

ENVIRONMENTAL MONITORING REPORT

Project Number: 46391 - 001
June 2017

VIE: Ha Noi and Ho Chi Minh City Power Grid
Development Sector Project

Prepared by Ho Chi Minh Power Corporation for Asian Development Bank

SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT

Period July – December 2016

Project Number: 46391-001

Loans 3161/8286-VIE: HA NOI AND HO CHI MINH CITY POWER GRID DEVELOPMENT SECTOR PROJECT

Executing Agency: EVN Ho Chi Minh City

Prepared by Ho Chi Minh Power Corporation, Electricity of Vietnam for Asian
Development Bank

CURRENCIES

(Rate of exchange of 30 December 2016)

Currency Unit	–	VND
\$1.00	=	22,700 VND

ABBREVIATIONS

ADB	Asian Development Bank
B&C documents	Bidding and Contract documents
CEMP	Contractor Environmental Management Plan
CSC	Construction Supervision Consultant
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
HCMC	Ho Chi Minh City
EVNHANOI	Ha Noi Power Corporation
EVNHCMC	Ho Chi Minh City Power Corporation
IEE	Initial Environmental Examination
MoNRE	Ministry of Natural Resources and Environment
PIC	Project Implementation Consultant
RoW	Rights of Way
UGC	Underground cable
UXO	Unexploded Ordnance

WEIGHTS AND MEASURES

dB(A)	–	Decibel (weighted average)
ha	–	hectare
km	–	kilometer
km ²	–	square kilometer
m	–	meter
m ²	–	square meter
m ³	–	cubic meter

NOTE

In this report, "\$" refers to US dollars unless otherwise stated.

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Executive Summary

Ha Noi and Ho Chi Minh City Power Grid Development Project aims to strengthen the capacity and reliability of the power infrastructure in Ha Noi and Ho Chi Minh City, Viet Nam through the rehabilitation and development of the 220kV and 110kV high-voltage power transmission systems and substations and associate to medium voltage supply for the power distribution system of the two cities. Total 4 core and 9 noncore subprojects will be constructed in Ho Chi Minh city. As stated in Loan agreement, the Executing Agency needs to submit the environmental monitoring report every 6 months to ADB.

The purpose of this second semiannual 2016 environmental monitoring report is to provide the: (i) Preparation status of IEEs for noncore subprojects¹; (ii) Monitoring results during construction phase of 6 subprojects (namely: 110 kV Tham Luong substation; 110 kV underground cable connecting to Tham Luong substation, District 8 110 kV substation, South Sai Gon- District 8 transmission line , Cau Bong- Binh Tan transmission line and Tan Hung 110 kV substation); in compliance with both policies of ADB and the Government on the environmental safeguards; (iii) Mitigation measures implemented during construction phase.

Construction progress: Construction of Tham Luong substation reached 100%; Construction of Tham Luong underground cable transmission line reached 100%. Construction of District 8 substation reached 10%; Construction of South Sai Gon- District 8 transmission line reached 10 %; Construction of Cau Bong- Binh Tan transmission line reached 10%; Construction of Tan Hung substation and connection line reached 10%.

Monitoring results

The compliance with requirements during construction phase is good. All necessary documents required by ADB as well as by Vietnamese Government have been obtained by Ho Chi Minh city Power Management Board. No complaints regarding environmental issue. The overall progress of Implementation of Environmental Management Measures can be evaluated as Fair (ranking 3). Almost all mitigation measures were implemented at sites and they also meet the requirement of the ADB and Vietnamese government law.

Problems Identified

Tham Luong substation: Construction and domestic solid waste should be collected into dust bin or gathered in one point, not to dispose directly into the surrounding area. The excavated soil pile should be covered by plastic cloth if it is not used shortly to prevent dust generation; An emergency first aid box should be sufficient with medicine but not only cotton; Rehabilitation after construction is not proper: Some temporary camps and construction machines are still at the substation area when construction has been finished.

Tham Luong underground cable: soil is still spread over outside the fence, can drift down the drainage system when it rains.

220KV South Sai Gon-District 8 underground cable: At the construction site, many road sections are not still completely finished. At one place, fences are not fit making large crevice and kids can squeeze into while inside the fence is deep pit which likely to cause accidents to young children. There is a big soil pile without cover, which occurs in front of some houses.

¹ IEEs for core subprojects have been prepared before the ADB's approval of this loan.

220KV Cầu Bông-Bình Tân transmission line: The construction workers did not wear working protection equipment while working.

Almost all environmental requirement documents are available in 6 subprojects. However the Construction Supervision Consultant's technical report, which includes the environmental protection and environmental safety, is still very short and general.

Actions Recommended

Tham Luong substation:

- Construction and domestic solid waste should be collected into dust bin or gathered in one point, not to dispose directly into the surrounding area
- The excavated soil pile should be covered by plastic cloth if it is not used shortly to prevent dust generation
- An emergency first aid box should be sufficient with medicine but not only cotton
- The list of training participant should be recorded after each training course
- Construction diary should include also the section on environmental safety and environmental hygiene
- Contractors should dismantle/transport away temporary camps and construction machine, if they are not in use

Tham Luong underground cable: It needs to clean up soil on the road because soil is still spreaded over outside the fence, can drift down the drainage system when it rains.

220KV South Sai Gon-District 8 underground cable: Contractors should rehabilitate road sections after cable installation properly right after construction finished; Contractors should fence properly the dug road section to prevent accidents to small children; Contractors should cover soil pile or place iron plates around it to prevent dust impacting nearby houses

220KV Cầu Bông-Bình Tân transmission line: Contractors should provide protective facilities to workes and urge workers to wear them.

The Construction Supervision Consultant's technical report should include the implementation of environmental mitigation measures as stated in EMP of IEE.

1. INTRODUCTION

Ha Noi and Ho Chi Minh City Power Grid Development Project aims to strengthen the capacity and reliability of the power infrastructure in Ha Noi and Ho Chi Minh City, Viet Nam through the rehabilitation and development of the 220kV and 110kV high-voltage power transmission systems and substations and associate to medium voltage supply for the power distribution system of the two cities. The Project also aims to strengthen the institutional capacity of Ha Noi Power Corporation (EVNHANOI) and Ho Chi Minh City Power Corporation (EVNHCMC).

The Project in Ha Noi and Ho Chi Minh City consists of 8 core subprojects and 28 non-core subprojects that were originally defined by the Viet Nam Electricity (EVN).

Total 4 core and 9 noncore subprojects will be constructed in Ho Chi Minh city.

1.1 Report Purposes

The purpose of this report is to provide:

- Preparation status of IEEs for all noncore subprojects
- Monitoring results during construction phase of 6 subprojects namely: (i) 110 kV Tham Luong substation; (ii) 110 kV underground cable connecting to Tham Luong substation (iii) District 8 220kV substation; (iv) South Sai Gon- District 8 transmission line; (v) Cau Bong- Binh Tan transmission line; (vi) 110kVTan Hung substation; in compliance with both policies of ADB and the Government on the environmental safeguards.
- Mitigation measures implemented during construction phase
- Environmental rehabilitation after the construction finishes

1.2 Project Implementation Progress

1.2.1 On-going Site Works

By the end of this second semiannual period July-December 2016, the construction activities are taking place in 6 subprojects. The scope of each contract package is summarized in Table 1.

Table 1. The Scope of 06 civil works packages

No.	Subprojects / Contract packages	Scope of work	Contractor	Construction starting date	Construction implementation time (day)
1	Tham Luong 110kV substation	Construction of new Tham Luong 110 kV substation	PCC1-TGE-HITACHI T&D - HPSI	March 2016	300
2	110kV Underground cable connected to Tham Luong substation	Construction of 2.2 km 110kV underground cable transmission line connecting to Tham Luong 110 kV Substation	-Sai Gon Traffic Construction JointStock Company	May 2106	178
3	District 8 220kV substation	Construction of new District 8 220 kV substation	PCC5-HYOSUNG	30 September 2016	360
4	South Sài Gòn - District 8 220kV transmission line	The new 6.5 km 220 kV overhead (OHL) and underground (UGC) transmission line to connect the new District 8 substation to Binh Chanh substation (Nam Sai Gon).	Joint venture of HCMC Urban Drainage Company and Transportation and Public Works Join stock company	August 2016	90
5	220-110kV Cầu Bông-Bình Tân transmission line	Cau Bong - Binh Tan 220-110kV transmission line subproject has a length of 31.334 km. It crosses over the area of 4 districts/precinct as Binh Tan, Binh Chanh, Hoc Mon and Cu Chi in Ho Chi Minh City	Joint venture of Nhac Sơn limited company and-Thang Long Technology transfer and investment joint stock company	August 2016	180
6	110kV Tân Hưng substation and connection lines	Construction of Tân Hưng new 110 kV substation, 470 m 110kV underground cable transmission line and Extension of 110kV outgoing feeder bays at 110kV Chanh Hung substation (existing)	Power construction consulting Join stock company (PCC5)	30-Sep-16	300

The progress of 6 ongoing civil work sites is summarized in Table 2.

Table 2. Construction Progress of 6 subprojects

No.	Subprojects	Implementation progress
1	Tham Luong 110kV substation	- Completed, connected to power grid on 22. December 2016
2	110kV Underground cable connected to Tham Luong substation	- Completed, connected to power grid on 22. December 2016
3	District 8 220kV substation	<p>Already under construction, the construction progress is about 10%, namely:</p> <ul style="list-style-type: none"> - Completed piles' compressing of 110kV and 220 kV GIS building - Completed foundation casting of 110kV GIS buiding and foundation casting and bracing system of GIS 220kV buiding; - Constructing fence piles (completed 90%);
4	South Sài Gòn - District 8 220kV transmission line	<p>Already under construction, the construction progress is about 10%, namely</p> <ul style="list-style-type: none"> - Completed 6 over 14 underground cable connection tunnels - Completed excavation and installation of HDPE pipes and restore underground cables trench of 1,310m over 3,171m cable trench
5	220-110kV Cầu Bông - Bình Tân transmission line	<p>Already under construction, the construction progress is about 10%, namely:</p> <ul style="list-style-type: none"> - Finished 02 underground cable connector tunnels - Currently awaiting for authority approval of the corrected technical design (because of supplementing the medium voltage underground cable blocks)
6	110kV Tân Hưng substation and connection line	<p>The construction progress is about 10%, namely</p> <ul style="list-style-type: none"> - Completed iron pipe compressing of 110kV GIS building; MBA foundation and walls of fire; - Completed 110kV GIS foundation casting; 1 MBA foundation over 2; pump house; oil accident tank - Conducting GCLD formwork, reinforcing steel for 1st floor of GIS building.

(Source: EVNHCMC inplemetation progress until Decemeber 2016)

1.2.2 Previous Activities

The Project proposes 13 subprojects (4 core subprojects and 9 non-core subprojects) for EVNHCMC. During this semiannual period 7 IEEs of noncore subprojects have been prepared by PECCs and revised/completed by PIC. Four (4) of them have been approved by ADB (Table 3).

