

Initial Environmental Examination

June 2014

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

(Transmission line 220/110kV Chem-Tay Ho)

CURRENCY EQUIVALENTS

(as of 11 June 2014)

Currency Unit = Vietnam Dong VND

VND 1.00 = \$0.000047

\$1.00 = 21,195

ABBREVIATIONS

ADB:	Asian Development Bank
AH:	Affected Household
AP:	Affected people
BOD:	Biochemical Oxygen Demand
COD:	Chemical Oxygen Demand
CTF:	Clean Technology Fund
DARD:	Department of Agriculture and Rural Development
DCST:	Department of Culture Sport and Tourism
DHC:	Dong Hai Consulting and Construction Joint Stock Company
DoLISA:	Department of Labour Invalids and Social Assistance
DoNRE:	Department of Natural Resources and Environment
EA:	Executing Agency
EIA:	Environment Impact Assessment
EMP:	Environment Management Plan
EO:	Environmental Officer
EPC:	Environmental Protection Consulting Company
ESU:	Environmental and Social Unit
EVH HANOI:	Ha Noi Power Corporation
EVN:	Electricity of Viet Nam
GHG:	Greenhouse gas
GRM:	Grievance Redress Mechanism
HN:	Ha Noi
IA:	Implementation Agency
IEE:	Initial Environmental Examination
MoLISA:	Ministry of Labour Invalids and Social Assistance
MoNRE:	Ministry of Natural Resources and Environment
NPA:	National Protected Area
PCB:	Polychlorinated biphenyls
PCR:	Physical Cultural Resources
PIC:	Project Implementation Consultant
PPC:	Provincial Peoples Committee
PPMB:	Power Project Management Board
REA:	Rapid Environment Assessment
ROW:	Right-of-way
TSS:	Total Suspended Solids
UXO:	Unexploded Ordnance

NOTE

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I. EXECUTIVE SUMMARY

1. The primary Project, which is financed through Asian Development Bank's (ADB) sector loan modality, will strengthen the capacity and reliability of power infrastructure in Ha Noi and Ho Chi Minh City through the rehabilitation and development of 110 kV and 220 kV transmission system and associated substations to supply their medium voltage (MV) distribution system. The Project will also strengthen the institutional capacities of Hanoi Power Corporation (EVN HANOI) and Ho Chi Minh City Power Corporation (EVNHCMC), which are responsible for the power supply in their respective areas.

2. The Initial Environmental Examination (IEE) of the Chem – Tay Ho 220/110 kV Transmission Line subproject addresses one of the non-core subprojects that were identified by Electricity of Viet Nam (EVN) for Ha Noi. The IEEs of other non-core projects¹ are being prepared separately.

A. Subproject summary

3. The Chem Tay Ho subproject consists of construction of a new 220 kV transmission line which consists of 3.8 km of overhead line (OHL) and 0.5 km of underground cable (UGC) which will extend between the Yen Phu and Chem areas of Ha Noi. The overhead 220 kV line incorporates an existing 110 kV line on a single pole with regular polygon sections replacing the existing duel poles. The existing concrete bases of existing poles will be re-utilized with the tower bases enlarged to 4.8m x 4.8m.

4. The underground cables will extend from the final pole to the 220 kV substation in Lane 15 An Duong Vuong street. A HDPE pipeline will be applied to the UGC when crossing a peach tree cultivation area while a UGC tunnel will be used along the road to the substation.

B. Potential Impacts and Mitigation

5. The IEE indicates that the potential environmental impacts of the project will primarily occur during the construction phase. The common construction-related disturbances such as noise, dust, erosion, sedimentation, solid and liquid waste pollution, worker camp issues, reduced access, increased vehicles and traffic disruptions, damage to existing roads traversed by the transmission line, increased risk of worker and public injury can be managed with standard construction practices and management guidelines (e.g., IFC/World Bank 2007). There are no rare or endangered wildlife, critical habitat, or protected areas in the project sites which consist of built-up urban areas and some urban agriculture lands.

6. A total of 855 m² of agriculture land and trees at the OHL tower foundations will be permanently lost. A total 37,153 m² of land along the RoW will be temporarily lost during construction. The lost land and compensation is addressed in detail in the Resettlement Plan (RP) prepared separately.

¹ The non-core subprojects were developed by EVN to follow implementation of the higher priority core subprojects

7. The OHL section of the 110 kV line from the new substation will traverse cultivation areas (peach and mandarin trees and some other vegetation), some small irrigation canals, local roads and Thang Long bridge before reaching the Tay Ho substation.

8. There are no perceived negative induced, or cumulative environmental impacts of the subproject. The objective of providing needed additional electrical power to Tu Liem, Tay Ho districts of Ha Noi supports the overall goal of urban and socioeconomic development in the Ha Noi city-province.

9. The Environmental Management Plan (EMP) prepared for the subproject provides a comprehensive impacts mitigation plan and environmental monitoring plan to minimize and manage the potential impacts of the subproject. The EMP also prescribes an Emergency Response Plan for the construction sites and identifies the need for capacity development and training of the IA/ESU in environmental management and assessment as focused on the implementation of the EMP.

C. Conclusions

10. The IEE concludes that the feasibility design of the subproject combined with available information on affected environments is sufficient to identify the scope of potential environmental impacts of the subproject. Providing that significant changes to the subproject description do not occur at the detailed design phase and that new sensitive environmental or cultural resources are not determined, further detailed environmental impact assessment (EIA) of the subproject is not required.

II. INTRODUCTION

A. Background to IEE

11. The goal of the Ha Noi and Ho Chi Minh City Power Grid Development Sector Project is to strengthen the capacity and reliability of the power infrastructure in Ha Noi and Ho Chi Minh City, Viet Nam through the rehabilitation and development of the 220 kilovolt (kV) and 110 kV high-voltage power transmission systems and associated substations to supply their medium voltage (MV) distribution system. The Project also aims to strengthen the institutional capacities of Ha Noi Power Corporation (EVN HANOI) and Ho Chi Minh City Power Corporation (EVNHCMC) that are responsible for the power supply in their respective areas.

12. The Chem Tay Ho subproject will be implemented as part of the sector loan for the overall Project under ADB's Operation Manual Section D3 – Sector Lending. The overall Project design consists of a range non-core and higher priority core transmission subprojects. The Chem Tay Ho subproject was identified by EVNHANOI as one of 20 non-core subprojects² for Ha Noi.

B. Assessment Context

13. The Project was assigned Environmental Category B pursuant to the ADB's Safeguard Policy³ and recent good practice sourcebook guidance⁴. A category B project will have potential adverse impacts that are less adverse than the impacts of category A project, are site-specific, largely reversible, and can be mitigated with an environmental management plan⁵. The IEE was prepared for the Chem-Tay Ho non-core subproject in the feasibility design stage using available data and information on sensitive ecological and cultural receptors that exist for the subproject site.

14. The detailed design for the Chem – Tay Ho 220/110 KV transmission line subproject will follow subproject approval. The Environmental Management Plan (EMP) that has been prepared for the subproject (Section IX) will need to be updated where necessary to meet the final detailed designs.

² The non-core subprojects were developed by EVN to follow implementation of the higher priority core subprojects

³ ADB, 2009. Safeguard Policy Statement, ADB Policy Paper.

⁴ ADB, 2012, Environmental Safeguards, A Good Practice Sourcebook, Draft.

⁵ Footnote 2, pg 19.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

15. The Chem – Tay Ho 220/110KV Transmission Line subproject will be implemented according to the directives set down for use of Official Development Assistance (ODA) by GoV Decree No. 131/2006/ND-CP which was promulgated November 9, 2006, and in accordance with the provisions of for the parent sector project.

A. Viet Nam Regulatory Framework for Environmental Assessment

16. The Viet Nam Law on Environmental Protection (LEP 2005)⁶ prescribes the requirements for environmental assessment (EA) for development and domestic project interventions that affect the natural and social environments. Government Decree 29/2011/ND-CP on strategic environmental assessment (SEA), environmental impact assessment (EIA), and environmental protection commitment (EPC) in conjunction with Circular 26/2011/TT-BTNMT on stipulation of specific articles of Decree 29 both elaborate the EA requirements specified by the LEP (2005). Decree 29 and Circular 26 are implemented in conjunction with Decree 80/2006/ND-CP, and Decree 21/2008/ND-CP (see below).

17. The updated screening criteria of Decree 29 distinguish projects that require an Environmental Impact Assessment (EIA) from projects requiring the simpler Environmental Protection Commitment (EPC). The difference between the two processes reflects the level of assessment, and final review and appraisal that is required. At the time of writing Decree 29 requires that an EIA be prepared for the Chem-Tay Ho transmission line subproject.

B. Applicable Environmental Laws, Policy, Environmental Standards, Guidelines

18. The following are key directives for environmental assessment and protection in Viet Nam:

- Law on Environmental Protection No. 52/2005/QH11, in effect on June 12, 2005;
- Law on Water Resources No 08/1998/QH10.
- Biodiversity Law 20/2008/QH12 dated 13th November 2008
- Cultural Heritage Law 28/2001/QH10 dated 29th June 2001
- Land law No.13/2003/QH11 dated 26th November 2003
- Decree No. 29/2011/ND-CP, dated April 18, 2011, on Regulating Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Commitment.
- Circular No. 26/2011/TT-BTNMT dated on 08/12/2011 by the Ministry of Natural Resources and Environment on Guidance for Strategic Environmental Assessment, Environmental Impact Assessment, and Environmental Protection Commitment.

⁶ The revision of the LEP (2005) was approved by the GoV in June /14 and will take effect in 2015. Decree 29 will be updated in support of revised law.

- Decree No.12/2009/ND-CP which replaces Decree No. 16/2005/ND-CP and Decree No. 112/2006/ND-CP on Investment Management on Construction Projects.
- Decree No.21/2008/NĐ-CP dated on 28/02/2008 about Amendment and Addition of Some Articles in Decree No.80/2006/NĐ-CP dated on 09/8/2006 by the Government.
- Decree No.59/2007/NĐ-CP dated on 09/4/2007 by the Government about Solid Waste Management.
- Decree No. 117/2009/ND-CP Regulation on sanctioning administrative violations in environmental protection, issued: 31/12/2009
- Decree No. 04/2009/ND-CP, Incentives and support for environment protection activities, issued: 14/01/2009.
- Decree 110/2002/ND-CP, supplementing some Articles of Decree 06/1995 on Labour Code of Occupational Safety and Health
- Decree 06/1995, Elaborating Provisions of Labour Code on Occupational Safety and Health.
- Decree No.140/2006/NĐ-CP dated on 22/11/2006 by the Government which regulates Environmental Protection, Designing, Approval and Implementation of Development Strategies, Plans, Programs and Projects.
- Decree No.80/2006/NĐ-CP dated on 09/8/2006 about Guiding for the Implementation of Some Articles in the Law on Environmental Protection (2005).
- Decree No.149/2004/NĐ-CP dated on 27/7/2004 about Issuing Permits for Water Resource Exploration, Exploitation and Utilization and Permits for Discharge to Water Bodies.
- Decision No.16/2008/QĐ-BTNMT dated on 31/12/2008 by the Ministry of Natural Resources and Environment about Promulgation of the National Technical Regulations for the Environment.
- Decision No.18/2007/QĐ-BTNMT dated on 05/11/2007 about Promulgation of Statistic Indicator System for the Field of Natural Resources and Environment.
- Decision No.23/2006/QĐ-BTNMT dated on 26/12/2006 about Promulgation of the List of Hazardous Waste.
- Decision No.27/2004/QĐ - BXD dated on 09-11-2004 by the Minister of Ministry of Construction on the promulgation of TCXDVN 320:2004 "Landfill for hazardous waste – Design standards"
- Decision No.22/2006/QĐ-BTNMT dated on 18/12/2006 about Obligations to Apply Vietnamese Standards for the Environment.

- Decision No.233/2006/QĐ-TTg dated on 18/10/2006 about approving the National Program on Labour Protection, Safety and Sanitation up to 2010.
- Decision No.1222/QĐ-BTNMT dated on 20/09/2006 about Organization of Reception and Progressing Recommendations from Individuals, Organizations and Enterprises on Aspects which are managed by Ministry of Natural Resources and Environment.
- Decision No.35/2002/QĐ-BKHCMNT dated on 25/6/2002 about Promulgation of Series of Vietnamese Standards for the Environment.
- Decision No.60/2002/QĐ-BKHCMNT dated on 07/8/2002 about Promulgation of the Guidance for Disposal of Hazardous Wastes.
- Decision No.3733/2002/QĐ-BYT issued by Ministry of Healthcare dated on 10/10/2002 About the Application of 21 Labour Health and Safety Standards
- Decision No.155/1999/QĐ-TTg dated on 16/7/1999 by the Government on Promulgation of the Management Mechanism for Hazardous Waste.
- Decision No.505 BYT/QĐ, dated on 13/4/1992 by the Ministry of Healthcare on the Regulation for Allowed Concentrations.
- Circular No. 16/2009/BTNMT and No. 25/2009/BTNMT on Promulgation of Vietnamese National Standards.
- Circular No.10/2007/TT-BTNMT dated on 22/10/2007 about Guidance for Assurance and Control of the Quality of Environmental Monitoring.
- Circular No.12/2006/TT-BTNMT dated on 26/12/2006 by the Ministry of Natural Resources and Environment on Guidance for Practice Conditions, Procedures for Application, Registration, Endorsement and Issuing the Code for Hazardous Waste Management.

Environmental Standards and Regulations

Water quality:

- QCVN 01:2008/BYT – National technical regulations on quality of drinking water
- QCVN 08:2008/BTNMT – National technical regulations on quality of surface water
- QCVN 09:2008/BTNMT – National technical regulations on quality of groundwater
- QCVN 10:2008/BTNMT – National technical regulations on quality of about coastal water
- QCVN 14:2008/BTNMT – National technical regulations on quality of domestic wastewater
- QCVN 24:2008/BTNMT– Industrial wastewater discharge standards

- QCVN 02:2009/BYT - National standard of domestic water supply
- TCVN 5502:2003 – Supplied water – Requirements for quality
- TCVN 6773:2000 – Water quality – Water quality for irrigational purposes
- TCVN 6774:2000 – Water quality – Water quality for aquaculture protection
- TCVN 7222:2002 – Water quality for concentrated domestic WWTP
- TCVN / QCVN - Standard methods for analyzing environmental quality

Air Quality:

- QCVN 05:2008 – Standards for ambient air quality
- QCVN 06:2008 – Maximum allowable concentration of hazardous substances in the ambient air
- TCVN 6438:2001 – Maximum permitted emission limits of exhausted gases from vehicles

Solid Waste Management:

- TCVN 6696:2009 – Solid waste – Sanitary landfill. General requirements for environmental protection.
- QCVN 07:2009– National technical regulations for classification of hazardous wastes
- QCVN 25:2009 – National technical regulations for wastewater of solid waste sites
- QCVN 15:2008/BTNMT: - National regulation on allowable pesticide residues in soil
- QCVN 03:2008/BTNMT: - National regulation heavy metals concentrations in soil

Vibration and Noise:

- QCVN 26:2010/BTNMT: national technical standard for noise
- TCVN 6962: 2001 Allowable vibration level for public and residential areas
- TCVN 6962:2001: - Allowable vibration and shock from construction activities

International Guidelines

- World Bank Group, 2007. Environmental Health and Safety Guidelines, Wash. DC.
- AWWA Standard Methods for Measurement and Analysis Environmental Quality

Specific regulations for resettlement and compensation

- Decree No. 197/2004/ND-CP dated 03/12/2004, on compensation support, and resettlement
- Circular 14/2009/TT-BTNMT dated 01/10/2009, on detailed regulations on compensation, support and resettlement.

Directives of the Electrical Power Industry in Viet Nam

- Electricity Law, No. 28/2004/QH11, Issued: 03/12/2004
- Government Decree, No. 81/2009/NĐ-CP, on the safety protection of high-voltage power grids, Issued 17/08/2005
- MIT Circular, No. 03/2010/TT-BCT, on safety protection of high-voltage power grid works, Date issued: 22/01/2010

International Environmental Management Conventions

19. Viet Nam is signatory to the following relevant international conventions:

- 2009, Stockholm Convention on Protection of Human Health and the Environment from Persistent Organic Chemicals [including PCBs]
- 1971, Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar)
- 1982, Protocol to Amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Paris
- 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage October 1987]
- 1973, Convention on International Trade in Endangered Species Wild Fauna and Flora
- 1985 FAO International Code of Conduct on the Distribution and Use of Pesticides
- 1985 Vienna Convention for the Protection of the Ozone Layer
- 1987 Montreal Protocol on Substances that Deplete the Ozone Layer
- 1992, Copenhagen Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, Copenhagen
- 1989, Basel Convention on the Control of Trans- boundary Movements of Hazardous Wastes and their Disposal
- 1992, United Nations Framework Convention on Climate Change

- 1992, Convention on Biological Diversity

C. ADB Safeguard Policy

20. The ADB Safeguard Policy Statement (ADB SPS, 2009) along with the recent good safeguard practice sourcebook clarify the rationale, scope and content of an EA and supported by technical guidelines (e.g., Environmental Assessment Guidelines 2003). Projects are initially screened to determine the level of assessment that is required according to the following three environmental categories (A, B, or C).

21. Category A is assigned to projects that normally cause significant or major environmental impacts that are irreversible, diverse or unprecedented such as hydroelectric dams (an Environmental Impact Assessment is required). Category B projects have potential adverse impacts that are less adverse than those of category A, are site-specific, largely reversible, and for which mitigation measures can be designed more readily than for category A projects (an Initial Environmental Examination is required). Category C projects are likely to have minimal or no negative environmental impacts. An environmental assessment for Category C projects is not required but environmental implications need to be reviewed. The Rapid Environmental Assessment (REA) checklist of the subproject is presented in Appendix A.

IV. PROJECT DESCRIPTION

22. The new 220 kV Chem – Tay Ho transmission line will meet increasing electricity loads, and reduce grid losses by connecting to Tay Ho 220 kV substation 250 MVA which is under construction. The transmission upgrade will supply power to the big load centres of Nghia Do, Thu Le, Yen Phu, and Bo Ho. As per electricity development plan for Ha Hoi, the Tay Ho 220 kV substation is to be energized through the 220 kV Van Tri – Chem transmission line and 220 kV Van Tri – Tay Ho transmission line to ensure secure electricity supply to Viet Nam’s capital city while ensuring reliable standards for the 220/110 kV power grid.

23. The Chem – Tay Ho 220/110 kV transmission subproject consists of two main components defined by: 1) a new 220 kV overhead line and the existing 110 kV overhead line placed on the same pole; and 2) a 220 kV underground cable (UGC) transmission line. The location of the combined OHL-UGC transmission line is shown in



24. Figure 2 and 2.

25. The scope of the new transmission line is defined by the following:

- (i) Construction of double-circuit 220 kV / 110 kV lines on the same tower from Chem – Van Tri 220 kV and 110 kV transmission lines to Tay Ho 220 kV Nhat Tan 110 kV substations from tower 19 to tower 42;
- (ii) Construction of 220 kV and 110 kV underground cables from tower 42A to Tay Ho 220 kV substation; and
- (iii) Construction of 110 kV underground cable from the underground cable under Nhat Tan Bridge to Tay Ho 220 kV substation.

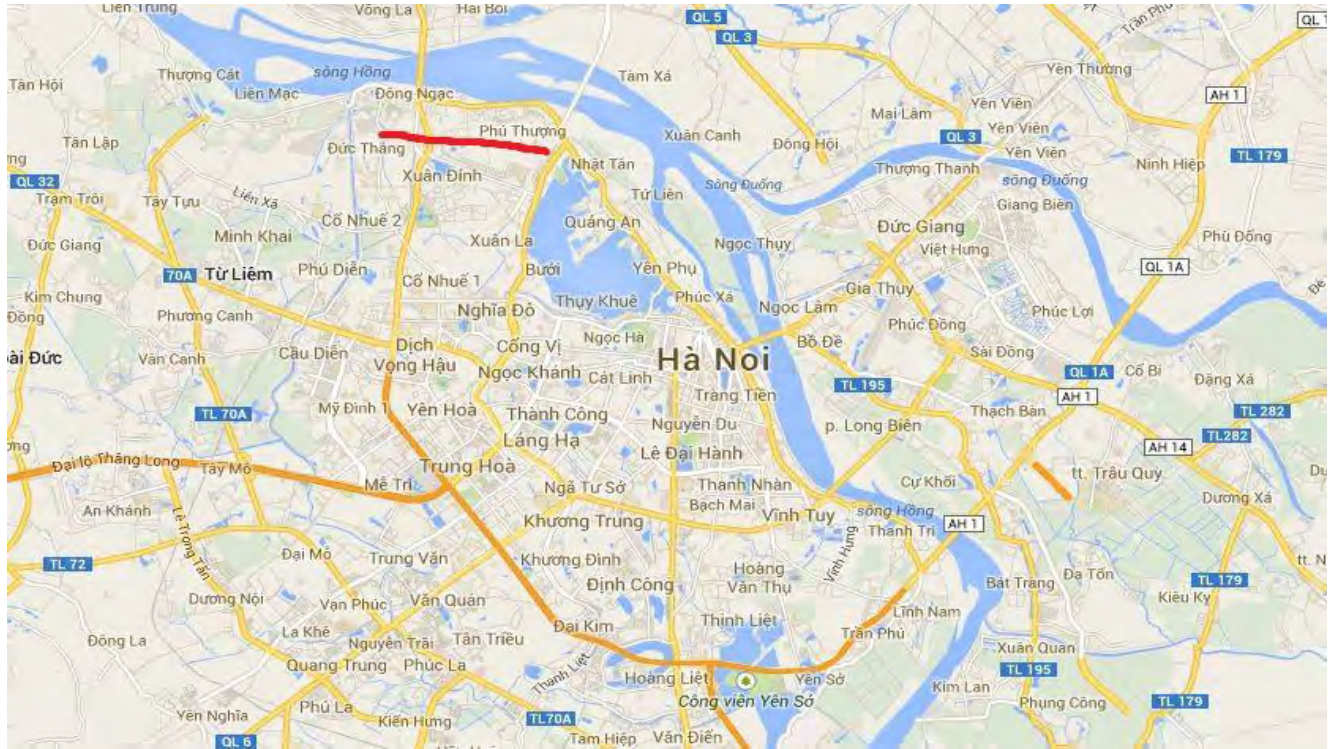


Figure 1: Location of new transmission line in Ha Noi (red line)



Figure 2: Location of OHL and UGC sections of new transmission line

A. Construction of overhead line of 220 kV and 110 kV

26. The new 3.83 km 220 kV and existing 110 kV lines are combined in same transmission corridor from Chem to Yen Phu area. Specifications of the line are summarized in Table 1.

Table 1: Specifications of overhead line

Voltage	220 kV; 110kV		
Circuits	4 (2 x220 kV and 2 x110 kV)		
Start point	For 220 kV: tower No.47 of 220 kV Chem – Van Tri transmission line. For 110kV: New steel tower distanced from the existing tower No. 19 of 20m.		
End point	220kV transmission line: Tower 42A; 110kV transmission line: Tower 42A.		
Length	3.83 km		
Conductor	ACSR500/64 for 220kV transmission line. ACSR400/51 for 110kV transmission line		
Earth wire	Phlox116		
Optical cable	OPGW-96		
Insulator	According to IEC standard		
Tower	23 new steel single towers		<i>Illustrated electric pole</i>
Foundation	site-precast concrete foundations reinforced		

Earthing measures

27. There are two earthing lines with the same function of fibre cables Phlox116 and OPGW96 along the alignment. All lines will connect the earth directly to prevent atmospheric potential transmitting to station and to reduce short-circuits for the fibre cable.

28. The earthing line at each transmission pole will be connected to the ground through an earth-plate before reaching 8 piles of R-CT type which are arranged in the pile-work surrounding the electricity pole. The earth-plate will be set 1m below earth surface.

B. Construction of underground cable of 220 KV

29. A relatively short (0.5 km) section of UGC is proposed because the route of the line traverses a peach tree (*Prunus persica*) plantation. In the peach tree area the line is buried inside HDPE pipe in a trench that is 1.7 m deep and 2.0 m wide. Along a short section of narrow road the UGC will be laid in a tunnel. Excavated soil will be backfilled with residual excavate disposed in a DoNRE-approved landfill site. Specifications of the UGC are summarized in the Table 2.

