spill are unclear. The plan describes measures for managing a spill into the river (relevant for deliveries to the jetty by barge, and for work at the water intake pumping station) but does not detail the procedures to follow in the event of an incident at the main construction site. Annex B of the plan (Emergency response flowchart – oil & chemical spillage) provides a basis for spill response but it lacks detail. For example, it is not clear who should take the actions listed in the flowchart, nor how recommendations from an incident investigation will be implemented.

Table 10: Summary of Findings – Oil and Chemical Spill Contingency

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Unlabelled drums	Unlabelled drums were seen in several locations at the construction site.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS 1&3 • WBG EHS Guidelines • ADB-ES Principle 9 	Ensure that all chemical and oil drums have clear labels.	This issue can be closed as it is repeated in Table 7 (item 4).	Issue Closed
002	Spill kits	There are no spill kits (other than buckets of sand) in Project construction sites.	Construction	<ul style="list-style-type: none"> • IFC PS 1&3 • WBG EHS Guidelines • ADB-ES Principle 9 	Place spill kits near all facilities for bulk storage of hazardous liquids), and in maintenance areas where oil and waste oil is stored in drums.	This issue can be closed as it is now covered by a broader issue detailed in Table 7 (item 6).	Issue Closed
003	Revisions to management plan	The Oil and Chemical Spill Contingency Management Plan does not include a full list of hazardous materials stored, does not include detailed loading and unloading protocols and has insufficient clarity on actions to take in the event of a spill.	Construction	<ul style="list-style-type: none"> • IFC PS 1&3 • WBG EHS Guidelines • ADB-ES Principle 9 	Review and revise the Oil and Chemical Spill Contingency Management Plan 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 Project locations.	The Oil and Chemical Spill Contingency Management Plan has been revised to include a list of materials stored. However, the other issues raised in the July 2017 report have not yet been addressed.	Minor

5.12 Emergency Preparedness and Response

The Emergency Preparedness and Response Plan (SDC-HSSEC-SMP-011, Rev C, 19th July 2016) 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 disaster.

The IESC was informed that to date the Project has not had any environmental incidents. The only recorded incidents relate to minor injuries (cuts and bruises) and equipment-related issues (e.g. a vehicle being stuck in mud and a vehicle hitting a lamppost).

Three emergency drills have been completed at the CCPP construction site (a firefighting and evacuation drill in 2016, fire response and rescue of an injured worker at height in 2017, and another drill in August 2017 which involved notification of nearby communities). Reports from the emergency drills were reviewed by the IESC and no issues were identified.

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

5.13 Occupational Health and Safety

The Occupational Health and Safety Management Plan (SDC-HSSEC-SMP-012, Rev C, 20th July 2016) describes the Project's 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 third monitoring period.

During the August 2018 monitoring visit, the IESC noted that standards for OHS are very high. Examples of good practice include:

- effective use of PPE (no examples of people working without the appropriate PPE were noted);
- OHS training for Project personnel and visitors is very comprehensive and toolbox talks appear to be an effective mechanism for reinforcing OHS messages;
- use of clear Lifesaving Rules, which focus on the key OHS risks (the rules are prominently displayed around the site and all personnel are trained in them); and
- effective pest control, for example, treatment of stagnant water in drainage ditches to control mosquitoes.

In 2017, the Project won a safety award from the Royal Society for the Prevention of Accidents (ROSPA) for achieving 4 million man-hours without a lost time incident. As of August 30, 2018, the Project had achieved a total of 8,647,020 man-hours without a lost time injury (LTI).

The following occupational health and safety issues were noted during the August 2018 IESC monitoring visit:

- Visibility of safety hazard signs and signage for use of Personal Protective Equipment (PPE) could be improved.
- Opportunity to improve access/egress at the gas receiving station (in between the raw water pond and CMB).

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. Also, the EPC contractors' pre-construction HSSE readiness reviews of their sub-contractors included a review of their MOC procedures.

5.14 Stakeholder Engagement

5.14.1 Stakeholder Engagement

Sembcorp has a Stakeholder and Community Engagement Policy and a Stakeholder Engagement Plan (SEP) for the Project (SCI- HSSEC-SMP-001, undated, file date 20 July 2016). 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 (described in section 5.14.4).

The SEP was updated in January 2018 to include a revised organization chart that includes the Community Relations/Development Department and its reporting lines.

The SEP was further updated on 23 August 2018 to adjust the plan for the operations phase. ENVIRON will provide comments on the updated SEP, along with the other 6 operations phase plans, in a separate report. According to Sembcorp, the committee of thirteen village heads was informed when the SEP for the Operations Phase was being prepared and the villagers in the thirteen communities were informed of the new SEP and Community Grievance Mechanism for the Operations Phase during the Public Stakeholder Engagement Meeting in November.

The SEP will be in place for the life of the concession (22 years), and PCo has committed to ongoing stakeholder engagement with the local communities and PAPs. As noted in the ESIA, PCo has engaged with multiple stakeholders including national and local governmental agencies and the local communities since 2015. As ENVIRON was informed, no records of any community consultation meetings and/or focus group discussions held by GOM with the 13 affected villages since the issuance of the ESIA were made available to Sembcorp by GOM. As a result, no minutes of these meetings were made available to ENVIRON.

In regards to PCo's own meetings with stakeholders, we did receive a copy of the Project's Stakeholder Engagement Database during the 1st monitoring period, as well as an Updated Stakeholder Engagement Databases (as of 30th June 2017, and 15th October 2018), but no meeting minutes were provided. However, we did receive a copy of the Stakeholder Engagement November 2017 Report, which serves as meeting minutes, described below.

The Community Relations/Development Manager meets at least once per month with MOE, MONREC and EPGE, and he shares information with them on the local villages.

