Environmental Monitoring Report

2nd Quarterly Report
September 2016

VIE: Power Transmission Investment Program - Tranche 2

Prepared by Central Power Project Management Board and Southern Power Project Management Board for National Power Transmission Corporation and the Asian Development Bank.

MFF POWER TRANSMISSION INVESTMENT PROGRAM
TRANCHE 2 QUARTERLY PROGRESS REPORT

ENVIRONMENTAL MONITORING REPORT
SECOND QUARTER 2016

COVERING THE FOLLOWING SUBPROJECTS:

- **Subproject No. 01:220Kv Cau Bong – Hoc Mon –Binh Tan TL**
- **Subproject No.02:220kv Cau Bong – DucHoaTL**
- **Subproject No.03:500kv Pleiku- My Phuoc- Cau Bong TL**

Date: September 2016

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ABBREVIATIONS

ADB	Asian Development Bank
B&C documents	Bidding and Contract documents
CEMP	Contractor Environmental Management Plan
DCSCC	Cu Chi district compensation and site clearance committee
EA	Executive Agency
EMoP	Environmental Monitoring Plan
EMP	Environmental Management Plan
EO of NPT	Environmental Officer of NPT
EPC	Environmental Protection Commitment
EVN	Electricity Viet Nam
GoV	Government of Vietnam
HCMC	Ho Chi Minh City
IA	Implementing Agency
IEC	Electricity Installation & Construction Joint Stock Company
IEE	Initial Environmental Examination
IES	International Environment Specialist
MEF	Multi-Tranche Financing Facility
N/A	Not applicable
NPT	National Power Transmission Corporation
PAP	Project Affected People
PCC1	Power Construction Company No 1
PECC2	Power Engineering Consulting Joint Stock Company 2
PPE	Personal protection equipment
PTC4	Power transmission Company 4
PTIP	Power Transmission Investment Project
REA	Rapid Environmental Assessment Checklist
RoW	Right-of-Way
SPMB	Southern Power Project Management Board
SPMB EO	Environmental officers of SPMB
SPMB SE	Supervision Engineers of SPMB
T/L	Transmission line
VNECO	Viet Nam Electric Company
PPC	Province People Committee
CPC	Commune People Committee

1. INTRODUCTION

1.1. MFF Power Transmission Investment Program

Electricity Viet Nam (EVN) is developing transmission networks and substations in Viet Nam to support economic growth and ensure access to a reliable supply of electricity throughout the country. The Government of the Socialist Republic of Viet Nam hopes to connect 90% of the population to electricity by 2020, and provide 100% coverage by 2025. The Master Plan for Power Development of Viet Nam No. VI includes a program for development of transmission lines and substations, provision of meters, and rehabilitation of urban and rural low voltage distribution networks.

The Asian Development Bank (ADB) is co-financing the Power Transmission Investment Program (PTIP) through a Multi-Tranche Financing Facility (MFF). The PTIP will enhance the capacity of the transmission network to balance power loads in northern, central, and southern Viet Nam. It will i) expand the electricity transmission infrastructure by constructing and upgrading 500 kilovolt (kV) and 220 kV transmission lines (TLs) and associated substations; ii) improve the operational effectiveness and efficiency of the NPT; and iii) support the implementation of the investment program. The expected total number of MFF tranches is 4.

The NPT is the PTIP Executing Agency (EA). The Northern Power Project Management Board (NPMB) is the Implementing Agency (IA) for the subprojects in northern Viet Nam; the Central Power Project Management Board (CPMB) is the IA for the subproject in central Viet Nam; and the Southern Power Project Management Board (SPMB) is the IA for subprojects in southern Viet Nam.

1.2. Tranche 02 Overview

Tranche 02 consists of three subprojects as follows:

a) 220Kv Cau Bong – DucHoa transmission line
b) 220Kv Cau Bong – Hoc Mon- Binh Tan transmission line
c) 500kV Pleiku – My Phuoc – Cau Bong transmission line.

2. ENVIRONMENT SAFEGUARD REQUIREMENT

2.1. Environmental Assessment Process

Based on the ADB's Safeguard Policy Statement 2009 (SPS), the project has been categorized as a Category B project and so an IEE and EMP was prepared and approved in 2012. The IEE has been prepared based on information gathered in the EIA that was approved in 2011 by MONRE and combined with information from field verification inspections and additional consultations to ensure that all potential environmental issues of the project are assessed thoroughly.

Based on the approved IEE and EMP, each contractor had to prepare a Contractor's EMP (CEMP) which incorporates the relevant provisions from the EMP into each work package. The

EMP also proposed appropriate mitigation measures, assigned responsibility for relevant agencies, set up the monitoring and supervision tools to ensure the effectiveness of the EMP.

The idenitified environmental issues in the EMP include natural environmental and social issues. These issues must be monitored in the three phases of the subprojects, i.e., pre-construction, construction and operation. At the same time, the appropriate mitigation measures were proposed in order to mitigate impacts to acceptable levels.

Environmental impacts and proposed mitigation measures during the operation phase are the following:

Main environmental impacts include: Unsafe operation of the TL and unsafe development within the RoW. Some specific impacts may have at this phase are electric and magnetic fields exposure, noise nuisance to life of the people; electrocution incidents, soil erosion at tower bases and the surrounding environment, fire risk due to improper handling of trees and twigs generated within and near the RoW.

Proposed mitigation measures: Vegetation is cut and controlled to safe operating limits; Use hand labour in clearing vegetation; For the 500kV Pleiku – My Phuoc – Cau Bong transmission line, all buildings are kept out of 32 m RoW and all buildings outside 16m RoW width from centreline to 72 m are earthed. For the 220kV Cau Bong – DucHoa and 220kV Cau Bong – Hoc Mon – Binh Tan transmission lines, all buildings with tin roofs that are located within 22m wide ROW, i.e. 11m from either side of the centerline and 11m to 36m from the center line, must be earthed.

The EMP also assigned responsibilities for relevant agencies in implementing the mitigation measures, supervision, management and reporting (including frequency and means of verification). The relevant agencies are: contractors, PMU (CPMB), NPT, and PTC3, PTC4. For effective implementation of the EMP, a capacity building program for NPT, CPMB andPTC3,4 and possibly for contractors of the project has been proposed and the budget for EMP implementation was also estimated in the EMP.

During the EMP preparation, public consultation meetings were organized at the affected communes, forest companies and forest management boards in order to seek for the feedbacks from local people about any negative environmental impacts as well as inform local people about the impacts of the project.

2.2. Environmental Monitoring and Reporting Requirements

2.2.1 Environmental monitoring

Pre-construction

During pre-construction, the SPMB EO will monitor the tasks identified within the EMPs. During construction, monitoring of construction activities is carried out to ensure that

construction work complies with the requirements of the EMPs. Monitoring responsibilities are arranged as follows:

Construction

The contractor has the initial responsibility for monitoring compliance with the IEEs as reflected in the Contractors Environmental Management Plan (CEMPs). The responsibility for undertaking this is identical and similar to the contractor's responsibilities for monitoring the civil construction works.

PMBs Supervising Engineer (SE) is responsible for monitoring the contractor's compliance with the CEMPs. The SE will be assisted in this role by the PMBs Environmental Officer (EO). In the initial stage of the project, the PMBs EO is assisted by the National EO and as required by the International Environmental Specialist (IES).

The PMBs EO also monitors the work but has more of an auditing role. The PMBs EO can issue Defect Notices for non-compliant work and depending on the seriousness of the work may instruct the contractor that this is to be completed by a certain date. The Defect Notice is given to the SE who directs the contractor to undertake the work as shown in the Defect Notice. If the work is not completed by the due date, then the SE can arrange for the work to be completed by another contractor and the cost deducted from the contract plus 10% as a management charge.

The NPT EO may audit the EMPs as required and together with the IES provide assistance to the PMBs EO for monitoring the EMPs.

Operation

During operation monitoring will be undertaken by the PMBs EO on behalf of PTC.

2.2.2. Reporting Requirements

Monthly

Contractor's report to SPMB on compliance with the EMPs: The contractor will be responsible for preparing this report that establishes how the EMP is being implemented, problems and alterations that may have been made to the CEMP to address these issues. Attachments to the contractor's report include: the Control Record and the Record of Accidents.

Quarterly report

From PMBs to ADB concerning monitoring compliance with the EMPs: The EO will prepare the report and include sections in the report on monitoring work undertaken by the PMBs EO and how the EMPs are being addressed by the contractor. This includes sections on progress with the work and implementation of the EMPs, problems encountered, and issuing of Defect Notices.

3. SUBPROJECT OF 220KV CAU BONG- HOC MON – BINH TAN TL

3.1. Brief description

The transmission line that is 15.94 km long with six circuits composed of 4x 220 kV circuits and 2 x 110 kV circuits which will be supported on tall steel tower made from prefabricated galvanized steel. A total of 59 galvanized steel lattice towers will be required which will include both tension towers and suspension towers. Suspension towers will be located on straight sections while tension towers are located on all angles and these will be constructed either as single or as double body towers. A 22m wide right of way (RoW) i.e. 11m from either side of the centerline will be provided as well as an earth grounding zone for any buildings that are situated from 11m to 36m from the centre line.

The project consists of three sections totaling 15.94km. All will be contained within a 22m RoW:

- A first section (7.15km) will be new construction. This includes the sections from DD2 to G2.5, carried within a 22m wide RoW. This section consists of (i) a 4 circuit, 220kV line with (ii) 2 , 110kVtransmissionline. All circuits originate from the Cau Bong substation. All circuits will be carried on one tower.
- A second section (7.64 km) will be an upgrade of the existing 2 circuit, 110kV transmission line. The upgrade will be carried out in the same RoW which will be 22m wide. The upgrade commences at G2.5 and terminates at G2 just outside the 220/110kV Hoc Mon substation. The new transmission system will be a six-circuit combined 220/110 kV system containing 4 new 220kV circuits and 2 existing 110kV circuits. All circuits will be carried on one tower.
- Substation connections (1.15km) include: 314m and 619m to connect the 220Kv and 100Kv transmission lines respectively to the Cau Bong substation; and 219 m to connect from G2 to the 220/110Kv Hoc Mon substation.

3.2. Subproject locations

The route starts from Cau Bong 500kV substation located in Tan Phu Trung commune, then goes through Tan Thanh Dong, Binh My communes of Cu Chi district, Dong Thanh, Thoi Tam Thon of Hoc Mon district and Tan Thoi Hiep commune and ends at Hoc Mon 220kV substation in Tan Chanh Hiep commune of district 12, Ho Chi Minh City. A general layout is presented in Figure 3-1 and Table 3-1.

