Initial Environmental Examination

Project Number: 46391-001

November 2015

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

EVN HCMC: 220 - 110kV Cau Bong – Binh Tan Transmission Line

Prepared by Ho Chi Minh City Power Corporation for the Asian Development Bank.

ABBREVIATIONS

ADB:	Asian Development Bank
AH(s):	Affected Household(s)
AP(s):	Affected people(s)
BOD:	Biochemical Oxygen Demand
CTF:	Clean Technology Fund
COD:	Chemical Oxygen Demand
CPC:	Commune People's Committee
DARD:	Department of Agriculture and Rural Development
DoNRE:	Department of Natural Resources and Environment
DoCST:	Department of Culture, Sports and Tourism
DoLISA:	Department of Labour, War Invalids and Social Affairs
EA:	Executing Agency
EIA:	Environmental Impact Assessment
EMP:	Environmental Management Plan
EO:	Environmental Officer (of PMB)
ES:	Environmental Staff (of contractors)
EVN:	Viet Nam Electricity
EVN*HANOI*:	Ha Noi Power Corporation
EVN*HCMC*:	Ho Chi Minh City Power Corporation
FFC:	Front Fatherland Committee
GHG:	Greenhouse gas
GRM:	Grievance Redress Mechanism
HCMC:	Ho Chi Minh City
HPPMB:	Ho Chi Minh City Power Projects Management Board
HN:	Ha Noi
IA:	Implementation Agency

IEE:	Initial Environmental Examination
MARD:	Ministry of Agriculture and Rural Development
MoLISA	Ministry of Labour, War Invalids and Social Affairs
MoNRE:	Ministry of Natural Resources and Environment
NPA:	National Protected Area
OHTL:	Overhead transmission line
PCB:	Polychlorinated biphenyls
PCR:	Physical Cultural Resources
PIC:	Project Implementation Consultant
PPC:	Provincial People's Committee
PPMB:	Power Project Management Board
PECC4:	Power Engineering Consulting Joint Stock Company 4
PO	Project Owner
REA:	Rapid Environmental Assessment
ROW:	Right-of-way
SRLDC:	Southern Regional Load Dispatch Center
S/S:	Substation
T/L:	Transmission line
TSS:	Total Suspended Solids
UGC:	Underground cable
UXO:	Unexploded Ordnance

CURRENCIES

(rate of exchange of 30 October. 2015)

Currency Unit	–	VND
$1.00	=	22,280 VND

NOTE

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

This initial environmental examination is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

INDEX

I. EXECUTIVE SUMMARY

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

2. The Initial Environmental Examination (IEE) presented herein is of Cau Bong - Binh Tan 220-110kV transmission line subproject in HCMC which is one of 29 non-core subprojects of the EVN proposed by Hanoi Power Corporation (EVNHANOI) and Ho Chi Minh City Power Corporation (EVNHCMC). These 29 non-core subprojects were classified Category B for environment. The subproject consists of construction of a new Cau Bong - Binh Tan 220-110kV transmission line, located in 4 districts/precinct of HCMC. The IEEs of the other non-core subprojects are prepared separately.

A. Subproject Summary

3. Cau Bong - Binh Tan 220-110kV transmission line subproject has a length of 31.334 km. It crosses over the area of 4 districts/precinct as Binh Tan, Binh Chanh, Hoc Mon and Cu Chi in Ho Chi Minh City. It runs underground Highway No.1A at Binh Hung Hoa B commune, Binh Tan precinct and Vinh Loc B commune, Binh Chanh district, Ho Chi Minh City, and then it runs overhead and crosses over the areas of paddy rice, crops and Melaleuca spp. forest of the local residents, alternated with the residential areas. Besides Highway No.1A, it mainly crosses over inter-commune roads, highway No.22 (Sai Gon - Moc Bai), crosses over the power lines, houses/structures of the local residents located sparsely along the transmission line. The overhead transmission line section is located in the area of Vinh Loc B and Vinh Loc A communes - Binh Chanh district; Xuan Thoi Thuong, Xuan Thoi Son and Tan Hiep communes - Hoc Mon district; and Tan Phu Trung commune - Cu Chi district - Ho Chi Minh city.

4. Cau Bong - Binh Tan 220-110kV transmission line is a 220 -110kV complex T/L, which has the task to supply power that meet the load of the North West area of HCMC. Simultaneously, it aims to create 110kV looped connection between Cau Bong, Binh Tan substation and the 110kV power grid in this area to improve and enhance the reliability of power supplying, and also connect to 220kV Binh Chanh substation (through the projected 220kV Binh Tan – Binh Chanh substation) and connect to 110kV An Ha, Hoc Mon 2, Hoc Mon 3, Vinh Loc B substation which will be implemented during the period of 2015-2020 under the power sector development plan approved by HCM City. .

B. Potential Impacts and Mitigation Measures

5. The IEE of Cau Bong - Binh Tan 220-110kV transmission line indicates that the potential environmental impacts of the subproject are restricted in the construction phase of the subproject components. The common construction-related disturbances such as noise, dust, erosion, sedimentation, solid and liquid waste pollution, worker camp issues, reduced access, increased vehicles/transportation means and traffic road disruptions, increased risk of worker and resident injury can be managed with standard construction practices and management guidelines (e.g., IFC/World Bank 2007). After the field survey, interview, consultation, the subproject doesn't cross over any National Park, Nature Reserve or area planned for Nature Reserve. There are no rare or endangered wildlife, critical habitats or protected areas in the subproject site. The subproject site is located in the areas of paddy rice, crops and Melaleuca spp. forest of the local residents.

6. For the underground cable section, there is no household directly affected, but 70 households are affected indirectly. For overhead transmission line section, there are 198 affected households with 696 persons, in which there are 115 households affected to their

houses and structures under the ROW. There are 62 households whose land is acquired for constructing the tower foundations. Total land area acquired permanently to construct the tower foundations is 18,616 m^2. Affected land area under the ROW is 56.83 ha. Acquired land area and compensation for damages is addressed in details in the Resettlement Plan (RP) prepared in a separate volume.

7. The construction-related disturbances to environment and community are mainly the short-term disturbances caused by constructing the new transmission line. No cumulative environmental impacts will be occurred. Mitigation measures for these impacts are stated in details in Part VII of this report.

8. The Environmental Management Plan (EMP) prepared for the subproject provides comprehensively impacts, mitigation measures 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/EO (belonging to the PMB) in environmental management and assessment as focused on the implementation of the EMP.

C. Conclusions

9. The IEE concludes that the feasibility study establishment of the subproject combined with available information on affected environment is sufficient to identify the scope of potential environmental impacts of the subproject. In technical design phase, significant changes to the subproject description do not occur, thus new potential environmental impacts, sensitive cultural issues are not arisen, and further detailed environmental impact assessment (EIA) is not required.

II. INTRODUCTION

A. Background of the IEE

10. Ha Noi and Ho Chi Minh City Power Grid Development Project aims to strengthen the capacity and reliability of the power infrastructure in Ha Noi and Ho Chi Minh City, Viet Nam through the rehabilitation and development of the 220kV and 110kV high-voltage power transmission systems and substations and associate to medium voltage supply for the power distribution system of the two cities. The Project also aims to strengthen the institutional capacity of Ha Noi Power Corporation (EVNHANOI) and Ho Chi Minh City Power Corporation (EVNHCMC). Additionally, the project includes a smart grid component financed by the Clean Technology Fund (CTF).

11. The Project in Ha Noi and Ho Chi Minh City consists of 29 non-core subprojects that were originally defined by the Viet Nam Electricity (EVN).

12. This IEE is prepared for the new-constructed subproject of Cau Bong - Binh Tan 220-110kV Transmission Line which is expected to be constructed in 6 districts of Ho Chi Minh City. The IEEs of the other non-core subprojects are prepared in separate volumes.

B. Assessment Context

13. The subproject was classified Environmental Category B under the ADB's Safeguard Policy Safeguard Policy Statement-2009 and ADB Environmental Safeguards, A Good Practice Sourcebook, 2012. A category B project will have potential adverse impacts that are less adverse than the impacts of category A project and can be mitigated with an environmental management plan.

14. This IEE is prepared for Cau Bong - Binh Tan 220 - 110kV T/L subproject in the feasibility study stage, using available data and information on sensitive ecological and cultural objects in the subproject site. The detailed design for Cau Bong - Binh Tan 220 - 110kV T/L subproject (such as technical design, detailed drawings) will be conducted and approved in the next phases. Thus, Environmental Management Plan (EMP) that was prepared for the subproject in part X of this IEE will need to be updated in accordance with the detailed designs in the next phases.

III. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

15. Cau Bong – Binh Tan 220-110 kV T/L will be implemented under the directions for use of Official Development Assistance (ODA) of the GoV, Decree No. 38/2013/ND-CP dated April 23rd, 2013 on directions for management and use of Official Development Assistance (ODA) and concessionary loans of Donors, and in accordance with the provisions of the Project.

A. Viet Nam Legislations for Environmental Assessment

16. Law on Environmental Protection of Vietnam (2014) prescribes the requirements for environmental assessment for developing domestic projects and considering impacts on natural and social environment.

B. Applicable Environmental Policies, Laws, Decrees, and Standards

17. The following are key directions for environmental assessment and protection in Viet Nam:

Legal documents on environment protection

- Environmental Protection Law No.55/2014/QH13 of the 13th National Assembly, the 7th Session, passed on Jun. 23th, 2014 and put into force from Jan. 1st, 2015.
- Law on Forest Protection and Development No.29/2004/QH11 passed on December 3rd, 2004 by the National Assembly of the Socialist Republic of Vietnam, put into force from April 1st, 2005.