Table 2: Specifications of UGC

Voltage	220kV	110kV Chem-Tay Ho	110kV Chem - Mai Dong
Circuits	02	02	02
Start point	Tower 42A.	Tower 42A.	Cable box (at 15 An Duong Vuong street)
End point	F02, F03 bays of 220kV Tay Ho substation	J03, J04 bays of 220kV Tay Ho substation	J06, J07 bays of 220kV Tay Ho substation
Length	0.25km	0.22km	0.12km
Underground cable	XLPE-1600mm ²	XLPE-1200mm ²	XLPE-1200mm ²
Surge voltage limiters	LA 192kV-20kA	LA 96kV-10kA	LA 96kV-10kA
Layout	Tunnel	Tunnel	Tunnel

V. DESCRIPTION OF AFFECTED ENVIRONMENT

30. The environmental baseline information was obtained primarily from Ha Noi Statistical Yearbooks, state of the environment reports (SoER) prepared by Ha Noi DoNRE, hydro-meteorological data national centre, and supplemented from the literature including other environmental assessments conducted for the same area. The description of affected environment focuses on natural features and land use.

A. Physical environment

1. Climate

31. Ha Noi experiences the climate of northern Vietnam where summers are hot and humid, and winters are relatively cold and dry. The summer period which extends from May to September is hot and humid, and receives most rainfall. The winter period from November to March is comparatively mild and dry while spring (April) brings light rain. Autumn (October) provides moderate and the most comfortable weather.

a. Local temperature

32. Monthly temperature in Hanoi is recorded in 5 years from 2008 to 2012 and presented in the **Figure 3**. Average monthly temperature from the database is shown in column diagram. The result shows that highest temperatures are around May to July (summer time) which ranges from 31.4 °C to 32.6 °C. The lower range of temperature from 17.4 °C to 19.8 °C is in winter time (from December to February).

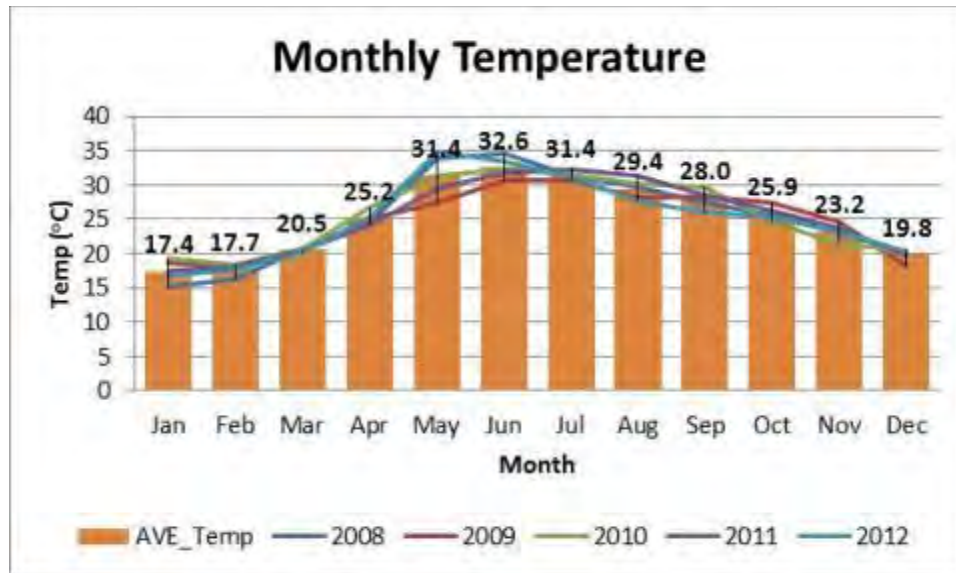


Figure 3: Monthly temperature in Hanoi during 2008 to 2012

(Source: National hydro-meteorological data center, 2012)

b. Thunderstorms

33. Average thunderstorm days per month are summarized in Figure 4 **Error! Reference source not found.**. The highest frequency of thunderstorm occurs from April to September coinciding with high temperatures, rainfall, and wind speed. Total number of thunderstorm days is estimated at 91 annually.

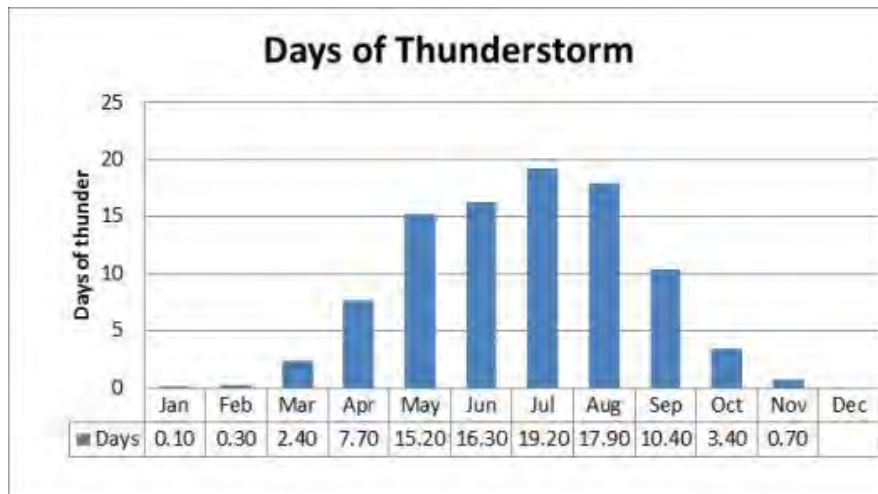
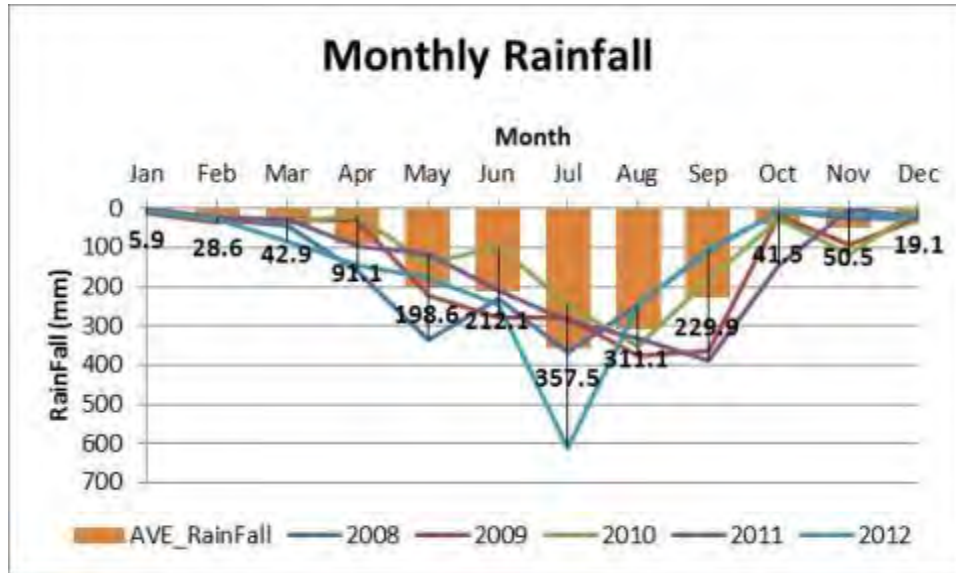


Figure 4: Average thunderstorm days

(Source: National hydro-meteorological data Centre, 2012)

c. Monthly rainfall

34. Average monthly rainfall is calculated from data for 2008 to 2012 (Figure 5). Highest rainfall occurs in rainy season from May to September with July showing maximal rainfall of 357.5 mm. Dry season rainfall is low ranging from 6 to 43 mm (December to March) with January being the lowest rainfall month at an average 5.9 mm.



35.

Figure 5: Average monthly rainfall from 2008 to 2012.

(Source: National hydro-meteorological data Centre, 2012)

d. Wind speed

36. **Error! Reference source not found.** Wind speed gradually increases in September from 2.0 m/s to 2.9 m/s in April. Average annual wind speed is calculated to be 2.4 m/s (Figure 6)

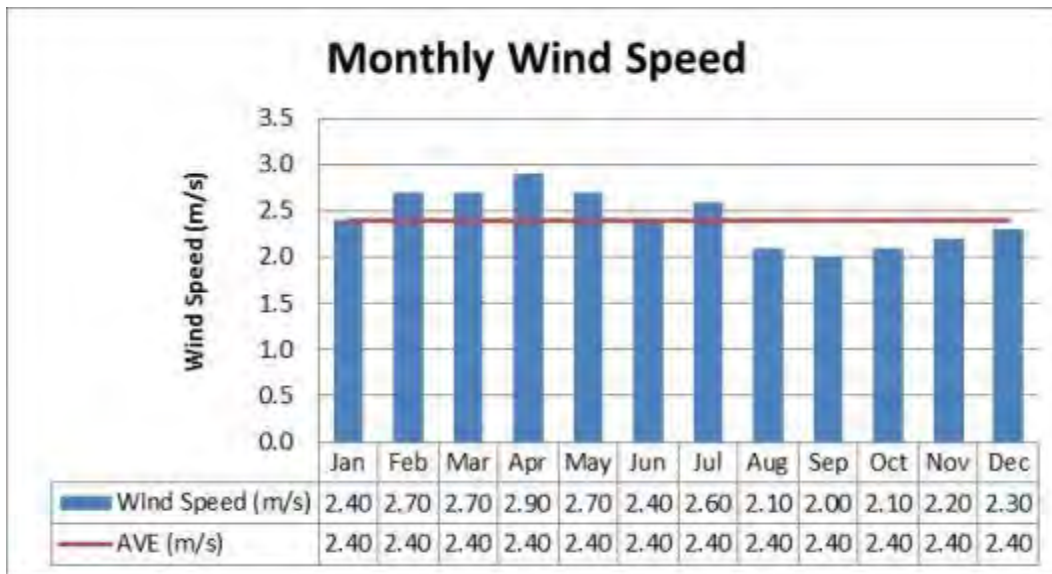


Figure 6: Average monthly wind speed

(Source: National hydro-meteorological data centre)

2. Air quality

37. Environmental quality sampling and analysis were conducted in Nov. 2013 by the Institute of Environmental Science and Engineering (IESE) for air, water and soil. Sampling locations are located at a residential area near the subproject site which could be affected during construction phase. Sampling parameters and locations are listed in the Table 3 and Figure 7 **Error! Reference source not found..**

Table 3: Air quality parameters

Sampling parameters and standards	Sample code	Location
CO, SO ₂ , dust, noise and vibration.	KK1	After 220 kV Tay Ho station
	KK2	At entrance gate to 220 kV Tay Ho station; Lane 15, An Duong Vuong street
Vietnam standard	KK3	Nearby the final pole of overhead powerline, Lane 15, An Duong Vuong street
QCVN 05:2009/BTNMT for air quality,	KK4	Area at intersection with Thang Long bridge, toward to south of the bridge
QCVN 26:2010/BTNMT for Noise and	KK5	Nearby Thuy Phuong Communal People's Committee, 300m away from project's powerline corridor
QCVN 27:2010/BTNMT for vibration	KK6	Nearby veterans memorial and the Dong Ngac Communal People's Committee (beneath the project powerline's corridor)
	KK7	Chem village, beneath the project powerline's corridor
	KK8	At Chem bridge with 150m away from Project Powerline's corridor, Thuy Phuong ward

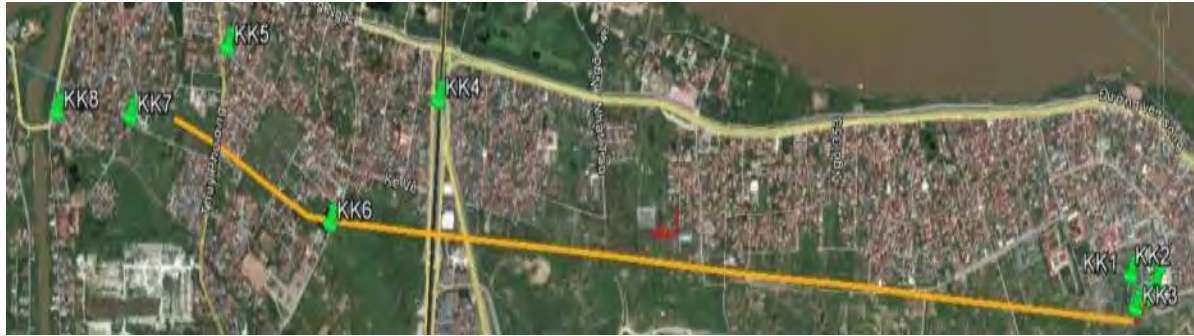


Figure 7: Air sampling locations

38. Measured environmental parameters at each sampling location were standardized as portions or “rates” of the respective Vietnam QCVN standard which allowed all environmental parameters and sampling locations to be shown in one diagram⁷ (Figure 8).

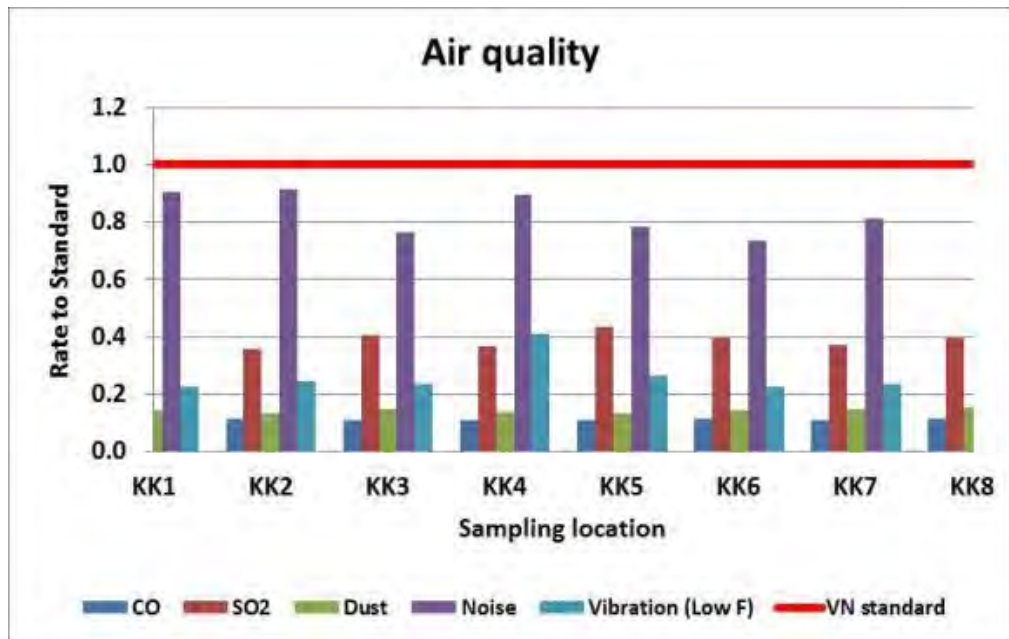


Figure 8. Air quality in subproject area

(Source: Hanoi-PC EVN, 2014)

39. **Error! Reference source not found.** Figure 8 shows that all environmental parameters (CO, SO₂, dust, noise and vibration) at the sampling sites do not exceed the QCVN standards.

⁷ The method using “Rate of sample value to respective standard” for diagram presentation is also applied in other environmental indicators (water, soil environment) in the next sections.

3. Topography, geology and soil

a. Topography

40. The elevation of Ha Noi decreases from north to south and from west to east. The main topographic form of Ha Noi is a plain enriched by the alluvial river with high alluvial terraces; among them are low lying areas with lakes. Particularly, the high terraces are only in Soc Son district in northern and eastern of Dong Anh district. In addition are mountainous terrains and hills concentrated in Soc Son area.

41. The first pole of OHL is located at Thuy Phuong ward (Tu Liem district). The route starts from Thuy Phuong ward to Dong Ngac ward (Tu Liem district) and ends in Phu Thuong ward (Tay Ho district).

b. Geology

42. Technical survey shows that the project area is located in weak load soil. Soil mainly consists of sandy clay and clay layers with depth estimated about 1.4 - 2.4m. According to soil properties, electric resistivity increases by soil depth as typically described in the

43. Table 4

Table 4: Soil electrical resistance

<i>Soil depth (m)</i>	<i>Electric resistivity</i>
0.0 – 2.3	$\rho = 119\Omega\text{m}$
2.3 – 6.0	$\rho = 191\Omega\text{m}$

(Source: Hanoi-PC EVN, 2014)

c. Soil

44. Most of surface area of the Red River delta (RRD) which includes Ha Noi is covered by deposited sediment. The youngest formation which is approx. 3000 years of age is mainly from lacustrine and shallow-sea sediment. In Ha Noi the highest thickness reaches 30m which are dominated by soft soils. Ha Noi has 18 major soil types include 36,769 ha of alluvial soil accounting for 56%, 16,819 ha of degraded land accounting for 26%, the other soils is 12,019 ha accounting for 18%.

45. The soil quality at the project area has been investigated by the Institute of Environmental Science and Engineering (2012). Three samples located at cultivation areas along the project's power line are selected and listed in the

46. and **Error! Reference source not found.**

Table 5. Soil quality parameters

Sampling parameters and standard	Sample code	Location
Zn, As, Pb QCVN 03:2008/BTNMT	D1	Cultivation area nearby electric station, Lane 15, An Duong Vuong street
	D2	Mr. Tien's garden located at village 1, Dong Ngac ward, Tu Liem district
	D3	At the cultivation area of peach trees, located nearby Veterans Memorial in Dong Ngac ward

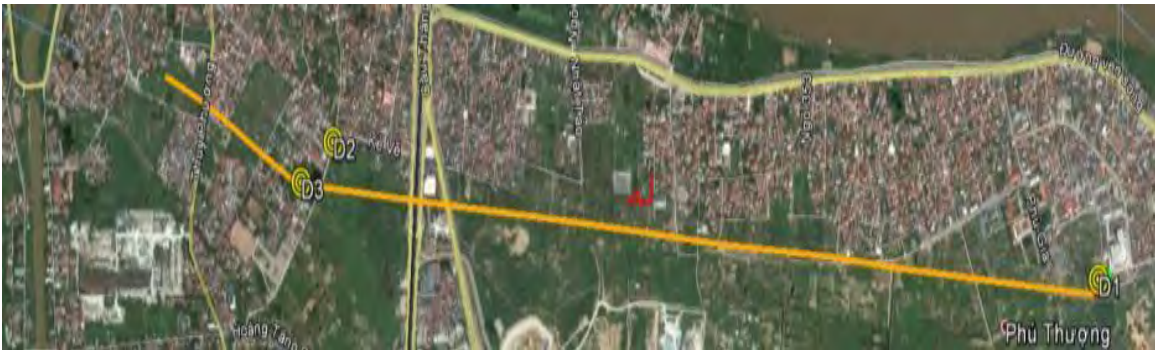


Figure 9: Soil sampling locations

47. Analysed results for soil quality in **Error! Reference source not found.** show that all etal concentrations (As, Zn, Pb) have values lower than permitted levels given in the QCVN 03:2008/BTNMT for agricultural activities.

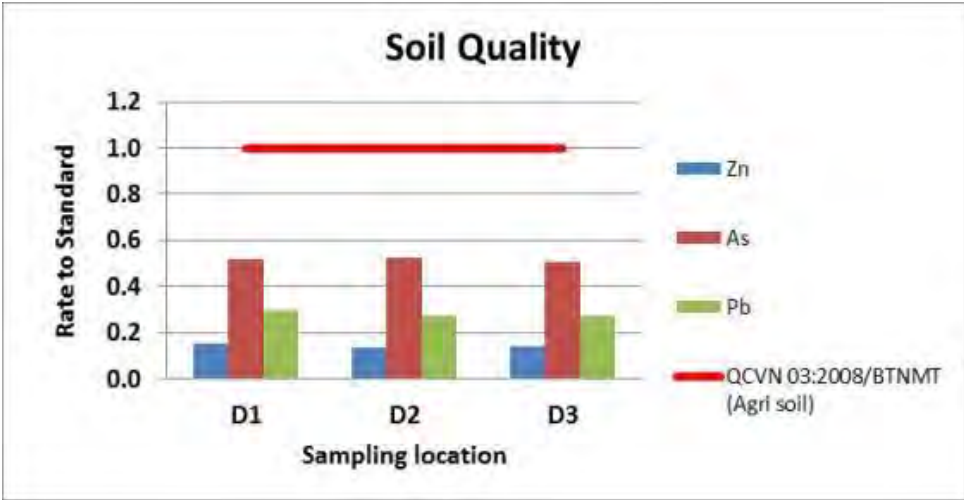


Figure 10. Soil quality

(Source: Hanoi-PC EVN, 2014)

4. Surface water quality

48. The water quality at the project area has been investigated by the Ha Noi-PC ENV in their IEA report (2014). Sampling locations for surface water quality are located at residential ponds and cultivation areas. Details are listed in the Table 6. and **Error! Reference source not found..**

Table 6. Surface water quality parameters

Sampling parameters and standard	Sample code	Location
pH, EC, Pb, As, lubricant, TSS, DO, BOD ₅ , COD, Fe, Zn, NO ₃ ⁻ , NH ₄ ⁻	NM1	At the pond with 30m away from the 220 kV Tay Ho station; Lane 15, An Duong Vuong street
	NM2	At cultivation area nearby Thuy Phuong Communal People's Committee (beneath the project powerline's corridor)
	NM3	At the pond nearby Veterans Memorial of Dong Ngac ward
	NM4	Water at Chem bridge, Nhue river

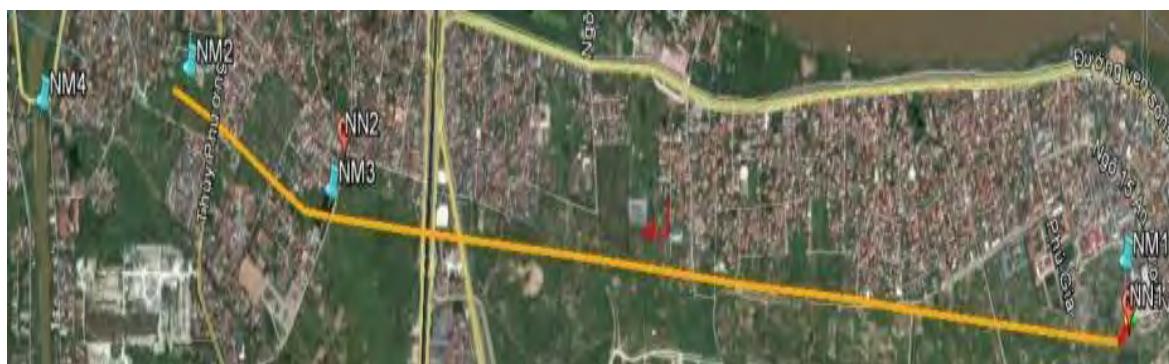


Figure 11. Water sampling locations

49. Environmental quality parameters were sampled at the four locations. The analysed result shows that, pH, EC, Pb, As, lubricant are not found or not counted in the Vietnam standard for water quality (QCVN 08:2008/BTNMT). The remained inorganic and metal substance parameters are presented in **Error! Reference source not found..**

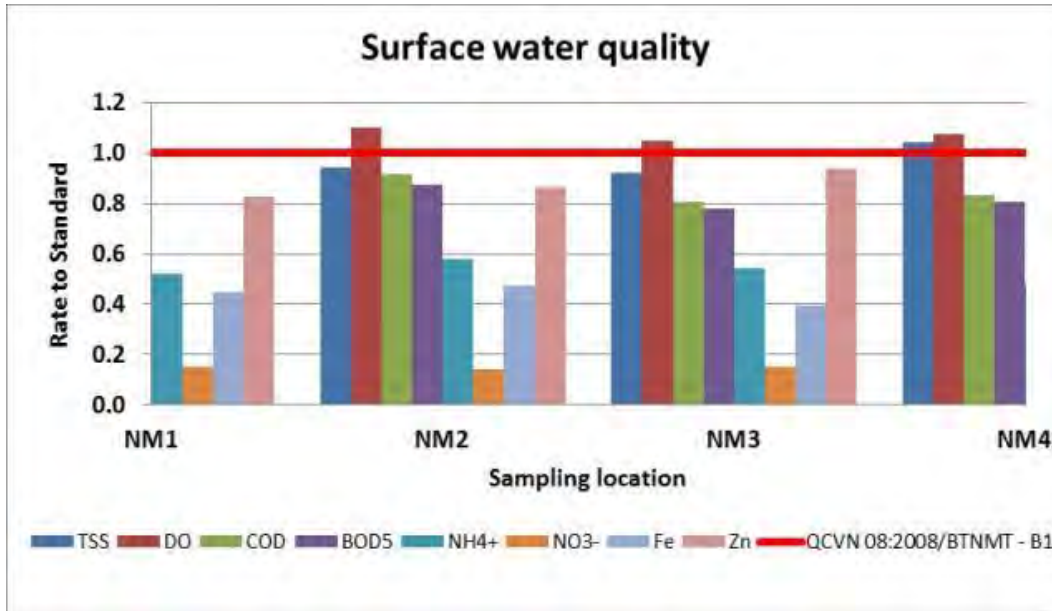


Figure 12. Surface water quality

(Source: Hanoi-PC EVN, 2014)

50. The results show that all parameters have values below the limitation as per QCVN 08:2008/BTNMT. DO concentrations at the four locations are better than the minimum acceptable value. However, Coliform concentrations at the four locations exceed the acceptable limitation in QCVN 08:2008/BTNMT by 567 to 709 times.