The SEP requires monthly dissemination of Project information to the 13 village leaders and quarterly face-to-face meetings. As was confirmed by PCo during the July 2017 site visit, and again during the January and August 2018 site visits, PCo has ongoing open communication with the village leaders through which project information is channelled to the village residents. In addition, the Community Relations Officer (CRO) meets frequently with villagers, on a random/unscheduled basis, and these meetings are recorded in the Updated Stakeholder Engagement Database, although we have received no further details of these meetings. ENVIRON while visiting local communities with the CRO, has had the opportunity to participate in some of these random/unscheduled meetings with local villagers, All villagers consulted exhibited a friendly and relaxed manner towards the CRO.

In addition, the following 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), and information was presented in the local language at meetings held in eleven villages. Residents of all 13 local villages

were invited and attended, and prior to the meetings Sembcorp and the EPGE engineers engaged with the local authorities. Representatives of IFC, ADB and AIIB also attended the meetings. ENVIRON received copies of the meeting presentation (see Appendix 5) and the Stakeholder Engagement November 2017 Report prepared by Sembcorp/PCo after the meetings took place. The Stakeholder Engagement November 2017 Report provided the meeting schedules, locations, number of people who attended, summary of villager feedback/expectations and photos of each meeting.

- The Fourth Public Stakeholder Engagement Meeting is scheduled for November 2018.

For each of the Public Stakeholder Engagement Meetings, Sembcorp representatives disseminate the agenda and meeting details to key stakeholders in the villages before the Public Stakeholder Engagement Meetings take place. Villagers then have 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.

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

- Employment opportunities, impact and mitigation;
- Procuring and recruiting from the local community;
- Workers' Accommodation Management;
- 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 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 PCo 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 should include monitoring results in their presentations to be provided at the annual Public Stakeholder Engagement Meetings.

Recommendations

For future Public Stakeholder Engagement Meetings, project monitoring results need to be included as part of the presentation and information disclosure materials. and Sembcorp has agreed to include project monitoring results in future Public Stakeholder Engagement Meetings, starting with the November 2018 meeting.

5.14.3 Community Relations

ENVIRON met with the Community Relations and Development team during the August 2018 site visit. The Community Relations and Development team accompanied ENVIRON on the visits to two communities near the river water supply pipeline (i.e. Tha Pyay Thar and Nyaung Kan Villages), as well as to Sa Khar Village. The Project's Community Relations Officer (CRO) continues to make weekly visits to all 13 affected villages. In advance of these visits, he informs the village leaders and they together open the suggestion boxes and review any grievances/suggestions submitted. If the village leader isn't available, they discuss by phone the contents, if any, of the suggestion boxes. 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 ENVIRON's opinion, the Community Relations/Development team is adequately staffed for the work required and its community relations activities, including bi-weekly visits to all 13 villages, with random/unscheduled interactions with lay villagers, are adequate.

5.14.4 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 PCo and is supported by Sembcorp's Group Community Relations Department, and since 2017 has included an external grievance committee component. PCo'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 PCo's CRO, Community Development, HR and HSSE Managers. These thirteen community grievance committees and their members are all included in the Project's Grievance Committee.

The Grievance Committee Procedures included in Appendix E to the Stakeholder Engagement Plan for the Operation Phase (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 Committee for 13 Villages as members of the Project's Grievance Committee.

Recommendation: The Grievance Committee Organization Chart included in the Grievance Committee Procedures should be revised to include the Grievance Committee for 13 Villages as members of the Project's Grievance Committee.

A variety of methods are available through which stakeholders can lodge grievances, 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; and
- Telephone call placed to a relevant Project representative.
- Input written grievances in the suggestion box placed in or near their village vicinity

All grievances will be recorded in the stakeholder database. This will include 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.

A suggestion box was observed outside of the Sa Khar Village GAD during the January and August 2018 site visits (Photo 35 and 38).

Sembcorp/PCo provided ENVIRON with a copy of its Community Grievance Mechanism database, which has been updated to 15 October 2018, and while it does not include separate worksheets for recording grievances submitted by the PAPs and grievances submitted by other Community Persons (CP), each line item identifies the category for which the grievance has been submitted. Fourteen grievances were submitted by PAP and four were submitted by CP (see Appendix 4b).

Table 11: Summary of Findings – Stakeholder Engagement

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Management Plan	SEP to be updated.	Construction/Operations	<ul style="list-style-type: none"> Management Plan IFC PS1 ADB ES Principle 4 	The SEP should be updated to include (i) a revised organization chart that includes the Community Relations/Development Department and its reporting lines; and (ii) revised roles and responsibilities, to reflect the division of responsibilities between the Community Relations/Development Manager and the recently hired CRO.	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. As per the updated SEP, all responsibilities fall under the Community Relations/Development Manager.	Issue Closed
002	Stakeholder engagement	Stakeholder engagement with the 13 village leaders and PAPs.	Construction/Operations	<ul style="list-style-type: none"> Management Plan IFC PS1 ADB-SPS Paragraph No.54 	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.	The Stakeholder Engagement November 2017 Report evidences the amount of detail that is now documented for the Public Engagement Database, providing details Stakeholder Engagement Meetings. While ENVIRON did not receive a copy of a further updated Stakeholder 2017, it is our expectation that it includes an appropriate amount of detail. ENVIRON will review the further updated Stakeholder Engagement Database during our Fourth Monitoring Assignment.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
003	Public Disclosure	During the ESIA process in Myanmar, the project owner's obligation to produce copies of the findings, as well as recommendations in the local language, and distribute them.	Pre-Construction	<ul style="list-style-type: none"> • ADB-ES Principle 6 • IFC PS1 	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.	Issue Closed
004	Public Disclosure	ADB requires public disclosure of all findings, including the monitoring results at all phases of the project.	Construction/Operations	<ul style="list-style-type: none"> • ADB-ES Principle 7 • IFC PS1 	Sembcorp to provide details on how they share Project monitoring results with stakeholders.	<p>Sembcorp/PCo to share Project monitoring results with stakeholders at the annual Public Stakeholder Engagement Meetings. Next meeting is scheduled for November 2018. Sembcorp has confirmed that the Project monitoring results will be included as part of the presentation and information disclosure materials.</p> <p>Sembcorp should develop a communication plan to strategically dispel misconceptions of A) Noise; and B) Waste water disposal in the river."</p>	Minor
005	Community Grievance Mechanism	While the community grievance mechanism is well structured and detailed, most timeframes for actions are too long.	Construction/Operations	<ul style="list-style-type: none"> • Management Plan • IFC PS1 • ADB-SPS Paragraph 59 	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.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
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 meet the criteria set in the ADB 2009 SPS Paragraph 59.	Construction	<ul style="list-style-type: none"> • Management Plan • ADB-SPS Paragraph 59 	<p>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 managing complaints from the local communities.</p>	<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 (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 Committee for 13 Villages as members of the Project's Grievance Committee.</p> <p>The Grievance Committee Organization Chart included in the Grievance Committee Procedures should be revised to include the Grievance Committee for 13 Villages as members of the Project's Grievance Committee.</p>	Minor: Ongoing Activity

