

Environmental Monitoring Report

3rd Quarterly Report
November 2015

VIE: Power Transmission Investment Program - Tranche 1

Prepared by Northern Power Projects Management Board (NPPMB) for the Vietnam Electricity and the Asian Development Bank.

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**NATIONAL POWER TRANSMISSION CORPORATION
Northern Power Projects Management Board**

ADB LOAN 2848-VIE

**POWER TRANSMISSION INVESTMENT PROGRAM – TRANCHE 1
SUBPROJECT: Pho Noi 500kV Substation**

QUARTERLY ENVIRONMENTAL MONITORING REPORT 2015 (Report No.7)

(July through September, 2015)

Submitted by:
Northern Power Projects Management Board

Hanoi, September 2015

ABBREVIATION

ADB	Asian Development Bank
CEP	Certification of Environmental Protection
CMC	Construction Monitoring Consultants
CPC	Commune People’s Committee
CPPMB	Central Power Project Management Board
DPC	District People’s Committee
DONRE	Department of Natural Resources &Environment
EM	Environmental Monitoring
EMF	Electromagnetic Field
EMP	Environment Management Plan
ES	Environmental Staff
ES	Environmental Sanitation
IEE	Initial Environmental Examination
LIC	Local Implementation Consultant
MONRE	Ministry of Natural Resource &Environment
NPPMB	Northern Power Project Management Board
NPT	National Power Transmission Corporation
QCVN	Vietnam Technical Standard
ROWs	Right of Ways
SPS	Safeguard Policy Statement
S/S	Substation
TCVN	Vietnam Standard
T/L	Transmission line

TABLE OF CONTENT

1.	INTRODUCTION.....	4
1.1.	<i>Project Background</i>	<i>4</i>
1.2.	<i>Purpose of the Report.....</i>	<i>5</i>
2.	INCORPORATION OF ENVIRONMENTAL REQUIREMENTS INTO PROJECT CONTRACTUAL ARRANGEMENTS.....	6
2.1	<i>Policy, legal and administrative framework</i>	<i>6</i>
2.2	<i>Institutional Arrangements and Responsibilities.....</i>	<i>8</i>
3.	SUBPROJECT CONSTRUCTION PROGRESS	9
3.1.	<i>Pho Noi 500kV Substation</i>	<i>9</i>
4.	ENVIRONMENTAL MONITORING PROGRAM.....	15
4.1.	<i>Pho Noi 500kV Substation</i>	<i>15</i>
4.2.	<i>Community Health and safety (CHS) aspects</i>	<i>19</i>
5.	PROGRESS OF RESOLVING ISSUES AND PROBLEMS IDENTIFIED IN PREVIOUS REPORT	20
6.	CONCLUSION AND RECOMMENDATION.....	20
6.1	<i>Achievements.....</i>	<i>20</i>
6.2	<i>Recommendation</i>	<i>20</i>
7.	ANNEXES.....	32

1. INTRODUCTION

1.1. Project Background

1. The Electricity of Viet Nam (EVN) plans to develop transmission networks and substations that will support economic growth in Viet Nam and ensure access to reliable supply of electricity throughout the country. The Government of Socialist Republic of Viet Nam (GOV) hopes to meet its target of connecting 90% of the population to electricity by 2020 and subsequently 100% coverage by 2025. The construction of power transmission and distribution networks will be able to accommodate the required energy of new power plants in the future.
2. A least cost development plan for Viet Nam between 2006 and 2015 was developed under the Master Plan of Power Development of Viet Nam No. VI. A program of transmission lines and substations, provision of meters and rehabilitation of urban and rural low voltage distribution networks or grids were identified in the master plan. Asian Development Bank (ADB) is financing the Power Transmission Investment Program covering the medium-term development plan for power transmission by the multi-tranche financing facility (MFF).
3. There are 4 subprojects included in the first loan tranche of the Multi tranche Financing Facility: Power Transmission Investment Program (the Facility) that finances part of the National Power Transmission Corporation's (NPT) medium-term power transmission expansion program. In Viet Nam, The first tranche is financing 4 projects: (i) 500/220 kV Pho Noi substation; (ii) 500 kV/220 kV Pho Noi – Bac Ninh 2 transmission line; (iii) 220 kV Phu My 2 substation; (iv) 220 kV Song May – Uyen Hung transmission line. The Project also finances nonphysical actions including (i) consulting services for (a) procurement, construction supervision and management, and implementation of social safeguards, (b) on the job-training for preparing and implementing resettlement and ethnic minority development plans, environmental impact assessments and management plans for subsequent financing tranches, (ii) an independent monitoring agency to monitor effective implementation of social safeguards, and (iii) an independent monitoring consultant as a third-party member for the review of draft bidding documents and to participate in the evaluation of bids and thus, guarantee that affiliation of an eligible bidder with Ministry of Industry and Trade (MOIT) / Viet Nam Electricity (EVN) does not affect the integrity and fairness of the competitive bidding process.
4. The 500 kV/220 kV Pho Noi – Bac Ninh 2 transmission line and associated 500/220 kV Pho Noi substation are located in the northern part of Viet Nam. The starting point of the transmission line is the 500 kV bus bar of the Pho Noi substation that is located in the Hung Yen province and the ending point is the 220 kV bus bar of the Bac Ninh 2 substation located in the Bac Ninh province.
5. The project features of 500/220kV Bac Ninh 2 – Pho Noi transmission line is presented in Table 1:

Table 1. The project features of 500/220kV Bac Ninh 2 – Pho Noi transmission line

Items	Description/date
Contractor	JV of Song Da 11 & Song Da 11 Thang Long & IEC
Contract Amount	368.668 mil. VND
Invitation for Bids	28 th August 2012
Bid Opening	11 October 2012
Date of submission of BER to EVNNPT	05 th November 2012
Date of submission of BER to ADB/AFD	1 st time: 14th December 2012 Revised: 06 th February 2013, 29 th March 2013, 10 th May 2013,

	28 th June 2013.
ADB/AFD Approval of Award	04 th October 2013
EVNNPT Approval of Award	16 th October 2013
Operative L/C	NA
Contract Effectively	30 September 2013
Orig. Contract Expiry	Delivery time: 12 months

6. The project approval dates of 500kV / 220kV Pho Noi substation and connections are as follows:

The Feasibility Study was approved by EVN/ National Power Transmission Corporation on the Decision No. 633/QD-EVNNPT dated 12th July 2010. The Technical Design and Total Estimation were approved by EVNNPT on the Decision No. 1225/QD-EVNNPT on 13th December 2011. The Bidding Plan was approved by EVNNPT on the Decision No. 1017/QD-EVNNPT dated 20th October 2011.

Items	Description/date
Contractor	- Lot 3.1: Bach Dang Construction Corporation - Lot 3.2: Power Construction Company No.1 (PCC1) - Lot 3.3: Consortium of PCC1 and Song Da 11 JSC
Invitation for Bids	19 th May 2014
Bid Opening	30 th June 2014
Date of submission of BER to EVNNPT	01 st August 2014
ADB/AFD Approval of Award	December 17 th , 2014
EVNNPT Approval of Award	5 th November 2014

7. In the implementation progress, the national experts are assisting NPPMB in environmental management planning and implementation of resettlement plans.
8. To further assist NPPMB to review safeguards documents to ensure compliance with ADB safeguards policy and to monitor implementation of the safeguards the local implementation consultant (LIC) – environment has been engaged in a lump-sum contract for 36 months, starting from January, 2014.

1.2. Purpose of the Report

9. This First Quarterly Internal Monitoring Report 2015 for Safeguard Policy will focuses on the following issues:
- (i) Subproject construction progress;
 - (ii) Environmental monitoring program;
 - (iii) Application of mitigation measures;
 - (iv) Evaluation of applied mitigation measures application;
 - (v) Progress of resolving issues/ problems identified in previous reports;
 - (vi) Key Issues and recommendation.

2. INCORPORATION OF ENVIRONMENTAL REQUIREMENTS INTO PROJECT CONTRACTUAL ARRANGEMENTS

2.1 Policy, legal and administrative framework

2.1.1 ADB's Environmental Policies

10. All ADB financed projects must undergo environmental impact assessment classification. Based on the environmental impact scale, the environmental impact assessment report (EIA) or Initial Environmental Examination (IEE) report should be prepared. The environmental safeguards aim to ensure the environmental soundness and sustainability of projects. It also aims to support the integration of environmental considerations in the project decision-making process.
11. The SPS clarifies the rationale, scope and content of an environmental assessment as supported by technical guidelines (Environmental Assessment Guidelines 2003). The environmental assessment process calls for the initial screening of the project to determine, at the early stage, the level of assessment that is required so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.
12. SPS introduces emphasis on the effective implementation of environmental safeguards. The objectives of ADB's safeguards are to:
 - (i) Avoid adverse impacts of projects on the environment and affected people, where possible;
 - (ii) Minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible; and
 - (iii) Help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks.¹
13. The SPS contains a number of operational principles that includes the requirement to ensure that the measures identified during the impact assessment are included in the EMP and were implemented in agreement with the borrower. The borrower/client is required to monitor the progress of implementation of the EMP, document the monitoring results, identify necessary corrective actions, and reflect them in a corrective action plan. Periodic monitoring reports on progress of implementation of the EMP and the corrective actions, if any, are submitted to ADB on a semi-annual basis during the construction of projects with significant adverse environmental impacts and quarterly for highly complex and sensitive projects. During operation, reporting to ADB by projects with significant adverse impacts is required on an annual basis at the minimum.
14. Under SPS, the project has been evaluated considering the completion of the Environmental Categorization Form (Appendix 1) and Rapid Environmental Assessment Checklist (Appendix 2). The adverse environmental impacts of the project are considered site-specific and reversible. Therefore, it has been classified as Category B, requiring an IEE.

2.1.2 Viet Nam Environmental Policies

15. The policies on environment protection, power network protection, and land and construction in Viet Nam are presented in this section. Legal documents and approvals required for the project, issued by the national and local governments, are also included. Lastly, a brief discussion on the Environmental Impact Assessment (EIA) process and requirements in Viet Nam is provided.

Environmental Protection Law

16. National laws and regulations for environment protection applicable to the project are

¹Asian Development Bank. June 2009. *Safeguard Policy Statement*, enforced January 2010.

presented in Table 1. The Environment Protection Law is the main governing law. This is subsequently followed by implementation guidelines, amendments, and regulations. The related regulations on impact assessments, waste management, sanctions on administrative violations, incentives and support, and national technical regulations on quality of environmental media are also outlined in the Table 2.