Table 3-1:The positions of 220KvCau Bong – Hoc Mon- Binh Tan TL

No	Starting ÷ ending points	Province/ city	District	Commune/ Ward	Length (m)
1	DD2-G2.1A	HCMC	Cu Chi	Tan PhuTrung	464

No	Starting ÷ ending points	Province/ city	District	Commune/ Ward	Length (m)
2	G2.1A-G2.1			Tan Thanh Dong	1,456
3	G2.1-G2.2				2,549
4	G2.2-G2.3				1,330
5	G2.3-G2.4			Binh My	1,077
6	G2.4-G2.5				271
I	Total of new construction line				7,147
7	G2.5-G2.6	HCMC	Hoc Mon	Dong Thanh	515
8	G2.6-G2.7				826
9	G2.7-G2.8			Thoi Tam Thon	559
10	G2.8-G2.9				781
11	G2.9-G2.10				870
12	G2.10-G2.11	HCMC	12	Tan ChanhHiep	791
13	G2.11-G2.12				707
14	G2.12-G2.13				567
15	G2.13-G2.14				748
16	G2.14-G2.15				819
17	G2.15-G2.16			Tan ThoiHiep	150
18	G2.16-ĐC2				308
II	Upgrading line				7,641
	Total of new construction and upgrading line				14,788
1	Connect to Cau Bong 220kV	HCMC	Cu Chi	Tan PhuTrung	314
2	Connect to Cau Bong 110kV				619
3	Hoc Mon 110/220 kV		District 12	Tan ThoiHiep	219
III	Total of connection to substations				1,152
IV. TotalI, II, III		1	3	6	15,940

(Source: Feasibility report PECC-2, 2012)

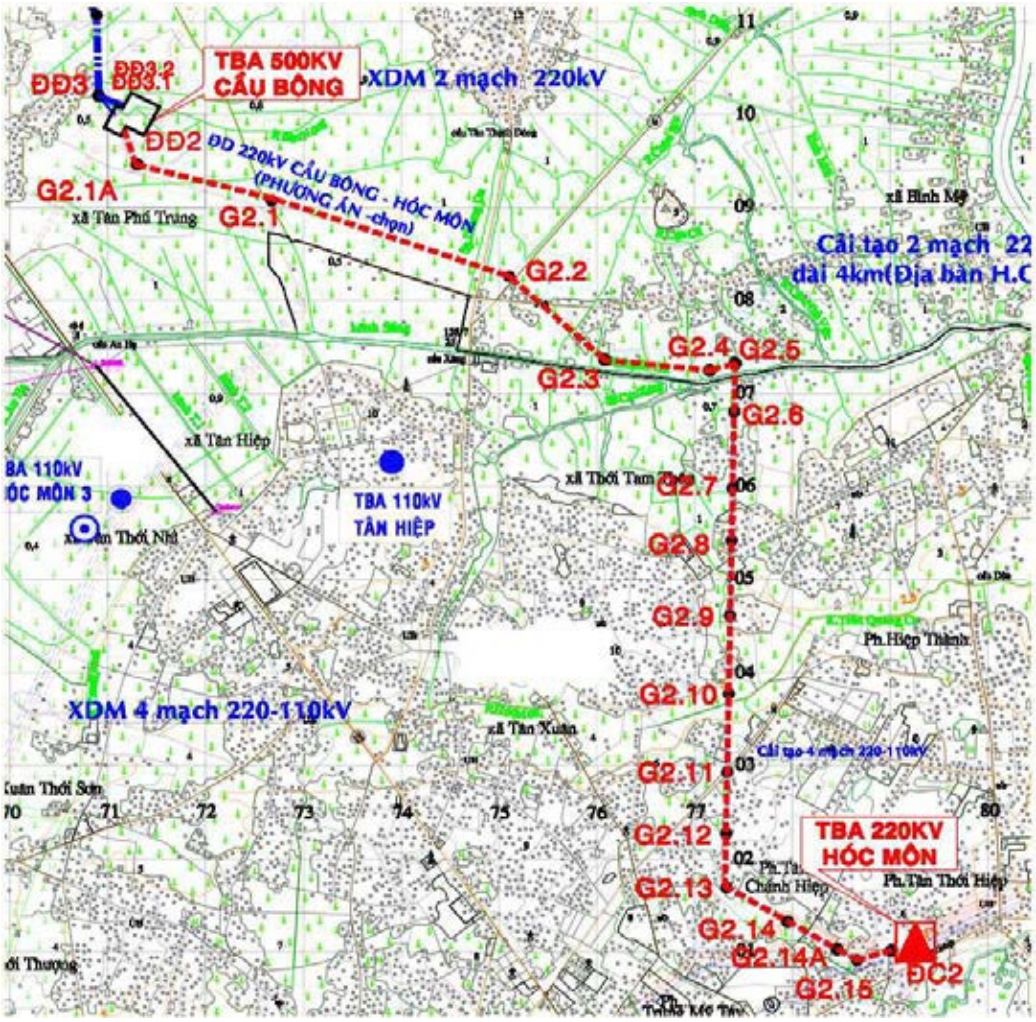

Figure 3-1: Layout of220KvCau Bong – Hoc Mon - BinhTanTL

3.3. Environmental Monitoring and Reporting Requirements

According to Annex 2 of Individual consultant service contract No 01/2014/SPMB-TVCN dated 23 May 2014. The environmental monitoring and reporting requirements for both subprojects are as follows:

3.3.1 Environmental safeguard policies compliance monitoring

The following are the responsibilities of the environmental specialist (consultant):

- Ensure that the EMPs are included in the civil work contracts.
- Ensure that all regulatory clearances are obtained before starting civil works for the subprojects.
- Coordinate closely with the contractors, SPMB, and NPT and ensure that the EMPs including all proposed mitigation measures and monitoring programs are properly implemented.

- Monitor environmental safeguard policy compliance of subprojects during implementation including pre-construction and construction phase.
- Identify, monitor and report on issues related to environmental compliance and coordinate immediate actions to resolve these issues by preparing and implementing corrective actions plans.
- Assist in the preparation of quarterly internal monitoring reports to be submitted to NPT and forwarded to ADB. The reports will describe in detail the findings, including (a) progress of EMP and EMoP implementation, including any deviations from the provisions in the EMP and EMoP; (b) identification of issues and recommended solutions for improvement and resolving issues; (c) reporting on progress of resolving issues and problems identified in previous reports; (d) reporting on good practices.
- Assist in the preparation of a detailed environmental safeguard completion monitoring report within 6 months of completion of each subproject.

3.3.2 Guidance and Advisory Services

- Identify and resolve environmental issues including complaints through the Grievance Redress Mechanism.
- Provide guidance and advice on environmental safeguard compliance issues to SPMB, NPT, and ADB.
- Advice on improvements for environmental safeguard compliance.

3.3.3 Capacity Building Services

- Develop and conduct a training program on environmental management, occupational health and safety, community health and safety awareness in coordination for the contractors and the staff of SPMB and NPT.
- Share information on best international environmentally sustainable construction practices.
- Ensure ongoing learning and development on environmental compliance, management and health and safety practices for the staff of SPMB and NPT.
- Supervise the performance of assigned staff on environmental management and provide clear guidance and direction in strengthening the performance.

Report requirements

- Detailed work and action plan describing the work program within the first week of commencement of the assignment. The work and action plan will need to be shared and agreed on by SPMB and ADB.
- During each work period, a monthly summary report describing the activities undertaken during the period. The summary report will need to be submitted to SPMB and ADB.

- At the end of each work period, a summary report describing the activities undertaken during the period including an updated work plan for the next assignment period. The summary report will need to be submitted to SPMB and ADB.
- Within 06 months of completion of each subproject a detailed environmental safeguard completion report will need to be prepared and submitted,

3.4. Subproject Construction Status / Operation Status

The subproject work started on June 10, 2014 and was expected to be finished in September 2015. However, the work progress has not met the expectation due to delays in providing compensation to the affected households, such that the construction sites were not available to be handed over in time to the contractors, and most construction activities at the sites in the fourth quarter were cancelled.

In quarter 1st of 2016, the activities of compensation and assistance to the PAPs have been implemented. The PAPs have agreed for the contractors to construct the remaining towers. Contractor PCC1 is responsible for constructing towers 45 and 46, while contractor VNECO was dismantling the existing towers and constructing the new towers No. 40, 42 and 44.

In 2nd quarter 2016, contractor PCC1 excavated the foundations and erected the tower 47 located in Tan Chanh Hiep ward, and constructed the foundations of towers and erected towers of 52, 53, and 55 that are located in Tan Thoi Hiep ward, District 12, TPHCM. About 462m wire was dragged from tower No. 53 to the 220Kv Hoc Mon substation. Contractor VNECO continued completing the foundations and erecting the tower No.35 located in Dong Thanh commune, Hoc Mon district and constructing the towers No. 40, 41 and 42 that are situated in Thoi Tam Thon commune, Hoc Mon district. About 1.8km wire was dragged from tower 17 – 29 while the remaining 1.3km wire from tower 29 to 37 was not finished. As of 31 July 2016, the work progress of subproject achieved about 90% of the plan and the subproject was expected to be put into system operation in September 2016.

3.5. EMP compliance

3.5.1 Monitoring activities

The monitoring activities undertaken by the individual consultant in the 2nd quarter of 2016 were conducted from 25 - 30 May 2016 and 25 - 30 July 2016. The monitoring activities were focused on the EMP compliance at the sites, the community's health and safety, the environmental rehabilitation, the corrective action plan of contractors at sites and any complaints of the communities at the following locations:

a) Towers No. 40, 41 and 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC;
b) Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC

c) Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC.
d) Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM.

The results are summarized in Table 3-2.

Table 3-2: Monitoring activities in the 1st quarter of 2016

Potential Environmental Impact	Parameter	Locations	Observations
Establishment of contractor's facilities (camps, offices, quarries, concrete batching areas etc).	Sites are located so that they do not interfere with the welfare or social cohesion of surrounding communities; Site is limited to reduce unnecessary clearing of vegetation. Sanitary soakage effluent areas from offices and camps will be treated. No discharge of grey water or sewage allowed to surface water systems. Workshops to be provided with oil and water separators. Fuel storage areas not to be located within 20m of watercourse. Contractor's storage facilities may need to be surrounded by a security fence. Concrete batching areas to be provided with bunds to control movement of runoff to waterways.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	Workers stayed at local houses so all liquid and solid wastes were removed and treated by local services. No grey water was found to be discharged into water body; Contractors did not store fuel and repair machines at sites and did not batch much concrete at sites; Because the sites located near residential areas, machine operators were aware of the site boundaries and all nearby trees were protected and cut off trees were provided to communities for use as fuel.
Demarcation and clearing of RoW and ancillary facilities	Define the 22m RoW width. Identify tree to be removed within the RoW and arrange to get approval for removal.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC;	The access road to the house of Mr. Ky that was temporarily blocked was not totally rehabilitated because the foundation of

Potential Environmental Impact	Parameter	Locations	Observations
	Limit area to be cleared Areas to be defined by a clear boundary. Clearing boundaries need to be shown to machinery operators. Cleared vegetative material to be offered to communities for use as fuel wood.	Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	tower No 42 was not properly completed. Both sides (Mr. Ky and Contractor) have agreed that the affected access road will be entirely rehabilitated right after the foundation has been completed.
Preparation of site: excavation, removal and disposal of unusable (incompetent) materials	Limit area to be excavated. Topsoil to be removed and stored for re-use. Excavated material to be disposed of outside and away from the work area. At completion of work dumping areas to be covered with soil and re-vegetated.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	Excavated soil surrounding Tower 46 was used to fill up the foundation after completion of reinforcement; excavated materials in the other towers were removed out of the sites.
Dust management	When dust is carried towards residential areas or becomes problematic on-site, the contractor is to apply dust control measures.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and	Dust was controlled by watering at site to keep the soil moist.

Potential Environmental Impact	Parameter	Locations	Observations
		47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	
Noise and vibration	If particular noisy work is implemented, the work may need to be limited to daylight hours. Noise not to exceed 55dBA at boundary of any residential area between 0600hr and 2100h and 45 dBA between 2100h and 0600h.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	Noise and vibration were kept within the allowable thresholds by using small machines to excavate the tower foundations at sites and contractors stopped working at sites from 1130h to 1300h and 2100 h to 0600 h.
Wastewater at construction site	Not allow to discharge wastewater directly to water body surrounding the site; Make a settling canal surrounding the foundation holes to collect runoff water to reduce its turbidity before discharging it into water body surrounding the site. Not allow to spill oil and fuel from machinery to site	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	Wastewater at sites was kept in a hole to reduce turbidity before discharging into the surrounding environment; contractors did not store fuel and repair machines at sites, so no spilled oil and fuel were found at sites.