5.15 Community Development

The Community Development Plan (CDP, SCI- HSSEC-SMP-002, revision 0.1, undated, file date 20 April 2017), 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 initial CDP included 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; an initial CDP Plan draft Table 2.4 (i.e., Table of Projects); implementation of the CDP; and roles and responsibilities. The CDP, which is included in the Project's ESMP, is intended to be a living document, to be updated periodically when CDP projects are selected and approved throughout the construction phase.

The CDP demonstrates PCo'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.

ENVIRON in its First Environmental and Social Monitoring Report recommended that PCo complete its CDP and add the following to the Plan:

- an organisation chart with assigned responsibilities;
- identification of projects to be implemented in the short, medium and long term;
- budgets to be allocated to the identified projects;
- schedule to be established for project implementation; and
- final Key Performance Indicators (KPIs).

During our July 2017 site visit, the Project's CRO provided ENVIRON with a more developed CDP Plan Table 2.4 (Table of Projects) which described four categories of community investment projects:

- educational support;
- improvements in community structures;
- enhance access to groundwater; and
- flood relief.

The CDP Table of Projects received in July 2017 also included for each community investment category objectives, existing initiatives, timing/schedule, assigned responsibilities, budget, intended outcome, and KPIs. PCo conducted a needs assessment of each village, with the focus on education and health, and had narrowed its scope to providing positive benefits to five villages near the Project site including:

- Sa Khar;
- Hnan;
- Nyuang Kan;
- Aye; and
- Tha Pyay Thar.

ENVIRON in its Second Environmental and Social Monitoring Report recommended that PCo update its CDP, add an organisation chart and include the more developed Table 2.4.

As of February 2018, ENVIRON received the updated CDP and it includes an organisation chart with assigned roles and responsibilities. Upon review of the most recent Table of Projects received in January 2018 (i.e., the 2017-2018 Construction Period CSR Implementation Plan) ENVIRON noted that community investments are again being considered for all thirteen villages.

In August 2018, Sembcorp provided ENVIRON with an updated CDP for the operation phase and its Table 2.4 (Table of Projects) for 2018 which included information on the 69 projects approved for 2018, with the types of projects and villages identified (Appendix 5). For confidentiality reasons, it is not necessary for the budgets allocated for each project to be included in Table 2.4.

The 69 community investment projects for 2018 were approved for development in the thirteen local villages. As of August 2018, 65 were completed, 2 underground water tanks for fire protection were in process, and the last 2 projects, construction of small soccer fields, were scheduled to begin in September 2018. All construction work for the projects is contracted to a local contractor who engages four local sub-contractors.

Table 12: Summary of Findings – Community Development

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Community Development	CDP needs to be updated	Construction/ Operations	<ul style="list-style-type: none"> • IFC PS1 	PCo should update its CDP and add an organisation chart and the more developed Table 2.4.	<p>As of February 2018, ENVIRON received the updated CDP which included an organisation chart with assigned roles and responsibilities, and a more developed Table 2.4.</p> <p>For the Fourth Monitoring Period, Sembcorp provided a further updated CDP and its Table 2.4 (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>	Issue Closed

5.16 Community Health

The purpose of the Community Health Management Plan (CHMP) (SDC-HSSEC-SMP-015, Rev C, 20 July, 2016) is to manage and mitigate the residual impacts to community health, 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 includes 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 has been 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); however, it does not include an organisation chart, defined roles and responsibilities and an initial budget.

During the First Monitoring Period, ENVIRON used the Project's CHMP as a reference when monitoring the Project for compliance with IFC PS4. The findings and positive observations made by ENVIRON in the First Monitoring Report concerning compliance with the CHMP remain the same for the Second and Third Monitoring Periods. There are no new issues to report, and a significant gap has been closed, as described below.

During ENVIRON's November 2016 site visit, we recommended that standing water at the Bedok and Min Dharma workers' accommodation camps be removed. As indicated in the Final First Monitoring Report, the standing water at the Bedok camp was already addressed. During the July 2017 site visit, ENVIRON noted that the standing water observed at the Min Dhama workers' camp during the November 2016 site visit had been addressed as well. Drainage troughs were installed throughout the camp, and, in addition, a storage tank was installed; and both were well maintained, as observed during the January 2018 site visit and documented in the site visit photos (Photos 037 and 038) included in ENVIRON's Third Monitoring Report.

As ENVIRON learned during the July 2017 site visit, PCo had recently 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. Efforts should now be made to include this information in the operations phase CHMP, which we understand is to be included in the operations phase CDP.