Table 3 Status of Environmental Safeguards Documents

Subproject	DoNRE EIA Approval	IEE	Construction started	Construction completed
A: Core Project				
Construction of 220 kV District 8 S/S	Oct-14	Disclosed in Jan 2014	Sep-16	(Sep-17)
Upgrading of T/L (110 to 220 kV): Nam Sai Gon S/S - District 8 S/S	May-15		Aug-16	(Q4 2017)
Construction of 110 kV Tham Luong S/S	Oct-14	Disclosed in Jan 2014	Mar-16	Dec-16
Construction of 110 kV underground T/L to Tham Luong S/S	Oct-14		May-16	Dec-16
B: Non-Core Project				
T/L (220kV/110kV) Cau Bong - Binh Tan	Jun-15	Disclosed in Nov 2015	Aug-16	not yet
110kV Tan Hung S/S and connection line	Jun-15	Disclosed in Jan 2016	Sep-16	(Jul-17)
110kV Phuoc Long S/S and connection line	Jul-15	Disclosed in Jan 2016	not yet	not yet
110kV Thu Duc Water Plant S/S	Aug-15	Disclosed in Jun 2016	(May-17)	not yet
220kV Tan Cang S/S	Mar-17	Under preparation	(Q2 2017)	not yet
220kV Cat Lai - Tan Cang power line	Mar-17	Under preparation	(Q2 2017)	not yet
110kV Cat Lai- An Khanh power line	Not yet	Under preparation	(Q4 2017)	not yet
110kV Hoc Mon 3 S/S and connection line (4 km UGC)	Not yet	Jun 2017 (expected)	(Dec-17)	not yet
110kV 23/9 Park S/S and connection line	Not yet	Sep 2017 (expected)	not yet	not yet

S/S = substation, T/L = transmission line

1.2.3 Schedule of construction activities for the subsequent months

For the next six months from January to June 2017, the construction activities are continuing at 4 subprojects (220 kW District 8 substation, Upgrading of transmission line (110 to 220 kV): Nam Sai Gon substation - District 8 substation”, Cau Bong Binh Tan TL and 110kV Tân Hưng substation and connection lines. In addition, 110kV Thu Duc Water Plant substation and UGC Transmission Line subproject will be started).

The status of construction activities for the 6 subprojects and site visit schedules of PIC is presented in Table 4.

Table 4. Status of construction activities for the 4 subprojects and site visit schedules of PIC

No.	Subprojects	Construction starting date	State of construction	Site visit schedule of PIC
1	District 8 220kV substation	August 2016	Continuing from first 6 month 2016	April 2017
2	South Sài Gòn - District 8 220kV transmission line	August 2016	Continuing from first 6 month 2016	April 2017
3	220-110kV Cầu Bông - Bình Tân transmission line	August 2016	Continuing from first 6 month 2016	April 2017
4	110kV Tân Hưng substation and connection line	30-Sep-16	Continuing from first 6 month 2016	April 2017

The PIC Environmental consultant will make a site visit to the construction site of 4 subprojects during April 2017 to monitor the environmental compliance of contractors with mitigation measures specified in the EMP.

2. Compliance with ADB loan covenants and applicable government laws, regulations and requirements

2.1 Status of compliance with ADB loan covenants:

As required, all safeguard environmental schedule stated on Loan Covenant need to strictly complied with, the list of environmental loan covenants and the level of compliance of Loan 3161/8286 is presented in Table 5.

Table 5. Project environment covenants and level of compliance

ADB Environmental loan covenants	Status of compliance
<p><u>Schedule 4, Paragraph 7</u> The Borrower shall ensure that the Executing Agencies do not award any Works contract which involves environmental impacts until: (a) The Ministry (or its Department, as the case may be) of Environment and Natural Resources has issued an environmental certificate approving the IEE relevant to the Subproject; and (b) the Executing Agencies have incorporated the relevant provisions from the EMP into the Works contract related to the Subproject.</p>	<p><u>Complied with</u> Ten (10) EIA for 10 subprojects' (Tham Luong substation; 110kV Underground cable connected to Tham Luong substation; 220 kV District 8 substation; 220kV South Saigon – District 8 transmission line; 220 kV Cau Bong-Binh Tan transmission line, 110 kV Tan Hung and connection line, Phuoc Long SS and connection line, 110kV Thu Duc Water Plant S/S; 220kV Tan Cang S/S; 220kV Cat Lai-Tan Cang power line) have been prepared and approved by Ho Chi Minh city Environment and Natural Resources Department. Six (6) IEEs have been prepared for 8 subprojects, (where 2 IEE addressed 4 subprojects: Tham Luong substation with 110kV Underground cable connected to Tham Luong</p>

ADB Environmental loan covenants	Status of compliance
	<p>substation and 220kV South Saigon – District 8 transmission line with 220 kV District 8 substation) and others are 220 kV Cau Bong-Binh Tan transmission line, 110 kV Tan Hung and connection line, Phuoc Long SS and connection line, 110kV Thu Duc Water Plant S/S; approved by ADB.</p> <p>EMP is one chapter in both Vietnamese EIA and ADB IEE. EMP has been included in bidding documents of all issued civil packages</p>
<p><u>Schedule 4, Paragraph 10</u> The Executing Agencies shall recruit the individual consultants for preparation of safeguard documents, financial and economic analyses, technical specifications, bidding documents and bid evaluation reports in accordance with procedures acceptable to ADB for recruiting individual consultants.</p>	<p><u>Being compliance with</u> HCMC PBMB has recruited national consultant companies to prepare IEE for 9 non-core subprojects including Cau Bong-Binh Tan transmission line and 110kV Tân Hưng substation and connection line subprojects and PIC reviewed and revised before submitting for ADB approved. The bidding documents and bid evaluation reports in accordance with procedures acceptable to ADB for recruiting individual consultants.</p>
<p><u>Schedule 5, Paragraph 3</u> The Borrower shall cause the Executing Agencies to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) the Borrower's applicable laws and regulations relating to environment, health and safety; (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the IEE, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.</p>	<p><u>Being compliance with</u> First semiannually monitoring reports which covers the periods: January-June 2016 has been submitted to ADB for approval and disclosure;</p> <ul style="list-style-type: none"> - Daily monitoring at site is conducted by staff of HCMC PMB (for Tham Luong, District 8 and Tan Hung substations) and construction supervision consultant (for the remained ones) and environmental officer of contractors; - EMP has been included in biding documents of all construction packages. The compliance monitoring system has been taken place at construction sites
<p><u>Schedule 5, Paragraph 8</u> The Borrower shall cause the Executing Agencies to make available necessary budgetary and human resources to fully implement the EMP and the RP.</p>	<p><u>Being compliance with</u></p> <ul style="list-style-type: none"> - As stated in the IEE report, the budget for EMP implementation included mitigation measure implementation and compliance monitoring. The budgets for mitigation measures were included in civil work contracts of ongoing subprojects. The cost for compliance monitoring were also include in the management budget of PMU, and contracts of CSC and PIC
<p><u>Schedule 5, Paragraph 9</u> The Borrower shall cause the Executing Agencies to ensure that all bidding documents and contracts for Works contain provisions that require contractors to: (a) comply with the measures relevant to the contractor set forth in the IEE, the EMP and the RP and any corrective or preventative actions set forth in a Safeguards Monitoring Report; (b) make available a budget for all such environmental and social measures; and (c) provide the Executing Agencies with a written notice of any unanticipated</p>	<p><u>Being compliance with</u> The bidding documents of all civil constructs (Tham Luong substation; 110kV Underground cable connected to Tham Luong substation, 220 kV District 8 substation, 220kV South Saigon – District 8 transmission line;Cau Bong-Binh Tan transmission line and 110kV Tân Hưng substation and connection line) contain provisions that require contractors to comply with mitigation measures stated in IEE and RP; The budget for EMP requirements included in the contracts of relevant stakeholders (as contractor, CSC, PIC).</p>

ADB Environmental loan covenants	Status of compliance
environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, and the RP.	- And unanticipated environmental risks or impacts that arise during construction will be included in SEMR and send to relevant stakeholder for implementing.
<p><u>Schedule 5, Paragraph 10</u> The Borrower shall cause the Executing Agencies to do the following: (a) submit semiannual Safeguards Monitoring Reports to ADB until the Project completion and disclose relevant information from such reports to the affected persons and to ADB website promptly upon submission; (b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP, and the RP, as applicable, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP, and the RP promptly after becoming aware of the breach.</p>	<p><u>To be complied with</u></p> <ul style="list-style-type: none"> - The final SEMR (July. to Dec 2016) will be disclosed in ADB website after cleared by ADB; The important sections of the SEMR like conclusion (problem findings) and recommendation will be translated into Vietnamese and distributed to constructors for implementation of corrective actions and place at construction sites. If affected people interested in, they can read it. - As reported in monitoring reports, there were no unanticipated environmental impacts have been identified; - Semi-annual Environmental Monitoring report is submitted to ADB semiannually starting from the period of Jan-June 2016. - All ongoing civil works on the site are monitored to be complied with requirements set forth in EMP through internal environmental management system - All civil works on the site complied with ADB requirements
<p><u>Schedule 5, Paragraph 26</u> For any Works supported under the Project, the Borrower shall ensure that the Executing Agencies will not issue a notice to proceed with such Works, until it has been confirmed in writing that the related construction site is free and clear from any unexploded ordnance.</p>	<p><u>Complied with</u> The Project Owner sent a letter to the Ho Chi Minh City Military Command to get recommendation for UXO clearance for all subprojects before the construction starts. The Ho Chi Minh City Military Command has recommended conducting UXO clearance for all subprojects that are now under construction. The UXO clearance has been conducted by military unit, that hires by the Project owner, before construction commences.</p>

(Modified from AIDE MEMOIRE- Loan Review Mission 12-16 October 2015)

CSC = Construction Supervision Consultant

2.2 Status of compliance with government environmental requirements

The status of compliance with Government Environmental requirements are presented in Table 6.

Table 6. The Government Environmental requirements and compliance levels

No.	Government Environmental requirements	Compliance levels
	<i>Legal documents on environment protection</i>	
1	Environmental Protection Law No.55/2014/QH13 of the 13 th National Assembly, the 7 th Session, passed on 23 Jun 2014 and put into force from 1 Jan 2015.	<u>Fully complied with</u> All environmental protection requirements are fulfilled, such as

		preparation of EIA report, implementation of mitigation measures.
2	Decree No. 18/2015/ND-CP dated 14 Feb 2015 of the Government on Regulating Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Commitment;	<u>Being compliance with</u> EIAs have been prepared for all subprojects as per regulation stated in the Decree.
3	Decree No.38/2015/ND-CP dated 24 Apr 2015 issued by the GOV on waste and wasted materials management.	<u>Being compliance with</u> Solid waste is properly collected and disposed at Da Phuoc city licenced landfill site by HCMC urban Environmental Company, who signed a disposal contract with contractors
4	Circular No.36/2015/TT-BTNMT dated 30 June 2015 issued by the MONRE regarding the hazardous wastes management.	<u>Being compliance with</u> Hazardous waste is collected and treated separately during construction phase at Da Phuoc landfill site by HCMC urban Environmental Company.
5	Circular No.27/2015/TT-BTNMT dated on 29 May 2015 on strategic environmental assessment, environmental impact assessment, and environmental protection plan.	<u>Being compliance with</u> EIAs have been prepared for all subprojects following the guidance in the Circular and approved by relevant authorities before construction started
	<i>Legal documents on electricity</i>	
1	Decree No.14/2014/ND-CP dated 26 Feb 2014 promulgated by the GOV regarding the detailed regulation on the implementation of the Electricity Law on electric safety, put into force from 15 Apr 2014.	<u>It is complying with</u> All safety regulations on ROW distances, UGC safety regulations etc. are strictly followed.
2	Circular No.31/2014/TT-BCT dated 2 Oct 2014 issued by the Ministry of Industry and Trade (MOIT) regarding the detailed regulation on some contents of electrical safety.	<u>It is complying with</u> The regulated working hours, rest hours, occupational safety and occupational hygiene are relatively followed.
	<i>Other relative legal documents:</i>	
1	Decree No. 45/2013/ND-CP dated 10 May 2013 of the GOV regarding the detailed regulation on some articles of the Labor Code on working hours, rest hours, occupational safety and occupational hygiene.	<u>Needs to be improved</u> All workers must wear working protection facilities and trained on safety regulation at construction site
2	Circular No.22/2010/TT-BXD dated 2 Dec 2010 issued by the Ministry of Construction (MOC) regarding the regulation on labour safety during the project construction process.	<u>Needs to be improved</u> The labour hygienic conditions are relatively followed.
3	Decision No.3733/2002/QD-BYT issued by the Ministry of Health dated 10 Oct 2002 regarding the promulgation of 21 labour hygiene	<u>It is complying with</u> The impact mitigation measures are applied to meet this standard