Potential Environmental Impact	Parameter	Locations	Observations
Prevention of soil erosion on construction site.	Apply soil conservation and erosion protection technologies. Avoid operating machinery in adverse ground conditions. Protect and vegetate newly excavated areas as soon as possible	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	At the time of monitoring, all tower foundation have just been filled up therefore no soil erosion activities at sites were found.
Disposal of site waste	All waste materials to be collected and sorted into two categories (i). those that can be recycled and (ii) those that need to go to an approved landfill site for disposal	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	The excavated soil and material at sites were given to local villagers to fill the ground. At other sites, the excavated soil was cleaned up and kept within their boundaries to fill back the foundation after completion of concreting.
Storage and handling of: fuel and lubricants	All fuel storage areas should be securely fenced and provided with oil and water separators. Fuel hoses and	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon	No fuel and oil was stored at sites, contractors used nearby local services to provide fuel and repair

Potential Environmental Impact	Parameter	Locations	Observations
	shut off valve to be locked. Fuel should be stored in properly sealed containers. Regularly check its locks to prevent fuel from running over to environment. All refueling to be done at least 20 m away from waterways by trained personnel; All waste oil and oil filters to be collected and if possible recycled, otherwise to be disposed of to landfills; The contractor needs to train refueling personnel in these procedures. The contractor has to develop an accidental spill handling action plan.	district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	machines if necessary.
Community safety from increased vehicle movements	All vehicles need to be properly maintained and operated in accordance with transportation laws. All loads should be properly secured and fugitive loads to be covered. Drivers are fined if ignoring safety requirements.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan ChanhHiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan ChanhHiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan ThoiHiep ward, district 12, TPHCM	Construction materials were kept within the site boundaries without affecting on local transportation.
Workplace health and	Contractor should abide by	Tower No. 40, 41,	Potable water and labor

Potential Environmental Impact	Parameter	Locations	Observations
safety	Vietnamese Labor Code as amended 2002 as follows: Provide workers with safe working environment; Erect warning signs and barriers around work areas; Not allow drugs or alcohol on-site; Control noise and dust and provide all workers with safety equipment appropriate for the task they are employed. The workers are to be supplied on-site with: Potable water, sanitary toilet, washing and showering facilities. Prepared work safety regulation for each activity Before execution, workers need to be introduced and explained site safety procedures. Provided medical and first aid facilities together with a person qualified in first aid.	42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	protective equipment were provided for the workers at sites; Because the sites located near ward's health station, no health staff was required at sites (Mr. Chuc, site engineer)
Chance discovery of archaeological and cultural sites	No known sites. Chance discoveries should be notified to the SE who will report to the EO. EO would advice on procedure for dealing with chance discoveries.	Unknown	Not found
Clearance and rehabilitation of construction sites and removal of contractor's	All solid waste should to be removed from sites and disposed in approved landfills.	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon	All foundations holes were rehabilitated, except the foundation of tower No 45 water was still trapped

Potential Environmental Impact	Parameter	Locations	Observations
facilities.	All contaminated soil should be removed. All sites must be rehabilitated and restored to original condition. Drainage should be re-established. Those activities should be included as part of final inspection before payment made.	district, HCMC; Tower 44, Block 07, Tan ChanhHiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	posing unsanitary condition at the site.
Public access to site	Erect warning signs and barriers around work areas. Site can only be accessed with permission of contractor. Visitors are to be warned against site hazards to avoid possible accident	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan Thoi Hiep ward, district 12, TPHCM	The sites were fenced to prevent unauthorized people to get into the sites

3.5.2 Shortcomings found in the first quarter of 2016 were as follows:

PCC1 kept excavated materials within its boundary site, which was spread on the local road, posing impacts on local transportation and dust generation (tower 46, Block 10, Tan Chanh Hiep ward);

Local transportation might be affected because contractors VNECO gathered construction materials and occupied the road at tower No 42, Thoi Tam Thon commune, Hoc Mon district, and workers working at Tower 44, Tan Chanh Hiep ward parked their motorcycles on the road.

The access road of Mr. Ky was blocked by excavated materials of Tower 42, which needs consideration and proper coordination with Mr. Ky.

There were no warning signs to prevent all unauthorized persons from getting into the sites without contractors' permissions and instructions.

There were no first aid kit with necessary medicine and qualified health staff that was provided at the sites.

Corrective actions

All excavated materials at tower 46, Block 10, Tan Chanh Hiep ward, district 12, HCMC were used to backfill the foundation and the ground was rehabilitated with good drainage (PCC1).

All construction materials were stored tidily within the site boundaries and workers parked their motorcycles at the appropriate places to avoid traffic congestion at sites.

Contractor VNECO created a temporary access road to Mr. Ky during the construction and promised to rehabilitate the access road for him after completion of erecting the tower of 42.

Fences were installed at workplaces to warn all unauthorized persons not to enter the sites.

Contractors explained that because the construction sites are adjacent to local health stations, there is no need to provide first aid kit and qualified health staff at sites. In case of accidents, local health station is a place to provide for first aid.

3.5.3 Compliance with EMPduring Current Monitoring Period

3.5.3.1 Mitigation Implementation and Effectiveness

Both contractors have determined the site boundaries carefully before starting constructing the towers because most of the towers are located in the residential land and near villagers' houses. All houses, other structures and trees are situated outside the sites but observations and evaluation of the current environmental conditions adjacent to the sites were done to avoid any negative impact or to have a basis for compensation in case damages occur.

Taking advantages of the site locations within the residential areas, the contractors hired the nearby houses for staff and workers to stay overnight and to have a short rest at noon time and use the families' toilets and local system of wastewater and garbage collection and treatment.

The contractors did not store petrol, oil and lubricant as well as repair machines at sites, instead they used local services for supplying the fuel and for fixing apparatus once necessary.

Both contractors were planning to buy mixed concrete to reinforce the tower foundations from the registered concrete mixing companies. Just a few tons of concrete were mixed at sites for keeping the tower foundations' bases. The construction wastes such as iron, debris and cement bags were stored, classified for reusing or selling for recycling. All excavated materials were moved out from the workplace to the disposal sites that were hired from local villagers with the permission of local authority (VNECO contractor).

Dust, noise and vibration were controlled to an acceptable level under the villagers' agreement. Contractors watered the land surrounding sites located near residential areas to reduce dust generation, applied bored drills and equipment with limited noise and operated in day time only.

Workers were provided with potable water and personal protection equipment (PPE) and instructed to use them reasonably at sites to protect their health and safety at workplaces. They were trained at sites to improve their awareness on safety and health for workers and communities.

The contractors have realized that run –off water could mix with soil or construction wastes to a lower place or local drainage system to possibly block it and cause sedimentation or contamination. Run- off water was kept to reduce turbidity before discharging into water body.

3.5.3.2 Environmental issue found in quarter 2 nd 2016 and Recommended Actions

Environmental issues to be resolved

The foundation of tower No 45 located near residential area do not have good drainage and is unsanitary, which may become a habitat for pathogens causing infectious diseases to the community **(PCC1 contractor)**

Mr. Ky's access road affected by construction of the tower 42 was not totally rehabilitated to its previous condition (VNECO contractor);

Recommended actions

Contractor PCC1 should provide the foundation No 45 with more restoration of the land including planting of grass to recover the ground to its previous conditions to minimize soil runoff. The clogged drainage canal should be cleaned by the contractor to prevent water ponding that form habitat of mosquitoes and other disease-causing vectors.

Contractor VNECO should rehabilitate Mr. Ky's access road to its previous condition right after completion the construction.

The achievements and shortcomings identified in the 2nd quarter environmental monitoring are summarized in Table 3-3.

Table 3-3: Summary of results of environmental monitoring in the 1st quarter of 2016

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
Establishment of contractor's facilities (camps, offices, quarries, concrete batching areas etc).	Tower No. 40, 41, 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, district 12, HCMC Tower No. 45, 46 and 47 block 10, Tan Chanh	PCC1 & VNECO	Sites are located so that they do not interfere with the welfare or social cohesion of surrounding communities	yes			
			Site is limited to reduce unnecessary clearing of vegetation.	yes			
			Sanitary soakage effluent from offices and camps to be treated	N/A			
			No discharge of grey water or sewage allowed to surface water systems.	N/A			
			Workshops to be provided with oil and water separators.	N/A			
			Fuel storage areas not to be located within 20m of watercourse.	N/A			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
	Hiep ward, district 12, HCMC; Towers No 52, 53 and 55, Tan ThoiHiep ward, district 12, TPHCM						
			Contractor's storage facilities may need to be surrounded by a security fence	yes			
			Concrete batching areas to be provided with bunds to control movement of runoff to waterways.	N/A			
Demarcation and clearing of RoW and	Tower foundation	PCC1& VNECO	Define the 22m RoW width.	yes			
			Identify tree to be	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
ancillary facilities	40, 41, 42 44, 45, 46, 47, 52, 53, 55		removed within the RoW and arrange to get approval for removal.				
			Limit area to be cleared Areas to be defined by a clear boundary	yes			
			Clearing boundaries need to be shown to machinery operators.	No at tower 42	Mr.Ky's access road was still blocked by construction materials as the foundation was being constructed (tower 42)	Site visit in September 2016 will focus on the case.	agreed
			Cleared vegetative material to be offered to communities for use as fuel wood;	yes			
Preparation of site: excavation, removal and disposal of unusable (incompetent) materials	Tower foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55	PCC1/ VNECO	Limit area to be excavated.	yes			
			Topsoil to be removed and stored for re-use	yes			
			Excavated material to be disposed of outside and away from the work area.	yes			
			At completion of work dumping areas to be covered with soil and re-vegetated.	N/A			
Dust management	Tower	PCC1 &	When dust is carried towards residential areas	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
	foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55	VNECO	or becomes problematic on-site, the contractor is to apply dust control measures;				
Noise and vibration	Tower foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55	PCC1 & VNECO	If particular noisy work is implemented, the work may need to be limited to daylight hours.	yes			
			Noise not to exceed 55dBA at boundary of any residential area between 6hr and 2100h and 45 dBA between 2100h and 0600h;	yes			
Wastewater to construction site	Tower foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55	PCC1 &VNECO	Not allow to discharge wastewater directly to water body surrounding the site	yes			
			Make a settling canal surrounding the foundation holes to collect runoff water to reduce its turbidity before discharging it into water body surrounding the site;	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
			Not allow to spill oil and fuel from machinery to site.	yes			
Prevention of soil erosion on construction site.	Tower foundation 40, 41, 42 , 44, 45, 46, 47, 52, 53, 55	PCC1& VNECO	Apply soil conservation and erosion protection technologies.	yes		SPMB should monitor during the operation phase to ensure no soil erosion at tower foundations occurs (Tower 45)	
			Avoid operating machinery in adverse ground conditions	yes			
			Protect and vegetate newly excavated areas as soon as possible	yes			
Disposal of site waste	Tower foundation 40, 41, 42 , 44, 45, 46, 47, 52, 53, 55	PCC1 & VNECO	All waste materials to be collected and sorted into two categories (i). those that can be recycled and (ii) those that need to go to an approved landfill site for disposal.	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
Storage and handling of: fuel and lubricants	Tower foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55	PCC1& VNECO	All fuel storage areas should be securely fenced and provided with oil and water separators. Fuel hoses and shut off valve to be locked. Fuel should be stored in properly sealed containers. Regularly check its locks to prevent fuel from running over to environment. All refueling to be done at least 20 m away from waterways by trained personnel; All waste oil and oil filters to be collected and if possible recycled, otherwise to be disposed of to landfills; The contractor needs to train refueling personnel in these procedures. The contractor has to develop an accidental spill handling action plan	N/A			
			All vehicles need to be properly maintained and	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
Community safety from increased vehicle movements			operated in accordance with transportation laws				
	Tower foundation 40, 41, 42 , 44, 45, 46, 47, 52, 53, 55	PCC1 &VNECO	All loads should be properly secured and fugitive loads to be covered.	yes			
			Drivers are fined if ignore safety requirements.	yes			
	Tower foundation 40, 41, 42 , 44, 45, 46, 47, 52, 53, 55	PCC1 & VNECO	Gather and store construction materials and equipment within site boundaries;	yes			
Workplace health and safety			Contractor should abide by: Vietnamese Labor Code as amended 2002	yes			
	Tower foundation 40, 42 , 44, 45, 46,	PCC1& VNECO	Provide workers be with safety working environment;	yes			
			Erect warning signs and barriers around work areas	yes			
			Not allow drugs or alcohol on-site;	yes			
			Control noise and dust provided all workers with safety equipment	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
			appropriate for the task they are employed.				
			The workers are to be supplied on-site with: Potable water, sanitary toilet, washing and showering facilities.	yes			
			Prepared work safety regulation for each activity	yes			
			Before execution, workers need to be introduced and explained site safety procedures.	yes			
			Introduction the nearby state health stations to workers at sites	yes			
Chance discovery of archaeological and cultural sites			No known sites. Chance discoveries should be notified to the SE who will report to the EO. EO would advice on procedure for dealing with chance discoveries.	yes			
Clearance and rehabilitation of construction sites and removal of contractor's facilities	Tower foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55	PCC1 &VNECO	All solid waste should to be removed from sites and disposed in approved landfills. All contaminated soil	Not all towers	Foundation of tower 45 was not well drained and unsanitary.		agreed

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
			should be removed. All sites must be rehabilitated and restored to original condition. Drainage should be re-established. Those activities should be included as part of final inspection before payment made.			Site visit in September, 2016 to monitor the situation. The Contractor should fill the hole to make the foundation well drained to prevent ponding that may form habitat of mosquitoes and other disease-causing vectors.	
Public access to site	Tower foundation 40, 41, 42, 44, 45, 46, 47, 52, 53, 55		Erect warning signs and barriers around work areas.	yes			
			Site can only be accessed with permission of contractor.	yes			

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
			Visitors are to be warned against site hazards to avoid possible accident	yes			

*N/A: not applicable at the period of monitoring

3.6. Complaints

There have been no complaints officially as well as orally raised by locals regarding environmental performance and environmental impacts so far.