Table 2. Environment Protection Law and Regulations

Laws and Regulations	Description
Environment Protection Law No. 55/2014/QH13 Date issued: 23/6/2014	Regulates environmental protection activities; policies, measures and resources for protection of the environment; and the rights and obligations of organizations, family households and individuals with respect to protection of the environment.
Decree No. 18/2015/NĐ-CP Date issued: 14/02/2015	Regulation on the strategic environmental assessment, environmental impact assessment and environmental protection commitment.
Decree No. 117/2009/ND-CP Date issued: 31/12/2009	Regulation on sanctioning administrative violations in environmental protection
Decree No. 04/2009/ND-CP Date issued: 14/01/2009	Incentives and support for environment protection activities
Decree No. 59/2006/ND-CP Date issued: 09/4/2007	Regulation on solid waste management
MONRE Circular No. 05/2008/TT-BTNMT Date issued: 08/12/2008	Guiding strategic environment assessment, environmental impact assessment, and environment protection commitment.
MONRE Circular No. 12/2011/TT-BTNMT Date issued: 14/14/2011	Regulation on hazardous waste management
MONRE Decision No. 16/2008/QĐ-BTNMT Date issued: 31/12/2008	National Technical Regulation on environment regarding surface water quality (QCVN 08: 2008/BTNMT), underground water quality (QCVN 09: 2008/BTNMT, and domestic wastewater (QCVN 14: 2008/BTNMT) among others
MONRE Circular No. 16/2009/TT-BTNMT Date issued: 07/10/2009	National Technical Regulation on air quality (QCVN 05: 2009/BTNMT) and hazardous substance in ambient air (QCVN 06: 2009/BTNMT)
MONRE Circular No. 25/2009/TT-BTNMT Date issued: 16/11/2009	National Technical Regulation on hazardous waste threshold (QCVN 07: 2009/BTNMT), among others
MONRE Circular No. 39/2010/TT-BTNMT Date issued: 16/12/2010	National Technical Regulation on Noise (QCVN 26:2010/BTNMT) and Vibration (QCVN 27:2010/BTNMT) among others.

Other Related Laws and Regulations:

17. Power Network Protection. The electricity law prescribes the detail for the power industry in areas such as development planning and investments, privileges and responsibilities of related organizations and individuals, protection of electric equipment and facilities, and safety, among others (Table 3). Implementation guidelines, amendments, and safety protection were detailed in succeeding government decrees and ministry circulars.

Table 3. Power Network Protection Laws and Regulations

Laws and Regulations	Description
Electricity Law No. 28/2004/QH11 Date issued: 03/12/2004	Prescribing the electricity development planning and investment; electricity saving; electricity markets; rights and obligations of organizations and individuals conducting electricity activities and using electricity; protection of electric equipment and facilities, electricity works and electric safety.
Government Decree No. 105/2005/NĐ-CP Date issued: 17/08/2005	Detailing the regulations and guidelines in the implementation of a number of articles of the Electricity Law.
Government Decree No. 106/2005/NĐ-CP Date issued: 17/08/2005	Detailing the guidelines in the implementation of a number of articles of the Electricity Law regarding the safety protection of high-voltage power grids.
Government Decree No. 81/2009/NĐ-CP Date issued: 12/10/2009	Amending and supplementing a number of articles of Government Decree No. 106/2005/NĐ-CP (Date issued: 17/08/2005) detailing the guidelines in the implementation of Electricity Law on safety protection of high voltage power grid works.
MIT Circular No. 06/2006/TT-BCN Date issued: 26/09/2006	Implementation of a number of provisions of the Government Decree No. 106/2005/NĐ-CP (Date issued: 17/08/2005) detailing the guidelines in the implementation of a number of articles of the Electricity Law regarding the safety protection of high-voltage power grid works.
MIT Circular No. 03/2010/TT-BCT Date issued: 22/01/2010	Providing for a number of contents on safety protection of high-voltage power grid works.

2.2 Institutional Arrangements and Responsibilities

2.1.1 NPPMB

18. The NPPMB as the Implementing Agency (IA) of the project has the overall responsibility for the planning, design, construction, and operation of the project. The NPPMB is also responsible for the implementation of environmental management, mitigation, and monitoring measures outlined in the EMP. During the design phase, the NPPMB commissioned PECC3 to undertake the feasibility study, IEE, and RAP.
19. The NPPMB has a technical monitoring unit which is responsible for the monitoring of performance of contractors which also includes periodic environmental monitoring in the project area. The unit is also involved in the conduct of public consultation meetings to gather feedbacks from local residences on environmental problems arising during the construction phase, the results of which are forwarded to the NPPMB. The environmental tasks of the technical unit are as follows:
 - (i) Assign an environment staff to monitor and manage the implementation of the EMP.
 - (ii) Ensure that the project implementation is in accordance to the requirements of the GOV and ADB on environmental management and protection.
 - (iii) Manage and monitoring the activities of construction contractors, particularly in the implementation of the EMP.
 - (iv) Prepare environmental monitoring reports for submission to NPT and ADB.
20. In addition, a Project Implementation Consultant will be commissioned to assist NPPMB in the overall project management.

2.1.2 Constructor

21. The construction contractor will be responsible in implementing the mitigation measures which are recommended during the construction phase. The contractor is also required to submit monthly reports on the implementation of the mitigation measures to NPPMB.
22. The constructor needs to prepare SEMP, responsibilities of CMC's staff consist of supervising order and procedures of capital construction, supervising technical criteria, materials mobilization and construction progress of the Contractor, etc. Besides, CMC is also in charge of supervising the Contractor's implementation of mitigation measures.