- Biodiversity law No.20/2008/QH12 passed on Nov. 13th, 2008 by the 4th Session of the 12th National Assembly of the Socialist Republic of Vietnam, and put into force from Jul. 1st, 2009.
- Decree No. 19/2015/ND-CP dated February 14, 2015 of the Government on detailing the implementation of some Articles of the Law on Environmental Protection;
- Decree No. 18/2015/ND-CP dated February 14, 2015 of the Government on Regulating Strategic Environmental Assessment, Environmental Impact Assessment and Environmental Protection Commitment;
- Decree No. 179/2013/ND-CP dated November 14th, 2013 of the Government regarding the sanction of administrative violations in the domain of environmental protection.
- Decree No.32/2006/ND-CP dated March 30th, 2006 issued by the GOV regarding the management of precious, valuable and endangered wildlife (including fauna and flora).
- Decree No.59/2007/ND-CP dated April 9th, 2007 issued by the GOV on solid waste management.
- Circular No.24/2013/TT-BNNPTNT dated May 06th, 2013 issued by the Ministry of Agriculture and Rural Development (MARD) regarding the regulation on replacement afforestation when land use objective is changed to other objective.
- Circular No.12/2011/TT-BTNMT dated April 14th, 2011 issued by the MONRE regarding the hazardous wastes management.
- Circular No.27/2015/TT-BTNMT dated on 29 May 2015 on strategy environmental assessment, environmental impact assessment, and environmental protection plan

Legal documents on electricity

- Electricity law No. 28/2004/QH11 dated Dec. 03rd, 2004.
- Law on modification, supplementation on some articles of the Electricity Law No. 24/2012/QH13 issued by the National Assembly of the Socialist Republic of Vietnam, dated Nov. 20th, 2012.
- Decree No.14/2014/ND-CP dated Feb. 26th, 2014 promulgated by the GOV regarding the detailed regulation on the implementation of the Electricity Law on electric safety, put into force from Apr. 15th, 2014.
- Decree No.134/2013/ND-CP dated Oct. 17th, 2013 by the GOV regarding the regulation on penalty of administrative contravention of electricity sector, hydropower dam safety, effective and saving energy expenditure.
- Circular No.31/2014/TT-BCT dated Oct. 2nd, 2014 issued by the Ministry of Industry and Trade (MOIT) regarding the detailed regulation on some contents of electrical safety.

Other relative legal documents:

- Decree No. 45/2013/ND-CP dated May 10th, 2013 of the GOV regarding the detailed regulation on some articles of the Labor Code on working hours, rest hours, occupational safety and occupational hygiene.
- Circular No.22/2010/TT-BXD dated Dec. 3rd, 2010 issued by the Ministry of Construction (MOC) regarding the regulation on labour safety during the project construction process.

- Decision No.3733/2002/QD-BYT issued by the Ministry of Health dated October 10th, 2002 regarding the promulgation of 21 labour hygiene standards, 5 principles and 7 labour hygiene measurements.

Environmental Standards and Regulations

- QCVN 05:2009/BTNMT - National technical regulation on ambient air quality;
- QCVN 26:2010/BTNMT - National technical regulation on noise.
- QCVN 27:2010/BTNMT - National technical regulation on vibration.
- QCVN 03: 2008/BTNMT – National technical regulation on the allowable limits of heavy metals in the soils.
- QCVN 08:2008/BTNMT - National technical regulation on surface water quality.
- QCVN 09:2008/BTNMT - National technical regulation on underground water quality.
- QCVN 14:2008/BTNMT - National technical regulation on domestic wastewater.
- QCVN QTD-5: 2009/BCT - National technical regulation on electrical engineering - electrical equipment verification of the system.
- QCVN QTD-6: 2009/BCT - National technical regulation on electrical engineering - electrical equipment maintenance, repair and operation of the system.
- QCVN QTD-7: 2009/BCT - National technical regulation on electrical engineering - Power project construction.
- QCVN 07:2009/BTNMT - National technical regulation on hazardous waste thresholds.

International Guidelines

- World Bank Group, 2007. Environmental Health and Safety Guidelines, Wash. DC.

International Environmental Management Conventions

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

- 1973, Convention on International Trade in Endangered Species Wild Fauna and Flora.
- 1992, United Nations Framework Convention on Climate Change.
- 1992, Convention on Biological Diversity.

Directions of Electricity Industry in Viet Nam and Information for Cau Bong – Binh Tan 220 - 110kV T/L

- Decision No. 850/TTg-KTN dated Jun. 22nd, 2012 issued by the Prime Minister regarding the imperative solutions for supplying power for HCMC up to the year 2015.
- Letter No. 4866/UBND-CNN dated Sep. 28th, 2011 issued by HCMC People's Committee regarding the comments on the imperative solutions for ensuring power supply for HCMC.
- Decision No. 6493/QD-BCT dated December 9th, 2010 issued by the MOIT regarding the approval to the Power Development Master Plan of HCMC in the period of 2015 with the vision to 2020.
- Letter No.1032/SQHKT-HTKT dated Apr. 04th, 2014 of the Department of planning – Architecture of HCMC regarding the comments on the direction of Binh Tan – Cau Bong 220-110kV T/L".

- Letter No.1433/SD-PTM dated Dec. 29th, 2014 issued by Air force – Division 367 regarding the approval to Cau Bong - Binh Tan 220-110kV transmission line direction, elevation.
- Letter No.60/UBND dated Jan. 13th, 2014 of Binh Tan precinct People's Committee regarding the agreement on the direction of the T/L section crossing over the area of Binh Tan precinct of Cau Bong - Binh Tan 220-110kV transmission line project.
- Letter No.82/UBND dated Jan. 16th, 2014 of Binh Chanh precinct People's Committee regarding the agreement on the direction of the T/L section crossing over the area of Binh Chanh precinct of Cau Bong - Binh Tan 220-110kV transmission line project.
- Letter No.140/TB-VP dated Jun. 19th, 2014 issued by Hoc Mon DPC regarding the announcement of the conclusions on Hoc Mon 2 110kV substation in Xuan Thoi Son commune, Tan Thoi Hiep 110kV substation in Dong Thanh commune and Binh Tan - Cau Bong 220-110kV T/L of Deputy Chairman of the District.
- Letter No. 2093/UBND-KT dated Apr. 2nd, 2013 of Cu Chi DPC regarding the agreement on the direction of the T/L section crossing over the area of Cu Chi district of Cau Bong - Binh Tan 220-110kV transmission line project.
- Letter No. 499/CT-KHKT dated Dec. 22nd, 2014 of IDICO Investment Consultancy JS Company regarding the agreement on the direction of the underground cable section running under highway No.1A of Cau Bong - Binh Tan 220-110kV transmission line project.
- Decision No. 1207/QD-EVN Dec. 31st, 2014 of the EVN regarding the approval to Feasibility Study of Cau Bong – Binh Tan 110-220kV T/L.
- Decision No. 2835/QD-EVNHCMC dated 20 October 2015 regarding the approval of the Technical Design – estimate Total of Cau Bong – Binh Tan 110-220kV T/L

C. ADB Safeguard Policy

19. The ADB Safeguard Policy Statement (ADB SPS, 2009) along with the ADB Environmental Safeguards, A Good Practice Sourcebook, 2012 clarifies 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).

- **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.

20. The 220kV-110kV Cau Bong – Binh Tan transmission line is assessed as category B which is necessary to prepare an IEE. Appendix A presents the Rapid Environmental Assessment (REA) of the subproject.

IV. DESCRIPTION OF SUBPROJECT

21. The proposed Cau Bong – Binh Tan 220 -110kV transmission line (T/L) is 220 - 110kV complex T/L, which includes two main UGC and OHL components. Total length of the T/L is 31.334 km. The location of Cau Bong - Binh Tan 220-110kV transmission line is presented in Figure 1.

A. 110kV underground cable section

22. The starting point is from the existing feeder bay E05, E06 (An Ha 1, An Ha 2) of which equipment are available at the station. The cable then goes through in the existing cable pit in Binh Tan station, located just outside the station gate. It continues to go underground under pavement of existing roads and Highway 1A approaching the Binh Trieu Bridge, where the underground cable line drives right and goes under the center of the road. Then it goes on the right side to avoid canals and ends in the newly constructed tower G3HC (G3HC is the ending point of the underground cable section and also is the starting point of the overhead transmission line). The T/L crosses mainly over the existing roads. Technical parameters of the 110kV underground cable section is presented in the Table 1:

Table 1: Technical parameters of the 110kV underground cable section

- Voltage level	: 110kV.
- Number of circuits	: 2 circuits
- Starting point	: At the bus bar of exiting Binh Tan 220/110kV GIS substation
- Ending point	: At G3HC of Cau Bong – Binh Tan 220kV – 110kV T/L.
- Length of the underground cable section	: 3.485 km
- Underground cable	: XLPE-1200
- Fiber cable	: Integrated in XLPE – 1200 underground cable
- Insulator	: Polymer insulator with the loading capacity of 70kN, 160kN, with selected atmospheric fouling factor of 25mm/kV.
- Connection tower	: Galvanized shaped steel tower.
- Tower foundation	: Use in-situ cast concrete foundation, precast tower.
- Earth wire	: Two round steel rods with Φ12.