4. SUBPROJECT OF 220KV CAU BONG – DUC HOA TL

4.1. Brief description

The subproject of 220kV Cau Bong – DucHoa TL has a total line of 13.42km long, 43 supporting towers. The majority (8.52km) of the 220Kv transmission line consists of two circuits i.e. 6 conductors, which will be carried on three horizontal arms on steel lattice towers. A 4.90 km long section (G4.1a - G4.2) will additionally contain a two-circuit 110Kv transmission line which will be strung on the same tower and below the 220Kv conductors i.e. there will be 6 horizontal arms on this section. A 22 m wide right of way (RoW) i.e. 11m from either side of the centre line will be provided as well as an earth grounding zone for any buildings that are situated from 11m to 36m from the centre line.

4.2. Subproject locations

The subproject is situated in two provinces (Ho Chi Minh City, 5 districts; and Long An, 1 district). The transmission line starts at the Cu Chi substation (HCM City) and terminates at the Duc Hoa substation in Long An Province. After leaving Cu Chi substation, the line traverses Nhuan Duc, Trung Lap Ha, Phuoc Hiep, Phuoc Thanh and Thai My communes of Cu Chi district, HCMC and Tan My commune, then ends at 220kV Duc Hoa substation, Duc Hoa district, Long An province. A general layout is presented in Figure 4-1 and Table 4-1.

Table 4-1:The positions of 220kV Cau Bong – DucHoaTL

No	Starting÷ endingpoints	Province/city	District	Commune/ward	Lengths (m)
1	G3.11-G4.1	HCMC	Cu Chi	NhuanDuc, TrungLap Ha	125
2	G4.1-G4.1A	HCMC		NhuanDuc	1,163
3	G4.1A-G4.1B	HCMC			200
4	G4.1B-G4.1C	HCMC			157
5	G4.1C-G4.1D	HCMC		NhuanDuc, TrungLap Ha	3559
6	G4.1D-G4.2	HCMC		TrungLap Ha	683
7	G4.2-G4.3	HCMC		PhuocHiep	1,760
8	G4.3-G4.4	HCMC			444
9	G4.4-G4.5	HCMC		PhuocThanh	565
10	G4.5-G4.6	HCMC		Thai My	1,145
11	G4.6-G4.7	HCMC			323
12	G4.7-G4.8	LONG AN	DucHoa	CauBong, Tan My	2,160
13	G4.8-G4.9	LONG AN			834
14	G4.9-ĐC	LONG AN			232
15	DC-220kV	LONG AN			70
	Total	2	2	8	**13,420**

(*Source: Feasibility study report, PECC-2, 2012*)

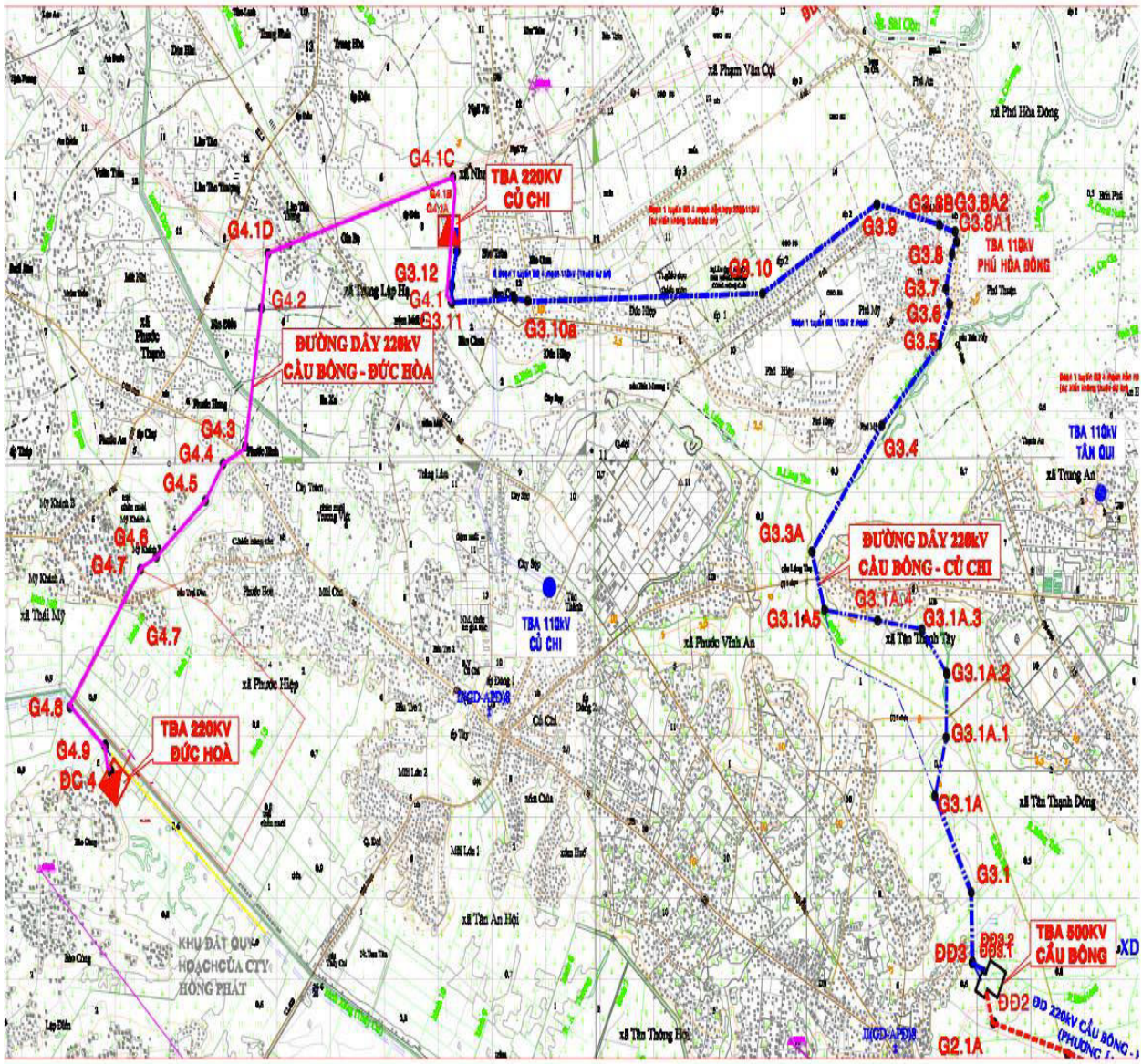

Figure 4-1: Layout of 220KV Cau Bong – DucHoa TL

4.3. Environmental Monitoring and Reporting Requirements

According to the Annex 2 of Individual consultant service contract No. 01/2014/SPMB-TVCN dated 23 May 2014, the environmental monitoring and reporting requirements for both subprojects are as follows:

4.3.1 Environmental safeguard policies compliance monitoring

- Ensure that the EMPs are included in the civil work contracts.
- Ensure that all regulatory clearances are obtained before starting civil works for the subprojects.

- Coordinate closely with the contractors, SPMB, and NPT and ensure that the EMPs including all proposed mitigation measures and monitoring programs are properly implemented.
- Monitor environmental safeguard policy compliance of subprojects during implementation including pre-construction and construction phase.
- Identify, monitor and report on issues related to environmental compliance and coordinate immediate actions to resolve these issues by preparing and implementing corrective actions plans.
- Assist in the preparation of quarterly internal monitoring reports to be submitted to NPT and forwarded to ADB. The reports will describe in detail the findings, including (a) progress of EMP and EMoP implementation, including any deviations from the provisions in the EMP and EMoP; (b) identification of issues and recommended solutions for improvement and resolving issues; (c) reporting on progress of resolving issues and problems identified in previous reports; (d) reporting on good practices.
- Assist in the preparation of a detailed environmental safeguard completion monitoring report within 6 months of completion of each subproject.

4.3.2 Guidance and Advisory Services

- Identify and resolve environmental issues including complaints through the Grievance Redress Mechanism.
- Provide guidance and advice on environmental safeguard compliance issues to SPMB, NPT, and ADB.
- Advice on improvements for environmental safeguard compliance.

4.3.3 Capacity Building Services

- Develop and conduct a training program on environmental management, occupational health and safety, community health and safety awareness in coordination for the contractors and the staff of SPMB and NPT.
- Share information on best international and environmentally sustainable construction practices.
- Ensure ongoing learning and development on environmental compliance, management and health and safety practices for the staff of SPMB and NPT.
- Supervise the performance of assigned staff on environmental management and provide clear guidance and direction in strengthening their performance.

4.3.4 Report requirements

- Detailed work and action plan describing the work program within the first week of commencement of the assignment. The work and action plan will need to be shared and agreed on by SPMB and ADB.

- During each work period, a monthly summary report describing the activities undertaken during the period. The summary report will need to be submitted to SPMB and ADB.
- At the end of each work period, a summary report describing the activities undertaken during the period including an updated work plan for the next assignment period. The summary report will need to be submitted to SPMB and ADB.
- Within 06 months of completion of each subproject a detailed environmental safeguard completion report will need to be prepared and submitted,

4.4. Subproject Construction Status / Operation Status

In the quarter 1st of 2016, the transmission line was being operated by the PTC4. Cu Chi DCSCC also conducted the activities of compensation and assistance to the PAPs. The activities of environmental rehabilitation at sites were implemented by the construction contractors.

In the quarter 2nd of 2016, the compensation and support to the PAPs was continued by Cu Chi DCSCC under the supervision of the SPPMB's compensation department. Contractor Song Da 11 Thang Long rebuilt Mr. Hua Quoc Huy's wall that was damaged by during the construction of Tower 17 located in Gia Be village, Trung Lap Ha commune, Cu Chi district. All contractors connected all houses and facilities with tin materials located within the RoW and some houses/ facilities located from 11 – 36m to the earth to prevent any impacts caused by the TL to community health.

4.5. EMP compliance

4.5.1 Monitoring activities

The monitoring activities undertaken by consultant in this quarter were conducted from 10 to 15 June 2016.

Because the subproject was put into operation for more than three months, the EMP compliance monitoring activities were focused on the community's health and safety, the environmental rehabilitation, the corrective action plan of contractors at sites and any complaints of the communities. The monitoring activities were conducted by Mr. Duong Dinh Dung, individual environmental consultant and are summarized in Table 4-2.