3. SUBPROJECT CONSTRUCTION PROGRESS

3.1. Pho Noi 500kV Substation

23. The Pho Noi 500kV Substation and power connection lines project is a new and independent construction project.
24. The Pho Noi 500/220kV Substation will be constructed in agricultural land area in Dong Chung, Sam Khuc hamlets of Viet Hung commune, Van Lam district, Hung Yen province.
25. The 500kV and 220kV transmission lines connecting to this substation will be located in three (3) provinces of Hung Yen, Hai Duong and Bac Ninh.
26. The main construction items are as follows:
 - + New construction of Pho Noi 500kV Substation, accommodation and guard house with total land area of 127,080 m².
 - + New construction of access road to Pho Noi 500kV Substation with total land area of 55,030 m².
 - + New constructions of 500kV double circuit connection lines connecting to the substation including connection line No. 1 (to Thuong Tin) with the length of 662m and connection line No. 2 (to Quang Ninh) with the length of 568m. The total occupied land area for pole foundation construction is 4,440 m² (05 pole foundations).
 - + New constructions of 220kV 4-circuit transmission lines connecting to the substation including 2 routes: transmission line No. 1 (to Pha Lai, Gia Loc) with the length of 5,107m and transmission line No. 2 (to Pho Noi, Thuong Tin, Kim Dong) with the length of 4,578m. The total occupied land area for pole foundation construction is 12,032 m² (32 pole foundations).
 - + New construction of 22kV single circuit auxiliary transmission line for auxiliary power supply (from pole No. 136 of 22kV transmission line for overload prevention of Nhan Vinh intermediate substation) with the length of 2,423m. The total occupied land area for pole foundation construction is 154 m² (22 pole foundations).

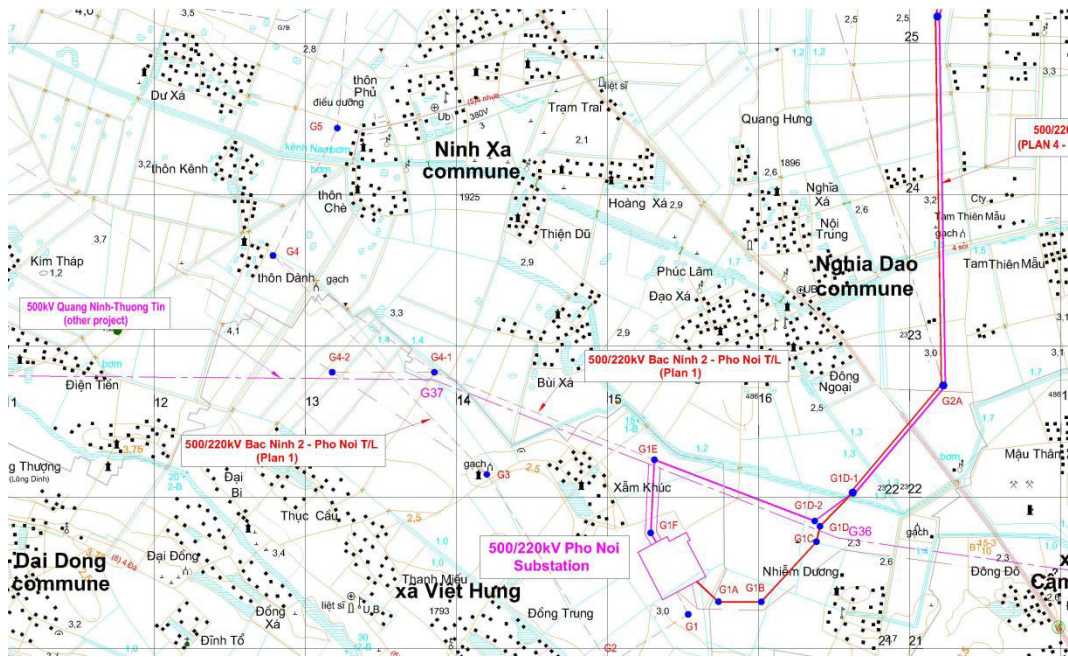


Figure 2. Pho Noi 500kV Substation location

29. The subproject construction activities in this period are presented in Table 5.

Table 4. Project progress of Pho Noi 500kV Substation

No	The main construction items	Contractor	Progress
1	500kV connection line to the substation	Lot 3.3: Consortium of PCC1 and Song Da 11 JSC	Done
2	220kV connection line to the substation	Lot 3.3: Consortium of PCC1 and Song Da 11 JSC	Done
3	Pho Noi 500kV Substation		
3.1	Ground leveling and grading: The construction area will be located in rice paddies and crop land area. According to the survey document of the substation area, this area will be inundated to the elevation of +3.35m in the rainy season (corresponding to frequency of 2%). Therefore, leveling and grading for substation's ground is soil and sand fill embankment in order to avoid inundation to substation ground and access road. The substation ground will be sloped to 0.5% for draining the rain water.	Lot 3.1: Bach Dang Construction Corporation	Peeling organic soil layer: 85% Sand leveling: 50%
3.2	The control house: 2 story house. The dimension of ground floor is (18.0x27.0)m with height of 4.85m. The dimension of the first floor is (18.0 x 27.0)m with height of 4.55m. The wall is built of brick with M50 cement grout. Frame and floor will monolithically be constructed with M200 reinforced concrete.	Lot 3.2: Power Construction Company No.1 (PCC1)	<ul style="list-style-type: none"> - Foundations dug 1300m length - 1m thick sand cushion over 1200m length - Blind Concrete constructed 1000m length - Reinforcement and wall erection 900m height. - Wall concrete: 800m
3.3	Accommodation: includes two 1-story houses. Each house has 5 compartments with dimension of 9.5mx18m. Foundation and bracing structures will be RC. Wall will be made of brick masonry. The floor will be tiled with ceramic tiles. The roof will be made of ausam metal sheets for heat and leakage prevention.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet

Loan 2848-VIE: Power Transmission Investment Program – Tranche 1

3.4	Guard house: the dimension is (3.6x5,1) with concrete foundation; brick wall, reinforced concrete roof with anti-heat brick on top.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet
3.5	Foundation for transformer, shunt reactor and emergency oil tank will be constructed of cast-in situ reinforced concrete. Foundation for transformer and emergency oil tank will be designed for 500kV-900MVA transformer.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet
3.6	Foundation for transformer, shunt reactor and emergency oil tank will be constructed of cast-in situ reinforced concrete. Foundation for transformer and emergency oil tank will be designed for 500kV-900MVA transformer.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet
3.7	500kV, 220kV poles and arm: will be made of combination of hot-dipped galvanized shaped steel connected by bolts.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet
3.8	Foundation for pole and equipment supporting column: will be constructed of cast-in situ RC.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet
3.9	Cable trench will be underground. Wall and bottom will be made of concrete. The cover will be made of RC. The trench section passing through roads will be strengthened to accommodate the load of transport vehicles.	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet
3.10	Internal road of the substation: Its structure will be Asphalt Concrete with the width of 4m and 6m.	Lot 3.1: Bach Dang Construction Corporation	
	External road of the substation: - The access road to 500kV substation will be connected from the provincial road No. 388 at Km13+360 to the gate of 500kV Pho Noi substation		Route to substation • 0 km to Km 0+562.01: - Roadbed embankment: finished - Road embankment: finished 400 m

	<p>with the length of 2,495.89 m, width of 5.5m. The width of shoulder is 1m. The road is classified as Grade V road in plain area.</p> <ul style="list-style-type: none"> - On the access road, there is one bridge passing through Cam Giang river. This bridge is permanently design with load bearing capacity of HL93, including one-span of M400 pre-stress concrete, span length of L= 33 m. The length of the whole bridge measuring to the end of abutment is 64.10 m. The width of this bridge is 8.0 m. The cross section of the span includes four (4) I-beams of prestressed RC with the height of 1.65 m. The interval between girders is 2.0 m. On the span, 5 lateral beams will be constructed. 		<ul style="list-style-type: none"> - Concrete beam construction: 400 m subase. • Km 1+500 to Km 2+495: <ul style="list-style-type: none"> - Roadbed embankment: 1500m (km 2+0.00m) - Concrete beam construction 1500m subase (km1+800m) - Digging and constructing sheath 1300m (km 1+700m). - Construction of slope sheath ceiling on roadbed 1100m (km 1+500m). - Irrigation channel: 40m (2x1.5m). • Cẩm Giàng river bridge: <ul style="list-style-type: none"> - Done 04/04 main beams. - Concrete beam 04/04 main beams. - Excavation blinding concreting abutment 01 - Reinforce concrete pile: 36/48 piles(40x40cm).
3.11	<p>Water supply and drainage: The domestic water supply for the substation will be from drilled well. The water drainage for substation will partially be flowed on the ground to outside. The remaining water will be collected into manhole and drained to outside.</p>	Lot 3.2: Power Construction Company No.1 (PCC1)	<ul style="list-style-type: none"> - Irrigation channel: 40m (2x1.5m).
3.12	<p>Fire prevention and fighting system: One (01) □150 steel tube system supplying water from pumping station to spraying system of 500kV transformer, 500kV shunt reactor and outside hydrants, hoses and hand-held</p>	Lot 3.2: Power Construction Company No.1 (PCC1)	not done yet

	<p>nozzles will be equipped.</p> <p>Two (02) water tanks for firefighting with capacity of 130m³/tank will be constructed.</p> <p>A pumping station equipped with one (1) electric pumping machine with capacity of Q=186 m³/h , H= 120m, 01 diesel pumping machine with capacity of Q=186m³/h, H= 120m and 01 booster pumping machine with capacity of Q=4m³/h , H= 125m will be constructed.</p> <p>Devices for firefighting: CO₂ gas tanks, power containers and other ordinary firefighting in accordance with the current Standards.</p>		
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4. ENVIRONMENTAL MONITORING PROGRAM

4.1. Pho Noi 500kV Substation

23. The environmental monitoring program undertaken by the NPPMB and Contractor during the executing phase is presented in Table 6.