	standards, 5 principles and 7 labour hygiene measurements.	
	<i>Environmental Standards and Regulations</i>	
1	QCVN 05:2009/BTNMT - National technical regulation on ambient air quality;	<u>It is complying with</u> The impact mitigation measures are applied to meet this standard Water is sprayed when the dust is visible at construction site. All trucks transporting construction material are covered by canvas, ect.
2	QCVN 26:2010/BTNMT - National technical regulation on noise.	<u>It is complying with.</u> The impact mitigation measures are applied to meet this standard Constructor avoids operating machine, equipment creating big noise during rest time of local people.
3	QCVN 08:2008/BTNMT - National technical regulation on surface water quality.	<u>It is complying with.</u> The impact mitigation measures are applied to meet this standard Hazardous waste are gathered at one place and disposed by regulated unit which is Hochiminh Urban Environmental Company
4	QCVN 07:2009/BTNMT - National technical regulation on hazardous waste thresholds.	<u>It is complying with.</u> The impact mitigation measures are applied to meet this standard Hazardous waste are gathered at one place and disposed by regulated unit which is Hochiminh Urban Environmental Company

3. Incorporation of Environmental Requirements into Project Contractual Arrangements

The environmental considerations have been incorporated into the subproject documents such as the EMP/IEE and the bidding and contract (B&C) documents of subprojects (Tham Luong substation; 110kV Underground cable connected to Tham Luong substation; 220 kV District 8 substation, 220kV South Saigon – District 8 transmission line; Cau Bong-Binh Tan transmission line and 110kV Tân Hưng substation and connection line).

In the bidding and contract (B&C) documents, the content of the potential environmental impact and proposed mitigation measures for construction period in the EPM section in the disclosed IEE and the emergency respond plan are included.

4. Summary of Environmental Mitigations and Compensation Measures Implemented

4.1 Monitoring methodology

4.1.2 Monitoring Compliance with EMPs

Monitoring of compliance by the contractors with the EMP is done through site inspection and document review by Technical/ Environmental Officer of EVNHCMC for Tham Luong, District 8

and Tan Hung substations and of Construction Supervision Consultant for Tham Luong UGC transmission line; 220kV South Saigon – District 8 transmission line; Cau Bong-Binh Tan transmission line. Monitoring is aided by the monitoring checklists that were prepared by the contractors based on detail described mitigation measures. The effectiveness of a contractor's environmental management of particular impact item is evaluated subjectively using the following rating criteria:

- 1 Very Good: all required measures are conducted
- 2 Good: main measures are conducted
- 3 Medium: some measures conducted
- 4 Weak: few measures conducted
- 5 Very weak: very few measures conducted

4.1.1 Site visit

The technical/environmental staff of the project owner- and construction supervision consultants (Tham Luong underground cable) visits site daily to inspect both construction progress and implementation of environmental mitigation measures.

The contractor environmental officer works at construction daily to supervise contractor in application of suitable mitigation measures for both ongoing subprojects. The PIC increases her visit to all ongoing construction sites two times per year instead of 1 time per year to 30% of construction site as stated in her TOR. During this report period, PIC conducted site visit of Tham Luong 110kV substation, 110kV Tham Luong Underground cable, South Sài Gòn - District 8 220kV transmission line and 220-110kV Cầu Bông - Bình Tân transmission line on 29 September 2016.

Regarding the supervision/monitoring work, the arrangement is different among subprojects because of the following reasons:

- HCMC PMB has a man power to monitor/supervise the subprojects conducted at daytime and located in the city area, such as subprojects construction of Tham Luong, District 8, Tan Hung, substations.
- For the subprojects needed conducting at nighttime, located far from city area and worked on traffic road like Tham Luong UGC transmission line, South Sai Gon- District 8 and Cau Bong - Binh Tan transmission line outside construction supervision companies with traffic specialization are hired.

4.2 Results of Compliance Monitoring

4.2.1 Establishment of environmental management system and responsibilities of relevant stakeholders

As stated in the approval IEE, the independent environmental monitoring consultant will not be mobilised to conduct environmental monitoring. Thus, the monitoring tasks have been assigned for Construction supervision consultant, Project Management Board of HCMC Power Development Board with supported by PIC which focus on monitoring implementation of environmental protection measures of the construction contractors. The status of internal environmental monitoring system could be summarized in Figure 1.

Regarding the supervision/monitoring work, the arrangement is different among subprojects because of the following reasons: HCMC PMB has a man power to monitor/supervise the subprojects conducted at daytime and located in the city area, such as subprojects construction

of S/Ss Tham Luong, Tan Hung, District 8. Particularly, the technical officers of HCMC PMB will serve as CSCs with both construction supervision and environmental inspection tasks.

Therefore the outside construction supervision companies are not hired for Tham Luong S/S, Tan Hung S/S and District 8 S/S subprojects.

For the subprojects needed to implement at nighttime, located far from city area and worked on traffic road like Tham Luong UGC T/L, South Sai Gon- District 8 T/L and Cau Bong - Binh Tan T/L a outside construction supervision companies are hired.

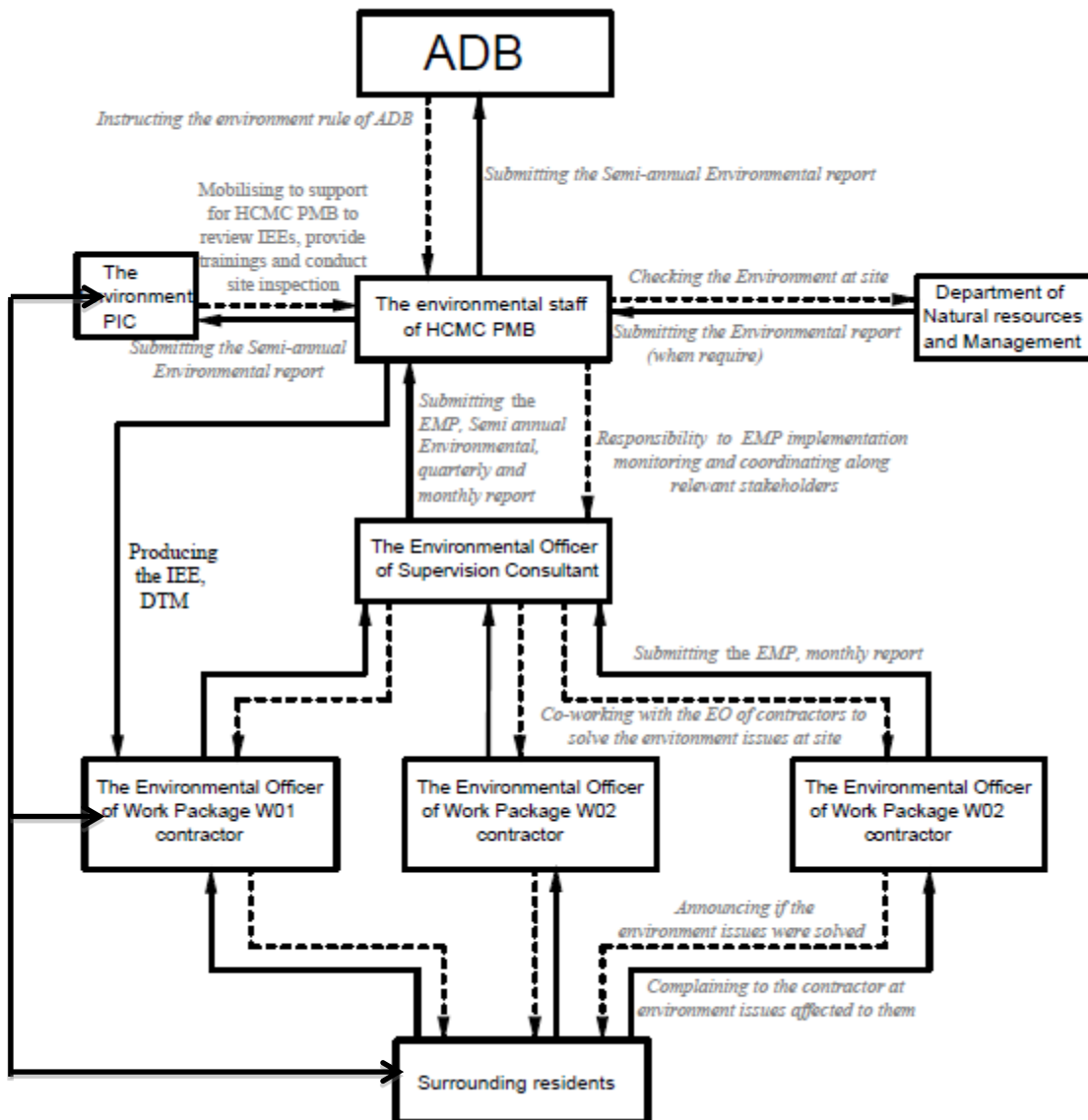


Figure 1: Environmental management system

(Note: WO 1, 2 is a general symbol for working packages of a subprojects)

The detail description of Environmental monitoring responsibilities of each stakeholder is presented in Table 7.