B. Double-circuit 110kV and 4-circuit 220 - 110 kV overhead transmission line section

23. The technical parameters of the overhead transmission line section with the length of 27.849km is summarized in Table 2:

Table 2: Technical parameters of the overhead transmission line section

∗ Voltage level	110kV and 220kV
∗ Number of circuits	110kV 02-circuit and 4-circuit complex consisting of 110kV 2-circuit and 220kV 2-circuit.
∗ Length of the overhead transmission line section	27.849km
∗ Starting point	At G3HC of Cau Bong – Binh Tan 220kV – 110kV T/L (110kV T/L section) At G15 of Cau Bong – Binh Tan 220kV – 110kV T/L (220kV T/L section)
∗ Ending point	At 110kV busbar of existing Cau Bong 500/220/110kV (110kV T/L

	section) At G44 (220kV T/L section)
∗ Conductor	ACSR 400/51 2xACSR 330/43 bundled
∗ Lightening wire	Pastel 147.1
∗ Fiber cable	OPGW 120
∗ Insulator	Polymer insulator with the loading capacity of 70kN and 160kN
∗ Tower	2-circuit and 4-circuit single tabulated and galvanized shaped steel tower
∗ Tower foundation	Reinforced concrete
∗ Earth wire	Round steel rod with ϕ12

24. The existing environment, land use and location of 4-circuit 220 - 110 kV overhead transmission line sections is described in **Table 3**

Table 3: The existing environment, land use and location of 4-circuit 220 - 110 kV overhead transmission line sections

No.	TL section/ Length	Description of TL	Existing land use under ROW and special objects that TL crosses over	Locality where TL crosses over
1	Section 1: from G3HC - G15 with the length of 6.946km	From G3HC to G12, the T/L follows the existing roads; The section G12 to G15 passes through the mangrove forest area, where many canals and scattered residential areas exist. The T/L passes through Vinh Loc B, Binh Chanh District, Ho Chi Minh City	The land is flat with Melaleuca forest, traffic roads, and residential areas.	Vinh Loc B commune, Binh Chanh district, Ho Chi Minh city.
2	Section 2: from G15 - G17, 5.054 km long	At G15, the T/L turns right, crosses over the Melaleuca spp. land area. Area where the T/L crosses over is located in the boundary of the planned area of the locality. It continuously crosses over the 22kV distribution line and the inter-commune road, and creates turning angle G16. From G16, it turns right, crosses over the channel and the earth road to the animal husbandry area and creates G17.	-The land is relatively flat with many channels and Melaleuca forest land. - Special objects which TL crosses over: • 22kV TL: 01 time. • Inter-commune road: 01 time. • Earth road: 01 time.	Vinh Loc A commune, Binh Chanh district, Ho Chi Minh city
3	Section 3: from G17 - G20 with 6.363 km long	At G17, the T/L turns left and parallel with the channel bank in the right according to the local planning. It crosses over many ponds, channels and	- Topography where TL crosses over is relatively complex, which includes paddy rice	-Vinh Loc A commune, Binh Chanh district; Xuan Thoi

No.	TL section/ Length	Description of TL	Existing land use under ROW and special objects that TL crosses over	Locality where TL crosses over
		animal husbandry area in the territory of Vinh Loc A commune to G18. At G18, it crosses over the channel bank and creates turning angle G19. Then, it runs following the planning and creates turning angle G20.	- Melaleuca spp. Forest, pond, channels and residential areas.	Son commune, Hoc Mon district.
4	Section 4: from G20 - G36 with 5.909 km long	At G20, the T/L turns left, runs right and parallel with the planned An 2 channel bank of the locality. It crosses over rice land area, 02 medium-voltage T/Ls and Thanh Nien road to create turning angle G21. From G21, the T/L turns right and runs parallel between Xang channel and Thanh Nien road. It continuously creates turning angles of G22÷G26. From G26, it turns lightly right and crosses over the medium-voltage T/L, highway No.22, and several houses to create G27. Then it continues turning right, crossing over the land area of Nguyen Vu company and the construction material exploitation area along Xang channel bank and creating G36.	- Topography where TL crosses over is relatively complex, which includes residential areas, Cultivation land - Melaleuca plantation. Construction materials exploitation area, company. - Special objects which TL crosses over: • Thanh Nien road: 2 times; • Medium voltage TL: 3 times. • Highway No.22: 1 time	Xuan Thoi Son commune, Hoc Mon district. Tan Hiep commune, Hoc Mon district, Ho Chi Minh city.
5	Section 5: from G36 - G40 with 2.969 km long	At G36, the T/L turns left, crosses over Xang channel and paddy land and reaches G37. From G37, it turns left, continuously crosses over the paddy field, channels and interior-field traffic road to G40. This is the ending point of the 220-110kV overhead transmission line section.	- Topography where TL crosses over is relatively flat. The land use patterns are: Fruit tree land; Paddy rice land and Melaleuca forest land. - Special objects which TL crosses over: None	- Tan Phu Trung commune, Cu Chi district, Ho Chi Minh city
6	Section 6: from G40 - DC (ending point), 0.660 km long	At G40, the T/L separates into 2 transmission lines as 2-circuit 220kV transmission line and 2-circuit 110kV transmission line. Those lines cross over the paddy field and create G41, G41A, G42 and G42A. The lines continue running under Cau Bong - Phu Lam 500kV T/L, then they are joined together to create 4-circuit	- Topography where TL crosses over is relatively complex with paddy rice land and residential area - Special objects which TL crosses over: + Access road to Cau Bong 500kV SS: 1 time	- Tan Phu Trung commune, Cu Chi district, Ho Chi Minh city

No.	TL section/ Length	Description of TL	Existing land use under ROW and special objects that TL crosses over	Locality where TL crosses over
		transmission line at G43. From G43, it sharply turns right, crosses over the road to enter Cau Bong 500kV substation and to G44. From G44, it turns right with an angle of approx. 90^0 to the ending point.		

Figure 1. Location of Binh Tan – Cau Bong 220-110kV TL on Google map

D. Construction works

1. Civil work volume

25. Civil work volume of the 110 underground cable section is described in Table 4:

Table 4. Volume of the 110kV underground cable section

No.	Work contents	Unit	Quantity
1.	Earth excavation	m^3	28,178.00
2.	Earth backfill	m^3	9,859.85
3.	HDPE D225	m	25,619.22
4.	HDPE D90	m	4,269.87
5.	Reinforced concrete M100	m^3	308.99
6.	Reinforced concrete M200	m^3	4,093.75
7.	Steel	ton	522.07
8.	Formwork	m^2	21,776.68
9.	Pile	tree	156,622.00
10.	Cable pull and scatter	km	27.40
11.	Optical able pull and scatter	km	4.56

26. The civil work volume of the overhead transmission line is described in Table 5

Table 5. Volume of the overhead transmission line section

No	Work contents	Unit	Quantity	Remark
I.	**Preparing for construction**			
1.	Site leveling	m^2	91,564.95	
II.	**Earth excavation and backfill, and measures for preventing from landslide**			
2.	Earth excavation of tower foundation pits	m^3	116,812.46	
3.	Earth backfilling of tower foundation pits	m^3	104,231.95	
4.	Pile for preventing from landslide	tree	15,913	Pile with F80, density of 3 tree/md, length of 2m
5.	Bamboo wattle	m^2	5,304	Wattle with 1m high
III.	**Concrete for casting foundation framework**			
6.	Reinforced concrete M100	m^3	1,700.62	
	Reinforced concrete M200	m^3	10,879.89	
	Reinforced concrete pile 300 x 300	m	21,300.00	Buy preformed pile or in-site casted according to detailed drawing
IV	**Steel for foundation framework**			
	Process and install steel Ø ≤ 10	ton	68.87	Processed at workshop
	Process and install steel Ø ≤ 18	ton	546.64	
	Process and install steel Ø > 18	ton	282.61	
	Process anchored bolt	ton	94.21	Processed at workshop
V	**Installation of towers**			
	Steel tower ≤ 50m	ton	839.80	

No	Work contents	Unit	Quantity	Remark
	Steel tower > 50m	ton	1,890.16	
VI	**Electric part**			
	Conductor pull and scatter	km	424.5	
	Lightning conductor	km	31.72	
	Optical cable	km	28.83	
VII	**Others**			
	Circuit name board	piece	105	
	Dangerous warning board	piece	105	
	Warning board for transmission line section crossing over river	piece	4	Crossing over Xang canal

2. Construction method

a) Construction method for the 110kV underground cable section

**** Underground cable section running under highway No.1A***

27. For the underground cable section under Highway No. 1A, construction measure is mainly by hand, and partly by machine for promoting construction process. At the locations there are many underground works of electric cable, water pipe, telephone line, fiber cable, drainage system, public lighting cables, water supply and drainage pipes of residents..., the underground cable construction should be manually conducted to avoid damages to these existing underground works (if any) and ensure occupational safety. Construction should be implemented by rolling type with each 30-50m segment, and at night to avoid affecting to the traffic activities.

28. Currently, along the underground cable section there are drainage systems with Φ1,500 mm and Φ1,200 mm pipes. Therefore at the intercross locations with these drainage systems, steel piles should be used during earth excavation for underground cable construction to reinforce cable trench wall where there are drainage systems in order to ensure that these underground cable construction activities will not affect to the structure of the drainage systems.