Table 6. Monitoring program

Environmental issues	Monitoring Location	Monitoring Activities	Monitoring Frequency	
			Contractor	NPPMB
Clearing of vegetation	ROW and transportation routes	Monitor tree cutting	Daily	Monthly
Erosion and sedimentation	Tower foundation area	Inspection of excavation works, silt arising from exposed soil surface, implementation of erosion control measures	Daily	Monthly
Dust	<ul style="list-style-type: none"> - Local road, - Surrounding residential area, - Construction site. 	<ul style="list-style-type: none"> - Monitor and inspect dust condition around construction area and transportation routes, - Consult with local people on dust problem during construction. 	Daily	Monthly
Noise	Surrounding residential area	<ul style="list-style-type: none"> - Monitor noise during materials delivery and operation of construction equipment, - Consult with local people on noise caused by construction activities 	Daily	Monthly
Waste management	Workers' camp sites	<ul style="list-style-type: none"> - Inspection of worker camp site condition, - Check proper solid waste disposal 	Daily	Monthly
Health and safety	Transmission line construction	Review contractor/ construction worker health and safety plan and training activities on health and safety	Daily	Monthly
Damage/nuisance	<ul style="list-style-type: none"> - ROW and around the project area, - Public road 	<ul style="list-style-type: none"> - Monitor and inspect impact on community's infrastructure, river, irrigation and drainage system, - Monitoring and inspect public 	Daily	Monthly

Environmental issues	Monitoring Location	Monitoring Activities	Monitoring Frequency	
		road condition		

NPPMB Monitoring responsibilities

24. The NPPMB’s staff for environmental and technical supervision regularly visit the construction site and monitor the safeguard compliance of the constructors. The undertaken safeguards activities are as follows:

- Supervise the Contractors in their performance of safety methods and safety regulations on the site.
- Examine, request, and supervise the Contractor in its implementation of traffic organization methods within the site and at the locations crossing the existing roads.
- Instruct and supervise the Contractors to carry out the environmental and social management programs during the work execution;
- Examine and supervise the environment protection methods in favor of the workers on the site and the surrounding environment proposed by the Contractor, including: anti-dust, anti-n dust and noise mitigation measures noise, waste treatment and site clearing methods.

Contractors Monitoring responsibilities

- Contractors mobilize enough human, technical resources to timely prevent or mitigate possible advert environmental impacts caused by construction works or recovery works at site. Contractors daily implement mitigation measures and undertake internal monitoring safeguards compliance including conducts detailed inventory of the identified environmental and social impacts that will be caused by executing the works.
- Contractors timely prevent or mitigate possible advert environmental and social impacts caused by construction works and recovery works.

25. The result of environmental compliance monitoring during the third quarter 2014 is presented in Table 7

Table 7. Summary of environmental compliance activities for the Pho Noi 500kV Substation

Environmental issues	Location	Name of constructors who implement mitigation measures	Mitigation measures	Compliant	Remarks	Follow-Up action
				Yes/No		Needed
Dust and exhaust fumes	- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.	Pham Quang Huy - JV of Song Da 11 & Do Van Hai - Song Da 11 Thang Long & Nguyen Huu Tinh IEC	<ul style="list-style-type: none"> • Cover the trucks in charge of material transport to prevent falls. • Water the transport roads and construction sites in dry weather. • The machines should possess appropriate certificates. 	Yes	Basically, the contractor complied with EMP by water spraying in the dry season	<ul style="list-style-type: none"> -Keep spraying water for dust control - Truck washing frequently
Noise and vibration	- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.	<ul style="list-style-type: none"> • Pham Quang Huy - JV of Song Da 11 & Do Van Hai - Song Da 11 Thang Long & Nguyen Huu Tinh IEC 	<ul style="list-style-type: none"> • The construction work should be performed on day, not at night or in resting hours. 	Yes	To meet the project progress, the contractor sometime conduct construction at night time	It is required to inform the local resident beforehand if construction taken place at night time.
Construction waste water	- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.	<ul style="list-style-type: none"> • Pham Quang Huy - JV of Song Da 11 & Do Van Hai - Song Da 11 Thang Long & Nguyen Huu Tinh IEC 	<ul style="list-style-type: none"> • Arrange waste water collection ditches around the foundation pit and retention pit to reduce turbidity before discharge to local canals. • Avoid spillage oil at the construction site • Cover and protect construction material 	N/A	<ul style="list-style-type: none"> -It applied the good construction method that help avoiding the oil and grease leakage -Material is well managed 	<ul style="list-style-type: none"> -It is required better management of material -Material should be covered to avoid runoff and water pollution

Environmental issues	Location	Name of constructors who implement mitigation measures	Mitigation measures	Compliant	Remarks	Follow-Up action
				Yes/No		Needed
Soil pollution, soil erosion	<ul style="list-style-type: none"> - Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province. 	<ul style="list-style-type: none"> • Pham Quang Huy - JV of Song Da 11 & Do Van Hai - Song Da 11 Thang Long & Nguyen Huu Tinh IEC 	<ul style="list-style-type: none"> • Conduct the construction work properly to ensure the construction progress. • The excavated soil should be used for backfilling the foundations. • Grow grass, build stone embankment around foundations on large slopes or places with weak geology. • The restoration work should be conducted for all borrowed areas 	Yes	The contractor has not given back borrow land since construction has not been completed yet	Grass should be grown for slope stabilization preventing the soil erosion in the rainy season.
Solid waste	<ul style="list-style-type: none"> - Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province. 	<ul style="list-style-type: none"> • Pham Quang Huy - JV of Song Da 11 & Do Van Hai - Song Da 11 Thang Long & Nguyen Huu Tinh IEC 	<ul style="list-style-type: none"> • The excavated soil should be used for backfilling the excavations. • Collect all superabundant material • Residual cut soil and other construction debris will be disposed in an approved site by the village authorities • Packaging wastes from electrical equipment will be recycled or will be disposed of in local approved landfills. 	Yes	-Construction and domestic waste are collected and disposal of	The contractor should sign contract with URENCO to properly manage the waste