Table 7: Environmental monitoring Stakeholder’s responsibilities

Stakeholder	Responsibilities	Status of compliance
Ho Chi Minh City Project Management Board	<ul style="list-style-type: none"> • Establish an Environment Unit led by an Environmental Staff to implement EMP tasks • Manage, implement and supervise the compliance of the EMP and any conditions for approval, including the supervision of construction and operation of all Board staff and Contractor • Evaluate the performance of EMP and conduct revisions, or suspension of operations in cases of violating the conditions of the EMP, which can cause serious impacts on the local community. However, no case has happend until now. • Ensure the effective communication and dissemination of content and requirements in EMP to the Contractor. • Assist the Contractor in implementing sub-plans • Supervise EMP performance • Report EMP performance to EVN, ADB by semi-annual environmental monitoring report • Prepare summary reports on Project’s environmental activities upon request • Brief the Project’s information in community meetings • Ensure continuing communication with local communities and fulfil commitments to facilitate for community consultations during project life. 	<p>- Yes, HCMC Project Management Board has assigned two responsible staff to be in charge of EMP implementation monitoring and coordinate along relevant stakeholders.</p>
Construction Supervision Consultant	<ul style="list-style-type: none"> • Prepare and implement Environmental Supervision Plan during construction phase. • Prepare and implement Environmental Monitoring Plan during construction phase • Report on any incidents or non-compliances of EMP to DPMB • Ensure adequate onsite training to all staff related to environmental supervision • Provide recommendations on EMP performance to DPMB 	<p>- Yes, construction supervision consultants for 3 ongoing civil work package (Tham Luong UGC, South Sai Gon-District 8 transmission line and Cau Bong-Binh Tan transmission line) assigned consultants to be in charge of EMP compliance monitoring;</p> <p>- HCMC PMB assigned three officers to monitor Tham Luong, District 8 and Tan Hung substations’ subprojects</p> <p>- The supervision activities have been taking place daily at construction site.</p> <p>- The “environmental supervision plan” and “environmental monitoring plan” were prepared and implemented; and the consultants have provided on job training to wokers on the implementation of environmental mitihation measures and health &working safety</p>
Project Implementation	<ul style="list-style-type: none"> • Assist EVN/DPMB for monitoring and evaluation of safeguards compliance 	<p>- Yes, project implementation consultant has been mobilised to</p>

Stakeholder	Responsibilities	Status of compliance
Consultant (PIC)	<ul style="list-style-type: none"> • Maintain close coordination with the safeguard team throughout the project life. • Support HCMC PMB in preparation of IEE for noncore projects and in writing semimanual environmental monitoring report • Work with HCMC PMB to provide training for awareness building on safeguards issues 	support consultant company hired by HCMC PMB in IEE preparation and provide trainings and conduct site inspection
Contractor	<ul style="list-style-type: none"> • Prepare and keep records and necessary data as required in EMP and submit to Supervision Consultant • Ensure that workers are informed of purposes of EMP and aware of necessary measures to implement EMP 	- Yes, 6 contractors of ongoing civil work packages have assigned 6 environmental officers to be in charge of environmental management
Local authority and community	<ul style="list-style-type: none"> • Participate in monitoring EMP implementation 	- Yes

Monitoring system has been established among relevant stakeholders of ongoing subprojects to ensure internal monitoring of EMP compliance; the detail is summarized in Table 8.

Table 8: Established Monitoring system among relevant stakeholders

Environmental officer	Agency
Dao Kim Thuy	HCMC Project Management Board
Nguyen Thi Loan	Project Implementation Consultant
110 kV Tham Luong substation;	
Tran Manh Ha	CSC-HCMC PMB
Mr. Nguyen Duc Lam	Constructor-Joint venture PCCC1-TGE-Hitachi
110 kV underground cable connecting to Tham Luong substation	
Pham Xuan Tam	CSC - Construction supervision Consultant 533 South
Nguyen Ngoc Tung	Constructor-Sai Gon Traffic Construction Joint stock Company
220 KW District 8 Substation	
Truong Tran Quang Vinh	CSC-HCMC Project Management Board
Pham Van Tuan	Constructor-PCC5-HYOSUNG
South Sài Gòn - District 8 220kV transmission line	
Mr. Dang Cong Tuan	CSC-Nam An Company
Mr. Nguyễn Hiếu	Constructor-Joint venture of HCMC Urban Drainage Company and Transportation and Public Works Join stock company
220-110kV Cầu Bông - Bình Tân transmission line	
Nguyễn Hữu Dương	CSC-Joint venture of Nam An construction design consulting join stock company- Construction and consulting join stock company (COFEC)
Lê Hải Nguyên	Constructor-Joint venture of Nhạc Sơn limited company and- Thang Long Technology transfer and investment joint stock company
110kV Tân Hưng substation and connection line	
Nguyen Thanh Tung	CSC-HCMC Project Management Board
Tram Chia Toan	Constructor-Power construction consulting Join stock company (PCC5)

CSC = Construction Supervision Consultant

4.2.2 Status of EMP Compliance

During this report period, 6 construction packages are under construction, from that 2 packages are started in the first 6 months that are:

- Tham Lương 110kV substation
- 110kV Underground cable connected to Tham Luong substation

And 4 construction packages are started in the second 6 months 2016. They are:

- District 8 220kV substation
- South Sài Gòn - District 8 220kV transmission line
- 220-110kV Cầu Bông- Bình Tân transmission line
- 110kV Tân Hưng substation and connection lines

The EMP compliance of the 6 subprojects is taken from monthly reports of contractors and construction supervision officers. The examples of those reports in Vietnamese are attached in Appendix 1. The monitoring results are summarized below (all photos are taken in December 2016):

a. Tham Luong substation

The construction site was found to be generally tidy and organized, safety signal and lighting were enhanced to keep absolute safety during construction period. The workers were using proper protective equipment and were provided with satisfactory facilities. The excavated soil is used to make an access road for transporting electricity equipment to substation. No excavated soil is disposed to the disposal site. Workers do not stay at the worker camp at the construction site, but rent local houses around, so problem in the environmental sanitation caused by worker camps does not occur. Only a few workers stay in construction site for the construction material surveillance, therefore the domestic solid waste generated at construction is small amount. However, this is not collected and gathered at one place properly. The drinking water was provided for the workers at construction sites.

All machines, equipment, and weight load of machine at the construction sites were technically tested and checked as requested by the government regulation. Contractors and subcontractors have complied with requirements on safety and environment protection stated in Environmental Management Plan.

Tham Luong substation has been finished at the end of December 2016. In general the environment rehabilitation process is very good. The access road to the new substation has been repaired, upgraded and cleaned (Photo 1). No remained construction solid waste and unused material at substation area. However, at the back of the substation are still some temporary houses or camp and construction machine that should be uninstalled if they are not used (Photo 2).



Photo 1: The access road to the new substation has been repaired, upgraded and cleaned



Photo 2: A temporary camp should soon be cleared up

b. Tham Luong underground cable

At Tham Luong underground cable transmission line, soil was generated from excavating the underground cable trench activities. However, almost all soil was used to refill the trench, the remained soil is transferred into licenced Da Phuoc land field every night by HCMC Urban Environmental Company, with whom the contractor (Sai Gon Traffic Construction Joint stock Company) has signed a disposal contract on 20 June 2015. The main content of this contract states that HCMC Urban Environmental Company agree to accept a 50,000 m³ of excavated soil, dredging material to be disposed at Da Phuoc land field Binh Chanh District HCM city. The implemented time is from 20 July 2015 to 31 Dec 2016. To reduce the noise generated by project vehicles/trucks transporting the soil during the night, contractors have requested drivers made no horn and during the loading of materials or waste turn off the engine. All drivers follow strictly the regulation. As a result no claim from households living along the construction has been occurred.

Incident: No Incident occurred for the two subprojects during the monitoring period (July – December 2016)

Tham Luong underground cable has been finished at the end of December 2016. The underground cable has been connected to over head transmission line (**Photo 3**). In general the environment rehabilitation process is very good. The excavated roads for installation of underground cable has been newly built, upgraded rehabilitated (**Photo 4**). No remained construction solid waste and unsued material along the underground cable transmission line.

			
<p>Photo 3: The underground cable has been connected to over head transmission line</p>		<p>Photo 4: The excavated roads for installation of underground cable have been newly built.</p>	
			
<p>Photo 5: The excavated roads for installation of underground cable has been upgrated</p>		<p>Photo 6: The excavated roads for installation of underground cable has been rehabilitated</p>	

c. District 8 220kV substation

The subproject has placed board with subproject information and contacted telephone number. The workers were using proper protective equipment and were provided with satisfactory facilities (**Photo 7**). Operation of construction machinery and equipment obeys regulation and it works in closed area of the substation (**Photo 8**), so that the impact of noise and dust is negligible.

Garbage is collected at front of the station and at the station gate. Particularly, waste in the construction process is managed as follows: Construction waste will be gathered in a designated area and will be disposed weekly; Domestic solid waste is collected in dust bins. Then they are disposed at regulated disposal site, which is Da Phuoc landfill by HCMC urban environment Company. Wastewater is treated by septic tank. Workers are provided with clean water. Hygienic toilet is installed at construction site.

Safety and fire protection: The contractor has installed fire extinguishers in camp area and the construction site.



d. South Sài Gòn - District 8 220kV transmission line

The subproject has placed board with subproject information and contacted telephone number. The workers were using proper protective equipment and were provided with satisfactory facilities. Since the cable trench is excavated along much clouded street, contractor is permitted to work at night time from 10 pm to 5 am to avoid traffic obstruct (Photo 9, Photo 10). Soil was generated from excavating the underground cable trench activities. However, almost all soil was used to refill the trench, the remained soil is transferred into licenced Da Phuoc land field every night by HCMC Urban Environmental Company. To reduce the noise generated by project vehicles/trucks transporting the soil during the night, contractors have requested drivers made no horn and during the loading of materials or waste turn off the engine. All drivers follow strictly the regulation. As a result no claim from households living along the construction has been occurred.



e. 220-110kV Cầu Bông- Bình Tân transmission line

The subproject has placed board with subproject information and contacted telephone number (Photo 11). The workers were using proper protective equipment and were provided with satisfactory facilities. Construction activities are conducted in insite a fenced area (Photo 12).

Operation of Construction machinery and equipment obeys regulation to minimize noise. Excavated material is disposal at regulated/assigned places. Construction materials are not stored at construction site but transported to the site only the needed amount to use immediately. Flag-man is arranged to manage traffic routes.

Regarding the waste treatment and hygienic issues: A sediment hole for wastewater treatment is constructed; Garbage is disposed at regulated disposal site, which is Da Phuoc landfill by HCMC urban environment Company; Workers are provided with clean water. Hygienic toilet is installed at Construction site

Regarding social issues: Contractor has registered workers a temporary residence in the ward People's Committee, educated workers to avoid/prevent social disease and social evils.

	
<p>Photo 11: The subproject has placed board with subproject information and contacted telephone number</p>	<p>Photo 12: Construction activities are conducted inside a fenced area</p>

f. 110kV Tân Hưng substation and connection lines

The subproject has placed board with subproject information and contacted telephone number. The workers were using proper protective equipment and were provided with satisfactory facilities (**Photo 13**). Operation of Construction machinery and equipment obeys regulation to minimize noise and dust. The construction materials are stored or made at separated place in the substation area (**Photo 14**).

Regarding the waste treatment and hygienic issues, garbage is collected at front of the station and at the station gate. Particularly, waste in the construction process is managed as follows: Construction waste will be gathered in a designated area and will be disposed weekly; Domestic solid waste is collected in dust bins. Then they are disposed at regulated disposal site, which is Da Phuoc landfill by HCMC urban environment Company. Wastewater is treated by septic tank.

Workers are provided with clean water. Hygienic toilet is installed at construction site.