Table 13: Summary of Findings – Community Health

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Human Health	Community Health baseline study included in the CHMP	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS4 • ADB-ES Principle 2 	A Community Health baseline study should be performed on the six additional villages included in the second revision to the ESIA (August 2016). If this study was performed after the preparation of the CHMP in July 2016, the Plan should be updated to include the baseline study.	The CHMP has been 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).	Issue Closed
002	Management Plan	CHMP is lacking an organization chart, defined roles and responsibilities and an initial budget	Construction/ Operations	<ul style="list-style-type: none"> • Management Plan • IFC PS4 • ADB-ES Principle 10 	The CHMP should also be updated to include an organisation chart, defined roles and responsibilities and an initial budget.	As of January 2018, the CHMP still needed to be updated to include an organisation chart, defined roles and responsibilities and an initial budget. Efforts should now be made to include this information in the Operational phase CHMP.	Moderate
003	Community Exposure to Disease	Standing water at two workers' accommodation camps	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS4 • ADB-ES Principle 10 	Bedok and Min Dhama should continue to strive to minimize standing water at the camps and perform frequent inspections and maintenance of the new drainage systems to ensure they are well maintained.	As of January 2018, the Bedok camp is closed. At the Min Dhama camp, ENVIRON observed during the January 2018 that the new drainage system is well maintained.	Issue Closed

5.17 Workers' Accommodation

The Project's Workers Accommodation Management Plan (WAMP, SDC-HSSEC-SMP-016, REV C, 20 July 2016), is 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 refers to only SDCI's commitments to comply with the plan; and it doesn't state that it is 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 have suitable accommodation in terms of health and safety throughout the Project's construction period and to ensure that the workers' accommodation has minimal impacts on the local communities and the neighbouring 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, ENVIRON received the following updates on the Project's use of workers' accommodation camps:

- PCo confirmed 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.
- Bedok's work at the Project is finished and their workers' camp was closed on October 30, 2017, without any upgrades being made to the workers' sleeping accommodations.

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

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

During the Operations Phase, workers from outside the area will stay in rental houses.

Sembcorp has clarified information on the other structures they occupied during the construction phase. They had a small complex with temporary offices for their EPC contractors; the Project Management Team offices will be converted to an EPGE guesthouse, the SDCI office will be converted to a security office for our contractor (IDG) while the last building is already being used as their staff canteen.

Table 14: Summary of Findings – Workers’ Accommodation

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Workers’ Camps	The sleeping accommodation facilities at all three workers’ camps are still overcrowded.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 	PCo should work with JEM, Bedok and Min Dhama to immediately upgrade the workers’ sleeping accommodations, where gaps were noted and eliminate the overcrowded conditions.	As of January 2018, there were no more workers living at the Bedok camp and the number of workers living at the other two camps had been substantially reduced, as a result of the construction progress. Therefore, overcrowded conditions at these camps no longer exist.	Issue Closed
002	Workers’ Camps	Maintenance of the bathing areas.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 	Rural baths should be kept clean and free of standing water.	The JEM and Min Dhama workers camps were closed on 1 July 2018 and 1 August 2018, respectively.	Issue Closed
003	Management Plan	Contractors/subcontractors are not operating their workers’ camps in compliance with IFC PS2 or the Project’s Worker’s Accommodation Plan.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 	PCo should confirm with JEM, Bedok and Min Dhama that they are fully aware of the requirements included in the Workers Accommodation Management Plan, and their need to comply with this plan.	PCo confirmed that JEM, Bedok and Min Dhama were made aware of the requirements included in the Workers Accommodation Management Plan, and their need to comply with this plan.	Issue Closed

5.18 Local Recruitment and Procurement

The Project's Local Recruitment and Procurement Management Plan (LRPMP, SDC-HSSEC-SMP- 017, REV C, 20 July 2016) addresses the hiring of labour and capacity building for the local workforce. The LRPMP includes 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, applies 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 are some products, goods or services that cannot be sourced locally (within local communities or even within Myanmar). In that case, this plan is 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) has been received by ENVIRON but it has not yet been fully reviewed.

5.18.1 Local Recruitment and Procurement

Upon our initial 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.

(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 preferential treatment 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 ENVIRON was informed by PCo's HR Manager, as of August 2018, the Project employed 20 local workers from villages within the Project's DAI, which is 20% of the Project's total workforce, and foreign skilled workers (3) made up only 3.0% of the total Project workforce.

PCo'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.

While the LRPMP for the construction phase now explicitly states that it covers unskilled and short-term workers and requires (i) signed contracts to be executed between the employer and employee, as per existing labour law and regulations for the hiring of Myanmar-citizen skilled workers, technicians and employees, and (ii) "mini-contracts" to be executed between the employer and employee for the hiring of local unskilled and short-term workers (refer to section 4.1), the Plan's commitments in relation to the hiring of local unskilled and short-term workers by contractors and sub-contractors are no longer applicable since construction is complete.

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 specialised safety training as well. In addition, first aid training (five-days) is provided to workers by the Red Cross.

Environmental management training sessions are held as part of the HSEE training program and include: solid (hazardous and non-hazardous) waste management, chemical spill management training is also held.

Sembcorp/PCo has been exploring options for providing skills training to local residents, and they are currently considering the Myingyan Technical College. A decision has not yet been made.

Refer to section 5.24, Labour & Working Conditions for additional labour information, and for ENVIRON's observations and recommendations for closing additional gaps in the Project's compliance with PS2.

Table 15: Summary of Findings – Local Recruitment and Procurement

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Unskilled Workers	It is not clear if the LRPMP covers unskilled workers.	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 	If the LRPMP is intended to cover unskilled workers, Sembcorp to amend the plan to make it more explicit.	The LRPMP has been amended to require “mini-contracts” to be executed between the employer and employee for the hiring of local unskilled and short-term workers (refer to section 4.1).	Issue Closed
002	Employment Contracts	Subcontractors’ short-term workers do not have employment contracts	Construction	<ul style="list-style-type: none"> • Management Plan • IFC PS2 	As recommended in section 5.24, Sembcorp should complete the mini-contract template to be used for short-term workers, and inform the subcontractors of the need to implement this new contract procedure when engaging short-term workers; and encourage subcontractors to have contracts executed with all affected workers ASAP and have workers sign acknowledging receipt.	<p>Sembcorp completed the mini-employment contracts template and this new procedure was implemented by the subcontractors as of August 2017.</p> <p>The terms and conditions included in Sembcorp’s template for the subcontractors’ local short-term employment contracts are consistent with the main terms and conditions included in Sembcorp’s own standard employment contracts, and are in accordance with local laws and PS2.</p> <p>These mini-contracts are no longer in use since the Project construction has been completed and no more unskilled or short-term workers are being hired.</p>	Issue Closed

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 (SDC-HSSEC-SMP- 018, REV C, 20 July, 2016) presents 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 are 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 is no influx of job seekers. No influx of camp followers was reported during ENVIRON's November 2016 site visit and none were observed as well during our July 2017 and January and August 2018 site visits.