29. Construction method includes cable trench excavation, cable pull and scatter, and initial status recovery of cable trench. In some cases, the cable pull needs openned dug trech at some sections, cut HDPE pipes to put pulley for pulling the cable. Specifically as follows:

- After using cutters for cutting road at two edges of cable trench, excavators will be used to excavate road surface and foundation.
- Drive piles or formwork to reinforce cable trench wall in order to prevent surrounding landslide in the cable trench.
- Excavated soil will be poured immediately into trucks to transport to disposal sites. Truck body should be covered tightly to avoid soil droppings, ensuring environmental sanitation.
- When construction is conducted at night, electric light should be hung along two edges of the cable trench and signal lights with each 10 ÷ 15 m.
- During as well as after excavation, if it rains or groundwater filled up, pumps should be used to pump water out from the cable trench. Pumps should be placed in the lowest position of the dug cable trench. It could also create grooves, holes for draining and pumping water from the cable trench.
- Dredge the bottom of the cable trench, compact and check altitude.

- Fill heat dissipation sand; pull HDPE pipe, optical fiber protection tube, and bare copper cable; put reinforced concrete cover for cable trench protection.
- Lay underground cable signal band, continuously fill sand to the level of the pavement layer of the road and return initial status of the road.
- Arrange people to regulate regular traffic in order to avoid traffic accidents and traffic jam at the construction site.

30. After completion of the underground cable installation and excavation, the cable trench should be filled and recovered into initial status in time, avoid keeping open cable trench too long. This can cause landslide of the cable trench wall and endangement for travellers, especially for the underground cable section crossing the underground drainage systems. After excavation of the cable trench in accordance with design drawings, cable will be put down, the cable trench will be backfilled and the road pavement will be recovered immediately to avoid landslide causing damages to the drainage systems.

**** Underground cable section running under toll station on highway No.1A***

31. Through field surveys, because of dense density of vehicles, in order to install the 110 kV underground cable section running under toll station on Highway No.1A, horizontal directional drilling method will be applied (Horizontal directional Drilling method - HDD).

32. Horizontal Directional Drilling method is illustrated in Figure 2:

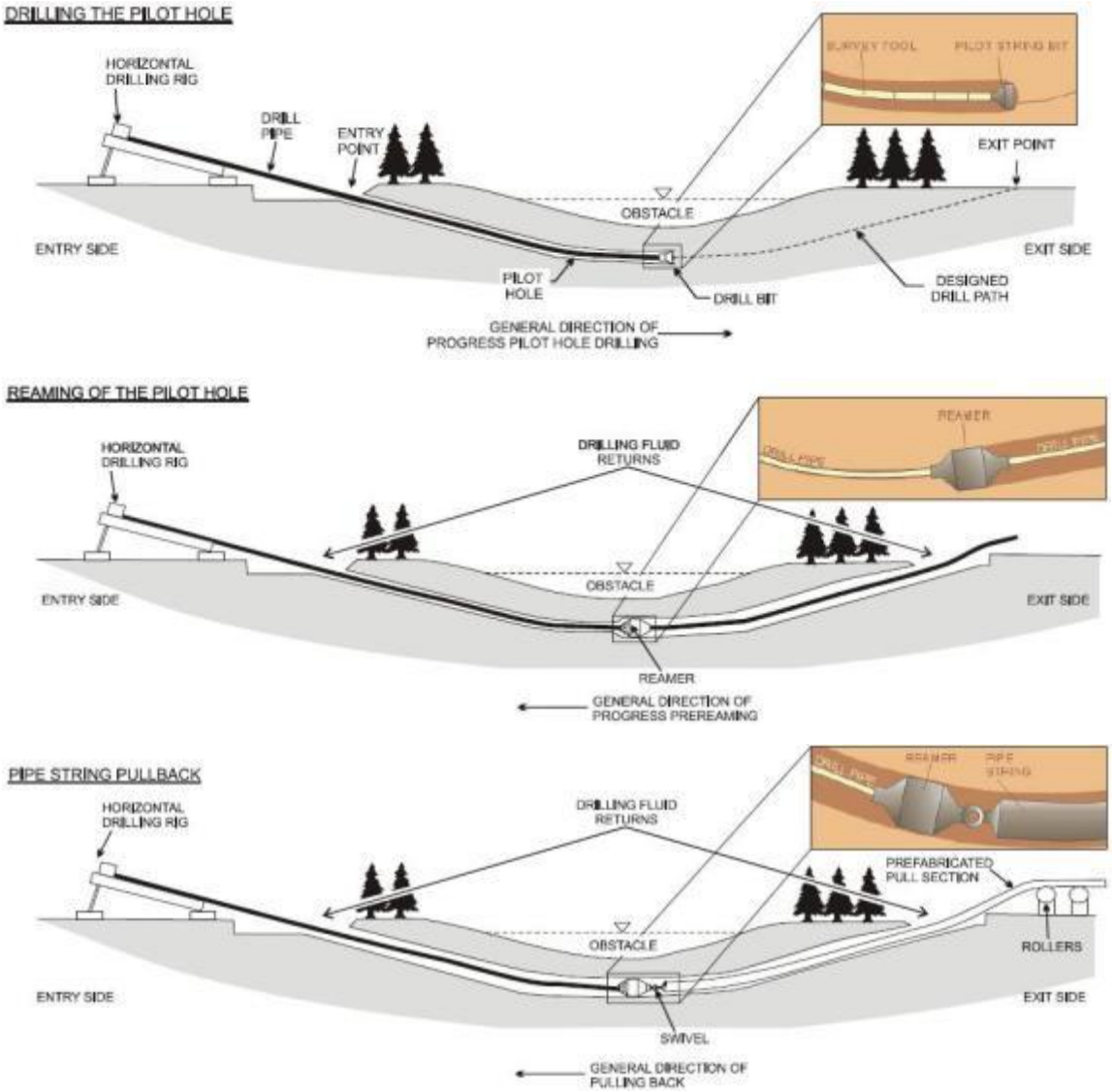

Figure 2: illustration of Horizontal Directional Drilling method

33. After construction of underground pile is completed, cables will be pulled through the pipe by the cable rollers with support of winches, cable primers, lubricants to pull the cable.

**** Construction method for underground cable section runs parallel with the current Tham Luong - Ben Cat - Rach Nuoc Len channel***

34. Similar to construction of the underground cable trench section running under Highway No.1A, construction measure of this underground cable section is mainly by hand, and partly by machine to promote construction process. At the locations where trucks and machines can access, excavation work can be done by machines. At the remaining locations, excavation will be done by hand.

35. Construction steps include:

- Excavation of cable trench
- Installation of formwork, put reinforced steel for the cable trench
- Pour concrete for the cable trench
- Installation of cable
- Fill and recover initial status of the cable trench.
- For the cable sections crossing with existing underground works, a temporary reinforcement, similar to construction of the underground cable section running under Highway No.1A, will be conducted.
- For the underground cable section running under Ben Doi road, construction will be conducted similar to construction of the underground cable section running under the roll station on Highway No.1A, Horizontal Directional Drilling method (HDD) will be applied.

b) Construction method for the overhead transmission line section

**** For tower foundation*:**

36. Construction measure is mainly by hand and partly by machine. This work includes:

- Tower foundation site leveling

37. Soil for site leveling for construction yard is got in place or salvaged from tower foundation excavation. This yard will be used to gather materials and devices, and be the place for tower installation and tower foundation casting (see Table 5).

- Tower foundation excavation

38. Tower foundation excavation will be conducted according to design drawings and in compliance with current regulations. Talus range, and earth and rock depth will be determined by records of geological boreholes and specified in appendix in unit price for basic construction No. 6061 / QD-BCT dated November 14th, 2008 of the Ministry of Industry and Trade.

39. According to results of topographic survey, the overhead transmission line section crosses over the flat terrain with common plant cover. Some tower foundations are located in the dense residential areas, so during the construction, constructors will pay attention to the neighboring buildings/works and inform the local authority and regional police. Construction units wil put warning boards about foundation pit excavation and put temporary barriers during excavation to avoid accidents for people and vehicles.

40. After finishing foundation cast, it will be filled with soil immediately. Soil will be filled in layers, compacted in accordance with dimension in design drawings. Soil used for filling foundation is being reused/salvaged from soil excavated from foundation pits and soil used for leveled the site.

- Concrete tower foundation**:**

41. Before pouring concrete, steel must be washed, foundation pits must be cleaned.

42. Lining concrete: lining concrete layer uses rock 4x6, M100 is mixed in situ, and concrete will be put down foundation pit by chute. Leveling will be conducted by hand with using of engine plate vibrator. Note that it must install formwork for the edge of the foundation pit in order to create drainage ditches around the foundation pit.

43. Structural Concrete: Use Concrete B15 (M200), rock 2x4. The interval between the plate concrete and foundation framework during gabarit and bolts alignment will not exceed 24 hours to avoid concrete segregation.

44. Before pouring concrete, formwork and steel acceptance is to be conducted in compliance with design. In case, groundwater is filled in foundation pit, it will be collected or pumped out continuously during concrete pouring and until concrete is hardened. Maintain newly poured concrete structure in accordance with regulations.

- Installation of lightning conductor

45. Lightning conductor will be calculated for each foundation location in accordance with geotechnical conditions. Lightning conductor will be scattered around the foundation pit bottom, tag of lightning conductor will be put up in combination with steel of tower foundation and must be 1- 1.5m higher than surface of concrete cylinder. All details must be galvanized to be protected.

**** Construction of tower foundations*:**

46. Reinforced concrete pile has dimension of 300 x 300 cm with length of 8-35m. These piles will be purchased at the pile casting plant (ordered according to detailed drawing) and transported to the foundation locations.