Safety and fire protection: The contractor has installed fire extinguishers in camp area and the construction site



Photo 13: The workers were using proper protective equipment and were provided with satisfactory facilities



Photo 14: The construction materials are stored or made at separated place in the substation area

4.2.3 Findings during PIC monitoring trip

On 29 September 2016, PIC visited the above 4 subprojects. At that time 2 other subprojects have not been started yet. The findings for each subproject could be listed as the below (all photos have been taken in September 2016):

a. Tham Luong substation

The Good Points

- Both Contractor and supervision consultant have offices in the construction site. Thus, PIC consultant could check the documents such as a list of officers in charge of the environment; Environmental management plans of contractors, where include: the environmental impact and mitigation measure of construction activities, working safety regulation, waste management plan etc. The report on occupational safety training for workers; Temporary residence registration certificate, temporary absence of local workers etc. The daily records and monthly reports on the environment. Those documents are available and fully compliance with government regulation
- The phone numbers of the units involved construction has been added on the subproject information Board for people to contact if there are complaints (after comments by PIC during the previous monitoring) (**Photo 15**)
- Construction materials are gathered in the construction site, which would not cause dust and impede traffics
- All workers are using personal protective equipment while working
- Workers are trained in occupational safety.
- Temporary toilet is installed for workers at construction site (**Photo 16**)
- Workers have access to clean water testing water quality at the site
- Workers do not stay at the worker camp at the construction site, but rent local houses around so there is no problem in the environmental sanitation caused by worker camps
- No complaints from surrounding residents about the environmental problems caused by the project



Photo 15: Subproject information board has additional phone numbers of contractors and construction supervision unit



Photo 16: Temporary toilet is installed for workers at construction site

The Points need to be overcome

- Construction and domestic solid waste should be collected into dust bin or gathered in one point, not to dispose directly into the surrounding area (**Photo 17, Photo 18**).
- The excavated soil pile should be covered by plastic cloth if it does not be used shortly to prevent dust generation (**Photo 19**),
- A emergency first aid box should be sufficient with medicines but not only cotton (**Photo 20**)
- The list of training participant should be recorded after each training course
- Construction diary should include also the section on environmental safety and environmental hygiene



Photo 17: Construction solid waste is not gathered properly



Photo 18: Domestic solid waste is not gathered properly



Photo 19: Uncovered excavated soil pile



Photo 20: Emergency first aid box has only cotton

b. Tham Luong underground cable

The Good Points

- The subproject information board is with full information including phone number of contractors and (**Photo 21**) construction supervision consultants so that local people can call if they have any complain.
- Underground cable trench is dug beneath the road, close to the edge of the sidewalk.
- Construction time is from 10 p.m. until 5 am. During the day, the iron plate fence was surrounding the construction site (**Photo 22**) until next night to avoid accidents of transporting people.
- Each time, the cutted/ excavated road section is 60 m. The time to complete a distance of 60 m is about 1 week. After completion of the road to be paved, cleared for normal traffic (**Photo 23**)



Photo 21: Suproject information board with full information



Photo 22: Iron plate fence around the construction area during day time



Photo 23: Road is rehabilitated to the original condition after construction finished

The Points need to be overcome

It needs to clean up soil on the road because soil is still spreaded over outside the fence, can drift down the drainage system when it rains.

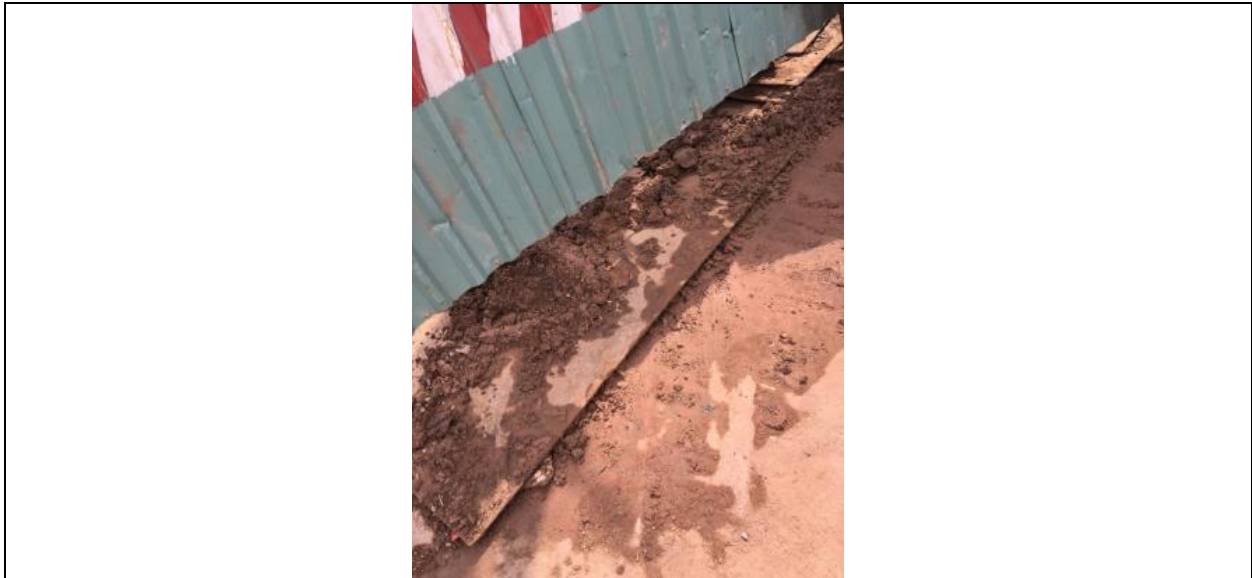


Photo 24: Soil is not cleaned on the road

c. 220KV South Sai Gon-District 8 underground cable

The Good Points

- The subproject information board is with full information including phone number of contractors and construction supervision consultants so that local people can call if they have any complain (**Photo 25**).
- Underground cable trench is dug beneath the road, close to the edge of the sidewalk.

- Construction time is from 10 p.m. until 5 am. During the day, the iron plate fence is surrounding the construction site (**Photo 26**) until next night to avoid accidents of transporting people.
- Every night, the cutted/ excavated road section is 12 m. The time to complete one section is about 4-5 nights. After completion of the road to be paved, cleared for normal traffic.
- Construction progress of the contractors made under license from Transport Department (have done 50%). The construction plan is 3 months. Workforce is 30 people.



Photo 25: The subproject information board is with full information





Photo 26: the iron plate fence is surrounding the construction site

The Points need to be overcome

- At the construction site, many road sections are not still completely finished (**Photo 27**).
- Some road sections where commercial shops face at, have not to be recovered yet as the original condition (**Photo 28**).
- At one place, fences are not fit making large crevice (**Photo 29**), kids can squeeze into while inside the fence is deep pit (**Photo 30**) which likely to cause accidents to young children.
- There is a big soil pile without cover, which occurs in front of some houses (**Photo 31**)



<p>Photo 27: A road sections is not still completely finished</p>	<p>Photo 28: A road section where commercial shops face at have yet not to be recovered as the original condition</p>
	
<p>Photo 29: Fences are not fit making large crevice</p>	<p>Photo 30: deep pit is inside the fence</p>
	
<p>Photo 31: A big soil pile without cover, which occurs in front of several houses</p>	

d. 220KV Cầu Bông-Bình Tân transmission line

The Good Points

- The subproject information board is with full information including phone number of contractors and construction supervision consultants so that local people can call if they have any complain (**Photo 32**).
- At the time of monitoring (September 2016), the construction activity of Cau Bong-Binh Tan transmission line did not start yet. Construction materials were gathered tidy at the site (**Photo 33**). Workers prepared the materials in the fenced construction area (**Photo 34**) so that it would not create noise, duct affecting surrounding local people.



Photo 32: The subproject information board is with full information



Photo 33: Construction materials were gathered tidy at the site



Photo 34: Workers prepared the materials in the fenced construction area

The Points need to be overcome

The construction workers did not wear working protection equipment while working (**Photo 35**)

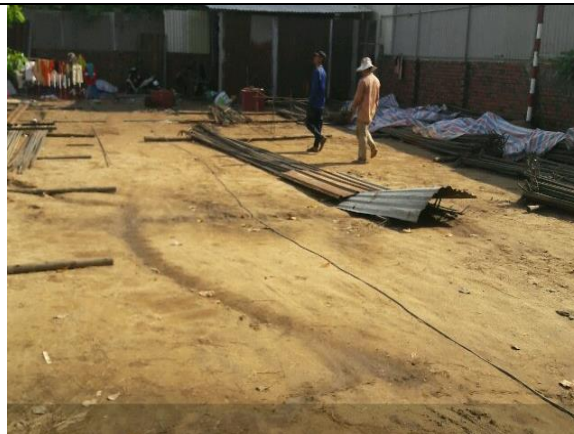


Photo 35: The construction workers did not wear working protection equipment

The monitoring reports of contractors

Contractors write weekly reports submitted to the HCMC PMB. Reports include: the number of workers at the week; Environmental safety; construction progress of the project; Accumulated

construction volume and quality management. The report also includes illustrations of construction activities.

Although these are construction progress reports but the environment issue has also been monitored. But the contractors need reporting more detailed on the mitigation measures adopted to minimize the environmental impact, such as smoke, dust, noise, safety, community health etc.

EMP compliance requirements are summarized in Table 9.

Table 9. EMP Compliance Status of Ongoing Civil Work Package

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
Establishment of contractor's facilities (offices, concrete batching areas etc).	3: Medium - Sites are located inside the subproject area so that they do not interfere with the welfare or social cohesion of surrounding communities. - Workers do not stay either cook at the construction site, wastewater is not generated - <u>No sanitary toilet for workers at construction site</u> - Contractor's storage facilities have been surrounded by a security fence.	1: Very Good - Sites are surrounded by a security fence so that they do not interfere with the welfare or social cohesion of surrounding communities - Contractor's storage facilities have been stored tightly at regulated area. - No wastewater occurred because workers stayed in rented house - Workers use public toilet nearby construction site	1: Very Good - Sites are located inside the subproject area so that they do not interfere with the welfare or social cohesion of surrounding communities. - Workers do not stay either cook at the construction site, wastewater is not generated - Sanitary toilet is placed at construction site - Contractor's storage facilities have been surrounded by a security fence.	1: Very Good - Sites are surrounded by a security fence so that they do not interfere with the welfare or social cohesion of surrounding communities. - Contractor's storage facilities have been stored tightly at regulated area. - Workers use public toilet nearby construction site	3: Medium - Sites are surrounded by a security fence so that they do not interfere with the welfare or social cohesion of surrounding communities. - Contractor's storage facilities have been stored tightly at regulated area. - <u>No sanitary toilet for workers at construction site</u> - Construction wastewater is in small amount and it has been settled in sedimentation hole before discharging to the surrounding rice field	1: Very Good - Sites are located inside the subproject area so that they do not interfere with the welfare or social cohesion of surrounding communities. - Workers do not stay either cook at the construction site, wastewater is not generated - Sanitary toilet is placed at construction site - Contractor's storage facilities have been surrounded by a security fence.
Demarcation and clearing of RoW and ancillary facilities	1: Very Good - Construction site is on empty area, which is well demarcated.	1: Very Good - Construction site is on traffic road, which is well demarcated by iron plate fence.	1: Very Good - The construction site is well demarcated by existing wall.	1: Very Good - Construction site is on traffic road, which is well demarcated by iron plate fence.	1: Very Good - Construction site is on traffic road, which is well demarcated by iron plate fence.	1: Very Good - The construction site is well demarcated by existing wall.