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.

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.

All new personnel, including Project Company, EPC contractor and sub-contractor staff receive two to three hours of HSE induction training prior to starting work. Training records were reviewed by the IESC and no issues were noted. Visitors, including the IESC team, are given a shorter version of the HSSE induction course. In addition, personnel graded supervisor above, received a more thorough training course on the Project's construction phase ESMP. The training slides were reviewed by the IESC, who concluded that they are comprehensive and fit-for-purpose.

No concerns have been identified with HSSE training.

5.20.2 Operations Phase

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.

5.21 Cultural Heritage

The Cultural Heritage Management Plan (SDC-HSSEC-SMP-020, Rev 0, 20th September 2016) describes 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 have been found during site clearance and excavation work.

The IESC has not identified any cultural heritage related issues.

5.22 Security

The Security Management Plan (SDC-HSSEC-SMP-021, Rev C, 20th July 2016) describes the procedures to ensure that Project worksites are protected against unauthorised entry, theft and damage.

Security at the CCPP construction site is 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 second visit to the Myingyan District Police Station during its January 2018 site visit, the police chief again confirmed that he had no record of any incident involving project workers or 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 Observer Report), serves the purposes of a Resettlement Action Plan.

5.23.2 ENVIRON's 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 Mingyan 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 at 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 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 undisturbed post laying of the pipelines. Similarly, for the transmission lines and towers, there was no permanent land acquisition.

With this approach, 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 impacts on structures of the informal settlers and other private land owners have been compensated at least the full replacement cost. The compensation was paid prior to the occurring of impact. In addition to consultations by the borrower 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 land owners. 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 have been taken up in stretches and the construction period along any particular section of the alignment has been not more than a crop cycle. Replanting of the fields along the transmission line and the river water pipeline alignments has been confirmed by Sembcorp, site visits by ENVIRON and the consultations with the land owners.

In summary, 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).

Further, a functional grievance mechanism exists on ground, in the event of any grievances from the affected persons.

As of 12th 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 above. 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 per year for each pier of the bridge within their lands for the elevated section of the river water supply pipeline. The PCo will then top-up the payments for the subsequent 20 years. This compensation process is to be completed before COD 2 and PCo began the compensation process after receiving a formal letter from EPGE dated 13 July 2018.

The compensation payments to these 8 PAPs were made in August 2018, and ENVIRON received details on the compensation paid to each PAP.

5.23.4 Update on the Informal Settlers and other PAPs

As ENVIRON was informed at the time of its July 2017 site visit, the river water supply pipeline had been buried and the four T-line towers constructed, and T-line wires installed. PAPs had begun re-planting crops above the buried pipeline (as of the end of July 2017) and re-planting had already begun under the T-line wires as well.

During ENVIRON's January 2018 site visit, we were again able to visit with the owners of the tea house in Aye Village that had to be temporarily dismantled, as well as the family of a farmer in Hta

Naung Tai Village who grows corn and onions on land located near the river water supply pipeline. Since these PAPs had fully restored their livelihood, there was no need to meet with them again during ENVIRON’s August 2018 site visit.

5.23.5 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 are being updated in this 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 16 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 16: Summary of Number of PAPs, Power Poles and Fertilizer Bags Received

District	PAP	Power Poles & Fertilizer Bags
Myingyan Taungtha	79	225
	38	128
Total	117	353

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. ENVIRON conducted consultations along the pipeline route and in several local villages during our first three monitoring site visits 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 August 2018 site visit (Photos 48-50)

Now that construction has been completed for the buried 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.

ENVIRON will plan to meet during its next monitoring site visit with the 8 PAPs that were compensated in August 2018 and we will report in our next monitoring report on their status in restoring their livelihood, and we anticipate being able to bring closure to the Project resettlement impacts.

Table 17: Summary of Findings – Land Acquisition & Resettlement

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Public Disclosure	Public disclosure of the Resettlement Framework in Myingyan Township and in the 13 affected villages.	Construction	<ul style="list-style-type: none"> • ADB-IRS Principle 9 • IFC PS5 	In consultation with the Lenders, Sembcorp should determine the path forward to meet this requirement given the sensitivity of the information to be provided.	As mentioned in the January 2018 Update, ADB disclosed the Resettlement Framework on its website, and consultation meetings took place in all the villages where people lived who were going to be affected by land impacts (both temporary and permanent).	Issue Closed
002	Resettlement Grievance Mechanism	The framework for a grievance mechanism for the PAPs is included in the Resettlement Framework.	Construction	<ul style="list-style-type: none"> • Resettlement Framework • IFC PS5 	The grievance mechanism's records, focused solely on the PAPs, should be recorded in a separate category in the Project's CGM database.	As mentioned in the January 2018 Update, PCo created a separate category for PAPs' grievances in the CGM database for 2017. However, the CGM database for 2018 includes grievances recorded for both PAPs and CPs on the same worksheet, but each line item identifies whether the grievance was submitted by a PAP or CP.	Issue Closed
003	Land Acquisition	A census on all PAPs who will be physically (temporarily) and economically displaced (both land owners and land users) was not made available by the GOM to Sembcorp, and in addition, no records of any community consultation meetings and/or focus group discussions held by the GOM with the 13 villages	Construction	<ul style="list-style-type: none"> • ADB-IRS Principle 1&2 • IFC PS1 	No action can be taken at this stage of the Project.		N/A

