

Environmental and Social Monitoring Fourth Report

Project Number: 48368-001
January 2019

MYA: Myingyan Natural Gas Power Project Part 7

Prepared by Environ Myanmar Co Ltd.

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MYINGYAN CCGT POWER PLANT

AUGUST 2018 ENVIRONMENTAL AND SOCIAL MONITORING VISIT

CLOSING MEETING

30TH AUGUST 2018

AGENDA

1. Overview of initial findings

- Environmental issues
- Social issues

2. Next steps

Thank you for your cooperation
during the visit

CURRENT PROJECT STATUS

- COD 1 delayed from February 2018 to May 2018
- COD 2 scheduled for third week of September 2018
- Construction is 99.9% complete (overall project status 98.24% complete).
- The monitoring team is impressed with overall housekeeping of the site
- Advanced environmental control measures in the newly constructed facilities, e.g. raw water and wastewater treatment processes and CEMS for air emissions.

MYINGYAN CCGT POWER PLANT



RECAP-FINDINGS OF JULY 2017 AND JANUARY 2018 MONITORING VISIT

- 55 findings raised in 2nd monitoring report (July 2017)
 - 12 High
 - 19 Moderate
 - 24 Low
- 25 findings raised in 3rd monitoring report (January 2018)
 - No high significance findings
 - 10 Moderate
 - 15 Low
- Many low significance findings related to amendments to the construction management plans are no longer relevant.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM

- The focus of the 4th monitoring visit is on closing out remaining construction phase issues identified in the 3rd monitoring report and a high level review of the operational phase ESMPs
- Construction ESMPs not updated since last monitoring visit but will be made redundant by end of September 2018 (COD 2).
- Seven operational ESMPs have been drafted and are pending final endorsement by Sembcorp by end of September 2018.

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM

- The operations phase ESMPs are:
 - Environmental Management Plan (Air Quality, Noise and Vibration, Surface Water, Waste Management & Oil and Chemical Spill Management) – the mitigation measures included in the plans are based on the ESIA and includes details on parameters, monitoring locations, frequency and the responsible party. Detailed review of the specific commitments, requirements and applicability for the operational phase will need to be conducted.
 - Occupational Safety & Health Management Plan-operational phase ESMPs are 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

ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM

- Other operations phase ESMPs include the following:
 - Emergency Response Plan
 - Security Management Plan
 - Community Development Plan which includes Community Health Management
 - Stakeholder Engagement Plan
 - Local Recruitment and Procurement Management Plan

AIR QUALITY, DUST AND NOISE MANAGEMENT

- No new issues noted
- At present, about 80% of the site has been laid with asphalt, gravel or grass cover. By third week of September (COD2), the remaining areas of the site will be fully landscaped/covered.
- CBP was dismantled and removed from the site in July 2018. The last of the stockpiles were removed from the site in June 2018. No remaining stockpiles noted in August 2018.
- Ambient air quality and noise monitoring at monthly intervals for the first 3 months of operation, followed by quarterly monitoring. July 2018 monitoring results indicate no exceedances.

SURFACE WATER

- Issues related to sanitary wastewater treatment and disposal identified in the January 2018 report has significantly improved. 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.
- However, JEM (office and warehouse) was supposed to pump into their sewage from their cess pit into the Sembcorp sewage injector pit and routed to the site's STP. JEM safety and health personnel indicate that the sanitary wastewater was still being collected and disposed by the municipal council. Moving forward, it will be pumped to the site's STP.
- From the January 2018 report: To consider the installation of an oil water separator for the car park during the operations phase. Runoff, which could potentially be contaminated with oil or fuel from vehicles could contaminate surface water drainage.

SURFACE WATER

- Raw water treatment system: The agitator in the sludge thickener tank was faulty resulting in a overflow of water sludge mixture into the recycle water tank, the gravel layer surrounding the tank and an adjacent internal drain.
- The excess sludge water mixture overflowed into the neutralization pit and into one of the chemical stores (one inch of water on the floor).
- Rectification works is underway by the contactor with oversight from Sembcorp.



SURFACE WATER

- JEM office/ warehouse has one cess pit and the pipe from the toilet sink leading to the cess pit was damaged at 2 locations (potential route for rainwater ingress into cess pit). The rectification of the broken pipe was completed today.



BEFORE



AFTER

SOIL AND GROUNDWATER / OIL AND CHEMICAL SPILL CONTINGENCY

- Big improvements to secondary containment within the site but some issues remain:
 - Insufficient containment at the chemical store (for water treatment chemicals) based on the volume of chemicals stored.



- Drum storage at the JEM office/warehouse area: 40-50 used drums stored directly on soil at JEM office/warehouse area (some damaged or without labels).

WASTE MANAGEMENT

- Overall management of wastes at municipal landfill site: Solid waste now deposited in an excavated area approx. 100 feet by 100 feet. However, the area designated for Sembcorp was not clearly demarcated during this visit. The authorised collector has a dedicated person to conduct daily visits to disposal site to monitor project waste.