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
	- The subproject site is at grass field. No clearance of vegetation and other facilities is needed.	- No clearance of vegetation and other facilities is needed.	- No clearance of vegetation and other facilities is needed.	- No clearance of vegetation and other facilities is needed.	- No clearance of vegetation and other facilities is needed.	- No clearance of vegetation and other facilities is needed.
Preparation of site: excavation, removal and disposal of unusable materials	1: Very Good - The vegetation clearance is taken only at excavated area. - Excavated material is used to make an access road. No soil amount needs to be disposed	1: Very Good - The road cutting is implemented only at excavated area. Excavated material is used to refill the cable trench. No soil amount needs to be disposed	1: Very Good - The road cutting is implemented only at excavated area. Excavated material is used to refill the substation base. No soil amount needs to be disposed	1: Very Good - The road cutting is implemented only at excavated area. Excavated material is used to refill the cable trench. No soil amount needs to be disposed	1: Very Good - The vegetation clearance is taken only at excavated area. - Excavated material is used to refill the tower foundation. No soil amount needs to be disposed	1: Very Good - The vegetation clearance is taken only at excavated area. - Excavated material is used to refill the substation base. No soil amount needs to be disposed
Dust management	3: Medium - The contractor has applied dust control measures: covered truck transporting construction material; covered construction material piles etc. - <u>The excavated soil pile is not covered by plastic cloth</u>	1: Very Good - The contractor has applied dust control measures: covered truck transporting construction material; covered construction material and piles etc.	1: Very Good - The contractor has applied dust control measures: covered truck transporting construction material; covered construction material piles etc.	3: Medium - The contractor has applied dust control measures: covered truck transporting construction material; covered construction material and piles etc. - <u>There is a big soil pile without cover, which occurs in front of some houses.</u>	4 Weak - <u>The contractor has not properly applied dust control measures: not covered construction material and piles etc.</u>	1: Very Good - The contractor has applied dust control measures: covered truck transporting construction material; covered construction material piles etc.
Noise and vibration	1: Very Good - The work generating big	1: Very Good - The work generating big	1: Very Good - The work generating big	1: Very Good - The work generating big	1: Very Good - The work generating big	1: Very Good - The work generating big

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
	noise is implemented at daylight hours only.	noise like road surface cutting is implemented right after permitted time by HCMC transportation Department (at 9 P.M). - The duration of the road surface cutting lasts only half or one hour.	noise is implemented at daylight hours only.	noise like road surface cutting is implemented right after permitted time by HCMC transportation Department (at 9 P.M) - The duration of the road surface cutting lasts only half or one hour.	noise like road surface cutting is implemented right after permitted time by HCMC transportation Department (at 9 P.M) - The duration of the road surface cutting lasts only half or one hour.	noise is implemented at daylight hours only.
Waste water from construction site	1: Very Good - No wastewater generated at the construction site. - Oil and fuel from machinery was collected and disposed to a regulated site.	1. Very Good - No wastewater generated at the construction site. - Oil and fuel from machinery was collected and disposed to a regulated site.	1: Very Good - No wastewater generated at the construction site - Oil and fuel from machinery was collected and disposed to a regulated site.	1: Very Good - No wastewater generated at the construction site - Oil and fuel from machinery was collected and disposed to a regulated site.	1: Very Good - No wastewater generated at the construction site - Oil and fuel from machinery was collected and disposed to a regulated site.	1: Very Good - No wastewater generated at the construction site - Oil and fuel from machinery was collected and disposed to a regulated site.
Disposal of site waste	5: Very weak - <u>Solid waste has been gathered on a ground of construction site.</u> - <u>No garbage bin is placed at site.</u>	3: Medium - All waste materials were collected and disposed to Da Phuoc landfill - <u>Soil spreads over outside of the fence.</u>	1: Very Good - All waste materials were collected and disposed to Da Phuoc landfill.	5: Very weak - <u>Soil scattered over the excavated road</u>	1: Very Good - All waste materials were collected and disposed to an approved landfill site	1: Very Good All waste materials were collected and disposed to an approved landfill site;
Storage and handling of: fuel and lubricants	1: Very Good - A fuel storage located next to the contractor office were securely fenced and	3: Medium - A fuel storage located next to the contractor office were securely fenced and	1: Very Good - All waste oil and oil filters was collected and if possible recycled, otherwise	3:Medium - A fuel storage located next to the contractor office were securely fenced and	3: Medium - A fuel storage located next to the contractor office were securely fenced and	1: Very Good - All waste oil and oil filters was collected and if possible recycled, otherwise

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
	provided with oil and water separators. - All waste oil and oil filters was collected and if possible recycled, otherwise to be disposed of to landfills	provided with oil and water separators. - <u>Fuel hoses and shut off valve were locked.</u>	to be disposed of to landfills - The contractor has trained refueling personnel in these procedures.	provided with oil and water separators. - <u>Fuel hoses and shut off valve were locked.</u> - <u>Oil spreads over outside of the fence</u>	provided with oil and water separators. - <u>Fuel hoses and shut off valve were locked.</u> - All waste oil and oil filters was collected and if possible recycled, otherwise to be disposed of to landfills	to be disposed of to landfills
Community Safety from increased vehicle movements	1: Very Good - All vehicles were properly maintained in good condition as they have passed technical registration and operated in accordance with transportation laws. - All loads were properly secured and the loads are covered by canvas to prevent dust and falling down.	1: Very Good - All vehicles were properly maintained in good condition as they have passed technical registration and operated in accordance with transportation laws. - All loads were properly secured and the loads are covered by canvas to prevent dust and falling down.	1: Very Good - All vehicles were properly maintained in good condition as they have passed technical registration and operated in accordance with transportation laws. - All loads were properly secured and the loads are covered by canvas to prevent dust and falling down.	1: Very Good - All vehicles were properly maintained in good condition as they have passed technical registration and operated in accordance with transportation laws. - All loads were properly secured and the loads are covered by canvas to prevent dust and falling down.	1: Very Good - All vehicles were properly maintained in good condition as they have passed technical registration and operated in accordance with transportation laws. - All loads were properly secured and the loads are covered by canvas to prevent dust and falling down.	1: Very Good - All vehicles were properly maintained in good condition as they have passed technical registration and operated in accordance with transportation laws. - All loads were properly secured and the loads are covered by canvas to prevent dust and falling down.
Workplace health and safety	3: Medium - Erect warning signs and barriers around work areas - Control noise and dust at construction	1: Very Good - Erect warning signs and barriers around work areas - Control noise and dust at construction	1: Very Good - Erect warning signs and barriers around work areas - Control noise and dust at construction	2: Good - Erect warning signs and barriers around work areas - Control noise and dust at construction	3: Medium - Erect warning signs and barriers around work areas - Control noise and dust at construction	1: Very Good - Erect warning signs and barriers around work areas - Control noise and dust at construction

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
	<p>site provided all workers with safety equipment</p> <ul style="list-style-type: none"> - The workers are supplied on-site with: Potable water,. - <u>Emergency first aid kit is insufficient.</u> 	<p>site provided all workers with safety equipment</p> <ul style="list-style-type: none"> - The workers are supplied on-site with: Potable water, 	<p>site provided all workers with safety equipment</p> <ul style="list-style-type: none"> - The workers are supplied on-site with: Potable water. 	<p>site provided all workers with safety equipment</p> <ul style="list-style-type: none"> - The workers are supplied on-site with: Potable water. - <u>At one location the iron fences are not fit making large crevice</u> 	<p>site provided all workers with safety equipment</p> <ul style="list-style-type: none"> - The workers are supplied on-site with: Potable water, - <u>The construction workers did not wear working protection equipment while working</u> 	<p>site provided all workers with safety equipment</p> <ul style="list-style-type: none"> - The workers are supplied on-site with: Potable water
Public access to site	<p>1: Very Good</p> <ul style="list-style-type: none"> - Warning signs and barriers around work areas were erected. - Site could only be accessed with companion of responsible person from supervision consultant or contractor. - Visitors were warned against site hazards to avoid possible accident 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Warning signs and barriers around work areas were erected. - Visitors were warned against site hazards to avoid possible accident 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Warning signs and barriers around work areas were erected. - Site could only be accessed with companion of responsible person from supervision consultant or contractor. - Visitors were warned against site hazards to avoid possible accident 	<p>3: Medium</p> <ul style="list-style-type: none"> - Warning signs and barriers around work areas were erected. However <u>the iron plates were not properly placed. Children could access the site.</u> - Visitors were warned against site hazards to avoid possible accident 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Warning signs and barriers around work areas were erected. - Visitors were warned against site hazards to avoid possible accident 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Warning signs and barriers around work areas were erected. - Site could only be accessed with companion of responsible person from supervision consultant or contractor. - Visitors were warned against site hazards to avoid possible accident
Worker health and safety	<p>3: Medium</p> <ul style="list-style-type: none"> - Workers are aware on the social problems. and measures of preventing HIV/AIDS through 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Workers are aware on the social problems. and measures of preventing HIV/AIDS through 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Workers are aware on the social problems. and measures of preventing HIV/AIDS through 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Workers are aware on the social problems. and measures of preventing HIV/AIDS through 	<p>3: Medium</p> <ul style="list-style-type: none"> - Workers are aware on the social problems. and measures of preventing HIV/AIDS through 	<p>1: Very Good</p> <ul style="list-style-type: none"> - Workers are aware on the social problems. and measures of preventing HIV/AIDS through

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
	<p>mass media and training of contractor;</p> <ul style="list-style-type: none"> - Workers are provided, safe water and hygienic bathing and cooking; - Workers have been equipped with labor protecting equipment and wear them during working time. - <u>Health box is in place at construction site but First aid facilities and medicines are not adequate for workers.</u> 	<p>mass media and training of contractor;</p> <ul style="list-style-type: none"> - Workers are provided, safe water and hygienic bathing and cooking; - Workers have been equipped with labor protecting equipment and wear them during working time. - First aid, medicines are available at site for workers. 	<p>mass media and training of contractor;</p> <ul style="list-style-type: none"> - Workers are provided, safe water and hygienic bathing and cooking; - Workers have been equipped with labor protecting equipment and wear them during working time. - First aid, medicines are available at site for workers. 	<p>mass media and training of contractor;</p> <ul style="list-style-type: none"> - Workers are provided, safe water and hygienic bathing and cooking; - Workers have been equipped with labor protecting equipment and wear them during working time. - First aid, medicines are available at site for workers. 	<p>mass media and training of contractor;</p> <ul style="list-style-type: none"> - Workers are provided, safe water and hygienic bathing and cooking; - <u>Workers have not weared protecting equipment during working time.</u> - First aid, medicines are available at site for workers. 	<p>mass media and training of contractor;</p> <ul style="list-style-type: none"> - Workers are provided, safe water and hygienic bathing and cooking; - Workers have been equipped with labor protecting equipment and wear them during working time. - First aid, medicines are available at site for workers.
Rehabilitation of the project site	<p>5: Very weak</p> <ul style="list-style-type: none"> - <u>Temporary workers camp is not uninstalled at the back of the substation.</u> 	<p>1: Very Good</p> <p>The road is rehabilitated properly after excavation</p>	Not finised yet	<p>5: Very weak</p> <p><u>Road is not rehabilitated after construction work at many locations.</u></p>	Not finised yet	Not finised yet
Record of environmental monitoring	<p>3: Medium</p> <ul style="list-style-type: none"> - The list of training participant is not recorded - Construction diary include the section on environmental 	<p>3: Medium</p> <p>Construction diary include the section on environmental safety and environmental hygiene but no detail</p>	<p>3: Medium</p> <p>Construction diary include the section on environmental safety and environmental hygiene but no detail</p>	<p>3: Medium</p> <p>Construction diary include the section on environmental safety and environmental hygiene but no detail</p>	<p>3: Medium</p> <p>Construction diary include the section on environmental safety and environmental hygiene but no detail</p>	<p>3: Medium</p> <p>Construction diary include the section on environmental safety and environmental hygiene but no detail</p>

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

EMP Requirement	Compliance Attained					
	Tham Luong substation	Tham Luong underground cable	220 kV District 8 substation	South Saigon-District 8 TL	Cau Bong-Binh Tan TL	Tan Hung substation and connection line
	safety and environmental hygiene but no detail description of the environmental mitigation measures' implementation	<u>description of the environmental mitigation measures' implementation</u>	<u>description of the environmental mitigation measures' implementation</u>	<u>description of the environmental mitigation measures' implementation</u>	<u>description of the environmental mitigation measures' implementation</u>	<u>description of the environmental mitigation measures' implementation</u>

1-Very Good: all required measures are conducted, 2-Good: main measures are conducted, 3-Medium: some measures conducted, 4-Weak: few measures conducted, 5-Very weak: very few measures conducted

4.2.4 Capacity building or training activities

The PIC has organized a training workshop to environmental staff of Ho Chi Minh city Project Management Board (HCMCPMB), Construction Supervision Consultant (CSC), and contractor on 26 September 2016 at Room 311 35 Tôn Đức Thắng Road - Green Power Building, Phường Bến Nghé Ward, District 1 TP. HCM on environmental requirement of ADB, GOV as well as provides report forms and guidance to prepare environmental monitoring reports.