- Pile driving

47. Pile driving is the most important task for the quality of the project while it also affects to the overall progress of the project. Thus, pile driving will be carefully prepared and pile driving procedure will be complied with regulations.

- Pile grillage casting

48. After driving all piles at the same position is completed, it needs excavate soil to design elevation, beat the top of the piles, pouring lining concrete and install formwork, tie steel,…similar to the normal position (Note: In order to promote the construction schedule can use fresh concrete for casting pile framework).

*** Installation of towers:**

49. For single-tubular steel tower, tower will be transported to the construction site and erected by crane 25T. For shaped steel tower, tower will be erected by climbing method, both erect and joint by hand.

- During tower erection process, the following requirements are obeyed:
- Bolts must be tightened and checked in accordance with regulation on holding power.
- Thread of bolts at the bottom must be destroyed to prevent from theft.
- After installation is completed, tower need be tested horizontal and longitudinal inclination.
- The installation of porcelain accessories;
- Insulator string will be installed by hand, so it needs to prepare with tools for construction such as pulley, hauler, winches, cables,...;

- Insulators and accessories should be cleaned before installation. Construction unit must test to detect broken and cracked insulators, check joint pins before installation.

*** Wire pull and scatter, and deflection modification:**

50. Wire pull and scatter will be mainly conducted by hand (primer cable scatter) in combination with tractors, brake machine to keep wire reel at a certain altitude and control wire pulling speed.

51. Before pulling wire, it needs to do temporary anchors at the arms of the anchor post. These anchors are removed only when the anchor rope of anchoring intervals at two sides were pulled completely. The anchoring locations crossing over the weak soil areas must use many anchor holes for an arm.

52. When pulling wire, not to put wire to be pulled on the ground and the hard structures in order to prevent from wear out or scratched. Pulley will be used for keeping and pulling wire through the tower locations. For installation of fiber cable, characteristics of optical cable will be studied carefully to avoid damaging it. For TL sections crossing over roads, other power lines, communication lines, houses etc, scaffold will be put firmly to support the process of wire pull.

3. Material demand and supply sources

53. Supply source of materials and equipment for the subproject includes two categories: domestic and abroad supply sources as follows:

- Power equipment which is imported and transported to Ho Chi Minh City port, and stored in a warehouse of EVNHCMC will be transported by road to the construction site.
- Other materials and equipment will be domestically purchased.
- Sand, gravel, cement, formwork, bamboo wattles are taken in the area of HCMC
- Steel for tower foundations, lightning conductor are taken in the area of HCMC and processed at the construction site.
- Steel towers, wire, insulators and accessories: processed at the factory and stored in a warehouse of EVNHCMC, which will be then transported by road to the construction site.

4. Waste treatment

54. Domestic sewage: number of construction workers for each tower foundation is very few (about 8-10 people/tower foundation/ location), time for constructing each tower foundation is short (about 11 – 12 days). Thus, workers will be proposed to hire local resident's houses for staying, domestic sewage generated by workers' living activities will be collected in domestic sewage treatment system of residents.

55. Domestic solid waste of workers (about 4-5kg/day/ tower foundation location) will be collected into dustbins and disposed at local regulated site.

56. Refused excavated soil (about 18.331 m^3) will be transported by trucks to the disposal site where is permitted by the local authority. Selection of disposal site and transport of refused soil to disposal site will be performed by the construction contractors with the PMB's supervision. Contractor will select disposal site and prepare disposal plan, then consult with the local authorities to get the formal agreement and permission.

57. Construction waste will be treated as the following diagram (Figure 3):

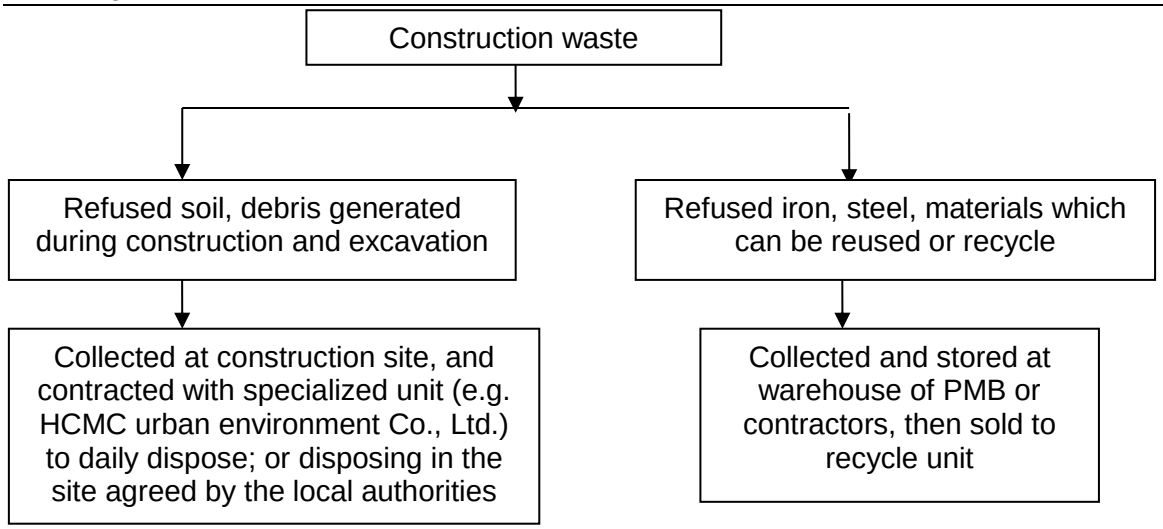

Figure 3. Management of construction waste

VI. DESCRIPTION OF THE ENVIRONMENT

58. Environmental basic information was obtained primarily from HCMC Statistical Yearbooks, environmental reports prepared by HCMC DoNRE, reports prepared by PECC4. Description of the existing environment focuses on natural features and current land use.

A. Physical Environment

1. Climate

59. The subproject is situated in the Southern Climate Zone which is typified by a tropical monsoon climate characterized by high temperatures with very little seasonal variation, summarized as below.

a. Temperature

60. Air temperature is high and changes little in year-round. Average annual temperature is 27.8^{o}C. Minimum monthly temperature is 13.8^{o}C, maximum monthly temperature is 40.0^{o}C. (Table 6).

Table 6: Temperature features at Tan Son Nhat Meteo-Stations (1978-2014)

Station	Feature	Month, year												
		Jan.	**Feb.**	**Mar.**	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Year**
Tan Son Nhat (long-term average)	$T_{aver.}$ ^{o} C	26.4	27.4	28.5	29.4	29.3	28.4	27.8	27.9	27.7	27.4	27.3	26.7	27.8
	T_{min} ^{o} C	13.8	16.0	17.4	20.0	20.0	19.0	16.2	20.0	16.3	16.5	15.9	13.9	13.8
	T_{max} ^{o} C	36.4	38.7	39.4	40.0	39.0	37.5	35.2	35.0	35.3	34.9	35.0	36.3	40.0

Source: Central Meteo-Hydrological Data Archive Center)

61. According to the report of the Working Group on Climate Change and Development, (2007), in the Me Kong region (Ho Chi Minh City) average temperature in the last century has risen 0.3 - 0.8°C. Further temperature increase is expected along with more extreme weather events, such as floods and droughts, change in the amount and distribution of rainfall, disruption of seasonal monsoons, and rising sea level.

b. Sunlight hours

62. Average number of sunlight hours in Ho Chi Minh City is fairly high as compared with many other provinces in the country. Number of sunlight hours in a year is of 1,800 - 2,500 hours or more. Table 7 shows average number of sunlight hours observed in Tan Son Nhat meteorological stations.

Table 7: Average number of sunlight hours

Station	Month, year (hour)												
	Jan.	**Feb.**	**Mar.**	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Year**
Tan Son Nhat	245	246	272	239	195	171	180	172	162	182	200	226	2.489

(Source: Data of Tan Son Nhat meteo-station is referred to National technical regulation on Climatic data for construction)

c. Humidity and Rainfall

63. Annual average humidity is about 78% - 82%. Rainy regime is divided into the separated two reasons such as rainy season from May to October and dry season from November to the next year's April. Maximum daily rainfall in the area is 200 mm/day. Total annual average rainfall in the area is from 1800 mm to 2000 mm (see Table 8).

Table 8: Monthly and annual average rainfall and humidity at Tan Son Nhat Station (1978 – 2014)

	Month, year												
	Jan.	**Feb.**	**Mar.**	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Year**
Rainfall	11	13	24	89	179	223	287	302	308	279	208	41	1955
Aver. humidity (%)	71	70	69	72	77	79	81	82	83	82	78	75	77
Min. humidity (%)	23	22	20	21	26	30	40	44	43	40	33	29	20

(Source: Central Meteo-Hydrological Data Archive Center)

d. Wind velocity

64. From November to April, wind is mainly from the northeast and dry while from May to October wind is mainly from the southwest and brings heavy rainfall to the low-lying plains and the eastern slope of Truong Son Mountain Range. Annual average wind speed recorded at Tan Son Nhat station is 2.8 m/s. Thunderstorm is mainly in rainy season from May to October, number of thunderstorm days are presented in Table 9

Table 9: Wind velocity and number of thunderstorm days at Tan Son Nhat station

Parameter	**Month, year**												
	Jan.	**Feb.**	**Mar.**	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Year** (aver)
Wind speed (m/s)	2.3	3.1	3.6	3.3	2.5	2.7	2.9	3.8	2.7	2.2	2.2	2.0	2.8
Number of thunderstorm days	0.0	0.3	0.2	2.0	11.0	8.0	13.0	9.0	9.0	8.0	6.0	1.0	67.5

(Source: Data of Tan Son Nhat meteo-station is referred to National technical regulation on Climatic data for construction)

2. Ambient air quality

65. Noise is the factor causing the most severer pollution on the roads in HCMC because 100% of the monitored samples exceed the allowable limits with noise level of 77-80dB (these results are monitored in 2012), 71 – 88dB (monitored in the beginning half of the year 2013).