WASTE MANAGEMENT

- Medical waste is incinerated at Myingyan hospital.
- Summary of waste quantities from January 2018 to August 2018. Waste quantities have been reduced by half from June 2018 onwards.

Month	General waste (approximated)	Clinical waste (approximated)	Hazardous waste (empty containers)
Jan-18	1ton	3 Bags (10kg)	4Bags (150kg)
Feb-18	1ton	3 Bags (10kg)	4Bags (150kg)
Mar-18	1ton	3 Bags (10kg)	4Bags (150kg)
Apr-18	1ton	3 Bags (10kg)	4Bags (150kg)
May-18	1/2 ton	3 Bags (10kg)	4Bags (150kg)
Jun-18	1/2 ton	2 Bags (5kg)	2 bags (50kgs)
Jul-18	1/2 ton	2 Bags (5kg)	2 bags (50kgs)
Aug-18	1/2 ton	2 Bags (5kg)	2 bags (50kgs)

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 containers/drums for reuse.

WASTE MANAGEMENT

- The option for sludge treatment (sludge from raw water treatment and STP) is being discussed OK service.
- One location has been identified for the sludge to be dried and potentially used for land farming/ fertilizer (suitability to be confirmed upon testing of the sludge characteristics for ignitability, corrosivity, reactivity and toxicity).
- The plan and construction details for the sludge storage and drying area will be finalised by October 2018.



WASTE MANAGEMENT

- At the JEM office and workshop area. Food waste (in plastic bags) were left on the ground and in two uncovered skips.
- This was corrected today by JEM



BEFORE



AFTER

HEALTH AND SAFETY

- Hazards appear to be well managed.
- Good safety culture
- 8,647,020 man-hours without LTI as of August 30, 2018
- Some areas for improvement e.g.
 - Visibility of PPE signs at some areas could be improved (i.e. ear protection at steam turbine area).
 - Opportunity to improve access/egress at the gas receiving station (in between the raw water pond and CMB).



STAKEHOLDER ENGAGEMENT

BEFORE

- **SEP has been updated as of 23 August 2018**
- PCo continues to engage with village leaders and with 143 individual PAPs
- Community Grievance Mechanism
 - External grievance committee established in November 2017 and brought the 13 village heads into the committee
 - A grievance log is maintained of complaints and includes acknowledgements of the grievance committee and local leaders



AFTER

COMMUNITY DEVELOPMENT

- Project updated its Community Development Plan, its organisation chart and table of 69 planned investments, as of 23 August 2018.
- Status of community investments:
 - 65 completed investment projects;
 - 2 in monitoring phase, to be completed 1st week of September; and
 - 2 ongoing, to be completed the 1st week of December.
- Community Investments include:
 - Water treatment facilities (for potable water);
 - 500-gallon underground fire-fighting water storage tanks;
 - School infrastructure upgrades and also desks and chairs;

COMMUNITY INVESTMENT PROJECTS

THA PYAY THAR



New toilets



School infrastructure upgrade.
Everything replaced except roof

COMMUNITY INVESTMENT PROJECTS

THA PYAY THAR



UV/UF water treatment system



Clear treated water

COMMUNITY INVESTMENT PROJECTS

NYAUNG KAN



Underground firefighting water tank installed at each village



New teachers quarters and kitchen.
Old structure to be torn down

COMMUNITY INVESTMENT PROJECTS

SAR KHAAR



New fence at the school



New toilets at the school

COMMUNITY HEALTH

- Community Health Management Plan currently still in effect, will be merged into the Community Development Plan and the Occupational Safety and Health Management Plan, as of COD2.

WORKERS' ACCOMMODATION

- Bedok, JEM and Min Dharma camps were closed without any upgrades, as of July 31, 2018

LOCAL RECRUITMENT AND PROCUREMENT

- The Construction Phase Plan is still in effect and the Plan for the Operations Phase has been prepared and will go into effect at COD2.

LAND ACQUISITION AND RESETTLEMENT

- The 8 PAPs (including the descendants for some) who farm along the elevated river water pipeline have now been compensated (as of 29 August 2018) and they each received cash compensation equal to two crops value plus the EPGE standard compensation.
- The total number of power poles installed along the RWI pipeline, along with the number of power poles installed for which each PAP was compensated, have been included in Appendix 7 to the 3rd Monitoring Report and outstanding NRC numbers (where available) will be included in the Updated Appendix 7 to the 3rd Monitoring Report.



LABOUR AND WORKING CONDITIONS

- Project to provide updated Table 18 (Project Workforce both current and as of COD2). Total workforce is approximately 222 which includes remaining subcontractors.
- Comprehensive workers' grievance mechanism procedures have been prepared but pending the current worker grievance mechanism database

NEXT STEPS

- Please send any requested information (e.g. updated ESMPs) by the end of next week
- IESC to collate and review information received
- Issue draft report within four weeks

The 5th monitoring visit will focus on operations phase issues (timing to be confirmed)