The contents of training workshop included:

- Introduction of policies, laws and regulations of the government environmental policy in Vietnam and ADB environmental safety
- Preparation of IEE and EIA reports as stipulated by ADB and Vietnam
- Preparation of environmental reports to be included in the bidding documents
- Preparation of site environmental management plans of contractors
- Improving the skills of environmental monitoring for environment supervisors of contractors and DPMB
- Agreement on-site inspection, monthly and quarterly reporting forms for contractors (in Vietnamese) and semi-annual report (in English) for the project management unit

Total 30 people participated in the workshop. The list of participants is at Appendix 2.

- HCMC PMU: 17 people (including the EVNHCMC leaders, International Department officer, environmental officers, supervisors)
 - + The consulting supervision Company: 3 people
 - + IEE preparation Consulting company: 6 person (PECC 2- 1 person; PECC 3- 3 persons, PECC 4- 2 persons)
 - + Construction Contractors: 4 people

Female: 7 people (23%); Men 23 people (77%)

The training methodology included: PowerPoint presentation of instructor; discussion, group working and presentation.

The participants were divided into 4 groups to prepare and present exercises on topics directly related to their duties. 4 exercises specifically for the 4 groups were:

1. Preparation of environmental management plans in IEE: Consultant preparing IEE Group
2. Contents of the environment included in the tender documents: The staff of the Project Management Unit
3. Identification of environmental issues to be monitored at the construction site: Construction supervision consultant Group
4. Filling environmental report of the contractor: environmental officers of contractors

After each group presented the results of group work, the trainer asked other groups to comment and ask questions comments. Then instructor raised issues, mistakes need to be modified, so that the presented group can understand more and do their homework better.

Trainer also provide forms of monthly, quarterly and half-year reports and guide the report preparation to PMB staff, construction supervision consultants, contractors.

During the training course, participants have the spirit, attitude and sense of serious learning, participate in the discussion lively, study actively to acquire knowledge and skills necessary to their work duties.

5. Key Environmental Issues

5.1 Key Issues Identified

Since the duration of subprojects is short (7-9 months) and no sensitive natural environment at surrounding area, the environmental monitoring was based on observation of environmental quality (dust) and records (accident, complaints) until December 2016. No sampling for environmental monitoring analysis was taken for this semianual period, although it is required under the national regulation and subproject IEE. Environmental effect monitoring in line with the national regulation and the monitoring plan in each subproject IEE will be conducted from 2017. The result of operation phase monitoring of subprojects which came into operation (such as (a) 110 kV Tham Luong substation and (b) 110 kV underground transmission line to Tham Luong substation) will also be included in the monitoring report after 2017.

The main points of environmental performance monitoring for the six subprojects are summarized as follows:

1. The establishment of contractor's facilities (offices, demarcation of construction site, clearing of RoW and ancillary) is Very Good (No. 1) in 4 subprojects except Tham Luong substation and Cau Bong-Binh Tan TL where no sanitary toilet for workers at construction site, which is assessed Medium (No. 3)
2. Demarcation and clearing of RoW and ancillary facilities is assessed Very Good (No. 1) in all subproject because almost all construction site is well demarcated by existing wall or iron place fence
3. Preparation of site: soil excavation, removal and disposal of unusable materials follow the regulation. Mitigation measures are applied to potential environmental impact. No disposal area is needed for excavated soil because it is used for road making, ground base and cable trench refilling. All 6 subprojects are assessed Very Good (No. 1)
4. Dust management is assessed Very Good (No. 1) for 3 subprojects (Tham Luong UGC, District 8 SS, Cau Bong-Binh Tan TL and Tan Hung SS) and Medium (No. 3) for Tham Luong substation and Weak (No. 4) for South Sai Gon-District 8 TL) because the uncovered soil pile, construction material are potential sources of dust
5. Noise and vibration impacts are managed within permission limits. All 6 subprojects are assessed Very Good (No. 1)
6. No Waste water from construction site hence no treatment is needed. All 6 subprojects are assessed Very Good (No. 1)
7. Disposal of site waste is Very Good (No. 1) for 3 subprojects (District 8 SS, Cau Bong-Binh Tan TL and Tan Hung SS), and Medium (No. 3) for Tham Luong substation, and Very Weak (No. 5) for Tham Luong UGC, and South Sai Gon-District 8 TL because garbage bin is not placed at site, soil spreads over outside of the fence and over the excavated road
8. Storage and handling of: fuel and lubricants is strictly followed the regulation for hazardous waste in 3 subprojects (Tham Luong substation, District 8 SS, Tan Hung SS) Very Good (No. 1). Three other subprojects are assessed Medium (No. 3) where Oil spreads over outside of the fence
9. Community Safety from increased vehicle movements has been highly ensured. Because constructors strictly follow transportation laws and all loads were properly secured. All 6 subprojects are assessed Very Good (No. 1)
10. Workplace health and safety are Very Good (No. 1) in 3 subprojects (Tham Luong UGC, District 8 SS, and Tan Hung SS. Mean while, this is only Good (No. 2) for Sai Gon-District

8 TL and Medium (No. 3) for the Tham Luong SS, South and Cau Bong-Binh Tan TL because: A emergency first aid kit is insufficient; At one location the iron fences are not fit making large crevice; and the construction workers did not wear working protection equipment while working, respectively.

11. Public access to site: is ensured well in 5 subprojects Very Good (No. 1). Only at South Sai Gon-District 8 TL subproject the iron plates were not properly placed, Children could access the site Medium (No. 3).
12. Worker health and safety. Worker health and safety are Very Good (No. 1) in 4 subprojects (Tham Luong UGC, District 8 SS, South Sai Gon-District 8 TL and Tan Hung SS. Mean while, this is only Medium (No. 3) for the Tham Luong SS, South and Cau Bong-Binh Tan TL because: Health box is in place at construction site but First aid facilities and medicines are not adequate for workers; and Workers have not weared protecting equipment during working time, respectively
13. Rehabilitation of the project site: at this semianual period 2 subprojects are completed: (i) Tham Luong SS: the rehabilitation acivity is asseed to be Very weak (No. 5) because temporary workers camp is not uninstalled at the back of the substation; (ii) At the Tham Luong UGC, the road is rehabilitated properly after exacavation. It is assessed to be Very Good (No.1). Regarding rehabilitation of each completed road section at South Sai Gon-District 8 TL, it has not been properly implemented. Several roads sections are not rehabilitated after construction work,It is asseed to be Very weak (No. 5). Other three subprojects are not finnised yet.
14. Record of environmental monitoring. The record of environmental monitoring of all 6 subprojects are assessed to be Medium (No. 3) because thought construction diary includes the section on environmental safety and environmental hygiene but no detail description of the environmental mitigation measureses' implementation

5.2 Issues from previous report(s).

The issues from previous report and their solutions are presented in Table 10.

Table 10. The issues from previous report and their solutions

Issues	Location	Targets/Solutions	Issue Closed (date)
Obstacles (i.e permit to work at night for each road section) in the implementation process of Tham Luong underground cable that cause delay in the construction process	Tham Luong underground cable subproject	EVNHCMC has speeded up the arrangement process in order to obtain all necessary documents and solve all technical problems for continuing construction of Tham Luong underground cable transmission line.	June 2016 (The subproject has received a permit on june and the subproject have been completed on June 2017)
The Construction Supervision Consultant has submitted monthly technical report, which includes the	Tham Luong substation, subproject Tham Luong	The CSC has submitted monthly environmental monitoring report to	December 2016. The CSC reports submitted in December 2016

Issues	Location	Targets/Solutions	Issue Closed (date)
environmental protection and environmental safety without detail description of environmental issues and corresponding mitigation measures.	underground cable subproject,	EVNHCMC with detail description of environmental issues and corresponding mitigation measures.	have included the detail description of environmental issues and corresponding mitigation measures. (see appendix 1)
The subproject information board has not included the phone number of the units involved or the hotline telephone number for people to contact if there are complaints	Tham Luong substation construction site	The phone number of the units involved or the hotline telephone number for people to contact if there are complaints has been added to the subproject information board	July 2016 (see photo 15)
No garbage collection bins and mobile toilets for workers at construction site of Tham Luong substation subproject	Tham Luong substation construction site	Garbage collection bins and mobile toilets for workers has been placed at construction site of Tham Luong substation subproject	May 2016 See photo 16 for toilet instalation
Environmental effect monitoring	All substations	Environmental effect monitoring should be implemented for first semianual period 2017 (Jan-June/2017)	June 2017

CSC = Construction Supervision Consultant

5.3 Issues from the previous ADB mission

During the site visits conducted during ADB's loan review mission in November 2016, some environmental issues were identified. To address them, the Mission requested EVN HCMC to; (i) prepare a plan of environmental monitoring and workers' awareness-raising; (ii) visit the project sites more frequently to monitor and ensure the implementation of EMP, and (ii) remind the contractors/workers of the EMP requirement regularly.

In response to the request, EVN HCMC (i) has sent the monthly environmental monitoring form to all constructors and requested them to submit to CSC and through CSC to EVN HCMC every month; (ii) requested CSC to supervise constructor and raise awareness in EMP implementation; (ii) has assigned one environmental officer to be responsible for each subproject (This officer has to visit the construction site every week to monitor and ensure the implementation of EMP); and (iii) requested constructors to prepare the report on EMP implementation where the workers' health and safety is also included, then submit to EVN HCMC every month.

6. Complaints

No complaints regarding environmental issue

7. Conclusion and Recommendation

7.1 Overall Progress of Implementation of Environmental Management Measures²

The overall progress of Implementation of Environmental Management Measures can be evaluated as Fair (ranking 3). All necessary documents required by ADB as well as by Vietnamese Government have been obtained by Ho Chi Minh Power Management Board

- Tham Luong substation and Tham Luong underground cable transmission line Subproject in general has no serious environmental problems during construction, such as dust, noise and emissions. These two subprojects have been completed in December 2016. The environmental rehabilitation is good. Construction waste and unused materials are cleaned/ removed away. Damaged/excavated roads are repaired and rehabilitated. The contractor has complied and implemented the environmental mitigation measures.
 - 220 kV District 8 Substation and Tan Hung substation and connection line subprojects: Construction activities are confined in the fenced area. Thus the environmental impacts are negligible. The contractor has complied and implemented the environmental mitigation measures.
 - South Sai Gon-District 8 transmission line: has not properly cleaned, restored the excavated road sections properly. The community safety issues are still in place.
 - Cau Bong-Binh Tan transmission line: needs to apply more strictly with worker safety issues
- During this semimanual period, there are no complaints from residents around the project area on the environmental issues of the project.