66. The second pollutant is dust which is also a serious concern in the monitoring program. In 2012, the measured values at the 6 stations were from 0.44 – 0.65mg/m^3, with 96% of them over the allowable limit, which is 0.30mg/m^3. However, in comparison to the values measured in 2011 and 2010, dust concentration tends to reduce. In the beginning half of the year 2013, the measured concentrations of dust were from 0.43 – 0.61 mg/m^3, with 95% samples over the allowable limits.

67. NO_2 content was in the range of 0.17 – 0.21 mg/m^3 in 2012, and 0.15-0.20 mg/m^3 in the first 6 months of the year 2013. Overall, this content has been reduced during the period from 2010 to the first half of the year 2013. CO and Pb content measured in 2012 met the allowable

limit and lower than in 2011 and 2010, while these parameters increased in the first half of the year 2013.

68. Air quality in the subproject area was measured, sampled and analyzed by the Environmental and Technological Service Research Center - HCMC in coordination with PECC4 in November 2014. Monitoring results showed that air quality in the subproject area is relatively good because most of analyzed parameters are below the allowable limits under QCVN 05:2009/BTNMT and QCVN 26:2010/BTNMT (Table 10).

Table 10: Monitoring results of ambient air quality in the subproject area

No.	Parameter/unit		Monitoring result			QCVN 05:2013/ BTNMT	QCVN 26:2010/BTNMT
			KK1	KK2	KK3		
1.	Noise (*)	dBA	67.1	62.3	60.7		70
2.	NO_2	mg/m^3	0.109	0.084	0.074	0.20	
3.	SO_2	mg/m^3	0.093	0.072	0.064	0.35	
4.	CO	mg/m^3	5.68	3.82	3.01	30	
5.	O_3	mg/m^3	Undetected	Undetected	Undetected	0.20	x
6.	TSP (*)	mg/m^3	0.15	0.13	0.10	0.30	--
7.	PM 10	mg/m^3	0.009	0.008	0.006	x	--
8.	Pb	mg/m^3	0.006	0.003	Undetected	x	--

(Source: Environmental and Technological Service Research Center, Nov. 2014)

Note:

QCVN 05:2013/BTNMT: National technical regulation on ambient air quality

QCVN 26:2010/BTNMT: National technical regulation on noise

- *KK1:* Highway No.22, Hoc Mon district, Ho Chi Minh city (X: 612,668 m, Y: 1,200,856 m).
- *KK2:* Dang Cong Binh road, Tan Thoi Nhi commune, Hoc Mon district, Ho Chi Minh city (X: 612,692 m, Y: 1,200,778 m).
- *KK3:* Area near to Chua river, Binh Tan precinct, Ho Chi Minh city (X: 612,775 m, Y: 1,200,719 m).

3. Topography, Geology and Soil

69. Ho Chi Minh City belongs to a transitional region between the southeastern and Cuu Long River Delta regions. In general, topography is gradually low from North to South and from East to West. There are three types of terrain as summarized below.

a. *High terrain* lies in the North-Northeast area and a part of the Northwest area consisting of the North of Cu Chi district, the Northeast of Thu Duc precinct and precinct 9. This is the bending terrain with the average height of 10-25 meters. Long Binh Hill in Precinct 9 is the highest with 32 meters

b. Low terrain lies in the South-Southwest and Southeast part consisting of precincts/districts 9, 8, 7, Binh Chanh, Nha Be and Can Gio. The area's height is in the range of 0.5 to 2 meters.

c. Medium terrain lies in the middle of the city, consisting of the oldest residential areas, a part of precincts 2 and Thu Duc, and the whole of precinct 12 and Hoc Mon district. The area's height is 5-10 meters.

70. In general, topography in Ho Chi Minh City is fairly diverse and therefore, it has good conditions for multi-faceted development. According to the survey report of "Cau Bong - Binh Tan 220- 110kV T/L" subproject in feasibility study phase, topography in the proposed subproject area is the Southeast low plain region. Topographical surface is relatively flat, often be flooded in rainy season, impacted by tide, separated by rivers, channels, canals, ponds, residential areas and traffic road system. Altitude of topography is 0 – 2.0m.

71. According to structural morphologic features, geomorphology of the subproject area has typical features of sedimentary accumulative relief type expressed by relatively smooth surface. Formation composition consists of sand, clay – loam, clay, vegetation humus.

72. Summary of survey results in the field, test results of soil physico-mechanical properties and archived geological materials, engineering geological structure/profile from top down includes the layers described as bellow:

- Backfilled soil layer: composition consists of clay sand, clay loam mixed with grit, gravels, concrete, and bitumen with loose state. It is locally distributed in the surface layer in the underground cable section area running parallel with highway No.1A (from G0 to G0 + 1,800m). The thickness changes about 0.5m.
- Layer 1: clay mud, clay loam mud in some places. Blackish gray, blueish gray mud soil, moist soil is in wet state. This layer distributes on the natural ground surface in the subproject area, mostly found in the drilled holes. Thickness of this layer tends to increase along the T/L from G3 – the ending point. T/L section from G3 – G13, the drilled holes showed that the thickness of this layer is 0.5 – 24.0m. At G15 where the drilling hole is drilled by machine (with the depth of 35m), thickness of this layer is 24.0m. T/L section from G16 – the ending point, the drilling hole has the depth of 10.0m, this soil layer has no sign to change to other soil layer.
- Layer 2: reddish brown, brownish gray, whiteish gray clay loam. Moist soil is in soft to hard state. This layer lies under layer 1 in the whole three machinery drilling holes from G3 – G12 with the thickness of 3.7 – 26.5m depending on each position.
- Layer 3: Clay loam mixed with grit, gravels with brownish gray, whitish gray. Moist soil is in semi-hard to hard state. This layer distributes round G3. Average thickness is 11.4m.
- Layer 4: reddish brown, yellowish brown clay sand. Moist soil is in soft to hard state. This layer distributes round G3. Average thickness is 8.0m.
- Layer 5: Coarse to medium grained sand with yellowish gray, brownish gray, saturated soil with medium close to close state. This layer distributes in the whole four machinery drilling holes in the depth of 17.9m to the end of the drilling holes.
- Layer 6: reddish brown, yellowish brown clay, moist soil with semi-hard to hard state. This layer is found in only the drilling holes HKM3 round G12 at the depth of 32.7m to the end of the drilling hole.

4. Surface water/groundwater resources

73. Ho Chi Minh City has a diverse river system. Dong Nai River has discharge of about 20–500 m^3/s, supplying 15 billion m^3 water. This river supplies main source of fresh water for the city. In addition, Sai Gon River has 80 km in length running through the city with discharge of 54

m³/s. The width of the river section running through HCMC is in the range of 225 - 370 m with the depth of 20m. Dong Nai and Sai Gon rivers are connected together inside the city by Rach Chiec channel system. Another river in HCMC is Nha Be River, which is the confluence of Dong Nai and Sai Gon River, running into the Vietnam East Sea through two estuaries as Soai Rap and Ganh Rai. In addition to the main rivers, HCMC has still a tangled canal, channel system such as Lang, Bau Nong, Tra, Ben Cat, An Ha, Tham Luong, Cau Bong, Nhieu Loc - Thi Nghe, etc.

74. Because of Pleistocene sediment, the north of HCMC has a plentiful source of underground water. However, at the South of the City, because of Holocene sediment, underground water is usually aluminated or salted. In the old inner city, underground water has a significant reserve, although the quality of underground water is not quite good, this water is still used at three layers as 0–20 m, 60–90 m and 170–200 m (Miocene sediment).

75. According to the survey data in Oct. 2014, the T/L crosses over the areas of rice, crops and Melaleuca spp. Some low land areas are flooded when it rains heavily. The most flooded elevation is H=1.7m (according to the elevation of the project).

5. Water quality

76. Water environment in the subproject area is monitored at 3 positions of surface water sampling (2 positions at the upstream of An channel and 1 position at Chua river, Binh Tan district). The results showed that all parameters are lower than the allowable limits under QCVN 08:2008/BTNMT (column B1) (Table 11).