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
		after issuance of the Revised ESIA's (November 2015 and August 2016), were made available to Sembcorp by GOM.					
004	Land compensation	Identification of PAPs who will give up land for the power poles and the number of power poles for which each PAP will be compensated.	Construction	<ul style="list-style-type: none"> • ADB-IRS Principle 1&3 • IFC PS5 	PCo to provide the number of power poles installed on each PAP's property (total number of power poles along the river water supply pipeline has not yet been determined, but is approximately 340-350).	As mentioned in the January 2018 Update, 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.	Issue Closed
005	Livelihood Restoration	Resettlement outcomes and impacts on the standards of living of displaced persons, and whether the objectives of the resettlement plan have been achieved.	Construction	<ul style="list-style-type: none"> • ADB-IRS Principles 3 & 12 • IFC PS5 	Now that construction has been completed for the river water supply pipeline, T-line towers and T-line wires installed, and PAPs have been notified that they can begin re-planting crops; PCo should have a face-to-face meeting with each PAP to assess resettlement outcomes, their impacts on the standards of living of the PAPs, and whether the objectives of the resettlement plan have been achieved, and detailed written records of these meetings should be prepared.	Livelihood impacts were limited. The impacts on livelihood due to the laying of the river water supply pipeline, T-line towers and T-line wires were temporary, and livelihoods were restored after the completion of the construction activities in these project areas.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
006	Livelihood Restoration	Provision of transitional support and development assistance.	Construction	<ul style="list-style-type: none"> • ADB-IRS Principle 4 • IFC PS5 	ENVIRON recommends that PCo, in collaboration with local banks, should establish some basic money management courses for the PAPs.	No action needs to be taken at this stage of the Project.	N/A
007	Land Acquisition	Final details on the land acquisition process followed by GOM are still pending.	Construction	<ul style="list-style-type: none"> • ADB-IRS Principle 6 • IFC PS5 	PCo to provide (i) details on the final land acquisition process carried out for the affected land owners (only applies to the T-line tower foundation areas), and (ii) details on the final process carried out for non-title holders impacted (land users and informal settlers).	<p>As mentioned in the January 2018 Update, no action needs to be taken at this time due to the following:</p> <ol style="list-style-type: none"> 1. There was no permanent land acquisition in the project 2. The land impacts were limited and not significant for any of the affected persons (T-line tower and power pole footprints only) 3. The compensation for loss of assets and crops was witnessed by ENVIRON and confirmed that the compensation has been at replacement costs <p>Individual signed agreements with all landowners have been provided to ENVIRON for review.</p>	Issue Closed
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"> • 		<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</p>	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
						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.	

5.24 Labour & Working Conditions

Human Resources documentation reviewed by ENVIRON includes:

- 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 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 emphasise equal opportunity for all. They also prohibit both child and forced labour, but the EPC Contract did not explicitly prohibit child or forced labour. The Global Human Rights Policy also includes the right of freedom of association and collective bargaining. ENVIRON did not observe during any of its four monitoring site visits to date any child or forced labour or any other activities that would violate Sembcorp's Code of Business Conduct or Global Human Rights policy.

5.24.2 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 labour 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 Sembcorp workers (full-time, part-time and temporary) and contract employees but subcontracted employees are not mentioned. Sembcorp's HR Manager confirmed that Sembcorp's HR procedures were provided to subcontractors, and that copies of their employee handbooks/policies were obtained to ensure compliance to Sembcorp's standards.

Sembcorp/PCo, 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.

5.24.3 Employment Contracts

ENVIRON, to assess the Project's compliance with ADB's Social Protection Requirements and IFC's PS2, reviews 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, 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.

5.24.4 Employment Contracts

Table 18 below includes a breakdown of the Project workforce, as of August 2018, (i) male vs. female workers, and (ii) the origin of the workers (i.e., local (from the 13 villages within the Project's AoI), Myanmar beyond the local area, and foreigners). Table 20 below includes a breakdown of the projected Project workforce for the operations phase, as of November 2018.

The Project Workforce (Operation Phase)

Table 18: Current Project Workforce

	Gender		Plant Workforce				Security Team (External)	Yangon Workforce	EPGE	Total
			Local		National	Foreigner				
	Male	Female	Permanent	Contract						
Headcount	87	15	12	8	39	3	27	10	3	102
%	85%	15%	12%	8%	38%	3%	26%	10%	3%	100%

Table 19: Projected Workforce in November 2018

	Gender		Plant Workforce				Security Team (External)	Yangon Workforce	EPGE	Total
			Local		National	Foreigner				
	Male	Female	Permanent	Contract						
Headcount	95	17	13	8	46	3	27	12	3	112
%	85%	15%	12%	7%	41%	3%	24%	11%	3%	100%

5.24.5 Local Recruitment and Procurement Management Plan

For details on this plan, refer to Section 5.18.

5.24.6 Workers' Grievance Mechanism

While we were informed during the November 2016 site visit that a workers' grievance mechanism exists, we were not able to find any document in the ESMP that describes the workers' grievance mechanism or its procedures. After the November 2016 site visit, a one-page outline of the workers' grievance mechanism procedures was submitted to ENVIRON. Based on an explanation that was verbally provided by Sembcorp's HR Manager to ENVIRON, we confirmed that a satisfactory workers' grievance mechanism is in place, but its procedures were not properly documented.

We have now received the updated written 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 has been 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 near the main door to Sembcorp's project office and were also located at the workers' camps. As we understand, suggestion boxes where both workers' and communities' grievances can be submitted are now checked weekly.

5.24.7 Workers Engaged by Third Parties

As ENVIRON was informed during the July 2017 site visit, Sembcorp and PCo had not been able to review the contractors' contracts with subcontractors and many of the subcontractors' employees (i.e., short-term including unskilled workers) did not have contracts.