7.2 Problems Identified and Actions Recommended

7.2.1 Problems Identified

Tham Luong substation: Construction and domestic solid waste should be collected into dust bin or gathered in one point, not to dispose directly into the surrounding area. The excavated soil pile should be covered by plastic cloth if it does not be used shortly to prevent dust generation; An emergency first aid box should be sufficient with medicines but not only cotton; Rehabilitation after construction is not proper: Some temporary camps and construction machines are still at the substation area when construction has been finished.

Tham Luong underground cable: soil is still spread over outside the fence, can drift down the drainage system when it rains.

220KV South Sai Gon-District 8 underground cable: At the construction site, many road sections are not still completely finished. At one place, fences are not fit making large crevice kids can squeeze into while inside the fence is deep pit which likely to cause accidents to young children. There is a big soil pile without cover, which occurs in front of some houses.

² Overall sector environmental management progress could be described in qualitative terms or be evaluated based on a ranking system, such as the following:

1. Very Good
2. Good
3. Fair
4. Poor
5. Very Poor

Additional explanatory comments should be provided as necessary.

220KV Cầu Bông-Bình Tân transmission line: The construction workers did not wear working protection equipment while working.

Almost all environmental requirement documents are available in 6 subprojects. However the Construction Supervision Consultant's technical report, which includes the environmental protection and environmental safety is still very short and general.

7.2.2 Actions Recommended

Tham Luong substation:

- Construction and domestic solid waste should be collected into dust bin or gathered in one point, not to dispose directly into the surrounding area
- The excavated soil pile should be covered by plastic cloth if it does not be used shortly to prevent dust generation
- A emergency first aid box should be sufficient with medicines but not only cotton
- The list of training participant should be recorded after each training course
- Construction diary should include also the section on environmental safety and environmental hygiene
- Contractors should dismantle/transport away temporary camps and construction machine, if they are not in use

Tham Luong underground cable: It needs to clean up soil on the road because soil is still spreaded over outside the fence, can drift down the drainage system when it rains.

220KV South Sai Gon-District 8 underground cable: Contractors should rehabilitate road sections after cable installation properly right after construction finished; Contractors should fence properly the dug road section to prevent accidents to small children; Contractors should cover soil pile or place iron plates around it to prevent dust impacting nearby houses

220KV Cầu Bông-Bình Tân transmission line: Contractors should provide protective facilities to workes and urge workers to wear them.

The Construction Supervision Consultant's technical report should includes the the implementation of environmental mitigation measures as stated in EMP of IEE

The issues identified during this reporting period and actions required are presented in Table 11.

Those environmental isseues were informing constructors immediately during compliance monitoring visit of CSC and PIC. At the same time, the deadline for corrective actions has also set. Since CSC and assigned officer of EVN HCMC have visted the subproject site frequently every week, they supervised/requested the constuctors to implement corrective action on time.

Table 11. Identified Issue and action required

Subproject	Issues	Targets/Solutions	Proposed Issue Closed date
Tham Luong substation	Construction and domestic solid waste is improperly disposed at surrounding area of construction area	Place dust bin at construction area or gathered in one point	October 2016
	The excavated soil pile may generate dust	The excavated soil pile should be covered by plastic cloth if it does not be used shortly to prevent dust generation	October 2016
	A emergency first aid box contains only cotton;	A emergency first aid box should be sufficient with medicines	October 2016
	Environmental Monitoring Record is not sufficient	- The list of training participant should be recorded after each training course - Construction diary should include also the section on environmental safety and environmental hygiene	December 2016
	Some temporary camps and construction machines are still at the substation area when construction has been finished.	Contractors should dismantle/transport away temporary camps and construction machine, if they are not in use	February 2017
Tham Luong underground cable T/L	Soil is still spreaded over outside the fence, can drift down the drainage system when it rains.	It needs to clean up soil on the road over outside the fence to avoid dust and drifting down the drainage system when it rains.	October 2016
220KV South Sai Gon-District 8 underground cable	At the construction site, many road sections are not still completely rehabilitated.	Contractors should rehabilitate road sections after cable installation properly right after construction finished	December 2016
	Soil scattered over the excavated road	Soil scattered over the excavated road should be cleaned	October 2016
	Oil spreads over outside of the fence	Oil spreads over outside of the fence should be cleaned up	October 2016
	At one place, fences are not fit making large crevice, kids can squeeze into while inside the fence is deep pit which likely to cause accidents to young children	Constructor should fence the iron places properly to avoid creating crevice at position connecting two iron places	October 2016
	There is a big soil pile without cover, which occurs in front of some houses	Contractors should fence properly the dug road section to prevent accidents to small children.	October 2016
	The construction workers did not wear working protection equipment while working	Contractors should provide protective facilities to workers and urge workers to wear them.	October 2016
220KV Cầu Bông-Bình Tân T/L	The contractor has not properly applied dust control measures: not covered construction material and piles etc.	The contractor should properly apply dust control measures, cover construction material and piles with plastic cloth or canvas to prevent dust generation	October 2016
	The Construction Supervision Consultant's technical report, which includes the environmental protection and environmental safety, is still very short and general.	The Construction Supervision Consultant's technical report should include the implementation of environmental mitigation measures as stated in EMP of IEE	January 2017

Subproject	Issues	Targets/Solutions	Proposed Issue Closed date
Environmental effect monitoring	All substations	Environmental effect monitoring should be implemented for first semianual period 2017 (Jan-June/2017)	June 2017

Appendix 1: ENVIRONMENTAL MONITORING REPORT

1. ENVIRONMENT COMPLIANCE INSPECTION

1.1 Environment compliance at construction site

Table 1 Environment compliance at construction site

<i>Summary of environmental negative impact stated in EMP</i>	<i>The impacted/impacting location</i>	<i>The actually implemented Mitigation measures</i>	<i>Recommendation</i>
Construction site			
There are project information, safety sign boards?	National Road 1A, Binh Tân	Installed project information board and safety warning sign	
Noise	Noise level is insignificant Construction site at National Road 1A, Binh Tân	Utilized the optimum noise reduction machinery	
Pollution of surface water quality	No wastewater- National Road 1A, Binh Tân	No water surface pollution	
Construction Solid waste	Small amount of solid waste National Road 1A, Binh Tân	Transporting excavated materials to the designated place	
Store / dispose of hazardous waste	Small amount of solid waste-small impact	Transporting excavated materials to the designated place	
Material gathering	No impact National Road 1A, Binh Tân	No material collection at the site	
Erosion, landslides	No Erosion, landslides National Road 1A, Binh Tân	Larsen piles the pit.	
Occupational safety on construction sites	National Road 1A, Binh Tân	Fully equipped with labor protection	
Affect traffic (traffic disruption, damaged roads, ...)	National Road 1A, Binh Tân	Arranged the traffic flow	
Worker camps			
Wastewater pretreatment	National Road 1A, Binh Tân	Construction of waste water treatment hole	
Disposal of domestic waste at designated places	National Road 1A, Binh Tân	Dispose of garbage in the proper place of the urban environment	
Having clean water supply?	National Road 1A, Binh Tân	Registration for installing clean water system	
Are there hygienic toilets?	National Road 1A, Binh Tân	Construction and installation of toilets to ensure hygiene	
Social Issues			
Register temporary residence for workers	National Road 1A, Binh Tân	Registration of temporary stay at Ward People's Committee	
Are workers trained on prevention of social diseases	National Road 1A, Binh Tân	Training on prevention of social maltreatment	
Conflict resolution (if any) between the workers and the local population	National Road 1A, Binh Tân	Good lifestyle education for workers.	

SUMMARY OF KEY ENVIRONMENTAL ISSUES NEED TO BE SOLVED

The summary of the key environmental issues indentified during this monitoring mission and the mitigation measures to be implemented are presented in Table 2

Bảng 2: The key environmental issues and the required mitigation measures

TT	key environmental issues	Mitigation measures should be implemented	Implemented Organizations / units
1	Dropping materials during construction	Cleaning spilled construction materials continuously to ensure hygiene	
2			

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The Joint venture of Nhac Sơn limited company and- Thang Long Technology transfer and investment joint stock Company have generally complied with environmental sanitation and labor safety during construction of "ADB-EVNHCMC-CBBT-W1 EXCAVATING AND REINSTALLING UNDERGROUND CABLE SUBPROJECT 220-110 KV CAU BONG-BINH TAN "

Appendix 2: List of participants attending Environmental capacity building workshop

TỔNG CÔNG TY
ĐIỆN LỰC TP HỒ CHÍ MINH
BAN QUẢN LÝ DỰ ÁN LƯỚI ĐIỆN
THÀNH PHỐ HỒ CHÍ MINH

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Quận 1, ngày 26 tháng 09 năm 2016

DANH SÁCH THÀNH VIÊN THAM DỰ TẬP HUẤN

- **Nội dung:** Tham dự chương trình Tập huấn đào tạo nâng cao năng lực thực hiện công tác về Môi trường và Tái định cư trong quá trình thực hiện các tiểu dự án vay vốn Ngân hàng Phát triển Châu Á (ADB).
- **Thời gian:** Vào lúc 08 giờ 00 phút ngày 26 tháng 09 năm 2016.
- **Địa điểm:** Phòng 311 số 35 Tôn Đức Thắng, Phường Bến Nghé, Quận 1, TP.HCM – Tòa nhà Green Power.

Stt	Họ và tên	Chức vụ	Đơn vị	Ký tên
1	Nguyễn Đăng Việt Cường	phó giám đốc	Ban ADB	
2	Nguyễn Thu Loan		Tư vấn PIC	
3	Nguyễn Bích Tâm	Chuyên Viên	Ban CHCT	
4	Phạm Anh Sỹ	PTP	Ban QLDA LĐ TP	
5	Phan Quốc Thành	CBKT	Ban QLDA	
6	Trần Mạnh Hùng	KT	KT	
7	Trần Minh Sơn	CBKT	KT	
8	Hồ Văn Minh	CV	KT	
9	Trần Thanh Nam	PTP		
10	Đỗ Thị Kim Loan	CV		
11	Nguyễn Thị Trường Hải	CV		
12	Trần Minh Sơn	CV		
13	Trần Chí Lan Chi	CV		
14	Trần Hoàng Dũng	P.TP	Ban QLDA LĐ	
15	Đường Thị Thủy	R. XA - R. KSA	Tư vấn đơn 4	

16	Nguyễn Lê Minh Giang	TVXD-Diện 2		Trần
17	Bà Chi Lâm Đào	Ban ALD		Uuu
18	Nguyễn Xuân Lương	CTY TNHH ĐỒ THỦY TIỀN HCM		Nguyễn
19	Nguyễn Thái Vũ	TVXD-Diện 3		Đ
20	Nguyễn Thành Phước	TVXD-Diện 3		#
21	Tạ Hoàng Vũ	Ban ALA		VĐ
22	Đoàn Tập Phước	Ban ALA		Lập
23	Đào Thị Kim Thủy	CV	Ban ALA	Thủy
24	Trần Thái Sơn	TVĐ 3		Th
25	Đàm Huy Hoàng	TVGS Nam An - Cofec		Hoàng
26	Trần Ngọc Tuấn	TV 4		Trần
27	Nguyễn Trí Thích	PCC 1		Th
28	Vũ Đức Hiền	CT TNHH HƯNG PHÁT		Nguyễn
29	Nguyễn Ngọc Túy	Giáo trình Sài Gòn		Nguyễn
30	Trần Hiền	CTY Cổ Phần TVXD 533 Phường		Trần
31	Kim Đức Mạnh	CTY TNHH TVXD NAM AN - Cofec		Mạnh