Environmental issues	Location	Name of constructors who implement mitigation measures	Mitigation measures	Compliant	Remarks	Follow-Up action
				Yes/No		Needed
Traffic obstruction and damages	- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.	<ul style="list-style-type: none"> Pham Quang Huy - JV of Song Da 11 & Do Van Hai - Song Da 11 Thang Long & Nguyen Huu Tinh IEC 	<ul style="list-style-type: none"> Use trucks with loads appropriate to roads. Install signs near roads. Repair segments of roads and other public properties damaged by the material transport. Make access roads and carry out site restoration for borrowed land. 	Yes	Sign board are in place but it is not enough	The contractor should install more sign board in the site

4.2. Community Health and safety (CHS) aspects

26. The result of community health and safety monitoring during the second quarter is presented in Table 8

Table 8. The result of community health and safety monitoring during the second quarter

Environmental issues	Location	Mitigation measures	Compliant	Remarks	Follow-Up action Needed
			Yes/No		
Impact on daily living activities of local people	- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.	<ul style="list-style-type: none"> Provision of signs, barriers, and gates/posts surrounding transmission towers particularly in built-up areas Signboards (Danger Warning Signs) need to be put on every tower as well as on the conductors where crossing 	Yes		Signboards (Danger Warning Signs) need to be put on every tower as well as on the conductors where crossing community centers, roads and rivers.

Environmental issues	Location	Mitigation measures	Compliant	Remarks	Follow-Up action Needed
			Yes/No		
		<p>community centers, roads and rivers.</p> <ul style="list-style-type: none"> • Grounding of conducting objects such as fences or other metallic structures near power lines. • Conduct orientation seminar on community health and safety programs 			
Working safety	<p>- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.</p>	<ul style="list-style-type: none"> • Conduct training and orientation of workers on construction health and safety management. • Require the wearing of PPEs by workers within the project site. • Strictly require the contractor and its workers to follow construction health and safety program. • Provide first-aid facilities for workers. • All site workers will be accommodated in the provided construction camps unless they are recruited from nearby communes. • The construction camp site and surrounding areas will be kept clean. 	Yes	<p>The erection of towers will be continued as soon as accessories supplied sufficiently, so up the monitoring time, workers assigned to other work and not lived at the project site anymore, no observation is reported</p>	<p>Regular collection of waste/rubbish at the camp to be taken to a managed waste disposal facility.</p>

Environmental issues	Location	Mitigation measures	Compliant	Remarks	Follow-Up action Needed
			Yes/No		
		<p>Inspections of the camp sites will be carried out weekly. Adequate number of rubbish bins will be provided.</p> <ul style="list-style-type: none"> • Portable water supply and/or water tank will be provided for workers. All potable water supply sources and storage facilities will be secured. • Regular collection of waste/rubbish at the camp to be taken to a managed waste disposal facility. • Conduct seminar/workshop for community on health and safety during construction. 			
Worker Camps	<p>- Pho Noi 500kV Substation - The access road to 500kV substation: 0 km to Km 0+562.01 and Km 1+500 to Km 2+495: Viet Hung, Luong Tai commune, Van Lam district, Hung Yen province.</p>	<ul style="list-style-type: none"> • Provide temporary toilet facilities with septic tanks at the construction camp. • Implement appropriate solid waste and construction waste collection and disposal system. 	Yes		Provide temporary toilet facilities with septic tanks at the construction camp.

5. PROGRESS OF RESOLVING ISSUES AND PROBLEMS IDENTIFIED IN PREVIOUS REPORT

27. The NPPMB cooperated with Contractors, local authorities and other related agencies to deal with the issues/problem identified in the previous quarterly report as in Table 9.

Table 9. Resolving issues/problem identified in previous report

Item	Issues/Problem	Progress of resolving
1	Apply additional safety measures	The NPMB issued a letter on enhancing safety works to prevent local people and workers from accident. The subproject's Contractor equipped more safety signals to be warning local people and workers.
2	Improve awareness on safeguard policy	The Contractor propagandized safeguard policies for workers via regularly meeting.
3	Resolve social and environmental claims	There is no claim from affected people on social and environmental issues

6. CONCLUSION AND RECOMMENDATION

6.1 Achievements

28. The environmental monitoring system has been maintained during execution of construction items.

29. PMU made many efforts in instructing CMC and the Contractor to ensure environmental criteria and in coordinating with local authority to solve effects of construction on vegetables and plants of residents.

30. CMC made many efforts in the following works: implementing environmental mitigation measures and safety construction methods, ensuring environmental sanitation, participate in meetings with PMU, and sufficiently implement all monitoring forms.

6.2 Recommendation

31. It is reported that there have not been any significant environmental issues. The contractors complied with the mitigation measures to minimize the impact on the environment and the residents' life. More specifically:

- (i) Rehabilitation upon completion of site work has been mostly conducted by contractors;
- (ii) Some sections of the existing roads were used as access road. The contractors have consolidated or repaired after construction completion. In particular the contractors have back filled the top soil, laid macadam to repair and consolidate these access roads;
- (iii) Construction materials were gathered at the road side and could obstruct the traffic safety but only in some road sections;

- (iv) Domestic and construction waste were found in some construction sites, and bins will be provided for their collection and storage;
- (v) Contractors have complied with labor safety regulations by wearing labour protective equipment, especially helmet, safety belt for workers, though some workers are not using boots and gloves at the construction site. Use of PPE is required.