Table 4-2: Monitoring activities in the 1st quarter of 2016

Potential Environmental Impact	Parameter	Location	Observations
Re-establish environmental values	All solid waste to be removed from sites and disposed in approved landfills. All contaminated soil to be removed. All sites to be rehabilitated and restored to original condition. Drainage to be re-established. To be included as part of Final Inspection before payment made.	All towers located in Tan My commune, Duc Hoa district, Long An province; Thai My, Phuoc Hiep, Phuoc Thanh, Trung Lap Ha, Nhuan Duc commune, Cu Chi district, HCMC	All towers were reestablished the environmental values, Mr. Hua Quoc Huy's wall was rebuilt and handed over to its owner.
Unsafe operation of transmission line	Vegetation cut and controlled to safe operating limits. Use hand labor	All routesof the transmission line; focused on the sections of line cross forest trees (Tan My commune, DucHoa district, Long An province, Thai My commune; Trung Lap Ha commune) and residential area of Thai My, Trung Lap Ha communes)	All trees under the TL were controlled to meet the safety regulation.
Unsafe habitation within RoW	All buildings under 22m RoW have a safety distance at least 4m from any top of buildings to the maximum lowest point of the line; all of them are connected to earth. All buildings outside 11m RoW width from centerline to 36 m earthed.	Thai My, PhuocHiep and Trung Lap Ha communes, Cu Chi district, HCMC	All houses roofed with tins within 22m RoW and from 11- 36m were connected to the earth.

4.5.2 Compliance with EMP Issues Raised in Previous Monitoring Period

The shortcomings found in the 1st quarter 2016 have been corrected.

4.5.3 Compliance with EMP During Current Monitoring Period

Contractors were compliant with the CEMPs.

4.5.3.1 Mitigation Implementation and Effectiveness

Re-establish environmental values

The environmental values at all tower foundations have been gradually rehabilitated and restored to their original conditions and provided with good drainage. Mr. Hua Quoc Huy was satisfied with the compensation made by contractor Song Da 11 Thang Long.

The villagers have started to re-cultivate annual crops and plant perennial trees on the land that was temporarily affected (houses of Vo Van Dan, Vo Thi Thomin Tower No 34, My Khanh A, Thai My commune).

Agricultural land surrounding Tower foundations have been used for re-cultivation.

Safe operation of transmission line

All towers have been installed with warning signs such as prohibition of climbing on tower, dangerous signals and hot line (telephone number).

All tree under the RoW were controlled to follow safety regulation.

- All houses with tin roofs located within 22mofRoW and from 11 – 36m from the centre line of TL have been connected to the earth for the prevention of impacts from the electromagnetic fields.

4.5.3.2 Environmental issue found in quarter 2nd 2016 and Recommended Actions

Environmental issues

No environmental issues were found during the second quarter of 2016.

The achievements and shortcomings identified in the 2nd quarter environmental monitoring are summarized in Table 4-3.

Table 4-3: Summary of results of environmental monitoring in the 2nd quarter of 2016

Environmental issues	Location	Contractors	Mitigation measure	Mitigation measure implemented	Remarks	Follow up action required	Contractor response
Re-establishes environmental values	All towers	IEC, Song Da 11 Thang Long; Song Da 11	All solid waste to be removed from sites and disposed in approved landfills.	yes			
	All towers	IEC, Song Da 11 Thang Long; Song Da 11	All contaminated soil to be removed.	yes			
	Tower No 13, Gia Be village, Trung Lap Ha commune, Cu Chi district	Song Da 11 Thang Long	All sites to be rehabilitated and restored to original condition.	Yes			
	All towers	IEC, Song Da 11 Thang Long; Song Da 11	Drainage to be re-established.	yes			
Unsafe operation of transmission line	My Khanh A village, Thai My commune, Cu Chi district	Song Da 11;	Vegetation cut and controlled to safe operating limits. ii. Use hand labor	Yes			
Unsafe habitation within RoW	All route	IEC, Song Da 11 Thang Long; Song Da 11	All houses with tin roof located under 22m RoWareconnected to the earth	yes			
	All route	IEC, Song Da 11 Thang Long; Song Da 11	All houses with tin roofs located from 11 – 36m from the centre line are also connected to the earth	yes			

4.6. Complaints

No official complaints were received butsome villagers living within the RoWand from 11 – 36m were feeling worriedwhenwind blowing the TL createsomesound. PTC4 will implement the information propaganda to the villagers of the structural soundness of the TL and the hotline or emergency number that they can contact in case they experience problems with the TL

5. SUBPROJECT OF 500KV PLEIKU - MY PHUOC - CAU BONG TL

5.1. Description of the subproject

The Socialist Republic of Viet Nam has applied for a loan from the Asian Development Bank (ADB) for the co-financing with Agency of French Development (AFD) towards the cost of the Power Transmission Investment Program, Tranche 2. Part of the proceeds of the loan will be applied for the construction of the Pleiku - My Phuoc - Cau Bong 500 kV transmission line. The National Power Transmission Corporation (NPT) is the investor and executing agency. The Central Vietnam Power Project Management Board (CPMB) is the management and implementing agency for the subproject. The Pleiku - MyPhuoc - Cau Bong 500kV transmission line is a high priority project and is one of several projects for construction to meet its target of connecting 90% of the population to electricity by 2020 and 100% by 2025. The TL will meet the energy demand in the southern part of Vietnam growing at 14% per year and up to 25% in 2015. The TL constructed together with the expansion of Pleiku substation will enhance power supply reliability for the rapid development in the southern provinces of Vietnam.

5.2. Location of the subproject

The Pleiku - My Phuoc - Cau Bong 500 kV transmission line is 437 km in length and traverses 5 provinces (Gia Lai, Dak Lak, DakNong, Binh Phuoc and Binh Duong) and Ho Chi Minh City. The TL does not cross or intrude into any buffer areas or any possible planned future extension of conservation areas (Figure 5-1).

5.3. Environmental Monitoring and Reporting Requirements

In compliance with Vietnamese policy, the EIA of the subproject that met the requirements of GoV Ministry of Natural Resources and Environment was prepared and approved in August 2011. Based on the ADB's Safeguard Policy Statement 2009 (SPS) the subproject has been classified as Category B project and an IEE with EMP has been prepared and approved in 2012. The EMP has become a condition of the loan.

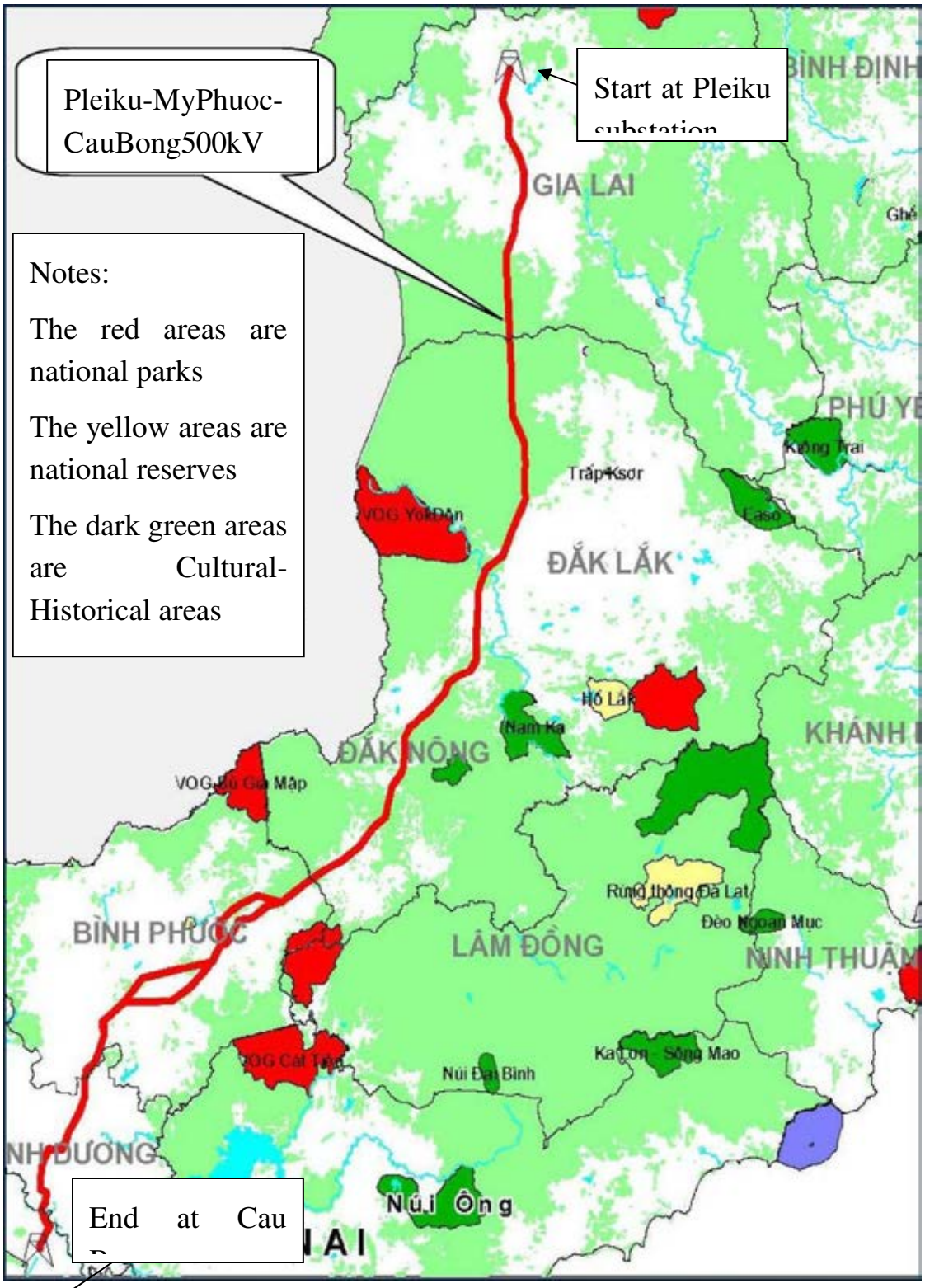

Figure 5-1: Location of 500kV Pleiku - My Phuoc - Cau Bong transmission line with regard to natural conservation areas

As defined in the approved IEE and EMP, the Project Management Unit in Central Power Project Management Board (CPMB), contractors and the construction monitoring and operating units (PTC3 & PTC4) are the key agencies who are responsible for implementing the mitigation measures proposed in the EMP. During the operation phase, PTC3 and PTC4 will be responsible for complying with the EMP requirements such as control of vegetation along the RoW and control of development within the RoW. The EO will arrange to audit compliance with the EMP requirements. Other issues such as work place safety when operating within high voltage areas will be addressed by PTC3 and PTC4's own safety operating procedures which they will apply.

Pursuant to the official letter of the Asian Development Bank (ADB) dated 09.10.2015 regarding requirements on quarterly environmental monitoring reports until the project completion Phase 2 (dated 31/05/2016) - Loan 2959 and adjustment of the scope of work of the national safeguard specialist on environment (called consultant) to meet the requirements of the loan agreement was signed on 21.12.2012.The consultant has been required to support the EVNNPT - CPMB in preparing quarterly environmental monitoring reports for the submission to the ADB until project completion following the loan agreement. Four quarterly environmental monitoring reports (EMRs) 2015 and the first quarter of 2016 EMR have been approved and disclosed on ADB website (Table 5.1).