As agreed with ENVIRON during the July 2017 site visit, Sembcorp's HR manager created a template for employment mini-contracts, and it includes all labour-related information that PCo's local workers receive in their contracts (e.g., salary, work hours, paid time off), and was used by subcontractors when engaging short-term local and unskilled workers. ENVIRON was provided with the mini-contract template and confirms that it is in order.

During ENVIRON's January 2018 site visit, PCo confirmed that it had received copies of JEM's HR policies and/or procedures, but it had not received the same from Min Dhama. Since the January 2018 site visit, PCo has informed ENVIRON that it has done its due diligence in reviewing the HR policies of its respective EPC companies and provided a copy of the SDCI HR manual as an example, but did not confirm at the time that they had received and reviewed Min Dhama's HR policies and/or procedures. Sembcorp has since received Min Dhama's Employee Handbook and provided it to ENVIRON. We have reviewed Min Dhama's Employee Handbook and note that while it does include most HR procedures, it does not include workers' grievance procedures, prohibition of child or forced labor or mention of employee's rights to freedom of association & collective bargaining.

- While ENVIRON recommended in its Third Monitoring Report that PCo confirm that Min Dhama was complying with all commitments included in Sembcorp's Code of Business Conduct, Global Human Rights Policy and HR procedures, this is no longer relevant since as of 1 August 2018, no workers engaged by Min Dhama, JEM and Bedok were still working at the Project. All workers now are hired directly by PCo.

5.24.8 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 is now 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 is included in Section 8 of the updated construction phase Local Recruitment and Procurement Management Plan, does not constitute a plan or policy.

Recommendation

While the Project has begun its operation phase, ENVIRON still recommends that a Retrenchment Plan be put in place to support the construction phase workers who may still be unemployed and need some assistance.

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 20: Summary of Findings – Labour & Working Conditions

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
001	Workers' Organizations	No reference to workers' rights to organise was found in the ESMP.	Construction/ Operations	• IFC PS2	Workers' rights to organise should be explicitly stated in the Code of Business Conduct.	As noted in the January 2018 update, workers' right to organise is explicitly stated in Sembcorp's Global Human Rights Policy	Issue Closed
002	Workers' Grievance Mechanism	Only a one-page outline of the workers' grievance mechanism was provided to ENVIRON.	Construction/ Operations	• IFC PS2	Comprehensive written workers' grievance mechanism procedures should be developed.	Workers grievance mechanism policy/ procedures have been prepared and received at ENVIRON and have now been finalized and include the name of the new HR Manager, and the grievance mechanism database has been split into two databases, one for the community grievances and one for the workers' grievances.	Issue Closed
003	Policies and Procedures	Contractors'/subcontractors' HR policies/procedures.	Construction	• IFC PS2	PCo should obtain copies of the contractors' and subcontractors' HR policies/procedures in order to determine if they have incorporated commitments included	ENVIRON recommended in the January 2018 Update, that PCo confirm that Min Dhama had been complying with all commitments included in Sembcorp's Code of Business Conduct, Global Human Rights Policy and HR procedures. However, this recommendation is no longer relevant since the construction has been completed and Min Dhama is no longer involved in the project.	Issue Closed

ID	Aspect	Issue Description	Phase	Standard	IESC Recommendations	August 2018 Update	Significance
004	Employment Contracts	Subcontractors' short-term workers do not have employment contracts.	Construction	<ul style="list-style-type: none"> IFC PS2 	Sembcorp should complete the mini- employment contracts template and work with subcontractors to have contracts executed with affected workers ASAP and have workers sign acknowledging receipt.	<p>Sembcorp completed the "mini-contract" template and provided it to subcontractors to use when engaging local short-term workers. This new procedure went into effect in August 2017.</p> <p>The terms and conditions included in Sembcorp's template for the subcontractors' local short- term employment contracts are consistent with the main terms and conditions included in Sembcorp's own standard employment contracts.</p>	Issue Closed
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>ENVIRON has been informed by Sembcorp that, as the Project prepares to enter into the operational phase, retrenchment plans are in place to provide placement for employees who were hired during the construction phase. PCo and EPC contractors have two procedures in place:</p> <ol style="list-style-type: none"> 1) Communicate to the retrenched workers that they will be prioritized if there are any new projects within the country and region; and 2) Place existing staff from EPCs to join the working team in the operational phase. <p>ENVIRON should be provided copies of these retrenchment plans.</p>	Moderate