5. Underground water quality

51. Two locations for ground water sampling at the project area. All are located in residential drill wells as listed in Table 7.

Table 7. Ground water quality parameters

Sampling parameters and standard	Sample code	Location
pH, Pb, As, lubricant, TSS, Fe, Zn, NO ₃ ⁻ , Zn, Ca ²⁺ , Mn ²⁺ , NH ₄ QCVN 09:2008/BTNMT	NN1	At drilling well in residential householder named Pham Van Chan (nearby existing electric station, Lane 15, An Duong Vuong street)
	NN2	At drilling well in residential householder named Mr. Tien, village 1, Dong Ngac ward, Tu Liem district

52. Total 17 environmental parameters are taken for analysis. Concentrations of pH are within acceptable range from 5.5 – 8.5 following QCVN 09:2008/BTNMT. Metal concentrations as As, Cr, Cd and lubricant as well as E. coli are not found in the samples.

53. The main environmental parameters and analysed results of underground water quality are presented in the **Error! Reference source not found.** below.

(Source: Hanoi-PC EVN, 2014)

Figure 13. Groundwater Quality in subproject area

54. **Error! Reference source not found.** shows that inorganic parameters have values elow limitation following QCVN 09:2008/BTNMT. However, metal concentrations as Total Fe, Mn have values 1.2 to 1.3 times than allowed maximum value. It could be concluded that water quality at drilled wells are affected by Fe and Mn.

6. Hydrological geology

55. Hydrological condition in Ha Noi is dominated by the Red river and Nhue River. Water flow clearly changes by the seasons. Dry season lasts 5 to 6 months every year from November to April. The driest months are from January to March in which, total flow accounts 5.0 – 6.7% of annual flow.

56. Water flow in rainy season takes highest account at 65% - 75% of total annual flow in which, July and August has the highest water flow which take 18% – 20% annual flow.

57. During investigation time (Nov. 2013), ground water gets its stable level at about 1.0 – 1.4m below soil surface. Ground water is shared from rainfall, surface water and especially nearby Red river thus; ground water level changes by season.

58. Localized flooding sometimes takes place in rainy season (July to December, annually) at local residential areas that impact on local traffic and transportation conditions. Following

investigation and local consultation, time duration by flooding lasts some hours to three days depends on area and drainage system. Water depth by inundation is estimated about 0.2 to 0.3m.

8. Radiation

59. Magnetic fields were also surveyed air quality stations. **Error! Reference source not found.** shows that all values measured at 8 locations are lower than permitted value. It could be concluded that the nearby areas suffer no impact from magnetic field.

Table 8. Measured Radiation

Locations	KK1	KK2	KK3	KK4	KK5	KK6	KK7	KK8
Values	12.4	14.1	13.9	15.2	13.7	14.6	13.4	15.5
QCSS ⁸	220							

B. Biological environment

1. Vegetation and Land Use

60. Ha Noi has 23,510 ha of forest land (former Ha Noi: 6,740 ha and former Ha Tay: 16,770 ha), which makes up 6.9% of its natural area, of which 3,922 ha is natural forest and 19,568 ha is planted forest. Its natural preserves are composed of Ba Vi National Park, Chua Huong Natural Forest (My Duc District). Forest in Ha Noi is a vital resource for keeping the ecological environment balance and preventing hill land from eroding. In addition, forest creates landscapes for tourist activities and recreation resorts.

61. The primary land use along overhead line is cultivation areas of peach & mandarin trees and some other vegetation. The overhead line crosses some local roads, Thang Long bridge and irrigation canals within cultivation area.

62. Vegetation and land use systems occurring within the RoW is shown in **Error! eference source not found.**. The majority of the RoW is cultivation area which occupy 3.6 km of the RoW. The width of ROW is 15 m.

Table 9. Vegetation and land use within RoW of transmission line and substation

Section	Length (m)	Area* (m ²)	Paddy (m ²)	Canal (m ²)	Road (m ²)	Residential area (m ²)
Transmission line	200	3000				3000

⁸ Recommended by International Radiation Protection Association (IRPA)

Section	Length (m)	Area* (m ²)	Paddy (m ²)	Canal (m ²)	Road (m ²)	Residential area (m ²)
	45	675			675	
	30	450		450		
	3555	53325	53325			
Underground Cable	100	1500	1500			
	50	750			750	
TOTAL	3980	59,700	54,825	450	1,425	3,000

*Area is calculated by Distance x safety zone along the line for 110kV and 220 kV

2. Wildlife

63. The subproject area is both rural and urban with dense residential area. No significant wildlife occurs any longer within the area. There are no climbing animals that could interfere with the transmission line. A check of websites e.g. Birdlife International does not identify any bird migration routes through Vietnam. The Asian Flyway does not pass through Vietnam and instead heads south through the Philippines.

3. Conservation Areas

64. There are no conservation areas within the proximity of overhead line and underground cable.

C. Socio-economic condition

1. Population

65. The project area is located within 3 wards in Ha Noi. Population is described in the Table 10.

Table 10: Population of three wards of subproject area

No.	Ward	District	Population (people)	Population density (persons/km ²)
1	Thuy Phuong ⁹	Bac Tu Liem	13,753	4,792

⁹ http://vi.wikipedia.org/wiki/Th%E1%BB%A5y_Ph%C6%B0%C6%A1ng

2	Dong Ngac ¹⁰	Bac Tu Liem	23,922	9,926
3	Phu Thuong	Tay Ho	59,859	9,950

2. Local economy

66. In 2008 the gross domestic product (GDP) of the city (the expanded city) rose 10%, of which industrial additional value is up 11.7%, service 10.78%, agro-forestry-fishery 2.68%. Its economic structure in 2008 is as follows: service making up 52.17%, industry-construction 41.28%, agriculture-forestry-fishery 6.55%.

67. In 2012 the economy of Ha Noi continued to grow steadily increasing Viet Nam's role and economic impetus for the northern key economic area. Product value and revenue of Ha Noi accounted for approximately 10% GDP of the country and nearly 20% of the total national budget, respectively and increased 2 times compared with 2008.

68. In 2012 the value of the product per capita increased by 1.33 times, total social investment capital increased 1.87 times, exports increased by an average of 10.5 times compared with 2008. The social security aspects are particular concern, especially policy for the poor. In the period 2008 - 2012, the poverty rate decreased 1.5-2 times per year, and in 2013 the poverty rate is estimated 2.35%. The socio-economic situation of 3 wards in the project areas is summarized below.

Thuy Phuong ward

69. The Thuy Phuong ward is in Bac Tu Liem district with average population density is about 4792 persons/km². The industrial sector in the ward accounts to 65% in the ward. Average household-income is estimated about 5 million VND.

Dong Ngac ward

70. The Dong Ngac ward is also located in Bac Tu Liem district with average population density about 9,926 persons / km². Agricultural land accounts to 36 ha while land for industrial activities is 92,584 ha. Household income is at low range of about 5 million VND.

Phu Thuong ward

71. The Phu Thuong ward is in Tay Ho district. Average population density is about 9950 persons / km². Industrial activities are main sectors in the ward which counts up to 70% and service is ranged at second. Household income is estimated about 10 – 14 million VND.

¹⁰ <http://baodientu.chinhphu.vn/Chi-dao-quyet-dinh-cua-Chinh-phu-Thu-tuong-Chinh-phu/Chinh-phu-quyet-nghi-thanh-lap-2-quan-Bac-Tu-Liem-va-Nam-Tu-Liem/189695.vgp>

3. Social infrastructure

Public Health and Sanitation

72. Medical station with one doctor and some physicians are all available in every ward. Personal medical services as pharmacy shops are also available in the project area.

73. All domestic waste is collected by Ha Noi URENCO. Solid wastes are gathered at temporary places within residential area. URENCO workers take responsibilities of transferring waste to trucks for further treatment.

74. Almost toilets are equipped in every household. Black water (toilet water) could be connected to city sewerage system while grey water from washing activities could be directly released to nearby areas such as cultivation areas, local ponds.

Education

75. Education system is convenient in the subproject area. They are kindergartens, primary school, secondary schools, high schools and colleges (Table 11).

Table 11: Education system in the project wards

Wards	Education
Thuy Phuong	Total 4 schools (1 kinder garden, 1 primary school, 1 secondary school and 1 high school)
Dong Ngac	Total 10 schools including kindergarten to colleges
Phu Thuong	Total 8 schools from kindergarten to college (medical college)

Communications

76. Some types of communications are available in the 3 wards such as public speaker system. Communication boards are also posted at village cultural houses.

77. For individuals, mobile phones are popular to local residents which facilitate their daily activities. Desk phones are just for shops, companies and other organizations.

Water and electricity and transport

78. All households in the 3 wards are fully supported with electric system. Domestic water is also provided by both city water system and individual drilling wells. Local roads have been upgraded with concrete up to 90% of total existing road system.

4. Cultural and Heritage Sites

Site survey and interview of local residents were conducted by environment team from March to April 2014. Regional cultural heritage sites were recorded with photos and GPS locations which

are listed in the [Error! Reference source not found.](#). In general, no cultural heritage sites are located within the project area except some local graves at the first and final pole of overhead lines (in Thuy Phuong and Phu Thuong wards). Locations of existing cultural heritage sites and project area are also shown in Table 12 and the [Error! Reference source not found.](#) for visual illustration.

Table 12. Cultural heritage sites

No.	Distance (m)		Name of infrastructure	Location
	Left	Right		
1	0		Local cemetery	Thuy Phuong ward Nearby the first pole of overhead line
2		30	Martyr Memorial	Thuy Phuong ward Nearby the first pole of overhead line
3	500		Thuy Phuong pagoda	Thuy Phuong ward
4	250		Tieu Vuong cemetery	Dong Ngac ward
5	0		Graves in local cemetery	Nhat Tao village, Dong Ngac ward
6	300		Phuc Khanh pagoda	Nhat Tao village, Dong Ngac ward
7	50		Local graves	Su village, Phu Thuong ward
8	70		Thuong Thuy pagoda	Phu Thuong ward
9	100		Thuong Thuy church	Phu Thuong ward
10	100		The Ba Gia Phu Gia pagoda	Phu Thuong ward

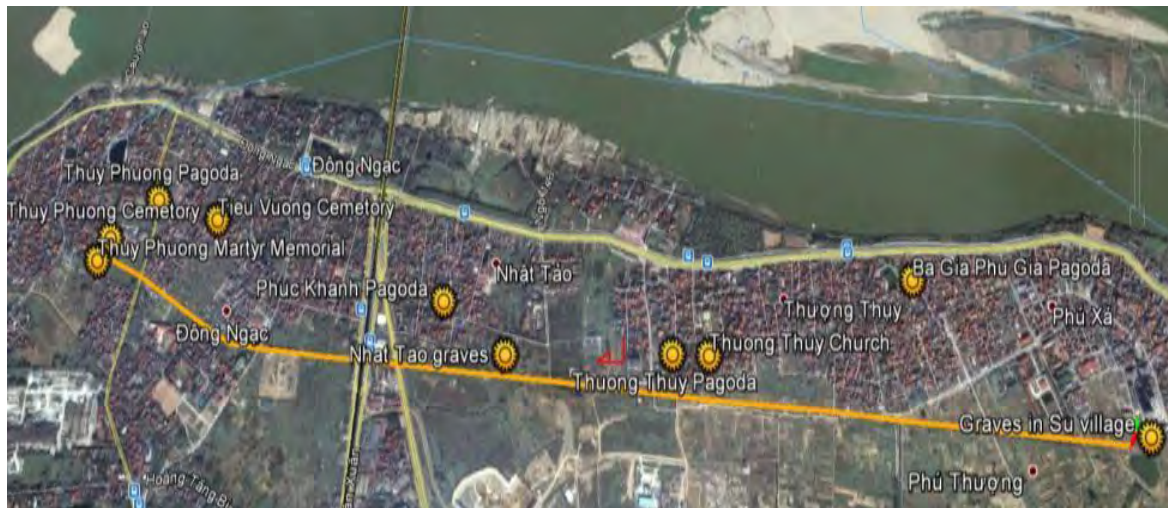


Figure 14. Cultural heritage sites

5. UXO Clearance

79. The transmission poles for overhead lines are constructed at the positions of existing poles. Concrete piles are not necessary for foundation because existing pile system could be utilized. In general, construction of project is located in existing structure and on-going cultivation area. Thus, UXO clearance may not be required. However, the need for UXO clearance will be assessed by the military.

6. Subproject affected people

80. Communities will be affected by loss of land and loss of assets within the RoW. All households that experience permanent or temporary land loss will be compensated according to the Resettlement Plan (RP).

Permanent loss

81. According to Resettlement Plan (2014) permanent land loss and other impacts on local peoples are as follows:

- (i) The 220/110 kV OHL: In the RoW corridor trees under 4m high are allowed to exist and normal cultivation can be done along the line. Therefore, only crops in the footprints of tower foundations are lost. The size of the tower foundations will be 4.8 m x 4.8 m with a total lost area along the RoW of 605 m²
- (ii) 110 kV underground cables: Underground cable is laid mainly in cultivation land in Phu Thuong ward. Thus, clearance and compensation for lost annual harvest over the entire UGC of width of 5 m will occur with a total loss of 250 m².along the UGC line.
- (iii) No graves are to be relocated.
- (iv) There are no houses or no buildings located in the corridor of the line.

Temporary loss

82. This includes loss of land along the RoW which will be cleared of vegetation that exceeds the safety criteria, i.e., vegetation that is taller than 2.0 m for 110 kV and 3.0 m for 220 kV systems. Landholders will be compensated for lost access to crop areas during conductor stringing when vehicle access will be required along the RoW. Crops will be destroyed and cropping practices interrupted during this period. During operation of finished line farmers will be able to grow and cultivate crops under the RoW provided crops do not exceed the established conductor safety limits. In total, 37,153 m² will be temporarily affected.

7. Features of project area

83. The project area is located in flat land in Ha Noi just south and parallel to the Red river. The OHL power line was adjusted to minimize residential area crossings. As a result the line mostly crosses unused land and cultivation areas in the three wards of Thuy Phuong, Dong Ngac (Tu Liem district), and Phu Thuong (Tay Ho district). Features along the power line corridor are shown Figure 15.

Figure 15. Subproject sites



Fig 11a:
Initial poles located near Thuy Phuong Commune People's Committee .The first pole is constructed near cultivation area (vegetables, water morning glory) alternatively with existing local graves.



Fig 11b:
Existing poles are located nearby Dong Ngac Commune People's Committee. Other poles are located alongside existing poles near vegetable growing land, or unused land.



Fig 11c:
OHL crossing road in Dong Ngac ward. OHL crosses local roads such as Thuy Phuong road or other inter-village/inter-commune roads.



Fig 11d:
OHL crosses houses in Dong Ngac ward. These houses are temporarily built and will be relocated due to the master plan of new road.
The length of OHL crossing residential area in Dong Ngac Ward is estimated about 170m.



Fig 11e:
OHL crosses cultivation areas of *Prunus persica* (peach tree) and other vegetables in Dong Ngac and Phu Thuong wards.



Fig 11f:
The OHL crosses the Thang Long bridge, where poles are tallest (66m) to ensure transportation on the bridge



Fig 11g:
The final pole for OHL is located near cemetery in Phu Thuong ward (Lane 15, An Duong Vuong street)



Fig 11h:
The UGC crosses under peach tree plantation cultivated by Phu Thuong residents



Fig 11i:
The UGC reaches
the 220 kV station by
tunnel beneath
existing road

VI. INFORMATION DISCLOSURE AND PUBLIC CONSULTATION

A. Information Disclosure

84. Formal disclosure of the Chem Tay Ho subproject to affected persons and stakeholders during the IEE is meant to form the beginning of continued information disclosure and stakeholder and affected persons involvement as the subproject is implemented. As part of the stakeholder communication strategy regular information exchange meetings with stakeholders and affected persons are strongly encouraged throughout subproject implementation.

85. The IEE must be easily available in written and verbal forms of the local language. At a minimum the Executive Summary of the IEE should be translated to local language and distributed to all stakeholders and APs. The IEE should be available on the EVNHANOI website, at the EVN HANOI office in Ha Noi, and at the project sites. Similarly, all project reporting with specific reference to stakeholder consultation minutes, environmental monitoring, and reports on EMP implementation released by the EA/IA should be available at the same offices and websites.

B. Public Consultation

86. The stakeholder consultation strategy was developed to meet the requirements of meaningful consultation as stipulated by the ADB SPS (2009). The strategy embodied the principles of meaningful engagement, transparency, participation, and inclusiveness to ensure that affected and marginalized groups such as women, and the poor, were given equal opportunities to participate in the design of the subproject.

1. Identification of stakeholders

87. Stakeholders were identified and engaged in a participatory manner. Stakeholder communication focused on institutional stakeholders, affected communities, and persons directly affected by proposed project interventions. The stakeholders of the subproject include:

- Institutional stakeholders such as: (i) PPC, (ii) DPC; (iii) Project EA, (iv) EPC, and (v) commune leaders;
- Mass organizations such as Women Union, and Farmers Union which provided information for the design of the various project interventions, and which might participate in implementation of measures and interventions;
- Affected households and businesses living along the transmission line and near the substation site who may be directly and/or adversely affected, and who have an interest in the identification and implementation of measures to avoid or minimize negative impacts; and
- Other institutions or individuals with a vested interest in the outcomes and/or impacts of the subproject.

2. Public consultation meeting

Community consultation meetings and interviews were held to discuss the baseline conditions and potential environmental and social impacts by the subproject. Consultations meetings and interviews were held in the three wards of: (i) Thuy Phuong and Dong Ngac wards (Bac Tu Liem district); (ii) and Phu Thuong ward (Tay Ho district) in March and April 2014.

88. The public meetings consisted of the following three integrated activities:

- (i) Introduction of the subproject including overhead line, underground cable, and the length of the cable that will traverse communes and wards;
- (ii) Introduction of ADB's environmental policy, safety regulations in the Vietnam power sector, anticipated environmental impacts and respective mitigation measures (to be developed in IEE), the grievance redress mechanism for environmental and resettlement problems; and
- (iii) The social/resettlement consultants presented ADB's resettlement plan, impacts due to the acquisition of land and properties, policies of GOV and local authorities, and the Project's policies for compensation for loss due state acquired land and property.

89. During the meeting, people raised their questions and comments on the environmental issues. The participants of the meetings included Commune leaders, representatives of mass organization such as Women Union, Farmers union and affected people. A total of 26 people were consulted on the views and concerns of the subproject (See APPENDIX B: Minutes and Participants of Consultation Meetings).

3. Consultation to local government

90. During EIA preparation for Vietnam LEP (2005) an executive summary of environmental impact assessment report was sent to local government (Thuy Phuong, Dong Ngac, Phu Thuong people's committees and fatherland-front committees) by Hanoi EVN for consultation. Feedback from local government in the form of official letters was recorded in the APPENDIX B4: CONSULTATION TO LOCAL GOVERNMENT Consultation activities and summary of feedbacks are listed in the Table 13.

Table 13: Feedback from local government on subproject

Wards	Consultation letters	Feedback
<ul style="list-style-type: none"> • Phu Thuong People's Committee • Phu Thuong Fatherland front Committee 	EVNHANOI letter No. 388/Hanoi PMB-X09.2 dated 28 th Oct. 2013 with EIA executive summary to local government	Requirement on cooperation for local environmental protection during subproject implementation were received in the letter below. <ul style="list-style-type: none"> • Letter No. 59/CV-MTDT dated 7th May 2013 was sent by Phu Thuong Fatherland front Committee
<ul style="list-style-type: none"> • Thuy Phuong 	EVNHANOI letter No.	Requirement on cooperation for local

Wards	Consultation letters	Feedback
People's Committee <ul style="list-style-type: none"> • Thuy Phuong Fatherland front Committee 	389/Hanoi PMB-X09.2 dated 28 th Oct. 2013 with EIA executive summary to local government	environmental protection during subproject implementation were received in the letters below. <ul style="list-style-type: none"> • Letter No. 805/UBND dated 5th Nov. 2013 was sent by Thuy Phuong People's Committee • Letter No. 37/MT dated 5th Nov. 2013 was sent by Thuy Phuong Fatherland front Committee
<ul style="list-style-type: none"> • Dong Ngac People's Committee • Dong Ngac Fatherland front Committee 	EVNHANOI letter No. 390/Hanoi PMB-X09.2 dated 28 th Oct. 2013 with EIA executive summary to local government	Requirement on cooperation for local environmental protection during subproject implementation were received in the letters below. <ul style="list-style-type: none"> • Letter No. 1342/UBND-VP dated 13th Nov. 2013 was sent by Dong Ngac People's Committee • Letter No. 32/MTTQ dated 14th Nov. 2013 was sent by Dong Ngac Fatherland front Committee

4. Interview and questionnaires of local residents

91. Direct interviews with local residents along the subproject sites and questionnaires were conducted in Dong Ngac ward. A total 16 questionnaires were sent out to Dong Ngac ward residents. List of interviewees and questionnaire are detailed in the APPENDIX B3: Public Consultation – Dong Ngac Ward – Bac Tu Liem District.

5. Results of public consultation

92. The main comments from commune authorities are as follows:

- (i) Solid waste generated from construction activities must be controlled and transported out for treatment. No solid waste is to remain within the ward;
- (ii) The locations for pole placements must minimize damage to cultivation areas. A fence must surround construction pits to prevent injury to children and general public.
- (iii) Lightning protection systems need to be installed firmly with solid grounding system to manage lightning strikes.

- (iv) Registration of temporary workers with local authority to ensure public security
- (v) Construction methods and work progress must be informed and clarified to local government officers and local residents;
- (vi) Close cooperation with community is required to the construction contractors. Based on that, generated impacts and disturbance could be timely controlled and minimized.