Table 5-1: Summary of Environmental Reporting Undertaken to Date of 500kV Pleiku - My Phuoc - Cau Bong TL

Quarterly Reporting	Status of Posting on ADB Website
Quarterly Report No. 1 Covering Jan to March 2015	Quarterly Report No. 1, 2015 posted December 2015
Quarterly Report No. 2 Covering April to June 2015	Quarterly Report No. 2, 2015 posted December 2015
Quarterly Report No. 3 Covering July to September 2015	Quarterly Report No. 3, 2015 posted February 2016
Quarterly Report No. 4 Covering October to December 2015	Quarterly Report No. 4, 2015 posted February 2016
Quarterly Report No. 1 Covering Jan to March 2016	Quarterly Report No. 1, 2016 posted July 2016 (integrated in the first quarter report 2016 of Tranche 2)

5.4. Subproject Operation Status

Since receiving the TL from CPMB in May 05, 2014, both PTC3 and PTC4 have implemented the operation and management of the TL directly. They have arranged and maintained the operation and management teams (called the local Power Transmission Units) in charge of each TL segment to perform their tasks. PTC3 includes three (03) local units being Gia Lai Power Transmission, Dak Lak Power Transmission and Dak Nong Power Transmission. PTC4 includes two (02) local units being the Eastern Power Transmission 2 (responsible for the section from Binh Phuoc to Binh Duong province) and Eastern Power Transmission 1 (responsible for the section in Ho Chi Minh city). Each local unit regularly has three (03) main functional divisions responsible for safety of the TL operation which are technical division, environmental safeguard division and communication division. These divisions work independently but support each other in sharing information relating to the TL.

Staff of PTC3 and PTC4 still ensure their implementation and responsibility on environmental management in the second quarter of 2016 for the activities during operation phase such as control of vegetation along the RoW, control of development within the RoW, regularly check all items of the TL along the RoW, monthly direct inspection, direct consultation with local people about potential risks to people and the TL to get solutions timely etc. Two differences in the second quarter of 2016 from the previous monitoring period are that: (i) an electromagnetic field monitoring has been done according to the requirements of the GOV's safety policy, (ii) a comprehensive extensive communication program on electrical safety to all communities along the RoW have been made successfully and no complaints about EMF from local people have been received. The operation of the TL still remains safe and stable.

5.5. Compliance with Environmental Management Plan

5.5.1 Monitoring Activities

During the second quarter 2016, monitoring and compliance with the environmental management plan of CPMB, PTC3 and PTC4 and the related parties are built according to an organizational structure. The organizational structure for implementing the environmental monitoring task has been closely established (Figure 5-2), the information on occupational and community health and safety and other environmental impacts has been quickly reflected to PMU, concurrently the duties of parties including PMU, the national safeguard specialist on environment, management and operating units (PTC3 & PTC4), local authorities and communities have been determined clearly and closely.

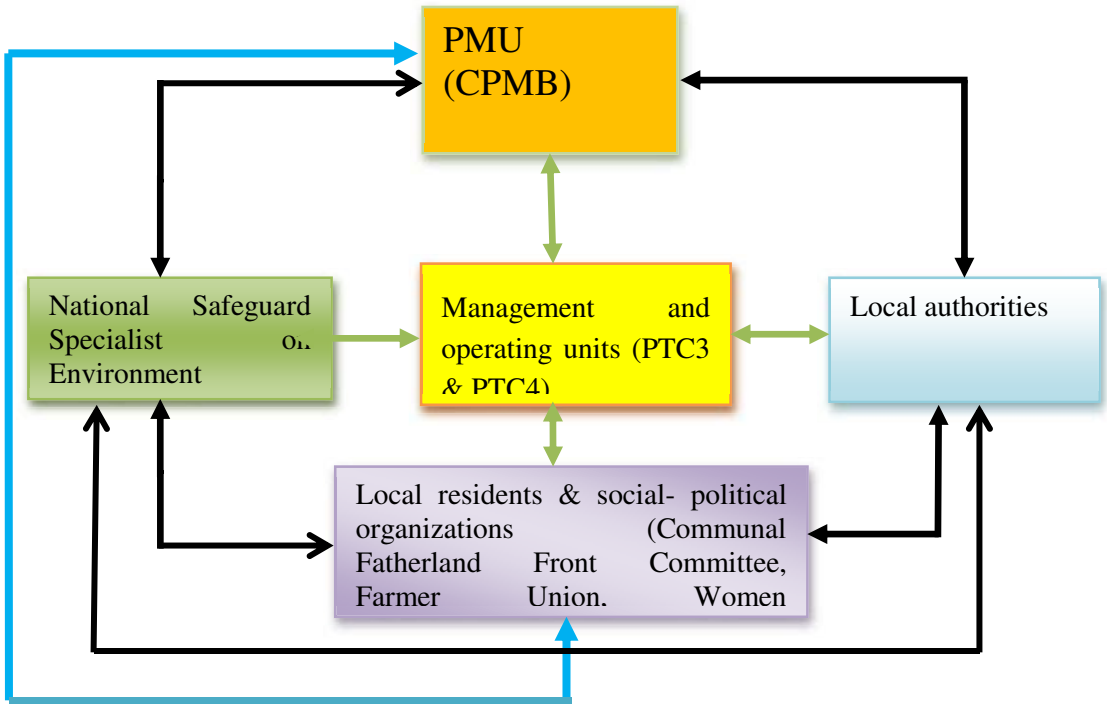

Figure 5-2*: Organization structure of the environmental monitoring*

The participatory approach was used in the environmental monitoring during the second quarter of 2016. Bases for the environmental monitoring are relevant legal documents in Vietnam, the Safeguard Policy Statement of ADB 2009 (SPS), and the approved IEE and EMP. The environmental monitoring was carried out with a combination of qualitative and quantitative methods. The data used for the environmental monitoring include the secondary data from previous environmental monitoring and compliance reports of the project from CPMB, PTC3 and PTC4 and provincial reports & decisions and the primary data collected through observation and in-depth interviews.

The main parameters for environmental monitoring of this period is the compliance with the requirements for safety in operating the TL as no buildings within the ROW, use of safety equipment in controlling the vegetation, communicative implementation for safety of citizens and workers and replacement afforestation.

5.5.2. Compliance with Environmental Management Plan Issues Raised in Previous Monitoring Period and its Effectiveness

In order to dismantle the houses and physical structures within the RoW which existed before the start of subproject implementation, the CPMB has closely worked with the DRCCs and CPCs to get information relating to structures existing within the RoW. From which, due to the assistance of local social-political organizations (Communal Fatherland Front Committee, Farmer Union,

Women Union), CPMB has coordinated with the DRCCs and CPCs to totally dismantle structures within the RoW as required in the EMP. In addition, effective communication programs made by PTC3 & PTC4 have remarkably increased local residents' awareness of potential risks of using structures within the ROW. Therefore, all of 08 temporary shelters in Gia Lai, DakNong and Binh Duong province which still exist in the previous monitoring period have been dismantled.

For the replacement afforestation, CPMB has carried out the replacement afforestation plans in compliance with the GOV's policy by transferring the total required money (VND 10,284,247,207) to the provincial Forest Development and Protection Funds in Gia Lai, Dak Lak and DakNong provinces for planting 145.556 ha of forest. However, the afforestation depends on the provincial reforestation schemes, from land use planning, soil research for suitable plantation and unit selection for the implementation of reforestation at the same time for several projects. Therefore, CPMB always monitors and urges PPCs (Province People Committee) to implement as soon as possible. Currently, the afforestation has been initially planned and implemented. Specifically, in Dak Nong province there have been three units in Krong No district with assigned afforestation plans with the total area of 848.34 ha. These units currently are urgently preparing the suitable conditions for the land and seedlings to conduct the afforestation timely. In Dak Lak province, the PPC had assigned DARD to make the afforestation plan from the provincial Forest Development and Protection Fund for forest owners in 2016, to ensure completion of the afforestation of 1886.6 ha before the third quarter of 2017 (in which only the afforestation area of 107,11 ha under the subproject of 500kV Pleiku – My Phuoc – Cau Bong TL and that of other projects with completion of payment shall be reforested in 2016, the rest of 1886.6 ha to be conducted and finalized prior to the third quarter of 2017 belongs to other projects).In Gia Lai province, according to the afforestation plan in 2016, 1.053 ha of forest land converted toother use purposes must be planted for compensation. Currently, the PPC is requesting several projects owners to transfer the amount into the Gia Lai Forest Development and Protection Fund so that the reforestation plan could be done timely.

5.5.3. Compliance with Environmental Management Plan During Current Monitoring Period and its Effectiveness

During the second quarter of 2016, site observation along the Pleiku- My Phuoc- Cau Bong 500kV transmission line shows that the PTC3 and PTC4 have generally complied with the EMP and relatively well controlled the vegetation along the RoW and control of development within the RoW. In addition, the exchange of information with the local Power Transmission Units of PTC3 & PTC4, representatives of CPCs and the communities in the project area on the implementation of the environment safety measures shows that the coordination between these Units with the relevant departments, CPCs and the communities and with CPMB is well done.

In fact, safe operating procedures have been established and strictly complied by PTC3 and PTC4. They have arranged the operation and management teams (called the local Power Transmission Units) in charge of each TL segment to perform their tasks. Most of the mitigation measures proposed in the IEE with EMP have been applied so there have not had any accidents, risks or emergencies on fire, lightning, electrocution. The local Power Transmission Units of PTC3 and PTC4 have been implementing control of vegetation along the RoW, control of development within the RoW.

a) Control of vegetation along the RoW

Workers of the local Power Transmission Units of PTC3 and PTC4 monthly trim vegetation within and along the RoW to meet the necessary conductor safety clearances. Machetes, hammers, saws have been used in trimming plants. They did not use herbicides and pesticides to control vegetation growth as required in the EMP.

No invasive species including Mimosa pigra has been discovered along the RoW so far.

b) Control of development within the RoW

The CPMB has coordinated with PTC3, PTC4 and related communal governments & social-political organizations (Communal Fatherland Front Committee, Farmer Union, Women Union) to urge and facilitate the local people to dismantle the built works completely. PTC3 and PTC4 have arranged the operation and management teams (called the local Power Transmission Units) in charge of each TL segment to perform their tasks for controlling the development within the RoW. Staff and workers of the Units regularly check all items of the TL along the RoW, monthly implementing direct observation, going through densely populated areas to directly consult the local people about potential risks to people and the TL to get solutions timely. PTC3 and PTC4 have been checking the earthing of the buildings near the RoW for additional earthing. PTC3 and PTC4 continually implemented a propaganda program for electrical safety based on the Circular No.03/2010/TT-BCT and the Decree No. 14/2014/NĐ-CP. The interviewed people said that the units continually combined a diversity of communicative tools for the propaganda such as communal speaker, leaflet, poster and meetings. In fact, the signs at the power poles have been installed in accordance with the approved design. Besides, PTC3 & PTC4 signed contracts with communal security teams for close coordination in the TL protection, the local people committed to compliance with the Decree No.14/2014/NĐ-CP on electrical safety. So far the warning signs have still been in the right place in the towers, any new buildings outside of the RoW have been earthed with the technical support by PTC3 & PTC4 and no new structure was detected within the RoW.

c) Monitoring on Electric and Magnetic Fields (EMF)

Based on the GOV's environmental policy, EMF is required to monitor two times per year. During this monitoring period, EMF has been monitored at sensitive places by both PTC3 and PTC4. The monitoring on EMF showed that: (i) Electric field levels within May-June 2016 are generally higher than in the previous period (December 2015); (ii) Electric field in some areas in Dak Nong, Binh Phuoc and Binh Duong province still exceed the permissible limit (5kV/m). However, most of these areas are far from resident houses or sensitive receptors except one location near a coffee drying ground of Mr. Nguyen Duc Dinh at Dak Nong province. In this special case, PTC3 had directly informed the recorded data and the permissible limit, way of avoiding any possible risk to Mr. Nguyen Duc Dinh. As a result, he has planned to make a new coffee drying ground far from the TL; (iii) Electric field levels measured in Gia Lai, Dak Lak and Ho Chi Minh are lower than the permissible limit; (iv) Electric field in some residential areas was also measured in Binh Phuoc province in which there are many houses located near the TL and the recorded electric field levels in houses are varied from 0.00195 to 0.7kV/m, the ones outdoor from 0.0023 to 4.8kV/m.