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 21: 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&S Management Program (ESMP) consistent with ESIA recommendation and IFC requirements and which includes:</p> <ul style="list-style-type: none"> • Dust Management Plan; • Traffic Safety Management Plan; • Noise and Vibration Management Plan; • Surface Water Management Plan; • Soil and Groundwater Management Plan; • Waste Management Plan (Hazardous and non-Hazardous Waste); • Oil and Chemical Spill Contingency Management Plan; • Emergency Response Plan (including Community Emergency Response Plan); • Stakeholder Engagement Plan (including Grievance Management Plan); • Community Development Plan (CDP); • Community Health Management Plan; • Occupational Health and Safety Management Plan; • Workers' Accommodation Management Plan; • Local Recruitment and Procurement Plan; • Influx Management Plan; • Cultural Heritage Chance Find Procedure; 	<p>Documented ESMPs in from 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"> • 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. • The Project has developed three plans that are not mentioned in the ESAP: <ul style="list-style-type: none"> ○ Plant and Vehicle Management and Maintenance Plan; ○ Biodiversity Management Plan; and ○ HSSE Training Plan. <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</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
	<ul style="list-style-type: none"> • Security Plan; and • Contractor Management Plan. <p>The sponsor will also complement the EPC HSE construction requirements to include the aforementioned aspects.</p>		<p>except for Community Development and Stakeholder Engagement, which are the responsibility of the Project Company.</p> <p>Status Summary: Closed</p>
2/PS1	<p>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.</p>	<p>Documented Operational Phase ESMP in form and substance acceptable to IFC: 15/09/2018 or prior to commencement of operations, whichever is earlier.</p>	<p>The Operational Phase ESMP was prepared and it will be reviewed by ENVIRON and its observations will be reported in a separate report.</p> <p>During the fourth IESC monitoring visit, it was reported that the OHS Management Plan will serve as a HSE manual, and that life-saving rules which are commonly used in oil and gas companies, will be enforced.</p> <p>Status Summary: Work in Progress</p>
3/PS1	<p>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.</p>	<p>Assignment of construction ESHS team: 15/05/2016 or prior to construction, whichever is earlier.</p>	<p>A technically qualified ESHS management team has been appointed by the Project Sponsor and the EPC Contractors, as detailed in section 5.2 of this report.</p> <p>Status Summary: Closed</p>
		<p>Assignment of operation ESHS team: 15/09/2018 or prior to commencement of operations, whichever is earlier.</p>	<p>The construction phase HSSE Manager will continue to manage environmental and social issues in the operations phase of the Project, supported by Sao Kyaw Win.</p> <p>Status Summary: Closed</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
4/PS1	Expand scope of construction phase Emergency Preparedness & 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.	Evidence of construction phase EPR scope expanded in EPC contract: 15/05/2016 or prior to construction, whichever is earlier.	The Project's Emergency Preparedness & Response (EPR) Management Plan includes all foreseeable emergency response situations, including those specified in the ESAP. Status Summary: Closed
	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. 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. It will also include awareness programs for the Plant personnel, local community and local administration.	Operational phase EPR in form and substance acceptable to IFC: 15/09/2018 or prior to commencing plant testing activities, whichever is earlier.	An operational phase EPR plan has been developed and will be reviewed by ENVIRON and its observations will be reported in a separate report. It is understood that a specialist contractor will be engaged to provide training on the EPR plan. Status Summary: Work in Progress
5/PS1	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&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	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	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 have yet been disclosed to local communities, but Sembcorp/PCo

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	operation.	(15/09/2016). Independent reviews (operation): By start of operations and annually for first year of operations (15/09/2019).	has agreed that monitoring information will be included in the next Public Stakeholder Engagement Meeting in November 2018. Status Summary: Work in Progress
6/PS1	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.	Documented program in form and substance acceptable to IFC: 15/05/2016 or prior to construction, whichever is earlier.	<p><u>Community Development program</u> As of February 2018, ENVIRON received an updated CDP and it includes an organisation chart with assigned roles and responsibilities, and Table 2.4. During the August 2018 site visit, Sembcorp provided ENVIRON with an updated CDP and its Table 2.4 (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>Status Summary: Closed</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. 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</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
			revised organization chart that includes the Community Relations/Development Department and its reporting lines. Status Summary: Closed
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.	Contractors and sub-contractors are no longer engaged for work at the Project. All current workers at the Project are employed by PCo and they are expected to follow PCo's HR policies and procedures. Status Summary: Closed
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).	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. Status Summary: Closed

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
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.	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, the camps are anticipated to close by June 30, 2018, and it's likely that no more upgrades will be made to the camps. Status Summary: Closed
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).	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. The site shall ensure that the sanitary wastewater from cess pit serving JEM's office and warehouse area is channeled to the site's wastewater treatment plant. Status Summary: Work in Progress
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; 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	Evidence of inclusion in EPC HSE requirements: 15/05/2016 or prior to construction, whichever is earlier.	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. Community impacts have been considered in the Traffic Management Plan. Designated traffic routes have been established to avoid populated areas, and

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	<p>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>the Project monitors noise at the six community sensitive receptor points identified in the ESIA report.</p> <p>Status Summary: Closed</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 recently was engaged to provide training for an awareness program on STI and HIV/AIDS.</p> <p>Status Summary: Closed</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>Status Summary: Closed</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</p>	<p>PCo proactively worked with EPGE during the river water supply pipeline and T-line RoW land acquisition process.</p> <p>Livelihood impacts are limited. The impacts on livelihood due to the laying of the pipelines have been temporary and livelihoods were restored after</p>

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		<p>prepared by the company verifies consistency with PS5 requirements - prior to operations (15/09/2018).</p>	<p>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, described below.</p> <p>The land acquisition process is 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>Now that construction has been completed for the buried 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 conducted face-to-face meetings with each of the PAPs to assess resettlement outcomes (see section 5.23 of this report). PCo met with the 147 PAPs along the river water supply pipeline, T-line towers and where T-line wires have been installed.</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 will plan to meet during its next</p>

No	Task Title / Description	Anticipated Completion Date	Status and Reference to Supporting Documentation and Section(s) of E&S Monitoring Report
			<p>monitoring site visit with the 8 PAPs that were compensated in August 2018 and we will report in our next monitoring report on the status of their restoring their livelihood, and we anticipate being able at that time to bring closure to the Project resettlement impacts.</p> <p>Status Summary: Work in Progress</p>

7. SUMMARY

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 were no high significance findings. The key moderate significance environmental finding is related to the off-site waste disposal site that does not meet lender standards. Sembcorp reviewed disposal options and the disposal site (landfill) operated by the Myingyan Municipality was the only available facility in the area. While not an ideal option, an assessment of potential impacts revealed that there are no sensitive receptors in close proximity and the disposal site is a municipal landfill where all types of wastes are disposed to. Sembcorp should 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.

The key moderate findings for social are as follows:

- 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. Efforts should now be made to include this information in the operations phase CHMP, which we understand is to be included in the operations phase CDP.
- Retrenchment was not addressed in the construction phase ESMP. However, ENVIRON was informed by Sembcorp during the August 2018 site visit, that the Retrenchment Plan and Policy is now included in Section 8 of the updated Local Recruitment and Procurement Management Plan. In ENVIRON's opinion, the brief text on two procedures, which is included in Section 8 of the updated construction phase Local Recruitment and Procurement Management Plan, does not constitute a plan or a policy. While the Project has begun its operation phase, ENVIRON still recommends that a Retrenchment Plan be put in place to support the construction phase workers who may still be unemployed and need some assistance.

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.