93. The summary of comments/questions from local authorities/people and answers of subproject owner and consultants are summarized in the **Error! Reference source not found..**

Table 14. Summary of public consultation discussion

Location and time	Comments/questions from local authorities	Answers of Subproject owners and consultant	Response of Project
Thuy Phuong People's Committee 21 st Mar. 2014	All affected land and other affected residential structure must be completely compensated before construction	Subproject implementation is based on local agreement. All compensation in details will be clarified and implemented before construction.	Impacts are included in IEE. Compensation is detailed Resettlement Plan.
	Subproject EA must ensure resident's rights. Compensation under government regulation needs be at highest rate.	Compensation rate is based on detailed investigation and related national laws and every situation. Compensation will be implemented only when affected households get agreement.	Compensation is detailed Resettlement Plan.
	Construction methods and construction progress must be clarified so that local residents and local government could clearly understand	Construction methods and construction progress will be clarified before and during construction	Formal process of information disclosure is provided in Information Disclosure section
	Construction contractors must closely contact with local government and residents during	Local government and community representatives are determined as	This is addressed in Institutional Responsibilities

Location and time	Comments/questions from local authorities	Answers of Subproject owners and consultant	Response of Project
	construction.	stakeholders. Therefore, cooperation is definitely required during subproject implementation	section
	Environment and sanitation must be ensured/protected during construction.	Construction contractors will be under supervision not only subproject system but also response from local residents.	The EMP prescribes mitigation sub-plan for worker camp management including site sanitation.
	Construction contractors must cooperate with communal officers to determine temporary dumping areas, before transportation for treatment.	Agree	EMP prescribes explicit procedure for dumping of waste in authorized off-site locations
	Long-term dumping sites for unused material from construction and other materials will not be located within Thuy Phuong ward. They must be transported to city treatment area/city dumping sites.	Agree	As above
	Construction contractor must comply local regulations;	Agree	This is described in the Environmental Mitigation Plan of EMP
	Local residents will positively cooperate with construction contractors and subproject execution agency during subproject implementation.	Agree	This is described in the Environmental Mitigation Plan of EMP

Location and time	Comments/questions from local authorities	Answers of Subproject owners and consultant	Response of Project
<p>Dong Ngac ward 25th Mar. 2014</p>	<p>How high is the overhead line? Local people are worried about impact on cultivation activities in construction and operation phases</p>	<p>The pole's height ranges from 29 to 69m. Therefore, the overhead line will not affect cultivation activities during operation. Temporary impact on cultivation activities is possible which will be compensated following regulations.</p>	<p>Compensation is detailed Resettlement Plan.</p>
	<p>Unused materials from construction on cultivation areas must be timely transported out to enable agricultural activities.</p>	<p>Before construction, information of working method and progress will be provided to communal people's committees and head of villages as well as potentially affected households, by contraction contractors and construction supervisors</p>	<p>EMP prescribes explicit procedure for dumping of waste in authorized off-site locations</p>
	<p>Construction methods and plans must be incorporated with solution for nearby graves which potentially be affected during construction. Construction contractors need to avoid nearby graves and other cultural infrastructure. Solutions for compensation must be clarified to affected households if impacts occurred</p>	<p>Generated impacts on local graves must be compensated by construction contractors under supervision from subproject execution agency and local government.</p>	<p>Compensation is detailed Resettlement Plan. Protection of cultural property such as graves is prescribed in EMP</p>

Location and time	Comments/questions from local authorities	Answers of Subproject owners and consultant	Response of Project
Phu Thuong ward 2 nd Apr. 2014	Is the local people health affected by electromagnetic field during operation of the transmission line?	Because of the underground cable follows the safety regulation, local residents' health will not be affected by electromagnetic field	Conclusive international medical evidence of health effects of EMF does not exist
	Ensured no traffic jam would be occurred during construction period to the cemetery area	Agree	Traffic management is prescribed by the Environmental Mitigation Plan of EMP
	Construction contractors must be under supervision to ensure mitigation measures	Agree. An environmental management system will be arranged during construction including monitoring board	Roles and responsibilities of contractor explicit in EMP
	Information related to the subproject must be informed to local residents/local government before construction	Agreement. Construction contractors must arrange a meeting in communal people's committee for information disclosure, before construction	Formal process of information disclosure is provided in Information Disclosure section
Conclusion	People Committees and residents of Thuy Phuong, Dong Ngac and Phu Thuong wards agree and will support the construction of the power line 220/110KV Chem – Tay Ho subproject		

94. Prior to the construction the subproject owner will inform the ward PC about construction schedule, and disseminate IEE, EMP and Vietnamese EIA at the ward office. However, no public consultation meeting will be organized.

VII. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATIONS

95. Environmental impacts are screened and assessed in three phases of subproject implementation defined as: (i) pre-construction - subproject finalization; (ii) construction; (iii) and operation. Safety hazards and other environmental risks are also verified during assessment.

A. Subproject Benefits

96. The primary targeted benefit of the subproject is provision of needed electrical power to the expanding Ha Noi area, and to support the rapid peri-urban, commercial, and industrial development that is occurring.

B. Pre-construction Phase

97. Existing field data indicate that some residential and agricultural lands will be permanently and temporarily lost due to the OHL and UGC transmission line. The permanent loss of land will occur mostly as a result of the substation while the greatest area of temporary lost land will occur along the transmission line. The details of the land losses and compensation are found in the draft Resettlement Plan (RP).

Updating Environmental Management Plan

98. The subproject EMP will need to be updated during the pre-construction phase to ensure that the EMP fully addresses the potential impacts of the final detailed design of the Chem – Tay Ho transmission line. This will involve finalization of the mitigation and monitoring plans of the EMP that will manage and measure potential impact areas such as erosion, noise, dust and air quality, construction waste and spoil disposal, construction traffic, and worker and public safety at the subproject sites. The updated EMP will be used by the contractors to prepare their contractor environmental management plans (CEMP).

99. Thus, key environmental impact management measures to be implemented during the pre-construction phase are:

- 1) Initiation of the RP and land compensation for affected households and businesses;
- 2) Completion of detailed designs of the subproject; and
- 3) Updating and initiation of subproject EMP.

C. Construction Phase

100. Short-term construction-related impacts common to the construction of the subproject are mainly reduced and/or blocked public access, disrupted local agriculture, noise, dust and air pollution from NO_x, SO_x, and CO caused by construction truck traffic and heavy equipment use, soil pollution caused by equipment operation and maintenance, public and worker accidents, increased traffic accidents, erosion and sedimentation, drainage and flooding problems, solid waste and domestic pollution from worker camps, damage to existing roads traversed by the transmission lines, social disease and community problems caused by migrant workers.

a. Mitigation measures

101. Construction management measures to mitigate the potential impacts associated with the construction phase of the subproject are exemplified below. The mitigation measures are detailed further in the EMP.

- Open excavations should be fenced, and trenches covered where public walkways or vehicles must cross.
- A cultural chance find management sub-plan must be in place in the EMP for cultural artifacts and property.
- Regular use of wetting agents should be employed at construction sites and along construction roads to minimize dust.
- All construction vehicles and gas powered equipment should be maintained in proper working order to minimize emissions, and should not be operated at night if possible to minimize noise nuisance.
- Speed limits should be posted and adhered to by construction vehicles.
- Where possible construction vehicles should use different roads or dedicated lanes of roads shared by the public.
- Trees and other vegetation at all construction sites and along road corridors should be protected with minimal removal.
- Present and past land use should be reviewed to assess whether excavated soils are contaminated spoil. Contaminated spoil should be disposed at a landfill or a location approved by DoNRE.
- Worker camps must have adequate domestic waste collection facilities and sufficient pit latrines that are located away from public areas and surface waters.
- Dedicated fuel storage areas must be established away from public areas and marked clearly.
- To minimize the risk of public and worker injury, appropriate GoV regulations on Occupational, Safety, and Community Health must be applied¹¹, or the IFC/World Bank Environment, Health, and Safety Guidelines (2007) that govern the safe and orderly operation of civil works should be followed.
- Aggregates (e.g., sand, gravel, rock) that are transported by truck should be covered.
- Prolonged use of temporary storage piles of fill should be avoided, covered, or wetted regularly to prevent dust and erosion.
- Sand extraction from any rivers for construction fill should be done at licensed areas only.

¹¹ e.g. Decree 110/2002/ND-CP, supplementing some Articles of Decree 06/1995 on Labour Code of Occupational Safety and Health, MoLISA

- Storage of bulk fuel should be on covered concrete pads, away from the public and worker camp. Fuel storage areas and tanks must be clearly marked, protected and lighted. Contractors should be required to have an emergency plan to handle fuel and oil spillage.

102. Some specific potential impacts and respective mitigation measures during construction are below.

2. Traffic disruption

103. The earth works required for construction of tunnel and holes will potentially reduce or block traffic at Lane 15 An Duong Vuong street. Special attention should be paid not disrupt the following community activities:

- Travelling for daily cultivation activities. Residents need safe access to the peach tree plantation;
- Funeral processions must not be blocked. Commune cemetery is located nearby the final pole of electric with other side of residential area by the subproject's tunnel work; and
- Night travel in community by residents.

104. Therefore, the construction contractor must consider preventive construction practices which might include:

- Completing the tunnel work section-by-section. In this way disruption of traffic on the road between residential areas and cultivation areas as well as local cemetery will be minimal; and
- Warning signs, stable fence, and warning lights must be placed to ensure awareness of sites by local people;

3. Effects of OHL at Thang Long Bridge on traffic hazards

105. To minimize this risk the construction contractor should ensure traffic safety during construction which may include:

- Assign dedicated personnel to control and manage the traffic during construction of OHL crossing the bridge;
- Provide full cooperation with city traffic police in traffic diversion and management; and
- Safety signs for construction must be installed

106. Installation of wire for OHL, and construction of electric poles might temporarily affect nearby cultivation area and growing trees, plants and vegetables. This impact could be eliminated by construction contractor in cooperation with potentially affected households and residential representatives. Proper compensation for any effects will be detailed in the Resettlement Action Plan in details.

107. Solid waste generation during construction crossing residential areas could become an issue. There are no official dumping sites in the residential areas at three communes in the subproject. Therefore, solid waste such as excavated soil debris and other unused

construction materials must be soon gathered and transported offsite to a disposal site approved by DoNRE either by the contractor or by a solid waste service provider.

D. Operation phase

108. Potential impacts associated with the operation of the OHL and UGC portions of the transmission line are restricted to worker and public safety during routine maintenance activities, and unauthorized public access to the towers, respectively. The potential risk of public injury from the UGC section of transmission line is negligible because the cable is buried at a depth of 1.5 m with safety corridor width on both sides of 1 m.

109. The collective mitigation for operational effects is to prevent public access to the substation property and at the transmission towers. This management action would be implemented with effective fencing and clear signs indicating the dangers of the different facilities.

110. Other potential impacts concern the effect of uncontrolled housing development. A safe distance from OHL at least 6m has been incorporated in regional master plan by design consultant. Transmission poles are designed with heights of 29m to 66m. However, uncontrolled housing development by local residents such as high-rise building could violate the initial design. Therefore, dissemination of safety information on transmission system to local residents as well as periodic remedial actions from commune government officers in conjunction with EVNHANOI operations staff are required.

E. Climate Change

111. Regional Global Circulation Modeling project greenhouse-climate change induced changes to the frequency and severity of rainfall events in the subproject area. The foundations of the transmission poles will be high enough to avoid exposure of the base of the tower to local flooding events. The underground section of the transmission line will be designed to withstand long standing water periods from overland flooding.

XIII. GRIEVANCE REDRESS MECHANISM

112. A well-defined grievance redress and resolution mechanism will be established to address affected persons (AP) grievances and complaints regarding environmental issues, land acquisition, compensation and resettlement in a timely and satisfactory manner. All APs will be made fully aware of their rights, and the detailed procedures for filing grievances and an appeal process will be published through an effective public information campaign. The grievance redress mechanism and appeal procedures will also be explained in a subproject information booklet (PIB) that will be distributed to all APs.

113. APs are entitled to lodge complaints regarding any aspect of affected environments, land acquisition and resettlement requirements such as noise, pollution, entitlements, rates and payment and procedures for resettlement and income restoration programs. APs complaints can be made verbally or in written form. In the case of verbal complaints, the committee on grievance will be responsible to make a written record during the first meeting with the APs.

114. A Grievance Committee with appointed environmental and social issues experience will be organized in local communes comprising of local leaders designated for such tasks. The designated commune officials shall exercise all efforts to settle APs issues at the commune level through appropriate community consultation. All meetings shall be recorded by the grievance committee and copies shall be provided to APs. A copy of the minutes of meetings and actions undertaken shall be provided to the EA/IA12 and ADB upon request.

115. The procedures for grievance redress are defined below and summarized in Figure 3. The procedure described below should apply easily to both social and environmental issues and be consistent with the legal process for resolution of disputes in Viet Nam.

- Stage 1: Complaints from APs for the first time shall be lodged verbally or in written form with the village head or commune leader. The complaints shall be discussed with the APs and the designated Head of Grievance Committee or members of the committee. Because initial environmental issues will most likely be construction-related, the EO/contractor and then the ESU/IA need to be notified immediately. It will be the responsibility of the Head of Grievance Committee to resolve the issue within 15 days from the date the complaint is received. All meetings shall be recorded and copies of the minutes of meetings will be provided to APs.
- Stage 2: If no understanding or amicable solution can be reached or if no response is received from the grievance committee within 15 days from filing the complaint, the APs can elevate the case to the District Grievance Committee. The District Grievance Committee is expected to respond within 15 days upon receiving the APs appeal.
- Stage 3: If the AP is not satisfied with the decision of the District Office, or in the absence of any response, the APs can appeal to the Provincial Grievance Committee (PGC). The PGC will review and issue a decision on the appeal within 30 days from the day the complaint is received.
- Stage 4: If the AP is still not satisfied with the decision of the PGC or in the absence of any response within the stipulated time, the APs, as a last resort may submit his/her case to the provincial court. The court will address the appeal by written decision and submit copies to the respective entities which include the EA, DGC/PGC and the APs. If however, the AP is still not satisfied the court's decision, the case may be elevated to the

¹² See Section IXB below for institutional responsibilities for EMP

provincial court. If however, the decision of the provincial court is still unsatisfactory to the APs, the APs may bring the complaints to the Higher Court (Figure 16).

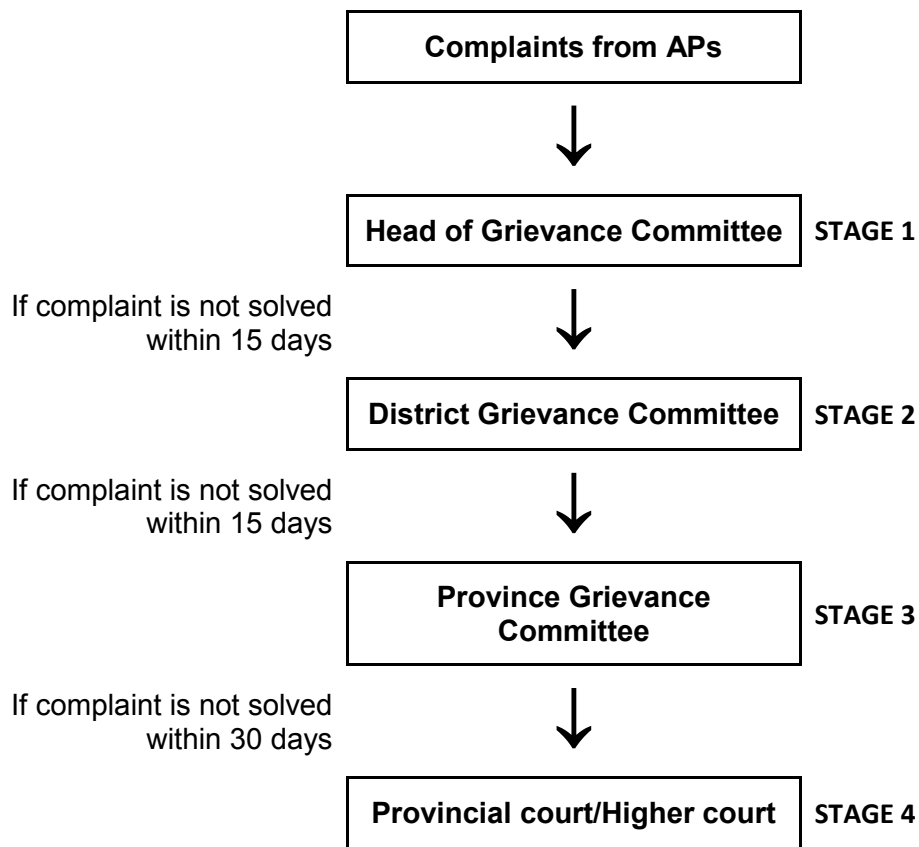


Figure 16. Summary of Grievance Redress Process

116. The EA and EVN will be responsible for checking the procedures and resolutions of grievances and complaints. The EVN/EA must have expertise and experience in social and environmental issues associated with infrastructure developments. The EVN/EA may recommend further measures to be taken to redress unresolved grievances. The environmental specialists will provide the necessary training to improve grievance procedures and strategy for the grievance committee members when required.

117. In cases where APs do not have the writing skills or are unable to express their grievances verbally, they are encouraged to seek assistance from the recognized local groups, NGOs, or other family members, village heads or community chiefs to have their grievances recorded in writing, and to have access to documentation, and any survey or valuation of assets, to ensure that where disputes do occur, all the details have been recorded accurately enabling all parties to be treated fairly. Throughout the grievance redress process, the responsible committee will ensure that the concerned APs are provided with copies of complaints and decisions or resolutions reached.

118. If efforts to resolve disputes using the grievance procedures remain unresolved or unsatisfactory, APs have the right to directly discuss their concerns or problems with the ADB Southeast Asia Department through the ADB Viet Nam Resident Mission (VRM). If APs

are still not satisfied with the responses of VRM, they can directly contact the ADB Office of the Special Project Facilitator (OSPF).

IX. ENVIRONMENTAL MANAGEMENT PLAN

A. Overview of Environmental Management Plan

119. An environmental management plan (EMP) has been developed for the implementation of the subproject. The purpose of the EMP is to integrate the results of the IEE into a formal management plan that is implemented in parallel with the subproject to prevent or minimize the potential environmental impacts and issues that were identified by the IEE. The EMP addresses the results of the public consultations on the subproject that were convened as part of the IEE.

120. The EMP, *inter alia*, consists of an Impacts Mitigation Plan, a Monitoring Plan, and an Emergency Response Plan. The EMP also prescribes the institutional responsibilities for the implementation of the EMP. The EMP is a management tool that provides a set of directives and guidelines that the subproject owner follows to prevent or minimize unnecessary environmental impacts of the subproject.

B. Institutional Arrangements and Responsibilities

121. At the feasibility stage, the primary management framework¹³ responsible for the implementation of the EMP for the subproject is summarized as follows. The EVN HANOI is the executing agency (EA). The EA takes overall responsibility for implementing the EMP with executive support from the Power Project Management Board (PPMB), a subsidiary of EVN HANOI and the implementing agency (IA) of the subproject. The IA under the direction of the EA implements the subproject and EMP with an assigned Environmental and Social Unit (ESU) whose sole responsibility is to implement the EMP.

122. The IA/ESU is supported by the [international] Project Implementation Consultant¹⁴ (PIC). The PIC assists with completion of the detailed subproject designs, updates the EMP to address the detailed subproject designs, and assist with the implementation of the EMP. The PIC also delivers required capacity development and training to the IA/ESU. The ESU oversees and assists the work of the Environmental Officer (EO) of the construction contractor who implements the contractors EMP (CEMP)¹⁵.

123. External support of the ESU for the implementation of the EMP is provided by the international and national environment specialists (ES) of the PIC, and an Environmental Monitoring Consultant (EMC) which is required to conduct the field sampling and laboratory analyses of the environmental monitoring plan (e.g., water quality, air quality) of the EMP that cannot be performed by the contractor or IA/ESU. A summary of indicative responsibilities for implementation of the EMP is provided below.

124. The responsibilities of the EA with support from EVN include:

- Overall responsibility for implementation of EMP;

¹³ Adapted from management framework for original core subprojects

¹⁴ PIC to be defined

¹⁵ Contractor Environmental Management Plan prepared by contractor as part of bid documents based on EMP

- Provide coordination and supervision for environmental and social safeguards and monitoring for IA/ESU;
- Liaise with EVN and ADB on the implementation of the EMP; and
- Coordinate resolution with IA/ESU with issues arising from the implementation of EMP.

125. The responsibilities of the ESU of IA include:

- Assist PIC with updating the EMP to meet final detailed subproject design;
- Notify DoNRE to verify GoV approvals of subproject are met;
- Assist PIC with inclusion of CEMP requirements in contractor bid documents including bid evaluations based on updated EMP;
- Undertake day-to-day management of EMP implementation activities;
- Work with EMC on implementation of monitoring plan of EMP;
- Ensuring compliance with loan covenants and assurances in respect of entire subproject, including EMP (as well as IPPs, GAPS, resettlement plans);
- Lead follow-up meetings with all affected stakeholders;
- Prepare and submit quarterly reports on EMP implementation to IA/EA;
- Oversee implementation of CEMP by contractor;
- Coordinate with ES of PIC for EMP implementation;
- Undertake regular construction site inspections to ensure contractor implements CEMP properly; and
- Ensure EO of contractor submits monthly reports on construction mitigations and monitoring.

126. The responsibilities of the ES (International and National) of the PIC are:

- Updating the EMP to meet final detailed design of subproject;
- Provide technical direction and support to ESU/IA for implementation of EMP;
- Oversee design and delivery of capacity development and training of ESU/IA and EO of contractor(s);
- Provide advice and support to EMC with their monitoring activities;
- Review all reports prepared ESU/IA and EMC for EA and ADB; and
- Review location of any possible contaminated sites near subproject.

127. The responsibilities of Environmental Officer (EO) of Contractor include:

- Implement CEMP for construction phase of subproject; and
- Prepare and submit monthly reports on mitigation and monitoring activities of CEMP any environmental issues at construction sites.

128. The responsibilities of external Environmental Monitoring Consultant (EMC) include:

- Implement the environmental sampling required for monitoring plan of EMP that cannot be conducted by the contractor and ESU/IA/EO.
- Perform required laboratory analyses for monitoring program detailed in EMP; and;
- Prepare and submit quarterly reports to IA/ESU on monitoring activities.

129. The Department of Natural Resources and Environment (DoNRE) is the provincial agency which oversees environmental management of Ha Noi. The DoNRE with District staff provides direction and support for environmental protection-related matters including application of the Law on Environmental Protection (2005)¹⁶, Decree 29 for EIA, and environmental standards.

130. The ADB provides guidance to EA/IA with any issues related to EMP, and reviews biannual reports on EMP activities compiled and submitted by EA.

C. Summary of Potential Impacts of subproject

131. The potential impacts of the subproject are summarized in Table 15.

Table 15: Summary of potential impacts of subproject

Pre-construction Phase	<ul style="list-style-type: none"> • Permanent loss of some urban agricultural land
Construction Phase	<ul style="list-style-type: none"> • Temporary loss of residential and agriculture land along RoW. • Traffic disruption during installation of OHL and UGC sections of line • Common construction-related civil works disturbances such as dust, noise, reduced and/or blocked public access, disrupted business and recreation, noise, dust and air pollution from NO_x, SO_x, and CO caused by increased truck traffic and heavy equipment use, soil pollution caused by equipment operation and maintenance, public and worker accidents, increased traffic accidents, damage to existing roads, land erosion and sedimentation, drainage and flooding problems, solid and domestic waste from worker camps, social issues and community problems caused by migrant workers.
Operational Phase	<ul style="list-style-type: none"> • Risk of worker and public safety at facilities. • Spills of hazardous materials such as transformer oil.

¹⁶ Revision of LEP (2005) approved by GoV June /14, but not in effect until end of /14.

	<ul style="list-style-type: none">• RoW encroachment due to uncontrolled housing development in the region.
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D. Mitigation Plan

132. The impact mitigation measures of the EMP are presented in a comprehensive mitigation plan for the subproject in **Error! Reference source not found.** The mitigation plan is structured by the three development phases of the subproject defined by the pre-construction; construction; and operational phase. The mitigation plan addresses the environmental issues and concerns raised at the stakeholder meetings. The mitigation plan identifies potential impacts, required mitigations, responsible parties, location, timing, and indicative costs.

133. The mitigation plan is comprehensive by design because it will need to be updated to meet the final detailed designs of the subproject. The mitigation plan is organized into a series of sub-plans that address specific potential impact areas of the subproject. The sub-plans will assist the contractors with the development of their CEMPs as part of their bid documents, and ultimately will allow the ESU/IA, PIC, and contractors to focus more or less on the different potential impact areas as they arise with the implementation of the final designs of the subproject. Mitigation sub-plans are drafted for example for: a) Construction drainage; b) Erosion; c) Noise and Dust; d) Contaminated Spoil Disposal; e) Solid and Liquid Waste Disposal; f) Construction and Urban Traffic; g) Utility and Power Disruption; h) Worker and Public Safety; i) Tree and Vegetation Removal and Site Restoration; j) Construction Materials Acquisition, Transport, and Storage, and k) Cultural chance finds.

Table 16. Environmental Mitigation Plan

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
<i>Pre-Construction, Detailed Design Phase of Chem Tay Ho Transmission Line</i>								
Confirmation of required resettlement, relocations, and compensation	No negative environmental impacts	1. Affected persons well informed well ahead of subproject implementation.	All affected persons in subproject areas	Before subproject implemented	See resettlement plans	See resettlement plan	EA/IA/ESU	Resettlement committees
Disclosure, and engagement of community	No negative impacts	2. Initiate Information Disclosure and Grievance process of IEE	For all construction sites.	Beginning of subproject	Quarterly	No marginal cost ¹⁸	IA/ESU	ESU
GoV approvals	No negative impact	3. Notify DoNRE of subproject initiation to complete EA requirements, and obtain required subproject permits and certificates.	Entire subproject	Before construction	As required	No marginal cost	EA/DoNRE	DoNRE

¹⁷ Costs will need to be updated during detailed design phase.