Table 11: Monitoring results of surface water quality in the subproject area

No.	Parameter/ Unit		Analysis method	Monitoring results			QCVN 08:2008/ BTNMT (Column B1)
				NM1	NM2	NM 3	
1.	pH (*)	--	TCVN 6492:2011	7.56	7.31	6.45	**5.5-9**
2.	DO (*)	mg/L	Hanna Ecoscan DO6	6.12	5.84	5.18	**≥ 4**
3.	TSS (*)	mg/L	TCVN 6625:2000	28.8	25.2	19.7	**50**
4.	COD (*)	mg/L	SMEWW 5220C:2012	22	20	18	**30**
5.	BOD_5 (20°C)	mg/L	TCVN 6001-2:2008	9	7	6	**15**
6.	$N\text{-}NH_4^{+}$ (*)	mg/L	SMEWW 4500-NH_3-F	0.062	0.071	0.127	**0.5**
7.	$N\text{-}NO_3^{-}$ (*)	mg/L	EPA 352.1	2.367	2.018	1.864	**10**
8.	$N\text{-}NO_2^{-}$ (*)	mg/L	TCVN 6178:1996	0.011	0.027	0.036	**0.04**
9.	PO_4^{3-} (*)	mg/L	TCVN 6202:2008	0.104	0.118	0.086	**0.3**
10.	SO_4^{2-}	mg/L	TCVN 6494-2-2000	13.28	15.63	10.74	**--**
11.	Cl^- (*)	mg/L	TCVN 6194:1996	13.35	16.27	30.96	**600**
12.	F^-	mg/L	TCVN 6494-2-2000	0.064	0.071	0.084	**1.5**
13.	H_2S	mg/L	EPA 376.2	0.063	0.058	0.020	**--**
14.	CN^-	mg/L	SMEWW 3113B, 20th Ed	Undetected	Undetected	Undetected	**0.02**
15.	Hg	mg/L	SMEWW 3112Hg, 20th Ed	Undetected	Undetected	Undetected	**0.001**
16.	Total Fe	mg/L	TCVN 6177:1996	0.934	1.014	0.046	**1.5**
17.	As	mg/L	SMEWW 3113B, 2012	$0.22x10^{-3}$	$0.14x10^{-3}$	$0.10x10^{-3}$	**0.05**
18.	Cu	mg/L	SMEWW 3112, 20th Ed	$0.47x10^{-3}$	$0.39x10^{-3}$	$0.25x10^{-3}$	**0.5**
19.	Zn	mg/L	SMEWW 3113B, 20th Ed	0.082	0.076	0.022	**1.5**
20.	Cr^{3+}	mg/L	SMEWW 3113B, 20th Ed	$0.55x10^{-3}$	$0.62x10^{-3}$	Undetected	**0.5**

21.	Ni	mg/L	SMEWW 3113B, 20th Ed	$0.14x10^{-3}$	$0.20x10^{-3}$	$0.32x10^{-3}$	**0.1**
22.	Pb	mg/L	SMEWW 3113B, 2012	$1.65x10^{-3}$	$1.54x10^{-3}$	$0.86x10^{-3}$	**0.05**
23.	Pesticide residues	µg/L	EPA 617 (GC/MS)	Undetected	Undetected	Undetected	**0.72**
24.	Ecoli/100 ml	MPN	TCVN 6187-2:1996	60	90	30	**100**
25.	Total Coliform/100 ml	MPN	TCVN 6187-2:1996	4,000	4,200	3,600	**7,500**

(Source: Environmental and Technological Service Research Center, Nov. 2014)

Note: QCVN 08:2008BTNMT**:** National technical regulation on surface water quality Column B1: Water can be used for irrigation or other purposes having the similar requirements of water quality or other purposes such as B2.

Column B2: water can be used for irrigation, traffic and other purposes with low water quality requirements.

Sampling locations are as follows:

- MN1: Surface water at upstream of An Ha cannal near Highway 22, Hoc Mon disitrct, Ho Chi Minh City"
- NM2 (X=1208756, Y=0582128): at the upstream of An Ha canal near to Dang Cong Binh road, Tan Thoi Nhi commune, Hoc Mon district, Ho Chi Minh city.
- NM3 (X=1190742, Y=0593638): on Chua river, Binh Tan precinct, Ho Chi Minh city.

B. Biological Environment

1. Vegetation cover and land use

77. According to the survey results and the relevant data, Cau Bong - Binh Tan 220kV - 110kV T/L crosses over relatively flat terrain types with simple flora and ecological system. In the subproject area, vegetation cover is mainly Melaleuca spp., Eucalyptus, nipa, fruit tree, rice and crops of the local residents. The vegetation cover under the ROW is presented in Table 12.

Table 12: Current vegetation cover under the ROW (m^2)

TL section	Plant cover on agricultural land		Forest tree cover on forest land (Melaleuca spp., Eucalyptus)	Grass plots, shrubs on unused land and bare land	River, pond, canal	Residential area	Total
	Annual plant	Perennial plant					
G3-G15	66,405	2,002	43,104	2,125	12,588	10,778	**137,003**
G15-G17	0	0	99,871	0	1,058	1,851	**102,779**
G17-G20	70,126	5,498	15,636	6,099	15,945	9,761	**123,067**
G20-G36	31,508	19,144	32,884	9,170	0	18,274	**110,979**
G36-G40	58,027	3,973	2,135	2,099	0	0	**66,234**
G40-ĐC	18,657	0	0	0	0	0	**18,657**
Total	**244,723**	**30,617**	**193,631**	**19,493**	**29,591**	**40,664**	**558,719**

2. Wildlife

78. In the subproject area, there are no rare and endangered wild animal/plant species; there are only common animal species such as insects, mice, domestic animals and common vegetation/agricultural crops of the local residents

3. Conservation areas

79. There are no conservation areas within and near to the transmission line. The T/L does not cross over or intrude into any conservation area, buffer zone or any possible planned future extension of these areas.

C. Socio-Economic Conditions In The Subproject Communes

1. Population

80. Cau Bong - Binh Tan 220 -110 kV T/L is located in Ho Chi Minh city, in the area of 01 precinct and 03 districts with 9 communes/wards of Vinh Loc A, Vinh Loc B, Pham Van Hai, Xuan Thoi Thuong, Xuan Thoi Son, Tan Thoi Nhi, Tan Hiep, Tan Phu Trung, and Binh Hung Hoa B. Population features of these communes/ward are described in the Table 13.

Table 13: Population and labour in the subproject communes/ward

No.	Commune	Total population	Population in working age (people)	Rate of population in working age (%)
1	Vinh Loc A	62,877	39,963	64.1
2	Vinh Loc B	64,715	41,664	65.38
3	Pham Van Hai	24,201	16.451	67.97
4	Xuan Thoi Thuong	36,389	22.561	62
5	Xuan Thoi Son	24,493	15.969	65.2
6	Tan Thoi Nhi	24,662	16,812	68.16
7	Tan Hiep	24,934	14,839	62
8	Tan Phu Trung	30,926	19,972	64.57
9	Binh Hung Hoa B ward	41,464	20,732	50

2. Local economy

81. Ho Chi Minh City takes the lead of the country in economic growth. According to the Statistical Office of Ho Chi Minh city, in 2010, the GDP growth rate was 11.8%. In 2012, it dropped to 9.2% (nearly double the GDP of Vietnam). Ho Chi Minh City accounts for a third of the country's GDP and is the main economic region and development center in the south of Vietnam, contributing 66.1% to the GDP of the southern key economic zone and 30 % of total GDP of the south region.

82. **Vinh Loc B** is an industry, small industry; agriculture; trade and services development commune with focus of trade and services. Agriculture accounts for a small proportion (14%), trade and services accounts for 54%. Per capita income in 2012 was estimated 18 mill.VND/person/year. Currently, number of poor households is 46 households (accounting for only 0.32%) compared with total number of households in the commune.

83. **Vinh Loc A** is a commune with many enterprises. In the commune, at present, there are 1,317 registered enterprises. In which, there are 80 private enterprises; 215 companies; 1,022 service facilities (house for rent: 541 establishments, recycle waste materials purchase: 22 establishments, 99 production facilities, 361 other service establishments). Agricultural production is not highly effective because people mostly involve in small production.... Therefore, in the commune, agricultural housholds tend to remain vacant land or change agricultural land into other activities and transfer to work in non-agricultural occupations.

84. **Pham Van Hai Commune**: In recent years, along with Binh Chanh District, Pham Van Hai Commune's economic structure has been changed to the right direction under the guidance of leaders with comprehensive socio-economic development. In the Pham Van Hai Commune area, there are many major transportation projects have been implemented (such as Provincial Road No. 10, Dang Cong Binh road, An Ha road,...), that create a favorable infrastructure to form several industrial zones (An Ha IZ). As a result economic and labor structure of the

commune tends to move to industry, commerce and services. Total commune's revenue per annual is 577,521,592 bill.VND/year ensuring revenues and expenditures for self-balance.

Industry, small industry: Number of establishments, type, scale and income: 170.
Commerce and services: Number of establishments, type, scale and income: 127.

85. **Xuan Thoi Thuong commune**: main production activities are agriculture, small industry and commerce – services.

Agriculture:

- Cultivation: In 2014, vegetable production land area is 620ha, 31.8ha is increased more than that in 2013. Autumn - Winter rice cultivation area is 264 hectares (165 ha sowing, 99 ha transplanting) reducing 17 hectares in comparison with that in 2013 because farmers change to grow grass and vegetables.
- Livestock: There are 15,559 heads of cattle types including 4,325 milk cows, 792 cows, 232 buffaloes, 10,210 pigs.
- Encouragement to agricultural expansion: The commune coordinates with center of agricultural extension of the city and agricultural extension station of the district to organize vocational training courses and agricultural extension training for local farmers. In 2014, 05 trainings were held with 48 certificates given. The inventory of orchid growers; annual and perennial tree area, poultry and cattle herbs in the commune was also conducted.

Industry, small industry, commerce and services:

Results of census and housing are 100%. In the commune, there are 354 households with houses/rooms for rent, 66 households have a business license, construction area of 36,377m^2, 2,627 rooms.

86. **Xuan Thoi Son commune's** economic development is mainly based on industry – small industry and agriculture.

Industry – small industry: In the commune, there are 216 enterprises; 50 households doing baskets supported by the Rural Development Division with 5,000 bamboo trees.