5.5.4. Recommendation for Actions

Both PTC3 and PTC4 will maintain safe operating procedures, activities for control of vegetation along the RoW, control of development within the RoW as previous periods and regular check of EMF as required and random check of EMF when receiving any complaints of EMF from residents along the RoW in order to comply with SPS. Number of monitored EMF points is not only based on the approved EIA report but also flexibly based on practical demands due to many changes in local development plans in future.

6. CONCLUSION AND RECOMMENDATIONS

6.1. Summary of monitoring result

6.1.1 Subproject No.1: 220Kv Cau Bong – Hoc Mon- Binh Tan TL

As of 31 July 2016, the subproject had been achieved 90% over for the overall plan. During the 2nd quarter of 2016, the subproject is under construction and environmental rehabilitation of Towers No. 40, 41 and 42, Dong 1 village, Thoi Tam Thon commune, Hoc Mon District, HCMC; Tower 44, Block 07, Tan Chanh Hiep ward, District 12, HCMC; Tower No. 45, 46 and 47 block 10, Tan Chanh Hiep ward, District 12, HCMC and Towers No 52, 53 and 55, Tan Thoi Hiep ward, District 12, TPHCM.

The SPMB's staff and its contractor's workers have improved their awareness on their occupational health and safety as well as the community health and safety throughout the training workshops.

The EMP and EMoP were properly performed by SPMB and its related contractors, which is in compliance with both environmental policies of the ADB and the Government. All involved parties mentioned in the institutional arrangement performed well their assigned tasks.

Compliance with implementing the corrective action plan

All houses located in 11 – 36 m from the centre line were connected to the earth to ensure safety and health for the residents.

The high tree located under the transmission line at section of tower 34 -35 at My Khanh A village, Thai My commune, was trimmed its branch to ensure the distance meets the safety requirement of power.

The damaged wall of Mr. Hua Quoc Huy were rebuilt and the environment surrounding the tower was totally rehabilitated.

Compliance activities and effectiveness:

Before site clearance, both contractors informed the households located near the sites about the time of excavation and assessed the current status of houses and their ground conditions to avoid any negative impact on them or to have a basis for compensation in case damages occur.

There are no workers' camps built at sites, instead contractors hired the nearby houses for staff and workers to stay overnight and to have a short rest at noon time with good living environment. Workers' wastewater and garbage were collected and treated by local system. Workers were adequately provided with potable water for drinking at site.

There are no hazardous waste discharged at site because contractors used local services for supplying the fuel and fixing apparatus once necessary.

There are no concrete mixing stations at site therefore less cement dust was generated at sites. The construction wastes such as iron, debris and cement bags were stored, classified for reusing or selling for recycling.

Most of the excavated materials were moved out from the workplace to the disposal sites or reused by local people for leveling ground and ensure well drainage at sites. Dust was effectively controlled by sprinkling water on stockpiles. Noise and vibration was controlled to an acceptable level by applying effective mitigation measures.

Most of the workers at sites were used reasonably personal protection equipment (PPE) and well trained at sites to improve their awareness on safety and health for workers and communities.

Shortcomings found in the 2nd quarter, 2016

At Tower 45 - There was improper restoration of the foundation by the contractor such that soil runoff and unsanitary condition at the canal were observed. The Contractor PCC1 accepted the mistake and promised to fill the hole to ensure the foundation would be well –drained.

At Tower 42 - There were materials left by the contractor that blocked the access to Mr. Ky's property. The Contractor VNECO has committed to rehabilitating properly the access road to the affected household right after the foundation construction has completed.

6.1.2 Subproject No.2: 220Kv Cau Bong – Duc Hoa TL

The subproject has been put into operation since 22 December, 2015. SPMB has transferred the completed transmission line to the Power Transmission Company 4 (PTC4) for operation and management.

The EMP and EMoP were properly performed by SPMB and its related contractors, and are in compliance with both environmental policies of the ADB and the Government. All involved parties mentioned in the institutional arrangement performed well their assigned tasks.

The SPMB's staff and its contractor's workers have improved their awareness on their occupational health and safety as well as the community health and safety throughout the training workshops.

The damaged wall of the property of Mr. Hua Quc Huy which has been reported in previous EMRs has finally been restored by the contractor and Mr. Huy is satisfied with the restoration and compensation.

All houses with tin roofs within 11-36m from the centerline of the TL have been earthed (Table 4-2 and Section 4.5.3.1)

Beside the compliance with the EMP and effectiveness in implementing the EMP, there are some shortcomings that need to be resolved:

Villagers within the ROW are worried when wind blows and the TL move and create some sound.

6.1.3 Subproject No.3: 500KvPleiku – My Phuoc –CauBong TL

In general, the environmental issues indicated in the previous monitoring period have been resolved one by one. The EMP implementation during the current monitoring period is strictly complied by relevant parties: (i) CPMB worked with the DRCCs and CPCs with the assistance of local social - political organizations to dismantle 08 structures within ROW; (ii) CPMB has constantly monitored and urged PPCs for the implementation of afforestation after its finalization of payment as required (the total amount of VND 10.284.247.207) to the provincial Forest Development and Protection Fund in Dak Lak, Gia Lai and Dak Nong provinces for reforestation of 145.556 ha. As a result, the afforestation in the three provinces controlled by the PPCs has initially been already planned and carried out; (iii) PTC3 and PTC4 have seriously taken safe operating procedures, well controlled vegetation along the RoW and development within the RoW and implemented a variety of communication activities on electrical safety. As a result,

there were no accidents, risks or emergencies on fire, lightning and electrocution happened, all new buildings outside of the RoW have been earthed and no new structures were detected within the RoW.

6.2 Summary of recommended actions

6.2.1 Subproject No.1: 220Kv Cau Bong – Hoc Mon – Binh Tan TL

The SPMB needs to be advised to monitor the restoration of the foundation at tower 45 and other remaining areas that are still under construction through proper backfilling works and planting of grass cover by the contractor to avoid soil runoff. At Tower 45, the drainage canal needs to be declogged or cleaned by the contractor to prevent water ponding that may form habitat of mosquitoes and other disease-causing vectors.

Follow up inspection should be done by SPMB to monitor the clearing of the materials on the access road of Mr. Ky to the property to ensure the access road properly rehabilitated before putting in use.

Follow up monitoring should be done by SPMB to ensure all tower foundations have applied soil conservation construction technologies to prevent them from soil erosion before putting in operation.

6.2.2 Subproject No.2: 220Kv Cau Bong – DucHoa TL

The PTC4 needs to conduct information dissemination to the villagers and communes to assure the residents of the structural soundness of the TL and also to inform them about the hotline or emergency number that they can contact in case of TL problems.

Monitoring of EMF levels along the ROW should be undertaken to ensure no any negative impacts due to electromagnetic field to residents whose houses located in the safe corridor.

6.2.3 Subproject No.3: 500KvPleiku – My Phuoc -CauBongTL

Through the inspection and monitoring round done by the consultant, it is showed that the implementation of the environmental mitigation measures of the project has achieved significant results and the CPMB's responsibilities have been completed. To ensure full compliance with the ADB's environmental policy specified in the EMP and the GOV's policy, PTC3& PTC4 will continue implementing activities to control vegetation within the RoW and control development along the RoW, regularly and randomly monitor EMF in order to ensure the safety for communities along the TL as well as the stable operation of the TL.

*****

APPENDIXES

ANNEX 1 SUBPROJECT NO.1: 220KV CAU BONG – HOC MON – BINH TAN TL

Annex 1.1: Summary of the environmental requirements in EMP/IEE and in B&C document

Environmental issues	Environmental requirements in the EMP/IEE	In B&C documents
Establishment of contractor's facilities (camps, offices, quarries, concrete batching areas etc).	- Sites are located so that they do not interfere with the welfare or social cohesion of surrounding communities - Site is limited to reduce unnecessary clearing of vegetation. - Sanitary soakage areas from offices and camps to be sited so that effluent is treated. - No discharge of grey water or sewage allowed to surface water systems. - Workshops to be provided with oil and water separators. - Fuel storage areas not to be located within 20m of watercourse. - Contractor's storage facilities may need to be surrounded by a security fence. - Concrete batching areas to be provided with bunds to control movement of runoff to waterways.	All environmental requirements in the EMP/IEE have been integrated into the B&C documents and the CEMP
Demarcation and clearing of RoW and ancillary facilities	- Define the 22m RoW width. - Identify tree to be removed within the RoW and arrange to get approval for remove. - Limit area to be cleared - Areas to be defined by a clear boundary. - Clearing boundaries need to be shown to machinery operators. - Cleared vegetative material to be offered to communities for use as fuel wood;	
Preparation of site: excavation, removal and disposal of unusable (incompetent) materials	- Limit area to be excavated. - Topsoil to be removed and stored for re-use. - Excavated material to be disposed of outside and away from the work area. - At completion of work dumping areas to be re-top soiled and re-vegetated.	
Dust management	- When dust is carried towards residential areas or becomes problematic on-site, the contractor is to apply dust control measures;	
Noise and vibration	- If particular noisy work is implemented, the work may need to be limited to daylight hours. - Noise not to exceed 55dBA at boundary of any residential area between 6hr and 21h00 and 45 dBA between 21h00 and 06h00;	
Wastewater at construction site	- Not allow to discharge waste water directly to water body surrounding the site ;	

Environmental issues	Environmental requirements in the EMP/IEE	In B&C documents
	- Make a discharging canal surroundingthe foundation holes to collect runoff water to reduce its turbidity before discharging it into water body surrounding the site ; - Not allow to spill oil and fuel from machinery to site;	
Prevention of soil erosion on construction site.	- Apply soil conservation and erosion protection technologies. - Avoid operating machinery in adverse ground conditions. - Protect and vegetate newly excavated areas as soon as possible	
Disposal of site waste	- All waste materials to be collected and sorted into two categories (i). those that can be recycled and - (ii) those that need to go to an approved landfill site for disposal;	
Storage and handling of: fuel and lubricants	- All fuel storage areas should be securely fenced and provided with oil and water separators. Fuel hoses and shut off valve to be locked. - Fuel should be stored in properly sealed containers. Regularly check its locks to prevent fuel from running over to environment. - All refueling to be done at least 20 m away from waterways by trained personnel - All waste oil and oil filters to be collected and if possible recycled, otherwise to be disposed of to landfills - The contractor needs to train refueling personnel in these procedures. The contractor has to develop an accidental spill handling action plan	
Community Safety from increased vehicle movements	- All vehicles need to be properly maintained and operated in accordance with transportation laws. - All loads should be properly secured and fugitive loads to be covered. - Drivers are fined if ignore safety requirements.	
Workplace health and safety	- Contractor should abide by: Vietnamese Labor Code as amended 2002 as follow: - Provided workers be with safety working environment - Erect warning signs and barriers around work areas - Not allow drugs or alcohol on-site; - Control noise and dust provided all workers with safety equipment appropriate for the task they are employed. - The workers are to be supplied on-site with: Potable water, sanitary toilet, washing and showering facilities. - Prepared work safety regulation for each activity	

Environmental issues	Environmental requirements in the EMP/IEE	In B&C documents
	- Before execution, workers need to be introduced and explained site safety procedures. - Provided medical and first aid facilities together with a person qualified in first aid.	
Chance discovery of archaeological and cultural sites	- No known sites. Chance discoveries should be notified to the SE who will report to the EO. EO would advice on procedure for dealing with chance discoveries.	
Clearance and rehabilitation of Construction sites and removal of contractor's facilities.	- All solid waste should to be removed from sites and disposed in approved landfills. - All contaminated soil should be removed. - All sites must be rehabilitated and restored to original condition. - Drainage should be re-established. - Those activities should be included as part of final inspection before payment made.	
Public access to site	- Erect warning signs and barriers around work areas. - Site can only be accessed with permission of contractor. - Visitors are to be warned against site hazards to avoid possible accident	
Operation activities		
Control of vegetation along RoW	- Vegetation cut and controlled to safe operating limits. - Use hand labor	Construction Contractor before put the line into operation and PTC4 during operation
Control of development within TheRoW.	- All buildings kept out of 22 m RoW - All buildings outside 11m RoW width from centerline to 36 m earthed.	