¹⁸ No marginal cost indicates that costs to implement mitigation are to be built into cost estimates of bids of contractors

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Detailed designs of subproject,	Minimize negative environmental impacts	<p>4. Work with PIC¹⁹ to complete detailed designs of the subproject. Ensure the following measures are included:</p> <p>a) identification of spill management prevention plans, and emergency response plans for all construction sites;</p> <p>b) no disturbance or damage to culture property and values;</p> <p>c) minimal acquisition of agriculture lands</p> <p>d) locate aggregate borrow pits and rock supply areas away from human settlements with fencing and access barriers;</p> <p>e) none or minimal disruption to village water supplies along access roads, utilities, and electricity with contingency plans for unavoidable disruptions;</p> <p>f) none or minimal disruption to normal pedestrian and vehicle traffic along all road segments with contingency alternate routes;</p> <p>g) for built-up areas include specific plan to notify and provide residents and merchants of construction activities and schedule to minimize disruption to normal commercial and residential activities.</p>	Final siting	Before construction initiated	Once with detailed designs documents	No marginal cost	PIC	EA/IA

¹⁹ PIC is Project Implementation Consultant at detailed design phase to be determined

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Update EMP	Positive environmental impacts	5. Review finalized RoW of TL to confirm absence of valued ecological or cultural resources. 6. Re-clarify with DoNRE that no known rare or endangered species inhabit the subproject areas 7. Identify any new potential impacts of subproject and include in EMP with special attention to residential areas. 8. Update mitigation measures and monitoring requirements of EMP where necessary to meet detailed designs, and to protect affected environments. 9. Submit updated EMP with new potential impacts to ADB to review. 10. Complete individual management sub plans of CEMP for: a) Construction drainage; b) Erosion; c) Noise and Dust; d) Contaminated Spoil Disposal; e) Solid and Liquid Waste Disposal; f) Construction and Urban Traffic; g) Utility and Power Disruption; h) Worker and Public Safety; i) Tree and Vegetation Removal and Site Restoration; j) Construction Materials Acquisition, Transport, and Storage, and k) Cultural chance finds.	All sites	Before construction initiated	Once with detailed designs documents		PIC	IA/ESU
Update EMP	Positive environmental impacts	11. Update information where necessary on water quality and presence of valued aquatic biota in surface waters underneath entire TL and at SS site	Entire TL and at SS site	Before construction initiated	Once with updated EMP	See Monitoring Plan below	PIC	IA/ESU

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Confirm approved construction waste disposal sites	No negative impact	12. Notify DoNRE to confirm locations of sites for borrow pits and disposal areas for construction and hazardous waste for subproject, and obtain required permits. 13. Create registry for local and migrant workers.	Entire subproject	Before construction	As required	No marginal cost	IA/DoNRE	ESU
Develop bid documents	No negative environmental impact	14. Ensure updated EMP is included in contractor tender documents, and that tender documents specify requirements of EMP must be budgeted. 15. Specify in bid documents that contractor must have experience with implementing EMPs, or provide staff with training and experience.	All subproject areas	Before construction begins	Once for all tenders	No marginal cost	PIC	EA/IA
Create awareness of physical cultural resources in area	No negative environmental impact	16. EA to review potential locations of physical resources, and explain possible PCR to contractors and PIC.	All subproject areas	Before construction begins	Once	No marginal cost	EA/IA	IA/ESU
Obtain and activate permits and licenses	Prevent or minimize impacts	17. Contractors to comply with all statutory requirements set out by GoV for use of construction equipment, and operation construction plants such as concrete batching.	For all construction sites	Beginning of construction	Once	No marginal cost	EA/PIC	ESU and contractors
Capacity development	No negative environmental impact	18. Develop and schedule training plan for IA/ESU/EO to be able to fully implement CEMP, and to manage implementation of mitigation measures by contractors. 19. Create awareness and training plan for contractors whom will implement mitigation measures.	All subproject areas	Before construction begins	Initially, refresher later if needed	No marginal cost	PIC	PIC

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Recruitment of workers	Spread of sexually transmitted disease	20. Use local workers as much as possible thereby reducing number of migrant worker	All work forces.	Throughout construction phase	Worker hiring stages	No marginal cost	EA/IA	Contractor's bid documents
Construction Phase of Chem Tay Ho Transmission Line								
Initiate EMP and sub-plans,	Prevent or minimize impacts	21. Initiate updated EMP and CEMP including individual management sub-plans for different potential impact areas that are completed in pre-construction phase (see sub-plan guidance below).	For all construction sites	Beginning of construction	Once	No marginal cost	IA/PIC	ESU and contractors
Worker camps and construction areas	Pollution and social problems	22. Locate worker short- or long-term camps and living areas away from human settlements. 23. A solid waste collection program must be established and implemented that maintains a clean worker camps 24. Worker camps must have adequate drainage. 25. Local food should be provided to worker camps. Guns and weapons not allowed in camps. 26. Transient workers should not be allowed to interact with the local community. HIV/AIDS education should be given to workers. 27. Camp areas must be restored to original condition after construction completed.	All worker camps	Throughout construction phase	Monthly	No marginal cost	PIC/IA/ESU	contractor
Training and capacity	Prevent of impacts through education	28. Implement training and awareness plan for IA/ESU/EO and contractors.	IA office, construction sites	Beginning of construction	After each event	No marginal cost	PIC	PIC/ESU

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement Construction materials acquisition, transport, and storage sub-plan	Pollution, injury, increased traffic, disrupted access	<p>29. Required aggregate volumes must be carefully calculated prior to extraction to prevent wastage.</p> <p>30. All topsoil and overburden removed should be stockpiled for later restoration.</p> <p>31. All borrow pits should have a fence perimeter with signage to keep public away.</p> <p>32. After use pits should be dewatered and permanent fences installed with signage to keep public out, and restored as much as possible using original overburden and topsoil.</p> <p>33. Define and schedule how fabricated materials such as steel, wood structures, and scaffolding will transported and handled.</p> <p>34. All aggregate loads on trucks should be covered.</p>	For all construction areas.	Throughout construction phase	Monthly	No marginal cost	PIC/IA/ESU	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
DBST [low grade asphalt] production, and application to repair/restore any road works	Air pollution, land and water contamination, and traffic and access problems,	<p>35. Piles of aggregates at sites should be used/or removed promptly, or covered and placed in non-traffic areas</p> <p>36. Stored paving materials e.g., DBST or asphalt, well away from all human activity and settlements, and cultural (e.g., schools, hospitals), and ecological receptors. Bitumen production and handling areas should be isolated.</p> <p>37. Contractors must be well trained and experienced with the production, handling, and application of bitumen.</p> <p>38. All spills should be cleaned immediately and handled as per hazardous waste management plan, and according to GoV regulations.</p> <p>39. Bitumen should only be spread on top of cable trench not near or in any surface waters, or near any human activities.</p> <p>40. Bitumen should not be used as a fuel.</p>	For all construction areas.	Throughout construction phase	Monthly	No marginal cost	PIC/ESU	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement Spoil management sub-plan	Contamination of land and surface waters from excavated spoil, and construction waste	<p>41. Uncontaminated spoil to be disposed of in GoV-designated sites, which must never be in or adjacent surface waters. Designated sites must be clearly marked and identified.</p> <p>42. Spoil must not be disposed of on sloped land, near cultural property or values, ecologically important areas, or on/near any other culturally or ecologically sensitive feature.</p> <p>43. Where possible spoil should be used at other construction sites, or disposed in spent quarries or borrow pits.</p> <p>44. A record of type, estimated volume, and source of disposed spoil must be recorded.</p> <p>45. Contaminated spoil disposal must follow GoV regulations including handling, transport, treatment (if necessary), and disposal.</p> <p>46. Suspected contaminated soil must be tested, and disposed of in designated sites identified as per GoV regulations.</p> <p>47. Before treatment or disposal contaminated spoil must be covered with plastic and isolated from all human activity.</p>	All excavation areas	Throughout construction phase	Monthly	See Monitoring Plan for contaminated soil analyses	PIC/ESU and DoNRE	Contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement Solid and liquid construction waste sub-plan	Contamination of land and surface waters from construction waste	<p>48. Management of general solid and liquid waste of construction will follow GoV regulations, and will cover, collection, handling, transport, recycling, and disposal of waste created from construction activities and worker force.</p> <p>49. Areas of disposal of solid and liquid waste to be determined by GoV.</p> <p>50. Disposed of waste should be catalogued for type, estimated weigh, and source.</p> <p>51. A schedule of solid and liquid waste pickup and disposal must be established and followed that ensures construction sites are as clean as possible.</p> <p>52. Solid waste should be separated and recyclables sold to buyers in community.</p> <p><u>Hazardous Waste</u></p> <p>53. Collection, storage, transport, and disposal of hazardous waste such as used oils, gasoline, paint, and other toxics must follow GoV regulations.</p> <p>54. Wastes should be separated (e.g., hydrocarbons, batteries, paints, organic solvents)</p> <p>55. Wastes must be stored above ground in closed, well labeled, ventilated plastic bins in good condition well away from construction activity areas, all surface water, water supplies, and cultural and ecological sensitive receptors.</p> <p>56. All spills must be cleaned up completely with all contaminated soil removed and handled with by contaminated spoil sub-plan.</p>	All construction sites and worker camps	Throughout construction phase	Monthly	No marginal cost	PIC/ESU and DoNRE	Contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement Noise and dust sub-plan	Dust Noise	57. Regularly apply wetting agents to exposed soil and construction roads. 58. Cover or keep moist all stockpiles of construction aggregates, and all truck loads of aggregates. 59. Minimize time that excavations and exposed soil are left open/exposed. Backfill immediately after work completed. 60. As much as possible, restrict working time at substation site between 07:00 and 17:00. 61. Maintain equipment in proper working order 62. Replace unnecessarily noisy vehicles and machinery. 63. Vehicles and machinery to be turned off when not in use. 64. Construct temporary noise barriers around excessively noisy activity areas where possible.	All construction sites.	Fulltime	Monthly	No marginal cost	PIC/ESU	contractor
Implement Utility and power disruption sub-plan	Loss or disruption of utilities and services such as water supply and electricity	65. Develop carefully a plan of days and locations where outages in utilities and services will occur, or are expected. 66. Contact local utilities and services with schedule, and identify possible contingency back-up plans for outages. 67. Contact affected community to inform them of planned outages. 68. Try to schedule all outages during low use time such between 24:00 and 06:00.	All construction sites.	Fulltime	Monthly	No marginal cost	PIC/ESU and Utility company	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement Tree and vegetation removal, and site restoration sub-plan	Damage or loss of trees, vegetation, and landscape	69. Contact DoT/DARD for advice on how to minimize damage to trees and vegetation along transmission line 70. Restrict tree and vegetation removal to within RoWs. 71. Restore sections of roads damaged by the construction of facilities.	All construction sites.	Beginning and end of subproject	Monthly	No marginal cost	PIC/ESU	contractor
Implement Erosion control sub-plan	Land erosion	72. Berms, and plastic sheet fencing should be placed around all excavations and earthwork areas. 73. Earthworks should be conducted during dry periods. 74. Maintain a stockpile of topsoil for immediate site restoration following backfilling. 75. Protect exposed or cut slopes with planted vegetation, and have a slope stabilization protocol ready. 76. Re-vegetate all soil exposure areas immediately after work completed.	All construction sites	Throughout construction phase	Monthly	No marginal cost	PIC/ESU	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement worker and public safety sub-plan	Public and worker injury, and health	<p>77. Proper fencing, protective barriers, and buffer zones should be provided around all construction sites.</p> <p>78. Sufficient signage and information disclosure, and site supervisors and night guards should be placed at all sites.</p> <p>79. Worker and public safety guidelines of MoLISA should be followed.</p> <p>80. Population near possible blast areas should be notified 24 hrs ahead, and evacuated well before operation. Accepted GoV blast procedures and safety measures implemented.</p> <p>81. Speed limits suitable for the size and type of construction vehicles, and current traffic patterns should be developed, posted, and enforced on all roads used by construction vehicles.</p> <p>82. Standing water suitable for disease vector breeding should be filled in.</p> <p>83. Worker education and awareness seminars for construction hazards should be given at beginning of construction phase, and at ideal frequency of monthly. A construction site safety program should be developed and distributed to workers.</p> <p>84. Appropriate safety clothing and footwear should be mandatory for all construction workers.</p> <p>85. Drinking water must be provided at all construction sites.</p> <p>86. Sufficient lighting be used during necessary night work.</p> <p>87. All construction sites should be examined daily to ensure unsafe conditions are removed.</p>	All construction sites.	Fulltime	Monthly	No marginal cost	PIC/ESU	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Civil works	Degradation of water quality and aquatic resources	<p>88. Protective silt curtains should be placed between all earthworks and surface waters.</p> <p>89. Erosion channels must be built around aggregate stockpile areas to contain rain-induced erosion.</p> <p>90. All construction fluids such as oils, and fuels should be stored and handled well away from surface waters.</p> <p>91. No waste of any kind is to be thrown in surface waters.</p> <p>92. No washing or repair of machinery near surface waters.</p> <p>93. No unnecessary earthworks in or adjacent to water courses.</p> <p>94. All irrigation canals and channels to be protected the same way as rivers, streams, and lakes</p>	All construction sites	Throughout construction phase	Monthly	No marginal cost	PIC/ESU	contractor
Civil works	Degradation of terrestrial resources	<p>95. All construction sites should be located away all plantation areas as much as possible.</p> <p>96. No unnecessary cutting of trees along RoW.</p> <p>97. All construction fluids such as oils, and fuels should be stored and handled well away from forested and plantation areas.</p> <p>98. No waste of any kind is to be discarded on land or in plantations.</p>	All construction sites	Throughout construction phase	Monthly	No marginal cost	PIC/ESU	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
Implement Construction and urban traffic sub-plan	Traffic disruption, accidents, public injury	<p>99. Schedule construction vehicle activity during light traffic periods. Create adequate traffic detours, and sufficient signage and warning lights.</p> <p>100. Post speed limits, and create dedicated construction vehicle roads or lanes.</p> <p>101. Inform community of location of construction traffic areas, and provide them with directions on how to best co-exist with construction vehicles on their roads.</p> <p>102. Demarcate additional locations where pedestrians can develop road crossings away from construction areas.</p> <p>103. Increase road and walkway lighting.</p>	All construction sites	Fulltime	Monthly	No marginal cost	PIC/ESU	contractor
Implement Construction Drainage sub-plan	Loss of drainage and flood storage	<p>104. Provide adequate short-term drainage away from construction sites to prevent ponding and flooding.</p> <p>105. Manage to not allow borrow pits to fill with water. Pump periodically to land infiltration or nearby water courses.</p> <p>106. Install temporary storm drains or ditches for construction sites</p> <p>107. Ensure connections among surface waters (ponds) are maintained or enhanced to sustain existing storm water storage capacity.</p> <p>108. Protect surface waters from silt and eroded soil.</p>	All areas with surface waters	Design and construction phases	Monthly	No marginal cost	PIC/ESU	contractor
Civil works and Chance finds sub-plan	Damage to cultural property or values, and chance finds	<p>109. As per detailed designs all civil works should be located away from all physical cultural property and values.</p> <p>110. Chance finds of valued relics and cultural values</p>	All construction sites	At the start , and throughout construction	Monthly	No marginal cost	PIC/ESU	contractor

Subproject Activity	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost ¹⁷ (USD)	Responsibility	
							Supervision	Implementation
		<p>should be anticipated by contractors. Site supervisors should be on the watch for finds.</p> <p>111. Upon a chance find all work stops immediately, find left untouched, and EA/IA notified to determine if find is valuable. The Culture division of the DCST notified by telephone if valuable.</p> <p>112. Work at find site will remain stopped until DCST allows work to continue.</p>		phase				
<i>Operation Phase of Chem Tay Ho Transmission Line</i>								
Operation of new transmission line		<p>113. Occupational safety and health regulations and guidelines of MoLISA should be applied to operations and maintenance of TL</p> <p>114. Ensure TL towers and UGC service sites are marked with clearly visible danger warning signs to keep public out.</p>	At all TL towers	Fulltime	Biannual	O & M	PPMB	

E. Monitoring Plan

134. The environmental monitoring plan for the EMP is provided in **Table** . The monitoring plan focuses on all three phases (pre-construction, construction, operation) of the subproject and consists of environmental indicators, the sampling locations and frequency, method of data collection, responsible parties, and estimated costs. The purpose of the monitoring plan is to determine the effectiveness of the impact mitigations, and to document any unexpected positive or negative environmental impacts of the subproject.

135. The independent environmental monitoring consultant (EMC) identified above will implement the environmental monitoring program. The EMC will be responsible for the sampling of environmental parameters that must be analysed in a laboratory. The ESU and EO will coordinate with the EMC. The PIC/IU will provide logistical support to the EMC where necessary for the implementation of environmental monitoring plan.

136. The standards for ambient environmental quality (e.g., water and air quality) for Viet Nam listed in section III will guide the monitoring program. The environmental standards provided by the Environmental, Health and Safety Guidelines of the IFC/World Bank (2007) should be followed to supplement standards that are not provided by the GoV.

137. After construction is completed, the potential impacts during operation phase will be monitored by EVN HANOI. Monitoring of the success of the minor resettlement in the affected areas will be undertaken as part of the separate RP prepared for the subproject.

F. Performance Monitoring

138. Performance monitoring is required to assess the overall performance of the EMP. A performance monitoring system is normally developed by the EA for the entire subproject. Selected indicators of major components of the environment that will be affected primarily by the construction phase are drawn from the mitigation and monitoring plans and summarized in **Table** .

G. Reporting

139. Regular reporting on the implementation of mitigation measures and on monitoring activities during construction phase of the subproject is required. Reporting is the responsibility of IA/ESU and should be conducted in conjunction with regular meetings with stakeholders as part of the continuation of stakeholder communications. The mitigation and monitoring plans (**Error! Reference source not found.** and Table) summarize proposed timing of reporting.

140. A report on environmental monitoring and implementation of EMP will be prepared quarterly for the EA by the IA/ESU. The IA report will compile monthly reports provided by the EO of contractor, the reports of the EMC on monitoring, and input from the ES of the PIC. The IA/ESU report will also be sent to the DoNRE and ADB. The reports will table all indicators measured with the monitoring plan of EMP including performance monitoring indicators (**Table**), and will include relevant GoV environmental quality standards. A semi-annual report on the environment monitoring of the subproject must be prepared and submitted to the ADB by the EA

Table 17: Environmental Monitoring Plan

Environmental Indicators	Location	Means of Monitoring	Frequency	Reporting	Responsibility		Estimated Cost (USD)
					Supervision	Implementation	
<i>Pre-construction Phase – Update Baseline Conditions</i>							
Update where necessary baseline on sensitive receptors (e.g., cultural property and values, new schools or hospitals, rare/endangered species, critical habitat along TL corridor.	A) RoW for transmission line (TL) B) Substation (SS) location	Original field work, community consultations	Once	Once	PIC/ESU	Environmental Monitoring Consultant	\$500.
A) Air quality: dust, CO, NOx, SOx, noise	Along transmission line Along underground cable line	Using field and analytical methods approved by DoNRE.	A) One day and one night measurement	One baseline supplement report before construction phase starts	PIC/ESU	Environmental Monitoring Consultant	\$1,000
Inventory of present and past land uses that could cause contaminated soil.	Possible contaminated lands at all excavation sites	Using field and analytical methods approved by DoNRE.	Once	Once	PIC/ESU	Environmental Monitoring Consultant	\$1000
Construction Phase							

Environmental Indicators	Location	Means of Monitoring	Frequency	Reporting	Responsibility		Estimated Cost (USD)
					Supervision	Implementation	
Analysis of soil quality (heavy metals (As, Cd, Pb, oil and grease)).	Possible contaminated lands at all excavation sites	Using field and analytical methods approved by DoNRE.	Once if needed	Once	ESU	Environmental Monitoring Consultant	\$500.
A) Air quality: dust, CO, NOx, SOx, noise B) Affected surface water quality: TSS, oil and grease, C) Analysis of contaminated soil quality (heavy metals (As, Cd, Pb, Hg, Mn), hydrocarbons. D) Domestic (worker) and construction solid waste inside and outside construction sites including worker camps. E) Public comments and complaints F) Incidence of worker or public accident or injury	A and B): Baseline sites of pre-construction phase. C) At sites where contaminated soil is suspected. D) All construction sites and worker camps E) Using hotline number placed at construction areas F) At all construction areas	A – C: Using field and analytical methods approved by DoNRE. Include visual observations of dust and noise from contractor and public reports. D) Visual observation E) Information transferred by telephone hotline number posted at all construction sites. F) regular reporting by contractors/ESU	(A – B): Quarterly during construction periods Daily visual records C) Once at start of excavations D) Monthly E) Continuous public input	Monthly	(A - D): ESU Monitoring Consultant		A and B: \$1,000/yr C: \$1,000/yr D: no marginal cost E: \$1,000./yr
(E and F) and daily observations:							

Environmental Indicators	Location	Means of Monitoring	Frequency	Reporting	Responsibility		Estimated Cost (USD)
					Supervision	Implementation	
Operation Phase							
Incidence of worker accidents, or spills on hazardous materials	Along OHL and UGC segments of transmission line	Regular documentation and reporting	Continuous			EVNHCM /PPMB	O & M

Table 18: Performance Monitoring Indicators

Major Environmental Component	Key Indicator	Performance Objective	Data Source
<i>Pre-construction Phase</i>			
Public Consultation and Disclosure	Affected public and stakeholders	Meetings with public stakeholders contacted during IEE and new stakeholders convened for follow-up consultation and to introduce grievance mechanism	Minutes of meeting, and participants list
EMP	Updated EMP	All stakeholders contacted during IEE re-contacted for follow-up consultation	EMP
Bid Documents	Requirements of EMP (CEMP ²⁰)	EMP appended to bidding documents with clear instructions to bidders for CEMP	Bid documents
Training of IA/ESU	Training course(s) and schedule	By end of pre-construction phase, required course(s) that will be delivered are designed and scheduled	Course(s) outline, participants, and schedule
<i>Construction of Transmission Line</i>			
All Subproject areas	Critical habitat, rare or endangered species <i>if present</i>	All <i>present</i> critical habitat and R and E species if unchanged, and unharmed	Monitoring by EMC ²¹
Affected water quality	TSS, oil and grease	GoV environmental standards and criteria met	Monitoring by EMC
Air quality	dust, CO, NOx, SOx, noise	Levels never exceed pre-construction baseline levels	EMC and contractor monitoring reports,
Soil quality	Solid and liquid waste	Rigorous program of procedures and rules to collect and store all waste from construction camps and sites practiced.	Contractor and EMC monitoring reports
Hazardous materials and waste	Oil, gasoline, grease	Rigorous program of procedures to manage and store all waste from construction camps and sites practiced.	Contractor and EMC monitoring reports

²⁰ Contractor Environmental Management Plan developed from EMP in contractor bidding document

²¹ Environmental Monitoring Consultant hired to assist implementation of Environmental Monitoring Plan

Major Environmental Component	Key Indicator	Performance Objective	Data Source
Public and worker safety	Frequency of injuries	Adherence to GoV occupational health and Safety regulations ²²	Contractor reports
Cultural property	Incidence of damage, or complaints	No valued cultural property, or unearthed valuable relic is harmed in any way	Public input, contractor reports, public input, EMC reports
Traffic	Frequency of disruptions and blocked roadways	Disruptions, stoppages, or detours are managed to absolute minimum.	Public input, contractor reports, EMC reports
<i>Operation of Transmission Line</i>			
Worker and Public Safety	Frequency of accidents and spills	No increase in pre-construction frequency	EA

²² OSH Guidelines provided by MoLISA, or IFC World Bank EHS (2007)

H. ESTIMATED COST OF EMP

141. The marginal costs for implementing the EMP are primarily for environmental monitoring because the costs for implementing impact mitigation measures are included with the construction costs in contractor bid documents. From **Table** the preliminary cost for the implementation of the EMP for the subproject including an estimated environmental training budget is approximately \$12,000 which is summarized in **Error! Reference source not found.**

Table 19. Estimated costs for EMP

Activity Type	Estimated Cost (USD)
<i>Pre-construction Phase</i>	
Updating Environmental Baseline - cultural receptors	\$500
Updating Environmental Baseline - environmental quality	\$2000
<i>Construction Phase</i>	
environmental quality	\$4,500
public consultation	\$2,000
<i>Operation Phase</i>	
environmental quality	no cost
public input	no cost
Training and capacity development of ESU	\$3,000
Total	\$12,000

142. The environmental costs are for field sampling and laboratory analyses which include professional per diems of technicians.