7. ANNEXES

Annex No.1 Constructor Environmental compliance monitoring report

Project: 2848 – VIE Northern Power Transmission Expansion Sector Project;
 Monitor name: CMC/LIC

Subproject: Pho Noi 500/220kV Substation
 Contractor: - Consortium of PCC1 and Song Da 11 JSC
 - Bach Dang Construction Corporation

Monitoring timing: Morning
 Monitoring date: 10/9/2015

Weather condition: Sunny, breeze
 Monitoring location: Hung Yen, Hai Duong province

1. Contractor:

Contractor(s) environmental awareness	Yes/No	Actions Required	Contractor response/comment
Does the contractor aware of the mitigation measure should be applied?	Yes	N/A	N/A
Does the contractor have a copy of Environmental Management Plan (EMP)?	Yes	N/A	N/A

2. Mitigation compliance inspection

Impact / Mitigation measures (From EMP)	Mitigations implemented (Yes/No)	Mitigations effective? (1 to 5)*	Impact observed/ Location	Action required	Contractor response/ comment	Endorsed by	
						Implementing agency	Monitoring agency
<ul style="list-style-type: none"> Dust and exhaust fumes <ul style="list-style-type: none"> Cover the trucks in charge of material transport to prevent falls. Water the transport roads and construction sites in dry weather. The machines should possess appropriate certificates 	N/A	4	Material has not been properly covered Dust could be seen at the site	Material will be properly covered More water spraying will be conducted	Agreed	Agreed	Agreed
<ul style="list-style-type: none"> Noise and vibration <ul style="list-style-type: none"> The construction work should be performed on day, not at night or in resting hours. 	N/A	2	Noise is sometime noticed during the construction	Noise control should be taken care	Agreed	Agreed	Agreed
<ul style="list-style-type: none"> Construction waste water <ul style="list-style-type: none"> Arrange waste water collection ditches around the foundation pit and retention pit to reduce turbidity before discharge to local canals. Avoid spillage oil at the construction site Cover and protect construction material 	N/A	3	No wastewater, Material is covered	Material should be more properly covered	Agreed	Agreed	Agreed
<ul style="list-style-type: none"> Soil pollution, soil erosion <ul style="list-style-type: none"> Conduct the construction work properly to ensure the 	Yes	1	Borrow land	Will be returned after construction	Agreed	Agreed	Agreed

Impact / Mitigation measures (From EMP)	Mitigations implemented (Yes/No)	Mitigations effective? (1 to 5)*	Impact observed/ Location	Action required	Contractor response/ comment	Endorsed by	
						Implementing agency	Monitoring agency
<p>construction progress. The excavated soil should be used for backfilling the foundations. Grow grass, build stone embankment around foundations on large slopes or places with weak geology. The restoration work should be conducted for all borrowed areas</p>			has not been returned	completion			
<p>• Solid waste</p> <ul style="list-style-type: none"> - The excavated soil should be used for backfilling the excavations. - Collect all superabundant material 	Yes	2	Cement cover has not been collected	Collect the cement cover after use	Agreed	Agreed	Agreed
<p>• Traffic obstruction and damages</p> <ul style="list-style-type: none"> - Use trucks with loads appropriate to roads. - Install signs near roads. - Repair segments of roads and other public properties damaged by the material transport. - Make access roads and carry out site restoration for borrowed land 	Yes	4	Access road has not been repaired	Will be repaired after the construction completion	Agreed	Agreed	Agreed
<p>• Impacts on people' health</p> <p>Manage the construction sites, collect waste and dispose it in designate place. Propagandize and raise workers' awareness of social evils. Conduct health examination for workers periodically. Register for workers' residences with the authorities. Equip workers with personal safety equipment and require them to use it at work. Provide workers with all medical facilities and medicines. Keep workers' camps clean; provide wastebaskets for waste collection</p>	Yes	3	No waste bin found in camps	PPE should be worn Waste bin should be adequately supplied	Agreed	Agreed	Agreed

Mitigation effective rating criteria (indicative examples)

- 1 Very good (all required mitigation implemented)
- 2 Good (the majority of required mitigation implemented)
- 3 Fair (some mitigations implemented)
- 4 Poor (few mitigations implemented)/ Very poor (very few mitigations implemented)
- 5 Very poor (few mitigations implemented)

3. Environmental incidents during reporting period (if relevant)

Environmental incidents (accidents, spills, complaint)	Date/ Location	Reported by	Description/ Location	Action taken	Further action required	Endorsed by	
						Implementing agency	Monitoring agency

N/A

4. Summary of Actions required and follow-up (if relevant)

Action required	Timeframe	Responsible parties	Follow-up (to be completed if inspection/ monitoring indicates actions are required)
To be safety during tower erection, rehabilitating the temporary land, to ensure traffic safety during erection	Next month	Contractor	Action required: Environmental compliance inspection in the next monitoring
Provision of awareness signs and barriers at construction sites	Next month	Contractor	Effective: Yes

Inspection completed by: CMC/LIC

Date: 10/9/2015

Signature: TANG CHI ANH

Annex No.2 Attachment: (notes, photographs)



Photos 1: Stable foundation embankment at the access road to 500kV substation



Photos 2: Material on the truck has been covered to prevent the air pollution



Photos 3: Traffic safety signs have not sufficiently arranged



Photos 4: Worker is covering the material



Photos 5: No waste found on the tower No19_220kV connecting line



Photos 6: Construction materials such as soil, rock, sand were gathered along the construction area