Contractor VNECO hired the vacant ground of Ms. Hanh for temporary disposal of excavated material of tower No 42 (Dong 1 village, Thoi Tam Thon commune, Hoc Mon district, HCMC) (CB- HM- BT);

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – Hạnh phúc

BIÊN BẢN HỢP ĐỒNG

Thuê đất làm công trình đường dây 220kV Cầu Bông – Hóc Môn rẽ Bình Tân

Hôm nay, vào lúc..8h20.., ngày 8...tháng..3...năm 2016, tại...VT 42 đường dây 220KV Cầu Bông Hóc Môn rẽ BT......, chúng tôi gồm có:

1 – Đại diện bên cho thuê đất (BÊN A):

Ông: (Bà)...Phạm Thị Hạnh....

Số CMND:..024225942.. CA TPHCM cấp 16/11/2004..............

Địa chỉ:..B45 [illegible] Tổ 5 Chung cư [illegible] Vĩnh Thới P.8 Q.11.....

Số điện thoại:..0919.68.9422......................................

2 – Đại diện bên thuê đất (BÊN B):

Ông:..Hoàng Mạnh Hùng.....

Ông:..Lê Xuân.....................

Tổng công ty cổ phần xây dựng điện Việt Nam

Địa chỉ: 344 Phan Châu Trinh – P.Bình Thuận – Q.Hải Châu – Tp Đa Nẵng

Số điện thoại (Ông Hùng): 0935555720

Nội dung; Hai bên cùng thống nhất với nội dung như sau:

..gia đình chị Hạnh nhất trí cho đơn vị thi công mượn...

..đất tại VT 42 để thi công móng [illegible] với giá tiền...

..là 6 triệu (sáu triệu đồng chẵn) một tháng...

......[illegible] khi vào thi công phải nộp [illegible] 01 tháng..

..[illegible] theo tháng thứ 2 phải thanh toán [illegible]...

..[illegible] ngày đầu của tháng tiếp theo.........................

Bên A đảm bảo thửa đất trên không có tranh chấp với ai, nếu xảy ra tranh chấp thì Bên A sẽ chịu hoàn toàn trách nhiệm trước pháp luật và bồi hoàn cho đơn vị thi công.

Phương thức thanh toán:..thanh toán tiền mặt..........

Tiền thuê: ...6.000.000đ (sáu triệu đồng) một tháng.........

Thời hạn:...khoảng 2 tháng..................................

Bản hợp đồng được lập thành 02 bản, mỗi bên giữ 01 bản để thực hiện.

BÊN CHO THUÊ ĐẤT (BÊN A)	BÊN THUÊ ĐẤT (BÊN B)
Hanh Phạm Thị Hạnh	Lê Xuân [illegible]

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập – Tự do – hạnh phúc

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GIẤY BIÊN NHẬN TIỀN ĐỀN BÙ, HỖ TRỢ

Công trình: Đường dây 220kV Cầu Bông – Hóc Môn rẽ Bình Tân

Vị trí: 42

Họ và tên chủ tài sản: Phạm Thị Hạnh

Địa chỉ: B45 – 10.B Tầng 5 Chung cư Bình Thới, P.8 Q.11

Số CMND: 024275942 Cấp ngày 16/11/2004 Nơi cấp CA TPHCM

Tôi đã nhận đủ số tiền: 6 [illegible]

Bằng chữ: Sáu triệu đồng chẵn

Lý do nhận tiền: Thanh toán tiền thuê bãi một tháng 9/3 → 9/4/2016

Số tiền tôi nhận là đúng thực tế thiệt hại của gia đình tôi. Tôi không còn thắc mắc khiếu nại, tôi không cản trở đơn vị thi công. Nếu tôi vi phạm xin chịu hoàn toàn trách nhiệm.

NGƯỜI GIAO TIỀN	NGƯỜI NHẬN TIỀN
(Ký, ghi rõ họ tên)	*(Ký, ghi rõ họ tên)*
Lê Xuân Thiệu	Hạnh Phạm Thị Hạnh

XÁC NHẬN CỦA UBND XÃ, PHƯỜNG

Subprojectof 220kV Cau Bong – Duc Hoa TL (CB- DH);

	
Mr Huy was satisfied with the correction	Hua Quoc Huy’s wall was rebuilt

ANNEX 2 SUBPROJECT NO.3: 500KV PLEIKU – MY PHUOC -CAU BONG TL

Annex 2.1 Some photos of site visits

Photo1: The pole ground in Gia Lai province is stable after the two years of operation

Photo 2: Warning signs at a power pole after the two years of operation

Photo 3: A technical staff of PTC3 checked to maintain the TL

Photo 4: The RoW in Gia Lai province (controlled by PTC3)

Photo 5: A sign at a power pole in BinhPhuoc province

Photo 6: Workers of PTC4 planted pea grass from the pole No. 5016 to 5019 to cover the pole ground, preventing the growing of other types of grasses and controlling soil erosion at slope areas

Annex 2.2 Some photos of communication programs

Photo 7: Mobile communication in Gia Lai province (implemented by PTC3)

Photo 8: A meeting for communication at Nghia Hoa commune, Chu Pah district, Gia Lai province (implemented by PTC3)

Photo 9: Mobile communication in Binh Duong (implemented by PTC4)

Photo 10: Communication to pupils in Binh Duong province (implemented by PTC4)

Photo 11: Communication to a household in BinhPhuoc province (implemented by PTC4)

Photo 12: Communication to pupils at a secondary school in BinhPhuoc province (implemented by PTC4)

Annex 2.3: Electric field strength levels in Gia Lai and Dak Lak province in May & June 2016 (PTC3)

Nr.	In between the Picket No.	Electric field (kV/m)	Temperature (^{0}C)	measuring time
I.	**Gia Lai province**			
1	11-12	4.7	28.5	25/5/2016
2	58-59	3.5	29.5	25/5/2016
3	77-78	3.8	30.0	25/5/2016
4	96-97	4.5	29.0	25/5/2016
5	106-107	4.9	30.0	25/5/2016
6	114-115	4.7	30.5	25/5/2016
7	121-122	3.9	29,5	25/5/2016
II.	**Dak Lak province**			
1	280-281	3,6	31	03/6/2016
2	286-287	3,8	31	03/6/2016
3	299-300	3,2	32	03/6/2016
4	301-302	2,8	32	03/6/2016
5	351-352	3,5	33	03/6/2016
6	354-355	3,0	33	03/6/2016

Annex 2.4: Electric field strength levels in DakNong province on 28-29 June 2016 (PTC3)

Nr.	In between the Picket No.	Temperature (^{0}C)	The location of electric meter	Electric field (kV/m)
1.	5003-5004	27	Gầnnhàrẫy, cáchmạch 2 khoảng 11,5m, cáchtrụ 5003 khoảng 69m.	**5.2**
2.	5003-5004	27.5	Dướimạch 2, cáchtrụ 5003 khoảng 67m.	2.9
3.	5003-5004	27.5	Điểmgiaochéomạch 2 vàđườngđất, cáchtrụ 5003 khoảng 30m.	**9.5**
4.	5003-5004	27.5	Điểmgiaochéomạch 1 vàđườngđất, cáchtrụ 5003 khoảng 24m.	**7.3**
5.	5003-5004	27	Trênđườngđất, cáchdâydẫnmạch 1 khoảng 12,5m.	2.88
6.	4918-4919	25	Dướimạch 01, gầnnhàrẫy	**6.19**
7.	4918-4919	26	Giữa 2 mạch, gầnnhàrẫy	**8.24**
8.	4918-4919	26	Cáchmạch 01 khoảng 9,5mvềphíanhàrẫy.	**5.46**
9.	4918-4919	26	Bêntronghiênnhàrẫy, cáchđườngdây 12m.	0.08
10.	4917-4918	26.5	Cáchmạch 2 khoảng 8,5m, cáchnhàdân 9m	2.3
11.	4917-4918	26.5	Cáchmạch 2 khoảng 18,5m vàgầnsâncủanhàdân.	0.2
12.	4916-4917	27	TrênhiênnhàÔngNguyễnĐứcĐịnh.	0.167
13.	4916-4917	27	Trongphòngngủcủachủhộ: ÔngNguyễnĐứcĐịnh.	0,002
14.	4916-4917	27	Bênngoàisânphơicàphêcủachủhộ: ÔngNguyễnĐứcĐịnhvàdướimạch 1.	**12.9**
15.	4916-4917	27	Điểmgiaochéođườngđấtvớiđườngdâymạch 2.	**12.2**

Annex 2.5: Electric field levels in house and outdoors at 26 houses along the RoW in BinhPhuoc province in May and June, 2016 (PTC4)

Nr.	In between the Picket No.	Household Owner	Electric field (kV/m)	
			In House	Outdoors
I.	**Bu Dang district**			
1	5112 - 5113	HuỳnhVănTấn	0.06	0.08
2	5117 - 5118	VắngChủ	0.07	4.80
3	5118 - 5201	TháiHữuChâu	0.05	1.30
4		PhạmThế Minh	0.04	1.25
5	5409 - 5501	VắngChủ	0.08	2.80
6	5404 - 5405	NgôThịHiện	0.05	0.09
7	5405 - 5406	NhữĐăngQuân	0.70	1.42
8	5401 - 5402	VắngChủ	0.01	0.91
9	5702 - 5703	PhạmBáThông	0.04	0.15
II.	**Dong Phu district**			
1	6009-6010 (664-665)	BùiVănViệt	0.0034	0.0183
2	6110-6111(683-684)	TrầnThịOanh	0.00195	0.0023
III.	**Chon Thanh district**			
1	737 - 738	PhạmVănThỏa	0.098	0.95
2	742 - 743	LêThịMười	0.097	0.94
3	742 - 743	PhạmĐìnhĐiểu	0.152	1.02
4	742 - 743	HồSỹTưởng	0.164	1.04
5	742 - 743	VũMạnhTuyên	0.096	0.94
6	743 - 744	PhạmThịThúyHà	0.124	0.95
7	743 - 744	PhíXuânTrượt	0.134	0.97
8	743 - 744	PhạmĐìnhTuận	0.079	0.87
9	745 - 746	Nhàvắngchủ	0.145	1.24
10	743 - 744	PhạmĐìnhĐiểu	0.184	1.023
11	743 - 744	VũĐứcMiên	0.097	0.084
12	743 - 744	PhạmThịThúyHà	0.076	0.065
13	743 - 744	PhạmĐìnhTuận	0.142	0.145
14	743 - 744	ĐặngVănChâu	0.184	1.02
15	746 - 747	NhàVắngChủ	0.124	1.12

Annex 2.6: Electric field at some points in Binh Duong province in June 2016 (PTC4)

Nr.	In between the Picket No.	Electric field (kV/m)		Notes
		Within the RoW	Outside the RoW	
01	7111-71A01	4.9	2.5	Crossing road
02	71A04-71A05	4.6	2.4	Crossing road
03	71A09-71A10	5	2.8	Crossing road
04	7203-7204	5.3	2.6	Crossing road
05	7207-7208	4.8	2.4	Crossing road
06	7302-7303	4.9	2.7	Crossing road
07	7310-7401	4.4	2.3	Crossing road
08	7501-7502	5.2	3	Crossing road
09	7502-7601	5	2.8	Crossing road
10	7702-7703	5.4	2.9	Crossing road
11	7804-7805	5.2	2.7	Crossing road
12	7805-7901	4.9	2.7	Crossing road
13	7905-7906	5.6	3	Crossing road
14	7907-8001	5.3	2.8	Crossing road
15	8002-8003	5.1	2.7	Crossing road
16	8003-8004	4.6	2.2	Crossing road
17	8101-8102	4.8	2.7	Crossing road