143. An estimated budget of USD \$3,000 is required for training of the EA/IA/ESU on environmental assessment and management, and the implementation of the EMP. The estimated costs of the EMP and training will need to be updated by the PIC in conjunction with the IA/ESU during the pre-construction phase.

XI. EMERGENCY RESPONSE PLAN

The Contractor must develop emergency or incident response procedures during construction and operation phases to protect workers and the public. The emergency response plan (ERP) outlines the roles and responsibilities of persons from first identification of an incident or emergency to the final steps of safe and complete closure of the situation. Detailed guideline for emergency response plan is described in the Appendix D.

XII. INSTITUTIONAL CAPACITY REVIEW AND NEEDS

144. Currently there is insufficient experience and capacity for environmental assessment and management in EVN HANOI for the implementation of the EMP, and to develop future safeguards for the non-core subprojects. The PIC with assistance from the ESU/IA of the subproject will develop and deliver training courses to the IA staff including the EO of the contractor. The purpose of the course(s) is to strengthen the ability of the subproject owner including the ESU to oversee implementation of the EMP by construction contractors, and EMC. Costs for training should be included with costs for implementation of the EMP.

145. Training on the implementation of an EMP should address two thematic areas. The first area should be principles environmental assessment and management focused on the potential impacts of subproject activities on the natural and social environments. The second area should be environmental safeguard requirements of the ADB and GoV with specific reference to the EMP.

XIII. CONCLUSIONS AND RECOMMENDATION

146. The initial examination of the subproject indicates that potential environmental impacts are construction-related impacts and disturbances that can be mitigated and managed.

147. The public consultation meetings underscored the need for effective management of construction impacts such as public safety, noise, dust, and traffic disruptions. Follow-up meetings with the consulted stakeholders to address any construction-related issues should occur. The civil construction impacts of elevated dust, noise, traffic disruptions, erosion and sedimentation, and public and worker safety can be managed effectively with standard construction practices (e.g., IFC/World Bank 2007).

148. The IEE concludes that the description of the feasibility design of the subproject combined with available information on the affected environment is sufficient to identify the scope of potential environmental impacts of the subproject. Providing that significant changes do not occur to the design of one or more of the subproject components, and that new sensitive environmental or PCR components are not identified in pre-construction phase, further detailed environmental impact assessment (EIA) of the subproject is not required.

IXV. REFERENCES

1. ADB, 2009. Safeguard Policy Statement, ADB Policy Paper.
2. ADB, 2003, Environmental Assessment Guidelines of the Asian Development Bank.
3. ADB, 2012, Environmental Safeguards, A Good Practice Sourcebook, Draft.
4. Centre for Environmental Analysis and Technology Transfer, 2012. Air quality report.
5. Hanoi PC – EVN, 2014. Environmental Impact Assessment report.
6. General Statistics Office, 2010. Hanoi Statistical Yearbook 2010
7. General Statistics Office, 2011. Hanoi Statistical Yearbook 2011
8. MOC-Ministry of Construction, 2009. Vietnam building Code 02:2009/BXD
9. VEPA-Vietnam Environmental Protection Agency, 2012. National Environmental Analysis report.
10. World Bank Group, 2007. Environmental, Health, and Safety Guidelines. Washington DC., 96 pgs.

APPENDIX A: Rapid Environmental Assessment Checklist

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.

- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

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

Sector Division:

Chem – Tay Ho 220 kV / 110 kV Transmission Line

Screening Questions	Yes	No	Remarks
A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas?			
▪ Cultural heritage site		X	
▪ Protected Area		X	
▪ Wetland		X	The transmission will traverse some rice paddy but not wetlands recognized by RAMSAR Convention
▪ Mangrove		X	
▪ Estuarine		X	
▪ Buffer zone of protected area		X	
▪ Special area for protecting biodiversity		X	

Screening Questions	Yes	No	Remarks
B. Potential Environmental Impacts Will the Project cause...			
▪ encroachment on historical/cultural areas, disfiguration of landscape and increased waste generation?		X	The only cultural areas are a few distant gravesites near RoW of transmission which will be avoided. The short-term construction waste will be managed and removed as indicated in the mitigation sub-plan of the EMP for the subproject.
▪ encroachment on precious ecosystem (e.g. sensitive or protected areas)?		X	
▪ alteration of surface water hydrology of waterways crossed by roads and resulting in increased sediment in streams affected by increased soil erosion at the construction site?		X	The OHL transmission towers and lines will not be placed near any water bodies
▪ damage to sensitive coastal/marine habitats by construction of submarine cables?		X	
▪ deterioration of surface water quality due to silt runoff, sanitary wastes from worker-based camps and chemicals used in construction?		X	The impact mitigation sub-plan of EMP for construction camps will manage all wastes produced by worker camps.
▪ increased local air pollution due to rock crushing, cutting and filling?		X	No significant rock crushing or quarrying is anticipated. The EMP specifies that all dust-producing activities such as road works should be managed with wetting agents
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		X	
▪ chemical pollution resulting from chemical clearing of vegetation for construction site?		X	
▪ noise and vibration due to blasting and other civil works?		X	
▪ dislocation or involuntary resettlement of people?		X	Any resettlement and compensation for land loss is addressed by RP for subproject.
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		X	

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> social conflicts relating to inconveniences in living conditions where construction interferes with pre-existing roads? 	X		Potential traffic and access disruptions along access road to substation site and at road crossings of transmission line are limited during construction only, which can be easily mitigated.
<ul style="list-style-type: none"> hazardous driving conditions where construction interferes with pre-existing roads? 		X	
<ul style="list-style-type: none"> creation of temporary breeding habitats for vectors of disease such as mosquitoes and rodents? 		X	
<ul style="list-style-type: none"> dislocation and compulsory resettlement of people living in right-of-way of the power transmission lines? 	X		Minor resettlement or land loss is addressed by resettlement is addressed by RP
<ul style="list-style-type: none"> environmental disturbances associated with the maintenance of lines (e.g. routine control of vegetative height under the lines)? 		X	
<ul style="list-style-type: none"> facilitation of access to protected areas in case corridors traverse protected areas? 		X	
<ul style="list-style-type: none"> disturbances (e.g. noise and chemical pollutants) if herbicides are used to control vegetative height? 		X	
<ul style="list-style-type: none"> large population influx during project construction and operation that cause increased burden on social infrastructure and services (such as water supply and sanitation systems)? 		X	
<ul style="list-style-type: none"> social conflicts if workers from other regions or countries are hired? 		X	
<ul style="list-style-type: none"> poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations? 		X	The construction activities are small scale. An impact mitigation sub-plan for solid waste and sanitation in construction camps is provided in EMP. The potential spread of communicable diseases is addressed by social issues management of EMP.
<ul style="list-style-type: none"> risks to community safety associated with maintenance of lines and related facilities? 	X		Safety risks associated with routine maintenance of operational lines and facilities are managed with existing operating procedures and guidelines of EVN.
<ul style="list-style-type: none"> community health hazards due to electromagnetic fields, land subsidence, lowered groundwater table, and salinization? 		X	

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation? 	x		There is minimal risk that accidents could happen but not expected to be significant. If so, measures will be in place to deal with them.
<ul style="list-style-type: none"> community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., high voltage wires, and transmission towers and lines) are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 	x		These risks may happen only at tower locations. The tower may collapse due to typhoons or tropical cyclones. The underground cable may cause risks of power shock, cable broken when it happen earthquake, but this hazard will rarely appear in this project area and the project was designed to withstand the earthquake. Also, in the process of maintenance, the operation unit will conduct regular inspection for timely detection and treatment.

Climate Change and Disaster Risk Questions	Yes	No	Remarks
The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.			
<ul style="list-style-type: none"> Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)? 		x	
<ul style="list-style-type: none"> Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost? 		x	
<ul style="list-style-type: none"> Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 		x	
<ul style="list-style-type: none"> Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)? 		x	

Environments, Hazards and Climate Changes

Environment	Natural Hazards and Climate Change
Aride / Semi-aride and dessert environnements	Low erratic rainfall of up to 500 mm rainfall per annum with periodic droughts and high rainfall variability. Low vegetative cover. Resilient ecosystems & complex pastoral and systems, but medium certainty that 10–20% of dry lands degraded; 10-30% projected decrease in water availability in next 40 years; projected increase in drought duration and severity under climate change. Increased mobilization of sand dunes and other soils as vegetation cover declines; likely overall decrease in agricultural productivity, with rain-fed agriculture yield reduced by 30% or more by 2020. Earthquakes and other geophysical hazards may also occur in these environments.
Humid and sub-humid plains, foothills and hill country	More than 500 mm precipitation/yr. Resilient ecosystems & complex human pastoral and cropping systems. 10-30% projected decrease in water availability in next 40 years; projected increase in droughts, heat waves and floods; increased erosion of loess-mantled landscapes by wind and water; increased gully erosion; landslides likely on steeper slopes. Likely overall decrease in agricultural productivity & compromised food production from variability, with rain-fed agriculture yield reduced by 30% or more by 2020. Increased incidence of forest and agriculture-based insect infestations. Earthquakes and other geophysical hazards may also occur in these environments.
River valleys/deltas and estuaries and other low-lying coastal areas	River basins, deltas and estuaries in low-lying areas are vulnerable to riverine floods, storm surges associated with tropical cyclones/typhoons and sea level rise; natural (and human-induced) subsidence resulting from sediment compaction and ground water extraction; liquefaction of soft sediments as result of earthquake ground shaking. Tsunami possible/likely on some coasts. Lowland agri-business and subsistence farming in these regions at significant risk.
Small islands	Small islands generally have land areas of less than 10,000km ² in area, though Papua New Guinea and Timor with much larger land areas are commonly included in lists of small island developing states. Low-lying islands are especially vulnerable to storm surge, tsunami and sea-level rise and, frequently, coastal erosion, with coral reefs threatened by ocean warming in some areas. Sea level rise is likely to threaten the limited ground water resources. High islands often experience high rainfall intensities, frequent landslides and tectonic environments in which landslides and earthquakes are not uncommon with (occasional) volcanic eruptions. Small islands may have low adaptive capacity and high adaptation costs relative to GDP.
Mountain ecosystems	Accelerated glacial melting, rock falls/landslides and glacial lake outburst floods, leading to increased debris flows, river bank erosion and floods and more extensive outwash plains and, possibly, more frequent wind erosion in intermountain valleys. Enhanced snow melt and fluctuating stream flows may produce seasonal floods and droughts. Melting of permafrost in some environments. Faunal and floral species migration. Earthquakes, landslides and other geophysical hazards may also occur in these environments.
Volcanic environments	Recently active volcanoes (erupted in last 10,000 years – see www.volcano.si.edu). Often fertile soils with intensive agriculture and landslides on steep slopes. Subject to earthquakes and volcanic eruptions including pyroclastic flows and mudflows/lahars and/or gas emissions and occasionally widespread ash fall.

APPENDIX B: Minutes and Participants of Consultation Meetings

Table 20. Summary of public consultation participants

Location	Date	Participants [*]		
		Male	Female	Total
B1. Thuy Phuong ward – Bac Tu Liem district	21 st Mar. 2014	5	7	12
B2. Phu Thuong ward – Tay Ho district	7 th Apr. 2014	10	4	14
TOTAL		15	11	26

*This numbers is counted from list of participants; some persons are repeatedly counted since they participated in all meetings.

Investigation and consultation in Dong Ngac ward – Bac Tu Liem district was carried out by questionnaires instead of meeting. The consultation process lasted in Mar. and Apr. 2014. Total 16 local residents participated.

Appendix B1: Public Consultation – Thuy Phuong Ward – Bac Tu Liem District

A. List of Participants

Date:

Location:

No.	Name	M	F	Position	Organization/Address	Signature
01	Nguyen Ngoc Nam	✓		Chairman	Communal People's Committee	
02	Tru Thi Quynh		✓	Vice chair	Communal People's Committee	
03	Nguyen Van Lam	✓		Chair	Communal Fatherland Front	
04	Duong Xuan Thu	✓		Officer	Communal People's Committee	
05	Nguyen Van Minh	✓		Local resident		
06	Le Thi Luyen		✓	Local resident		
07	Nguyen Thi Duong		✓	Local resident		
08	Dang Thi Hai		✓	Local resident		
09	Nguyen Thi Kim Cuc		✓	Local resident		
10	Le Thu Huong		✓	Local resident		
11	Nguyen Van Hoi	✓		Local resident		
12	Pham Thi Suu		✓	Local resident		

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự Do - Hạnh phúc

**DANH SÁCH NHỮNG ĐẠI BIỂU THAM DỰ CUỘC HỌP
THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG VÀ KẾ HOẠCH TÁI ĐỊNH CỬ**

STT	Họ và tên	Địa chỉ	Chữ ký	Ghi chú
1.	Nguyễn Văn Minh	Đại Đức - TP. Phú	Minh	
2.	Lê Thị Huyền	Đại Đức - TP. Phú	Huyền	
3.	Nguyễn Thị Hương	Đĩnh - TP. Phú	Hương	
4.	Trương Thị Hải	Đĩnh Sơn - TP. Phú	Hải	
5.	Nguyễn Thị Kiều (Cát)	Đại Đức - TP. Phú	Kiều	
6.	Lê Thị Hoàng	Chôn Trâm như	Hoàng	
7.	Nguyễn Văn Hải	Đại Đức - TP. Phú	Hải	
8.	Phạm Thị Sương		Sương	
9.			Trígit	
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				

B. MINUTES OF MEETINGS

<i>Question/Opinions people</i>	<i>Project owner/consultant Reply</i>
All affected land and other affected residential structure must be completely compensated before construction	Project implementation is based on local agreement. All compensation in details will be clarified and implemented before construction.
Project execution agency must ensure resident's right. Compensation under government regulation needs be at highest rate;	Compensation rate is based on detailed investigation and related national laws and every situation. Compensation will be implemented only when affected households get agreement.
Construction methods and construction progress must be clarified so that local residents and local government could clearly understand	Construction methods and construction progress will be clarified before and during construction
Construction contractors must closely contact with local government and residents during construction;	Local government and community representatives are determined as stakeholders. Therefore, cooperation is definitely required during project implementation
Environment and sanitation must be ensured/protected during construction;	Construction contractors will be under supervision not only project system but also response from local residents.
Construction contractors must be in coordination with communal officers to determine temporary dumping areas, before transportation for treatment;	Agree
Long-term dumping sites for unused material from construction and other materials will not be located within Thuy Phuong ward. They must be transported to city treatment area/city dumping sites.	Agree
Construction contractor must comply local regulations;	Agree
Local residents will positively cooperate with construction contractors and project execution agency during project implementation.	Agree

Ngày.....tháng.....năm.....

**BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG,
KẾ HOẠCH TÀI ĐỊNH CƯ**

Dự án:.....

Xã/Phường...*Thủy Phương*..., Quận/huyện...*Từ Liêm*..., tỉnh/thành phố...*Hà Nội*

I. Thành phần tham dự

- | | |
|---|--|
| - Ông/Bà... <i>Nguyễn Ngọc Nam</i> | Chức vụ... <i>Chủ tịch UBND</i> |
| - Ông/Bà... <i>Trần Thị Duyên</i> | Chức vụ... <i>Phó CT UBND</i> |
| - Ông/Bà... <i>Nguyễn Văn Lâm</i> | Chức vụ... <i>Chủ tịch UBND TB</i> |
| - Ông/Bà... <i>Đào Xuân Thu</i> | Chức vụ..... |
| - Ông/Bà..... | Chức vụ..... |
| - Ông/Bà..... | Chức vụ..... |
| - Đại diện những người bị ảnh hưởng: người (<i>chỉ liệt tên danh sách đính kèm</i>) | |



II. Nội dung tham vấn

Chuyên gia môi trường trình bày những tác động môi trường bao gồm tác động lên môi trường tự nhiên và xã hội của khu vực dự án và những biện pháp giảm thiểu các tác động nêu trên.

Chuyên gia tài định cư trình bày về những tác động khi thu hồi đất và các tài sản trên đất, những chính sách của Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi Nhà nước thu hồi đất đai và các tài sản trên đất.

III. Ý kiến thảo luận

- Dự án xây dựng đường dài 220KV Cầu - Tây Hồ UBND xã Thủy Phương ủng hộ
- Trong quá trình thực hiện phải tôn bảo vệ quyền và lợi ích của người dân
- Áp dụng vào bồi hồi từ mức cao nhất để đền bù cho người dân
- Đề nghị địa phương thi công phải hạ thấp trong quá trình thi công tránh làm ảnh hưởng y tế và môi trường (thực hiện y tế hiện tại)

Phải tôn trọng cho người dân tuấn khí chí chí được
trình bày.

- Vấn đề môi trường:

+ Phải đảm bảo sự an toàn lao động và vệ sinh
môi trường, an ninh trật tự

+ Phải hợp tác với các bên xã hội để tìm hiểu tập thể
và lợi ích công.

Tất cả các cải cách thay thế phải đi đôi hành động chính
của vì thế công nếu để rơi, chất thải trên địa bàn
xã hội UBND xã sẽ xử phạt theo quy định

Phải có phương án thi công rõ ràng, tiến độ thi công
để nghị dân bản tuân thủ các quy định của địa
phương, phải tôn trọng quyền lợi cho người dân

Người dân trong xã cũng phải tạo điều kiện phải
hợp tác với các vì thế công trình khai chí chí.

IV. Kết luận

UBND xã Thủy Phương ứng hộ dự án
đề nghị Chủ đầu tư và đơn vị thi công sớm lắng nghe
ý kiến của người dân, tôn trọng thỏa thuận của đất đai xây
cứ; hòa mại tại sao lại cần hướng
đảm bảo an toàn lao động phòng cháy chữa cháy và an
toàn môi trường trước trong và sau khi thi công

Đại diện Chủ đầu tư


Đại diện Chủ đầu tư

Đại diện cộng đồng

Hương
Thị
Hải
Đức
Luyến



TỔNG GIÁM ĐỐC
Lê Đức Huy

Đại diện UBND xã/phường



ĐẠI CHỨC TỊCH
Trần Khắc Quýnh


Đại diện UBND xã/phường

C. PHOTOS FROM PUBLIC CONSULTATION



Meeting at Thuy Phuong ward, Bac Tu Liem district

Appendix B2: Public Consultation – Phu Thuong Ward – Tay Ho District

A. List of Participants

Date: 7th Apr. 2014

Location: Phu Thuong, Tay Ho

No.	Name	M	F	Position	Organization/Address	Signature
01	Mai Thi Hong		✓	Secretary	Phu Thuong Socialist party	
02	Cong Nghia Tien	✓		Chairman	Communal People's Council	
03	Nguyen Quoc Thien	✓		Chairman	Communal Fatherland Front	
04	Le Van Tam	✓		Vice chair	Communal People's Committee	
05	Nguyen Thi Dao		✓	Chairman	Women Organization	
06	Mai Quoc Khanh	✓		Chairman	Veteran Organization	
07	Hy Da Chuong	✓		Leader	Communal Inspection board	
08	Chu Thi Mai Thao		✓	Leader	Youth organization	
09	Bui Tien Dung	✓		Officer	Communal Environment section	
10	Nguyen Tuan Anh	✓		Officer	Communal Land registration section	
11	Vu Van Hai	✓		Officer	Communal Land registration section	
12	Vu Thi Vuong		✓	Secretary	Residential quarter No. 6	
13	Nguyen Hong Ke	✓		Leader	Fatherland Front of Residential quarter No. 6	
14	Hoang Gia Luong	✓		Director	Communal Co-operative	

Hanoi and Ho Chi Minh City Power Transmission Development Sector Project
 DỰ ÁN NGÀNH PHÁT TRIỂN ĐƯỜNG DÂY TRUYỀN TẢI ĐIỆN THÀNH PHỐ HÀ NỘI VÀ HỒ CHÍ MINH



PUBLIC CONSULTATION ON ENVIRONMENT AND SOCIAL/RESETLEMENT

THAM VẤN CỘNG ĐỒNG VỀ MÔI TRƯỜNG VÀ
 XÃ HỘI/TÁI ĐỊNH CƯ

LIST OF PARTICIPANTS
 DANH SÁCH NGƯỜI THAM DỰ

Date (Ngày tháng): 12/03/2019
 Location (Địa điểm): Phường Phú Thượng

No. TT	Họ và tên (Name)	Nam (M)	Nữ (F)	Chức vụ (Position)	Cơ quan/Địa chỉ (Organization/Address)	Chữ ký (Signature)
1)	Mai Thế Hồng		x	Bi' thư Hội đồng ủy		
2)	Công Nguyễn Tiến	x		Chủ tịch HĐ ND Phường		
3)	Nguyễn Quốc Thuận	x		CT MTQA P		
4)	Nguyễn Văn Tâm	x		PCF UBND		
5)	Ngô Thị Bảo		x	CT hội Phụ nữ		
6)	Mai Quốc Thành	x		CT Hội ECB		
7)	Hạ Pa Chương	x		Trưởng ban Thanh tra ND P		
8)	Châu Thị Thảo		x	Trưởng Đoàn TN		
9)	Bùi Trần Dũng	x		Chủ bộ Hội trưởng		
10)	Ngô Tuấn Anh	x		CB địa phương		
11)	Vũ Văn Thái	x		nt		
12)	Vũ Thị Hoàng		x	Bi' thư chi bộ cụm 6		
13)	Ngô Hồng Kế	x		Trưởng ban MTQA cụm 6		
14)	Hoàng Gia Lương	x		GD Hợp tác Xã		
15)	Nguyễn Thị Loan		x	Tư vấn môi trường	KFW	
16)	Nguyễn Thu Hương		✓	Cv phòng GIMB	Ban QLDA Quận Đống Đa	
17)	Mai Đức Hải	x		NV phòng Kế hoạch	Ban QLDA Quận Đống Đa	
18)	Phạm Việt Thái	x		NV phòng Kế hoạch	Ban QL DA Quận Đống Đa	

B. MINUTES OF MEETINGS

<i>Question/Opinions people</i>	<i>Project owner/consultant Reply</i>
Is the local people health affected by electromagnetic field during operation of the transmission line?	Because of the underground cable follows the safety regulation, local residents' health will not be affected by electromagnetic field
Ensured no traffic jam would be occurred during construction period to the cemetery area	Agree. Actions for environmental protection are incorporated in the Table 16. Environmental Mitigation Plan
Construction contractors must be under supervision to ensure mitigation measures	Agree. An environmental management system will be arranged during construction including monitoring consultant
Information related to the project must be informed to local residents/local government before construction	Agree. Construction contractors must arrange a meeting in communal people's committee for information disclosure, before construction

Hanoi and Ho Chi Minh City Power Transmission Development Sector Project
DỰ ÁN NGÀNH PHÁT TRIỂN ĐƯỜNG DÂY TRUYỀN TẢI ĐIỆN THÀNH PHỐ HÀ NỘI
VÀ HỒ CHÍ MINH

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự Do - Hạnh phúc

Phủ Thủ Đức, Ngày 12 tháng 3 năm 2017

BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG,
TÁI ĐỊNH CƯ VÀ PHÁT TRIỂN DÂN TỘC THIỂU SỐ

Tiêu dự án: Xây dựng trạm biến áp 110 kV, thủ tục và đường cáp ngầm
Phường/Xã: Phủ Thủ Đức, Quận/Huyện: Thủ Đức, Thành phố: Hồ Chí Minh

1. Thành phần tham dự

- Ông/Bà: Ông Nghĩa Tuấn..... Chức vụ: Chủ tịch UBND phường
- Ông/Bà: Mã Thị Hằng..... Chức vụ: Bí thư Đảng ủy
- Ông/Bà: Kiều Văn Tấn..... Chức vụ: Phó chủ tịch UBND
- Ông/Bà: Nguyễn Quốc Phiến..... Chức vụ: Chủ tịch MTTQ phường
- Ông/Bà: Nguyễn Thu Thảo..... Chức vụ: Chủ tịch hội phụ nữ
- Ông/Bà:..... Chức vụ:
- Ông/Bà:..... Chức vụ:
- Ông/Bà:..... Chức vụ:
- Đại diện những người bị ảnh hưởng: người (chi tiết xem danh sách đính kèm)

2. Nội dung tham vấn

- **Tư vấn thiết kế giới thiệu dự án:** Vị trí trạm, tuyến đường; vị trí và chiều dài tuyến đường dây trên địa bàn phường, xã.
- **Tư vấn môi trường trình bày về:** Chính sách môi trường của KfW và ADB; Các quy định về môi trường trong ngành điện của chính phủ Việt Nam; Các tác động về môi trường và các biện pháp giảm thiểu tương ứng (như trong IEE); Cơ chế khiếu nại khi có các vấn đề môi trường xảy ra
- **Tư vấn xã hội/tái định cư trình bày về:** Kế hoạch tái định cư của KfW và ADB; Những tác động khi thu hồi đất và các tài sản trên đất; Những chính sách của Chính phủ nước Cộng hòa xã hội chủ nghĩa Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi Nhà nước thu hồi đất đai và các tài sản trên đất; Các tác động thu hồi đất/tái định cư dự kiến trên địa bàn; Các phương án bồi thường đề xuất (theo khung chính sách của dự án đã được phê duyệt); Tổ chức thực hiện, kế hoạch thực hiện kế hoạch tái định cư.

Hanoi and Ho Chi Minh City Power Transmission Development Sector Project
DỰ ÁN NGÀNH PHÁT TRIỂN ĐƯỜNG DÂY TRUYỀN TẢI ĐIỆN THÀNH PHỐ HÀ NỘI
VÀ HỒ CHÍ MINH

3. Ý kiến thảo luận

3.1 Về các tác động môi trường tiêu cực và biện pháp giảm thiểu

- Do cấp chôn ngầm dưới đất nên không gây ảnh hưởng đến sức khỏe người dân
- Cần đảm bảo không làm gây tác nghiệm đường ra nghĩa trang gần trạm 110KV
- Cần có cơ quan sát nhà thầu để giám thực hiện các biện pháp giảm thiểu khói, bụi, tiếng ồn, cản trở giao thông
- Cần có thông báo trước với phường, người dân trước khi thi công

3.2 Về các vấn đề thu hồi đất, các tài sản trên đất và các chính sách

- Đoàn mới từ trạm Nhật Tân ra ngoài, đường cáp ngầm sẽ đi qua đất trống của người dân. Cần làm thủ tục thu đất tạm thời của người dân.
- Chủ đầu tư cần thực hiện đúng theo các chính sách quy định của nhà nước về tài chính cơ

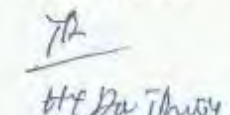
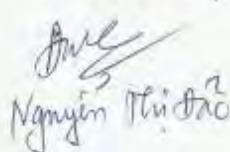
IV. Kết luận

UBND phường Phú Thượng và đại diện các hộ dân trong phường nhất trí và ủng hộ việc xây dựng dự án trạm biến áp 110KV công viên Thủ Lệ và đường cáp ngầm

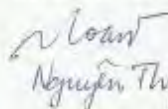
Đại diện Chủ đầu tư


Phan Việt Thái

Đại diện cộng đồng


Huỳnh Đa Thuận

Nguyễn Thị Thảo

Đại diện tư vấn


Nguyễn Thị Loan

Đại diện UBND phường/xã


PHÓ CHỦ TỊCH
Nguyễn Đức Kiên
Kiều Văn Tâm

C. PHOTOS FROM PUBLIC CONSULTATION



Meeting at Phu Thuong ward, Tay Ho district

APPENDIX B3: Public Consultation – Dong Ngac Ward – Bac Tu Liem District

A. List of Interviewees

Date: 15 Mar. to 15 Apr. 2014

Location: Dong Ngac ward – Bac Tu Liem district

No.	Name of interviewees	Address
1	Nguyen Van Thang	Nhat Tao, Dong Ngac
2	Cao Van Pho	Nhat Tao, Dong Ngac
3	Cao Thi Nhu Mai	Nhat Tao, Dong Ngac
4	Hoang Thi Thanh Van	Nhat Tao, Dong Ngac
5	Nguyen Thi Khoa	Nhat Tao, Dong Ngac
6	Nguyen Xuan Giang	Dong Ngac
7	Nguyen Thi Hong Anh	Dong Ngac
8	Nguyen Thi Suu	Dong Ngac
9	Pham Manh Quan	Dong Ngac
10	Tran Thi Mai	Dong Ngac
11	Mai Van Tuyet	Phu Thuong
12	Nguyen Van Hai	Phu Thuong
13	Cong Van Khoa	Phu Thuong
14	Tran Thi Ly	Phu Thuong
15	Nguyen Van Thanh	Phu Thuong
16	Nguyen Van Loi	Phu Thuong

B. RESULTS FROM QUESTIONNAIRES

<i>Question/Opinions people</i>	<i>Project owner/consultant Reply</i>
<p>How high is the overhead line?</p> <p>Local people are worried about impact on cultivation activities in construction and operation phases</p>	<p>The pole's height is ranges from 29 to 69m. Therefore the overhead line will not affect cultivation activities during operation. Temporary impact on cultivation activities is possible which will be compensated following regulations.</p>
<p>Unused materials from construction on cultivation areas must be timely transported out to enable agricultural activities.</p>	<p>Before construction, information of working method and progress will be provided to communal people's committees and head of villages as well as potentially affected households, by construction contractors and construction supervisors</p>
<p>Construction methods and plans must incorporated with solution for nearby graves which potentially be affected during construction. Construction contractors try to avoid nearby graves and other cultural infrastructure. Solutions for compensation must be clarified to affected households if leaving impacts.</p>	<p>Generated impacts on local graves must be compensated by construction contractors under supervision from project execution agency and local government.</p>

E. THAM VẤN VỀ TÁC ĐỘNG MÔI TRƯỜNG & BIỆN PHÁP GIẢM THIỂU

1. Trong quá trình thi công, vật liệu thừa (bùn cát, gạch đá, bao chứa) có ảnh hưởng gì không? Có thể được vận chuyển đi đâu, bằng cách nào?

*phải vận chuyển ngay sau khi hoàn thành công việc tại
bãi san lấp tại*

2. Việc xây dựng cột điện dựa trên nền móng cũ. Khu vực trồng cột điện gần nhà trung sẽ không cần di dời mộ. Tuy nhiên có cần lưu ý gì trong quá trình xây dựng cột điện không? (Cột điện có khả năng ảnh hưởng gì không, dọc tuyến đường dây đã mô tả ở trên?)

*Cần giữ tránh các mộ tại đó cần có biện pháp thi công
hạ hạ các hộ cư trú tại đây*

3. Nếu tận dụng khu vực đổ rác tạm thời bên đường Thụy Phương làm đường vận chuyển vật liệu xây dựng, có ảnh hưởng gì đến hoạt động vận chuyển rác, tập kết rác thải bình thường không? *(Áp dụng cho điều tra khu vực xã Thụy Phương)*

4. Khu vực hoa màu, trồng rau trong đó có khu vực thi công cột điện (gần UBND) xã Thụy Phương cũng như dọc tuyến đường trên không dài gần 4km sẽ bị ảnh hưởng tạm thời trong quá trình thi công. Vậy cần có lưu ý gì? *(Áp dụng cho điều tra khu vực xã Thụy Phương)*

5. Cần có lưu ý gì khi tuyến vượt đường liên thôn, đường sắt, đường quốc lộ Bắc Thăng Long – Nội Bài?

ngõ 15 An Dương Vương có ảnh hưởng gì? Chiều sâu chôn ống góp ý, để đảm bảo an toàn canh tác?

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7. Việc đào đường, xây dựng tunnel chôn cáp ngầm, đường vào trạm biến áp Tây Hồ (Áp dụng cho điều tra khu vực ngõ 15 An Dương Vương) có ảnh hưởng gì và những lưu ý cần thiết trong quá trình thi công?


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8. Các ảnh hưởng khác và góp ý biện pháp khắc phục?


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Số chẵn thành cảm ơn gia đình đã tham gia vào cuộc điều tra.

Họ tên Điều tra viên


Li Duc Anh.

Đại Diện hộ gia đình


Hoàng Thị Thanh Vân

C. PHOTOS FROM PUBLIC CONSULTATION



Ms. Nguyen Thi Siu, Dong Ngac ward



Ms. Tran Thi Mai, Dong Ngac ward

APPENDIX B4: CONSULTATION TO LOCAL GOVERNMENT

A. LETTERS FOR CONSULTATION

Letter	Content
The Hanoi EVN sent a letter No. 388/Hanoi PMB-X09.2 dated 28 th Oct. 2013 with EIA executive summary to local government	Main works, environmental impacts and respective mitigation measures are summarized in the report which is sent to local government for comments and notice.
The Hanoi EVN sent a letter No. 389/Hanoi PMB-X09.2 dated 28 th Oct. 2013 with EIA executive summary to local government	
The Hanoi EVN sent a letter No. 390/Hanoi PMB-X09.2 dated 28 th Oct. 2013 with EIA executive summary to local government	

TỔNG CÔNG TY
ĐIỆN LỰC TP HÀ NỘI
BAN QUẢN LÝ DỰ ÁN
LƯỚI ĐIỆN HÀ NỘI

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

Số: 388 /HANOI PMB - X09.2
V/v: Xin ý kiến tham vấn trong quá
trình lập báo cáo ĐTM của dự án
Đường dây 220kV Chèm - Tây Hồ.

Hà Nội, ngày 22 tháng 10 năm 2013

Kính gửi:

- Ủy ban nhân dân phường Phú Thượng.
- Ủy ban Mặt trận Tổ quốc phường Phú Thượng.

Ban Quản lý dự án Lưới điện Hà Nội xin gửi tới Ủy ban nhân dân, Ủy ban mặt trận Tổ quốc phường Phú Thượng lời chào trân trọng.

Thực hiện theo sự chỉ đạo của UBND Thành phố Hà Nội về việc đảm bảo khả năng cung cấp điện cho các phụ tải trên địa bàn Thủ đô, Tổng Công ty Điện lực Hà Nội đang triển khai xây dựng công trình Đường dây 220kV Chèm - Tây Hồ. Ban Quản lý dự án Lưới điện Hà Nội là đơn vị được Tổng Công ty giao làm đại diện Chủ đầu tư.

Đường dây 220kV Chèm - Tây Hồ có tổng chiều dài khoảng 4km đã được UBND thành phố Hà Nội chấp thuận phương án xây dựng theo công văn số 6767/UBND-CT ngày 16/9/2013 và Sở Quy hoạch Kiến trúc Hà Nội thỏa thuận hướng tuyến theo công văn số 3044/QHKT-P7 ngày 18/9/2013.

Thực hiện Luật Bảo vệ môi trường và các quy định của pháp luật về đánh giá tác động môi trường (ĐTM), Ban Quản lý dự án Lưới điện Hà Nội đang tổ chức triển khai lập Báo cáo đánh giá tác động môi trường cho Dự án "Đường dây 220kV Chèm - Tây Hồ".

Ban Quản lý dự án xin gửi Ủy ban nhân dân, Ủy ban mặt trận Tổ quốc phường Phú Thượng tài liệu tóm tắt về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của Dự án và rất mong nhận được ý kiến tham vấn của các Quý Ủy ban.

Xin trân trọng cảm ơn./.

Nơi nhận:

- Như trên;
- Lưu X09.1; X09.2.

GIÁM ĐỐC



GIAM ĐỐC
HỘI GIAM ĐỐC

Nguyễn Đăng Khoa

TỔNG CÔNG TY
ĐIỆN LỰC TP HÀ NỘI
BAN QUẢN LÝ DỰ ÁN
LƯỚI ĐIỆN HÀ NỘI

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

Số: 389 /HANOI PMB - X09.2
V/v: Xin ý kiến tham vấn trong quá
trình lập báo cáo ĐTM của dự án
Đường dây 220kV Chèm - Tây Hồ.

Hà Nội, ngày 28 tháng 10 năm 2013

Kính gửi:

- Ủy ban nhân dân xã Thụy Phương.
- Ủy ban Mặt trận Tổ quốc xã Thụy Phương.

Ban Quản lý dự án Lưới điện Hà Nội xin gửi tới Ủy ban nhân dân, Ủy ban mặt trận Tổ quốc xã Thụy Phương lời chào trân trọng.

Thực hiện theo sự chỉ đạo của UBND Thành phố Hà Nội về việc đảm bảo khả năng cung cấp điện cho các phụ tải trên địa bàn Thủ đô, Tổng Công ty Điện lực Hà Nội đang triển khai xây dựng công trình Đường dây 220kV Chèm - Tây Hồ. Ban Quản lý dự án Lưới điện Hà Nội là đơn vị được Tổng Công ty giao làm đại diện Chủ đầu tư.

Đường dây 220kV Chèm - Tây Hồ có tổng chiều dài khoảng 4km đã được UBND thành phố Hà Nội chấp thuận phương án Xây dựng theo công văn số 6767/UBND-CT ngày 16/9/2013 và Sở Quy hoạch Kiến trúc Hà Nội thỏa thuận hướng tuyến theo công văn số 3044/QHKT-P7 ngày 18/9/2013.

Thực hiện Luật Bảo vệ môi trường và các quy định của pháp luật về đánh giá tác động môi trường (ĐTM), Ban Quản lý dự án Lưới điện Hà Nội đang tổ chức triển khai lập Báo cáo đánh giá tác động môi trường cho Dự án "Đường dây 220kV Chèm - Tây Hồ".

Ban Quản lý dự án xin gửi Ủy ban nhân dân, Ủy ban mặt trận Tổ quốc xã Thụy Phương tài liệu tóm tắt về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của Dự án và rất mong nhận được ý kiến tham vấn của các Quý Ủy ban.

Xin trân trọng cảm ơn./.

Nơi nhận:

- Như trên;
- Lưu X09.1; X09.2.



Nguyễn Đình Phương

B. FEEDBACK FROM LOCAL GOVERNMENTS FOR CONSULTATION

Letter	Content
Letter No. 59/CV-MTDT dated 7 th May 2013 was sent by Phu Thuong Fatherland front Committee	Agree with the mentioned potential impacts during project implementation;
Letter No. 805/UBND dated 5 th Nov. 2013 was sent by Thuy Phuong People's Committee	Proposed mitigation measures are consistent with local condition and project scale. Local governments also present agreement;
Letter No. 37/MT dated 5 th Nov. 2013 was sent by Thuy Phuong Fatherland front Committee	Proposals: The project owner fully follows mitigation measures as written in the environmental impact assessment report;
Letter No. 1342/UBND-VP dated 13 th Nov. 2013 was sent by Dong Ngac People's Committee	Cooperation with local government during implementation;
Letter No. 32/MTTQ dated 14 th Nov. 2013 was sent by Dong Ngac Fatherland front Committee	Provide job opportunities to local workers during construction;

**ỦY BAN NHÂN DÂN
XÃ ĐÔNG NGẠC**

**CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc**

Số: 1342 /UBND-VP

Đông Ngạc, ngày 13 tháng 11 năm 2013

V/v trả lời ý kiến xin tham vấn theo
công văn 387/HANOI PMB-X09.2
của Ban quản lý dự án lưới điện
Hà Nội

Kính gửi: Ban quản lý dự án lưới điện Hà Nội

Ngày 05 tháng 11 năm 2013 Ủy ban nhân dân xã Đông Ngạc, nhận được công văn số 387/HANOI PMB- X09.2 ngày 28 tháng 10 năm 2013 thông báo về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của dự án: “ Xây dựng đường dây 220/110 kV Chèm - Tây Hồ và các tuyến đường dây 110kV từ TBA 220kV Tây Hồ”.

UBND xã Đông Ngạc có ý kiến như sau:

1. Đối với các tác động xấu:

Chủ đầu tư đã dự báo chi tiết được những tác động xấu tới môi trường trong giai đoạn triển khai thực hiện dự án.

2. Đối với các biện pháp giảm thiểu tác động xấu:

Biện pháp giảm thiểu tác động xấu, khắc phục những tác động xấu tới môi trường đã được chủ đầu tư trình bày tóm tắt gửi đến UBND. Các biện pháp nêu ra phù hợp với quy mô và tính chất dự án. Biện pháp có tính khả thi cao, UBND xã Đông Ngạc đồng ý với những giải pháp đã đề ra của chủ đầu tư.

3. Đề nghị:

Chủ đầu tư thực hiện đầy đủ những biện pháp giảm thiểu được nêu trong báo cáo tóm tắt về đánh giá tác động môi trường.

Phối hợp với chính quyền địa phương giải quyết những khó khăn khi thực hiện, công khai tiến độ thực hiện dự án.

Tạo điều kiện thuận lợi cho nhân dân địa phương được tham gia vào hoạt động triển khai xây dựng dự án.

Nơi nhận:

- Như trên
- Lưu VP

**TM. ỦY BAN NHÂN DÂN
CHỦ TỊCH**


Nguyễn Văn Chiến

Số: 22/UBMTTQ

Xin ý kiến tham vấn trong quá trình lập báo
ĐTM của Dự án "Xây dựng đường dây
110kV Chèm - Tây Hồ và các xuất tuyến
đường dây 110kV từ TBA 220kV Tây Hồ"

Đông Ngạc, ngày 14 tháng 11 năm 2013

Kính gửi: Ban quản lý dự án lưới điện Hà Nội

Ủy ban Mặt trận Tổ quốc xã Đông Ngạc, nhận được Công văn số 317 ngày 28 tháng 10 năm 2013 thông báo về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của dự án: "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

UBMTTQ có những ý kiến sau:

1. Đối với các tác động xấu:

Chủ đầu tư đã dự báo chi tiết được những tác động xấu tới môi trường trong giai đoạn triển khai thực hiện dự án.

2. Đối với các biện pháp giảm thiểu tác động xấu:

Biện pháp giảm thiểu, khắc phục những tác động xấu tới môi trường đã được chủ đầu tư trình bày tóm tắt gửi đến Ủy ban MTTQ. Các biện pháp nêu ra phù hợp với quy mô và tính chất dự án. Biện pháp có tính khả thi cao.

UBMTTQ xã Đông Ngạc đồng ý với những giải pháp đã đề ra của chủ đầu tư.

3. Đề nghị:

- Chủ đầu tư thực hiện đầy đủ những biện pháp giảm thiểu được nêu trong báo cáo tóm tắt về đánh giá tác động môi trường.

- Phối hợp với chính quyền địa phương thực hiện công tác khai báo tạm vắng, tạm trú cho cán bộ công nhân viên./.

- Tạo điều kiện thuận lợi cho nhân dân địa phương được tham gia vào hoạt động triển khai xây dựng dự án.

UBMTTQ XÃ ĐÔNG NGẠC



CHỦ TỊCH

Cán Văn Tuấn

UBMTTQ QUẬN TÂY HỒ
UBMTTQ PHƯỜNG PHÚ THƯỢNG

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

Số: 59 / 124 / MTĐT
V/v: Xin ý kiến tham vấn trong quá trình lập báo cáo ĐTM của Dự án "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

Phủ Thượng, ngày 15 tháng 1 năm 2013

Kính gửi: Ban quản lý dự án lưới điện Hà Nội

Ủy ban mặt trận tổ quốc phường Phú Thượng, nhận được Công văn số... ngày...tháng ... năm 2013 thông báo về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của dự án: "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

UBMTTQ phường Phú Thượng có những ý kiến sau:

1. Đối với các tác động xấu:

Chủ đầu tư đã dự báo chi tiết được những tác động tới môi trường trong giai đoạn triển khai thực hiện dự án.

2. Đối với các biện pháp giảm thiểu tác động xấu:

Biện pháp giảm thiểu, khắc phục những tác động xấu tới môi trường đã được chủ đầu tư trình bày tóm tắt gửi đến UBMTTQ phường Phú Thượng

Các biện pháp nêu ra phù hợp với quy mô và tính chất dự án. Biện pháp có tính khả thi cao, dễ thực hiện,

UBMTTQ phường Phú Thượng đồng ý với những giải pháp đã đề ra của chủ đầu tư khi thực hiện

3. Đề nghị:

- Chủ đầu tư thực hiện đầy đủ nghiêm túc những biện pháp giảm thiểu được nêu trong báo cáo tóm tắt về đánh giá tác động môi trường.

- Phối hợp với chính quyền địa phương giải quyết những khó khăn khi thực hiện, công khai tiến độ thực hiện dự án,

- Tạo điều kiện thuận lợi cho nhân dân địa phương được tham gia vào hoạt động triển khai xây dựng dự án.

UBMTTQ PHƯỜNG PHÚ THƯỢNG



NGUYỄN QUỐC THIÊN

UBND HUYỆN TỨ LIÊM
UBND XÃ THỤY PHƯƠNG

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

Số: 805 / UBND.....

V/v: Xin ý kiến tham vấn trong quá trình lập báo cáo ĐTM của Dự án "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

Thụy Phương, ngày 5 tháng 11 năm 2013

Kính gửi: Ban quản lý dự án lưới điện Hà Nội

Ủy ban nhân dân xã Thụy Phương, nhận được Công văn số 389 ngày 28 tháng 10 năm 2013 thông báo về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của dự án: "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

UBND xã Thụy Phương có những ý kiến sau:

1. Đối với các tác động xấu:

Chủ đầu tư đã dự báo chi tiết được những tác động tới môi trường trong giai đoạn triển khai thực hiện dự án.

2. Đối với các biện pháp giảm thiểu tác động xấu:

Biện pháp giảm thiểu, khắc phục những tác động xấu tới môi trường đã được chủ đầu tư nêu.

Các biện pháp nêu ra phù hợp với quy mô và tính chất dự án. Biện pháp có tính khả thi cao, để thực hiện.

UBND xã Thụy Phương đồng ý với những giải pháp đã đề ra của chủ đầu tư khi thực hiện.

3. Đề nghị:

- Chủ đầu tư thực hiện đầy đủ nghiêm túc những biện pháp giảm thiểu được nêu trong báo cáo tóm tắt về đánh giá tác động môi trường.

- Phối hợp với chính quyền địa phương giải quyết những khó khăn khi thực hiện, đồng khai tiến độ thực hiện dự án,

- Tạo điều kiện thuận lợi cho nhân dân địa phương được tham gia vào hoạt động triển khai xây dựng dự án.

UBND XÃ THỤY PHƯƠNG



CHỦ TỊCH

Nguyễn Ngọc Nam

UBMTTQ HUYỆN TỬ LIÊM
UBMTTQ XÃ THỤY PHƯƠNG

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

Số: 37/1...MT.

V/v: Xin ý kiến tham vấn trong quá trình lập báo cáo ĐTM của Dự án "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

Thụy Phương, ngày 5 tháng 11 năm 2013

Kính gửi: Ban quản lý dự án lưới điện Hà Nội

Ủy ban mật trận tổ quốc xã Thụy Phương, nhận được Công văn số.... ngày...tháng... năm 2013 thông báo về các hạng mục đầu tư chính, các vấn đề môi trường, các giải pháp bảo vệ môi trường của dự án: "Xây dựng đường dây 220/110kV Chèm - Tây Hồ và các xuất tuyến đường dây 110kV từ TBA 220kV Tây Hồ"

UBMTTQ xã Thụy Phương có những ý kiến sau:

1. Đối với các tác động xấu:

Chủ đầu tư đã dự báo chi tiết được những tác động tới môi trường trong giai đoạn triển khai thực hiện dự án.

2. Đối với các biện pháp giảm thiểu tác động xấu:

Biện pháp giảm thiểu, khắc phục những tác động xấu tới môi trường đã được chủ đầu tư trình bày trong tài liệu tóm tắt kèm theo công văn gửi đến UBMTTQ xã Thụy Phương

Các biện pháp nêu ra phù hợp với quy mô và tính chất dự án. Biện pháp có tính khả thi cao, dễ thực hiện,

UBMTTQ xã Thụy Phương đồng ý với những giải pháp đã đề ra của chủ đầu tư khi thực hiện

3. Đề nghị:

- Chủ đầu tư phối hợp với chính quyền địa phương giải quyết những khó khăn khi thực hiện, công khai tiến độ thực hiện dự án.

- Tạo điều kiện thuận lợi cho nhân dân địa phương trong quá trình triển khai dự án.

- *Hò sung: Yêu cầu chủ đầu tư thực hiện đúng quy trình và hồ sơ lập dự án thường người dân đúng pháp luật*

UBMTTQ XÃ THỤY PHƯƠNG

CHỦ TỊCH



Nguyễn Văn Lâm

APPENDIX C. Certificate for The Chem – Tay Ho Subproject Transmission Line

HANOI PEOPLE'S COMMITTEE

SOCIALIST REPUBLIC OF VIETNAM

Independence – Freedom – Happiness

No: 1716/QĐ-UBND

Hanoi, March 31st, 2014

DECISION

Approval of Environmental impact assessment report

Project: The Chem – Tay Ho 220/110 KV transmission line

Investor: Hanoi Power Corporation

Investor representative: Hanoi power network Project Management Unit

HANOI PEOPLE'S COMMITTEE

Pursuant to Law on Organisation of People's Council and People's Committee dated November 26th, 2003;

Pursuant to Law on Environmental Protection dated November 29th, 2005;

Pursuant to Decree no.29/2011/ND-CP dated April 18th, 2011 of the Government regarding Regulation on strategic environment assessment, environmental impact assessment, environmental protection commitment;

Pursuant to Circular no. 26/2011/TT-BTNMT dated July 18th, 2011 of Ministry of Natural Resources and Environment clarifying some articles of Decree no.29/2011/ND-CP dated April 18th, 2011 of the Government.

With reference to the request of the Appraisal Board for the respective EIA report after meeting on 2nd Jan. 2014 at Department of Environmental Protection, Ha Noi;

With reviewing the revised EIA report;

By proposal from the Director of Department of Natural Resources and Environment of Hanoi in Official Document no. 1148/TTr-STNMT-CCMT dated 10th Mar. 2014.

DECISION

Article 1. Approving the Environmental impact assessment report of Project “Chem – Tay Ho 220/110KV transmission line” prepared by the Hanoi power network PMU (hereinafter referred to as the project owner) with the following main contents:

1. Scope, scale and capacity of the project: mentioned in the investment records and reports of projects.
2. The environmental protection requirement for the project:

2.1. The process of construction and dismantlement of buildings must comply with regulations on ensuring order, safety and environmental sanitation during the construction of buildings in Hanoi promulgated together with the resolution No. 55/2009/QĐ-UBND dated 17th March, 2009 and the dust reduction measures specified in the Decision No. 02/2005/QĐ-UBND dated October 01st, 2005 of the People's Committee of Hanoi City.

2.2. Noise and vibration in the process of construction shall be prevented by mitigation measures in compliance with the provisions of National Technical Regulation QCVN 26:2010/MONRE (common area) on noise and QCVN 27:2010/MONRE (table 2 – common area) on vibration.

2.3. Dust and emissions generated during the construction shall be prevented by mitigation measures in compliance with the provisions of National Technical Regulations QCVN 05:2009 / MONRE on ambient air quality and QCVN 06:2009 / MONRE on toxic substances in the ambient air.

2.4. Domestic solid waste must be collected and processed in accordance with Decree 59/2007/ND-CP dated September 04th, 2007 by the Government on the solid waste, the regulations on common solid waste management in the area of Hanoi issued together with Decision No. 03/6/2013 16/QĐ-UBND of Hanoi city People's Committee.

2.5. Hazardous waste discharged in the process of construction and operation of the project must be classified, collected, stored, managed and disposed according to the provisions of Circular 12/2011/TT- BTNMT dated April 14th, 2011 by the Ministry of Natural Resources and Environment for the management of hazardous waste.

2.6. All wastewater from the process of construction and operation of the project must be collected and treated in accordance with QCVN 14:2008 / MONRE (column B) before being discharged into the public drainage system in the area.

2.7. Electric magnetism follows Decision No. 183NL/KHKT by Ministry of Energy dated 12th Apr. 1994 – standard for allowed magnetism and regulations on work place monitoring and other related standards.

3. Other following conditions

3.1. Project owner must be responsible for the implementation and application of the environmental mitigation and remedy measures during the construction and operation of the project.

3.2. Project owner and the unit that manages and operates the project have to implement the annual environmental monitoring program mentioned in the environmental impact assessment report. The periodical environmental monitoring results must be sent to the Environment Protection Agency - Department of Natural Resources and Environment in Hanoi for inspection and monitoring.

3.3. Project owner and the unit that manages and operates the project have to compensate those environmental damages that may be caused by the project pursuant to the Environment Protection Law and Decree 179/2013/ND-CP dated 14th Nov. 2013 of Government on handling of violations of law in the field of environmental protection.

3.4. Project and the unit that manages and operates the project have to ensure budget for the investment and construction and operation of environmental treatment facilities as committed in the report on the assessment of environmental impact.

Article 2. Project owner have to establish, approve and publicly list the environmental management plan of the project; strictly satisfy the requirements of environmental protection in the preparation period for investment and the construction period of the project

Article 3. During the implementation process, changes on the content of paragraphs 1 and 2 of Article 1 of this Decision, if any, shall be submitted in a written report by the project owner and shall only be made upon written approval of the appropriate authorities.

Article 4. The Decision approving the report on the assessment of environmental impact shall act as the foundation for project investment decision; as a basis for the State's competent management agencies to supervise and inspect the implementation of environmental protection of the project.

Article 5. Authorizing the Director of the Department of Natural Resources and Environment to authenticate the supplemental cover page of the approved report on the assessment of environmental impact and execute the examination and monitoring on the implementation of environmental protection in the approved report on the assessment of environmental impact.

Article 6. This decision takes effect from the date of signing. Chief of Office of the People's Committees of the city, Director of the Department of Natural Resources and Environment, the Heads of provincial Departments, Chairman of People's Committee of Tu Liem district and Tay Ho district, Director of the board of management of the power grid project in Hanoi and the civil work contractors are responsible for executing this decision./.

Destination:

- As the article 6;
- The Ministry of Resources and Environment(to report);
- The President of People's Committee of City(to report);
- The Vice- President Mr. Vo Hong Khanh;
- Committee Office, Chief of Office, Vice-chief of office Mr. Pham Chi Cong;
- Sub-Department of Environmental Protection in Hanoi;

**ON BEHALF OF PEOPLE'S
COMMITTEE**

pp. Chairman

Deputy Chairman

(signed and sealed)

Vu Hong Khanh

ỦY BAN NHÂN DÂN
THÀNH PHỐ HÀ NỘI

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

Số: 4716 /QĐ-UBND

Hà Nội, ngày 31 tháng 3 năm 2014

QUYẾT ĐỊNH

Phê duyệt báo cáo đánh giá tác động môi trường
Dự án: “Đường dây 220Kv Chèm – Tây Hồ”
Chủ đầu tư: Tổng công ty điện lực thành phố Hà Nội
Đại diện chủ dự án: Ban quản lý dự án lưới điện Hà Nội

ỦY BAN NHÂN DÂN THÀNH PHỐ HÀ NỘI

Căn cứ Luật tổ chức HĐND và UBND ngày 26/11/2003;

Căn cứ Luật Bảo vệ môi trường ngày 29/11/2005;

Căn cứ Nghị định số 29/2011/NĐ-CP ngày 18/4/2011 của Chính phủ Quy định về đánh giá môi trường chiến lược, đánh giá tác động môi trường, cam kết bảo vệ môi trường;

Căn cứ Thông tư 26/2011/TT-BTNMT của Bộ Tài nguyên và Môi trường ngày 18/7/2011 Quy định chi tiết một số điều của Nghị định số 29/2011/NĐ-CP ngày 18/4/2011 của Chính Phủ;

Theo đề nghị của hội đồng thẩm định báo cáo đánh giá tác động môi trường của dự án: “Đường dây 220Kv Chèm – Tây Hồ” họp ngày 02/01/2014 tại Chi cục Bảo vệ Môi trường Hà Nội;

Xét nội dung báo cáo đánh giá tác động môi trường của dự án: “Đường dây 220Kv Chèm – Tây Hồ” đã được chỉnh sửa, bổ sung;

Xét đề nghị của Giám đốc Sở Tài nguyên và Môi trường Hà Nội tại Tờ trình số 1148 /TTr-STNMT-CCMT ngày 10/3/2014.

QUYẾT ĐỊNH:

Điều 1. Phê duyệt báo cáo đánh giá tác động môi trường của dự án: “Đường dây 220Kv Chèm – Tây Hồ” được lập bởi Ban Quản lý dự án lưới điện Hà Nội - Tổng công ty điện lực thành phố Hà Nội (sau đây gọi là Chủ dự án) với các nội dung chủ yếu sau đây:

1. Phạm vi, quy mô của Dự án: được nêu trong hồ sơ, báo cáo đầu tư của Dự án.

2. Yêu cầu bảo vệ môi trường đối với Dự án:

2.1. Quá trình thi công xây dựng và vận hành công trình phải thực hiện đúng quy định về đảm bảo trật tự an toàn và vệ sinh môi trường trong quá trình xây dựng các công trình tại Thành phố Hà Nội ban hành kèm theo Quyết định số 55/2009/QĐ-UBND ngày 17/3/2009 và các biện pháp giảm bụi theo quy định tại Quyết định số 02/2005/QĐ-UB ngày 10/01/2005 của UBND Thành phố Hà Nội



và Quyết định số 241/2005/QĐ-UB ngày 30/12/2005 về việc sửa đổi một số điều quy định về việc thực hiện các biện pháp làm giảm bụi trong lĩnh vực xây dựng trên địa bàn Thành phố.

2.2. Tiếng ồn và độ rung trong quá trình thi công xây dựng dự án phải có biện pháp giảm thiểu, đảm bảo tuân thủ quy định tại Quy chuẩn Kỹ thuật Quốc gia QCVN 26:2010/BTNMT về tiếng ồn (khu vực thông thường) và QCVN 27:2010/BTNMT (Bảng 2 – Khu vực thông thường) về độ rung.

2.3. Bụi và khí thải phát sinh trong quá trình thi công xây dựng Dự án phải có các biện pháp giảm thiểu, đảm bảo tuân thủ quy định tại Quy chuẩn Kỹ thuật Quốc gia QCVN 05:2009/BTNMT về chất lượng không khí xung quanh.

2.4. Chất thải rắn sinh hoạt phải được thu gom và xử lý theo đúng quy định tại Nghị định 59/2007/NĐ-CP ngày 09/04/2007 của Chính phủ về quản lý chất thải rắn và Quy định quản lý chất thải rắn thông thường trên địa bàn thành phố Hà Nội ban hành theo Quyết định số 16/2013/QĐ-UBND ngày 03/6/2013 của UBND Thành phố Hà Nội.

2.5. Chất thải nguy hại phát sinh trong quá trình thi công xây dựng và vận hành khai thác Dự án phải được phân loại, thu gom, lưu giữ, quản lý và xử lý theo đúng quy định tại Thông tư 12/2011/TT-BTNMT ngày 14/4/2011 của Bộ Tài nguyên và Môi trường quy định về quản lý chất thải nguy hại.

2.6. Toàn bộ nước thải sinh hoạt và nước thải phát sinh trong quá trình đầu tư xây dựng dự án đều phải được thu gom và xử lý, đảm bảo đạt quy chuẩn Việt Nam QCVN 14:2008/BTNMT trước khi thải ra hệ thống thoát nước chung trong khu vực thực hiện Dự án.

2.7. Điện từ trường của trạm biến áp phải trong giới hạn cho phép đạt tiêu chuẩn theo Quyết định 183NL/KHKT của Bộ Năng lượng ngày 12/4/1994 - Tiêu chuẩn ngành về mức cường độ điện trường cho phép và quy định việc kiểm tra ở chỗ làm việc và các tiêu chuẩn của ngành.

3. Các điều kiện kèm theo:

3.1. Chủ Dự án và đơn vị tiếp nhận, quản lý vận hành Dự án phải thực hiện, áp dụng triệt để các biện pháp nhằm giảm thiểu những tác động tiêu cực, xử lý các nguồn thải phát sinh có khả năng gây ảnh hưởng đến đời sống nhân dân xung quanh khu vực Dự án trong quá trình thi công xây dựng và vận hành Dự án.

3.2. Chủ Dự án và đơn vị tiếp nhận, quản lý vận hành Dự án phải thực hiện chương trình giám sát môi trường hàng năm đã nêu trong báo cáo đánh giá tác động môi trường. Kết quả giám sát môi trường định kỳ phải gửi đến Chi cục Bảo vệ Môi trường - Sở Tài nguyên và Môi trường Hà Nội để kiểm tra và giám sát.

3.3. Chủ Dự án phải đền bù những thiệt hại môi trường do dự án gây ra theo Luật Bảo vệ Môi trường và Nghị định 179/2013/NĐ-CP ngày 14/11/2013 của Chính phủ về xử lý vi phạm pháp luật trong lĩnh vực Bảo vệ Môi trường.

3.4. Chủ Dự án và đơn vị tiếp nhận, quản lý vận hành Dự án phải đảm bảo nguồn kinh phí đầu tư xây dựng và vận hành các công trình xử lý môi trường đã cam kết trong báo cáo đánh giá tác động môi trường.

Điều 2. Chủ dự án phải lập, phê duyệt và niêm yết công khai kế hoạch quản lý môi trường của Dự án; nghiêm túc thực hiện các yêu cầu về bảo vệ môi trường trong giai đoạn chuẩn bị đầu tư và giai đoạn thi công xây dựng Dự án.


Điều 3. Trong quá trình thực hiện nếu dự án có những thay đổi so với các khoản 1 và 2 Điều 1 của Quyết định này, Chủ dự án phải có văn bản báo cáo và chỉ được thực hiện những thay đổi sau khi có văn bản chấp thuận của cấp có thẩm quyền.

Điều 4. Quyết định phê duyệt báo cáo đánh giá tác động môi trường của Dự án là căn cứ để quyết định việc đầu tư Dự án; là cơ sở để các cơ quan quản lý nhà nước có thẩm quyền kiểm tra, thanh tra việc thực hiện công tác bảo vệ môi trường của Dự án.

Điều 5. Giao Giám đốc Sở Tài nguyên và Môi trường thực hiện việc kiểm tra, giám sát việc thực hiện các nội dung bảo vệ môi trường trong báo cáo đánh giá tác động môi trường đã được phê duyệt tại Quyết định này.

Điều 6. Quyết định này có hiệu lực thi hành kể từ ngày ký. Chánh Văn phòng UBND Thành phố; Giám đốc Sở Tài nguyên và Môi trường; Thủ trưởng các Sở, Ban, Ngành liên quan, Chủ tịch UBND huyện Từ Liêm, Chủ tịch UBND quận Tây Hồ, Tổng giám đốc Tổng công ty điện lực thành phố Hà Nội, Giám đốc Ban quản lý dự án lưới điện Hà Nội chịu trách nhiệm thi hành Quyết định này./.

Nơi nhận:

- Như điều 6; 
- Bộ Tài nguyên và Môi trường (đề b/c);
- Chủ tịch UBND TP (đề b/c);
- Phó Chủ tịch Vũ Hồng Khanh;
- VPUB: PCVP Phạm Chí Công;
- Chi cục Bảo vệ Môi trường Hà Nội;
- TH, TNMT (b, thạc);
- Lưu: VT.

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KT. CHỦ TỊCH
PHÓ CHỦ TỊCH


Vũ Hồng Khanh

APPENDIX D: EMERGENCY RESPONSE PLAN

1. The Contractor must develop emergency or incident response procedures (ERP) during construction. In the operational phase, the operator/civil authorities will have responsibility for any emergencies or serious incidents. The construction phase should ensure:

- i) Emergency Response Team (ERT) of the Contractor as initial responder;
- ii) the District fire and police departments, emergency medical service, the Department of Public Health (DPH), collectively referred to as the External Emergency Response Team (EERT), as ultimate responders.

2. The Contractor will provide and sustain the required technical, human and financial resources for quick response during construction.

Table 22. Roles and Responsibilities in Emergency Incident Response

Entity	Responsibilities
Contractor Team (ERT)	<ul style="list-style-type: none"> - Communicates / alerts the EERT. - Prepares the emergency site to facilitate the response action of the EERT, e.g., vacating, clearing, restricting site. - When necessary and requested by the EERT, lends support / provides assistance during EERT's response operations.
External Emergency Response Team (EERT)	<ul style="list-style-type: none"> - Solves the emergency/incident
Contractor Resources	<ul style="list-style-type: none"> - Provide and sustain the people, equipment, tools and funds necessary to ensure Subproject's quick response to emergency situations. - Maintain good communication lines with the EERT to ensure prompt help response and adequate protection, by keeping them informed of Subproject progress.

3. The ERT will be led by the senior Contractor engineer (designated ERTL) on site with a suitably trained foreman or junior engineer as deputy. Trained first-aiders and security crew will be the core members of the ERT.

4. The Contractor will ensure that ERT members are physically, technically and psychologically fit for their emergency response roles and responsibilities.

5. Prior to the mobilization of civil works, the Contractor, through its Construction Manager, ERTL, in coordination with the EA/IA, will meet with the ultimate response institutions to discuss the overall construction process, including, but not limited to:

- i) Subproject sites;
- ii) construction time frame and phasing;
- iii) any special construction techniques and equipment that will be used; i
- iv) any hazardous materials that will be brought to and stored in the construction premise and details on their applications and handling/management system;

- v) the Contractor's Emergency Management Plan
 - vi) names and contact details of the ERT members
6. The objective of this meeting is to provide the ultimate response institutions the context for:

- i) their comments on the adequacy of the respective Emergency Management Plans
- ii) their own assessment of what types, likely magnitude and likely incidence rate of potential hazards are anticipated
- iii) the arrangements for coordination and collaboration.

7. To ensure effective emergency response, prior to mobilization of civil works, the Contractor will:

- i) set up the ERT;
- ii) set up all support equipment and facilities in working condition
- iii) made arrangements with the EERT;
- iv) conducted proper training of ERT members, and encouraged and trained volunteers from the work force; v) conducted orientation to all construction workers on the emergency response procedures and facilities, particularly evacuation procedures, evacuation routes, evacuation assembly points, and self-first response, among others; and vi) conducted drills for different possible situations.

8. To sustain effective emergency response throughout Subproject implementation an adequate budget shall be provided to sustain the capabilities and efficiency of the emergency response mechanism, the emergency response equipment, tools, facilities and supplies. Drills and reminders will take place regularly, the former at least every two months and the latter at least every month.

Alert Procedures

9. Means of communicating, reporting and alerting an emergency situation may be any combination of the following: i) audible alarm (siren, bell or gong); ii) visual alarm (blinking/rotating red light or orange safety flag); iii) telephone (landline); iv) mobile phone; v) two-way radio; and vi) public address system/loud speakers. Some rules relative to communicating/alerting will be:

- (i) Whoever detects an emergency situation first shall immediately :
 - call the attention of other people in the emergency site,
 - sound the nearest alarm, and/or
 - report/communicate the emergency situation to the ERT.
- (ii) Only the ERTL and, if ERTL is not available, the Deputy ERTL are authorized to communicate with the EERT. Exceptional cases to this rule may be necessary and should be defined in the Emergency Management Plans.
- (iii) When communicating/alerting an emergency to the EERT, it is important to provide them with at least: i) the type of emergency situation; ii) correct location of the emergency; iii) estimated magnitude of the situation; iv) estimated persons harmed; v) time it happened; v) in case of a spill, which hazardous substance spilled; and vi) in case of fire and explosion, what caused it. Such details would allow the EERT to prepare for the appropriate response actions. For an effective reporting/alerting of an emergency situation:
 - (i) The names and contact details of the relevant persons and institutions should be readily available in, or near to, all forms of communication equipment, and strategically posted (at legible size) in all Subproject sites and vehicles:

- Most relevant construction/operations staffs namely, the ERTL, Deputy ERTL, first-aiders, supervising engineers, foremen
- EERT institutions/organizations
- Concerned village authority/ies
- IA Office, SS
 - (ii) All Subproject sites should have good access to any combination of audible and visual alarms, landline phones, mobile phones and two-way radio communication at all times.
 - (iii) Contractor's construction vehicles should also be equipped with the appropriate communication facilities.

Emergency Response Situations

The following tables suggest general procedures that will be refined in the final EMP during detailed design, and described in more detail in the Emergency Management Plans of the Contractor.

Table 23. Evacuation Procedure

Procedure	Remarks
<ul style="list-style-type: none"> ▪ Move out as quickly as possible as a group, but avoid panic. 	<ul style="list-style-type: none"> ▪ All workers/staff, sub-contractors, site visitors to move out, guided by the ERT.
<ul style="list-style-type: none"> ▪ Evacuate through the directed evacuation route. 	<ul style="list-style-type: none"> ▪ The safe evacuation shall have been determined fast by the ERTL/Deputy ERTL and immediately communicated to ERT members.
<ul style="list-style-type: none"> ▪ Keep moving until everyone is safely away from the emergency site and its influence area. 	<ul style="list-style-type: none"> ▪ A restricted area must be established outside the emergency site, all to stay beyond the restricted area.
<ul style="list-style-type: none"> ▪ Once outside, conduct head counts. 	<ul style="list-style-type: none"> ▪ Foremen to do head counts of their sub-groups; ERTL/Deputy ERTL of the ERT.
<ul style="list-style-type: none"> ▪ Report missing persons to EERT immediately. 	<ul style="list-style-type: none"> ▪ ERTL/Deputy ERTL to communicate with the EERT.
<ul style="list-style-type: none"> ▪ Assist the injured in evacuation and hand them over to the ERT first-aiders or EERT medical group 	<ul style="list-style-type: none"> ▪ ERT to manage injured persons to ensure proper handling.
<ul style="list-style-type: none"> ▪ If injury warrants special care, DO NOT MOVE them, unless necessary and instructed/directed by the EERT. 	<ul style="list-style-type: none"> ▪ ERTL/Deputy ERTL communicates with EERT to get instructions/directions in handling the injured.

Table 21. Response Procedure During Medical Emergency

Procedure	Remarks
<ul style="list-style-type: none"> ▪ Administer First Aid regardless of severity immediately. 	<ul style="list-style-type: none"> ▪ Fundamentals when giving First Aid: <ul style="list-style-type: none"> - Safety first of both the rescuer and the victim.

Procedure	Remarks
	<ul style="list-style-type: none"> - Do not move an injured person unless: - victim is exposed to more danger when left where they are, e.g., during fire, chemical spill - it would be impossible for EERT to aid victims in their locations, e.g., under a collapsed structure - instructed or directed by the EERT. ▪ First AID to be conducted only by a person who has been properly trained in giving First Aid.
<ul style="list-style-type: none"> ▪ Call the EERT emergency medical services and/or nearest hospital. 	<ul style="list-style-type: none"> ▪ ERTL/Deputy ERTL or authorized on-site emergency communicator
<ul style="list-style-type: none"> ▪ Facilitate leading the EERT to the emergency site. 	<ul style="list-style-type: none"> ▪ ERTL/Deputy ERTL to instruct: <ul style="list-style-type: none"> - an ERT member on- site to meet EERT in access road/strategic location. He/she shall hold orange safety flag to get their attention and lead them to site. - Other ERT members to clear access road for smooth passage of the EERT.
<ul style="list-style-type: none"> ▪ If applicable, vacate site and influence area at once, restrict site, suspend work until further notice. 	<ul style="list-style-type: none"> ▪ Follow evacuation procedure.

Table 22. Response Procedure in Case of Fire

Procedure	Remarks
<ul style="list-style-type: none"> ▪ Alert a fire situation. 	<ul style="list-style-type: none"> ▪ Whoever detects the fire shall immediately: <ul style="list-style-type: none"> - call the attention of other people in the site, - sound the nearest alarm, and/or - Foreman or any ERT member among the construction sub-group contacts the fire department (in this case it should be agreed on that it is alright for any ERT member in the sub-group to alert the fire department) - report/communicate the emergency situation to the ERTL/Deputy ERTL.
<ul style="list-style-type: none"> ▪ Stop all activities/operations and evacuate. 	<ul style="list-style-type: none"> ▪ All (non-ERT) workers/staff sub-contractors, site visitors and concerned public to move out to safe grounds following the evacuation procedure.
<ul style="list-style-type: none"> ▪ Activate ERT to contain fire/control fire from spreading. 	<ul style="list-style-type: none"> ▪ Guided by the training they undertook, ERT members assigned to mitigate the fire shall assess their own safety situation first before attempting to control fire spread.

Procedure	Remarks
<ul style="list-style-type: none"> ▪ Call the nearest fire and police stations and, if applicable, emergency medical services. 	<ul style="list-style-type: none"> ▪ When alerting the EERT, ERTL will give the location, cause of fire, estimated fire alarm rating, any injuries.
<ul style="list-style-type: none"> ▪ Facilitate leading the EERT to the emergency site. 	<ul style="list-style-type: none"> ▪ ERTL/Deputy ERTL to instruct: <ul style="list-style-type: none"> - an ERT member to meet the EERT in the access road or strategic location and lead them to the site. He/she shall hold the orange safety flag to get their attention and lead them to the site. - some ERT members to stop traffic in, and clear, the access road to facilitate passage of the EERT.
<ul style="list-style-type: none"> ▪ ERT to vacate the site as soon as their safety is assessed as in danger. 	<ul style="list-style-type: none"> ▪ Follow appropriate evacuation procedure.