Agriculture:

- Cultivation: in 2013- 2014, There are 186 ha of Autumn - Winter rice area with an average productivity of 4 tons/ha; 45 ha of Summer – Autumn rice area with an average productivity of 3.8 tons/ha; and 45 ha of Winter – Spring rice area with an average productivity of 3.8 tons/ha. There are 3.35 ha Orchids, 6.7 ha kinds of decorative plants, 34 ha grass land; 80 ha root vegetables with an average productivity of 19 tons/ha; 37 ha leafy vegetables with an average productivity of 20 tons/ha.
- Livestock: there are 1,360 cows, from which 651 are milk cows. There are 650 pigs, 510 rabbits, 2.5 ha freshwater fish area, 200m^2 ornamental fish area.

87. **Tan Thoi Nhi commune**: Current economic structure of the commune: Industry, small industry - trade and services - Agriculture. Tan Thoi Nhi is a suburban commune, but it has a rapid urbanization speed. Thus its economy restructures towards increase in industry and commerce - services, decrease in agriculture. In 2012, in the commune, income per capita is 19,368,000 VND/person/year.

88. **Tan Hiep commune**: in 2012, in the commune are 99 enterprises achieving total revenue of 811,000 mill. VND, contributing to give employment to more than 3,300 people. Estimated average agricultural production value is 120 mill. VND/ ha/year.

89. **Phu Trung commune**: Phu Trung is a rural agricultural commune, located in the suburbs of HCMC, agricultural sector accounts for 37.11%. Industrial and small industrial sector account for 24.73%. Trade and services account for 38.14%.

Agriculture: Agriculture plays a rather important role in the economic structure, in which the proportion of the livestock sector has an increasing tendency. Because influenced by the speed of urbanization and the general policy of the district on change from rice areas with low effect and productivity in crops, vegetables and high valuable trees development, therefore rice land area decreases year by year.

Cultivation: cultivation land area of types of plants including:

Annual trees: 1,115 ha rice, 229 ha vegetable types, 90.5 ha peanuts, 62 ha grass.

Perennial trees: 29.28 ha orchids and decorative trees.

Livestock: Currently, in the commune, total number of domestic animals is about 13,969 heads, in which there are 8,311 pigs, 3,158 cows and buffaloes (including 1,674 milk cows) and 2,500 crocodiles.

Aquaculture: mainly breed freshwater fishes and ornamental fishes with an area of 5.6ha.

Industry – small industry: Currently, in the commune are about 40 small and medium enterprises, in which is one industrial zone namely Tan Phu Trung IZ. This IZ has attracted more than 500 workers with stable jobs. Small industry is mainly rice paper production by manual methods. Presently, some households invest machinery to make rice paper, thus the production efficiency is higher.

Commerce and services: Develop mainly in residential areas. In which, food business, services and hostel are developed rapidly. In general, income of these households is relatively stable.

3. Social infrastructure

a. Public health and environmental sanitation

90. In each project commune is one medical station. This station can provide basic immunizations, pre- and post-natal care, child care, childbirth and other forms of health care and prevention. For more complex medical treatment, people can go to polyclinics in Thu Duc precinct center or precincts in the area of Ho Chi Minh city.

91. Rate of HIV / AIDS people in Ho Chi Minh City is the highest in Vietnam. Under the project "Analysis and Propaganda" by USAID, in Ho Chi Minh City, the total number of HIV people increased from 72,400 people in 2006 to 89,900 people in 2010 and about 105,800 estimated in 2020. In Ho Chi Minh City, in 2006, there were about 4,800 new cases of AIDS; in 2012, there were about 1,099 new cases, accounting for 18.5% of all new cases in the whole country (according to the Report No.755 / BC -BYT of the Ministry of Health dated Sep. 04th, 2012). Number of people infected with HIV is 49,429 people (according to statistic data in the first quarter of 2012).

b. Education

92. **Vinh Loc A** completed primary education universalization with the compulsory rate of 100%. High and secondary education universalization has lower rates, about 99.81% for secondary school and 73% for high school.

93. **Vinh Loc B** completed primary education universalization with the compulsory rate of 100%. High and secondary education universalization has lower rates, about 96% for secondary school and 75% for high school.

94. **Xuan Thuong Commune**: Communal education councils maintain educational mission briefings to monitor education activities in the schools; continue further strong implementation of the movement "building friendly schools, active students"; education of living ideals and skills for students; school violence prevention. Currently, the commune has achieved and remained the standard results in high and secondary education universalization.

- Primary education universalization has obtained 100% (358/358 students graduating from primary school, 380/380 children gone to class 1).
- Secondary education universalization: 100% students who graduated from primary school gone to class 6 (358/358 students), 209/213 students graduating from secondary school (achieved 99.1%).
- High education: Children 15 years old gone to class 10, achieved 95.69% (208/209 students).
- Support the schools for the review of the school year 2013-2014 and the beginning of the new school year 2014 - 2015. Rate of students graduating from secondary school and continuing go to high school (high school, supplementary high school, vocational training) achieved 87.13% (325/373 students). Rate of children with 6 years old gone to in class 1 is 100%. Material facilities and teaching staff of the schools are enough for number of classes and students for the beginning of the new school year.

95. **Xuan Thoi Son commune**: Results of the school year 2013- 2014 are as below: 100% students graduating from primary school, 99% students graduating from secondary school, 79% gifted primary students, 40% gifted secondary students. Education efficiency for primary school reached 100%, 89.5% for secondary school level. Illiteracy elimination reached 100%. Secondary education universalization reached 96.45%. High education universalization completion rate is 78%. The city has recognized the commune as the standard of the right age education universalization, literacy elimination, secondary education, high education, pre-school education universalization completion for children with 5 years of age, achieved 99.18%.

96. **Tan Thoi Nhi commune** completed secondary education universalization, reached 95.4%. Rate of students graduating from secondary school and continuing to go to high school (high school, supplementary high school, vocational training) is above 92%. In the commune, labors trained reached 35.5%.

97. **Tan Phu Trung commune** has implemented very good schooling-age children propaganda/ mobilization to go to school. Graduation rate of primary school level is 100%, secondary school level is 99.82%. In 2007, the commune has completed high and secondary education universalization, earlier 2 years under the resolution of the assembly. Study encouragement association acts actively and has been supported by many individuals and organizations.

98. **Binh Hung Hoa B Ward**: Binh Hung Hoa B Ward People's Committee encourages and supports education with policies as creating advantageous conditions for professional enhancement of teachers, gradually improving infrastructure of schools, rooms, creating the best conditions for children to school; meeting the study needs of 100% students at all levels. Currently, Binh Hung Hoa B Ward has 2 secondary schools, 05 primary schools and 05 kindergartens with modern material facilities meeting the teaching and learning at the locality.

c. Communication:

99. The project area is covered by many telephone networks as Viettel and VNPT telecommunications, and several other telecommunications companies. So it is very convenient to communicate among people.

d. Transportation infrastructure

100. **Hoc Mon district**: traffic network in the district is increasingly upgraded and expanded. Main road traffic system includes: Highways No.1A and 22 (from Ho Chi Minh City to Cambodia), Provincial Highways No. 9, 14, 15, 16, backroads No.80, 65, 65B, 61, 12, and some interior roads. In the district, there are two main bus stations as An Suong with the scale of 5 ha, Tan Thoi Nhi with the scale of 6 ha. Regarding waterway traffic: it is proposed to build some small river port at An Ha bridge, Lon bridge, Sai Gon river and some other river terminals locating on the waterway belt of the city serving the exchange of goods, transportation of residents. Railway traffic: railway runs parallel with Highway No.22 connecting An Binh railway station to Binh Chanh railway station runs through Ba Diem commune - Hoc Mon district.

101. **Binh Chanh district**: According to the master plan of Binh Chanh district prepared by Institute for Urban Architecture and Construction Planning Research, traffic network in the territory of Binh Chanh district has close relation to the orientation of the traffic network organization in the district and the city ensuring the needs for travel, living and working activities of residents:

- Expand and upgrade National Highway No.1 under the State's investment project.
- Construct Bac Nha Be - Nam Binh Chanh highway, highway section running through Binh Chanh district is 11.2 km long.
- New-construct the north interior road running parallel with Provincial Highway No.10 connecting Highway 1 to Le Minh Xuan commune. Expand and new-construct some sections of the road from Go May intersection to Tan Nhat.

102. **Binh Tan precinct**: Binh Tan precinct is separated from the three communes and it is one town of the old Binh Chanh district. Since the beginning of its establishment, traffic network in the precinct has been shaped clear with many main roads connecting to the districts and the provinces of Cuu Long river delta. According to statistic data, total number of lanes in the whole precinct is 3,074 routes, with the length of 472,947m. The decentralized management competence of the routes is as below: Central authority manages one road with 12,659 m long; the city manages 12 roads with the length of 27,305 m, the precinct and the wards manage the remaining 3,061 roads with the length of 432,983 meters accounting for 91.55% total length of the whole roads. Structure of road surface is mainly soil, gravel and crushed stone with the length of 428,208 meters. The remaining is asphalt or concrete accounting for 9.46% with a total length of 44,739 meters.

4. Culture and heritage

103. **Ho Chi Minh City** is one of the largest and oldest cities in Vietnam. It has a lot of relics and cultural heritages. The most prominent cultural heritage sites in the city center are Reunification Palace, and Notre Dame Cathedral. The city also has many museums such as Museum of Ho Chi Minh City, Vietnam History Museum, Revolutionary Museum, Southeast Armed Forces Museum, War Remnants Museum, Vietnamese Women Museum, Fine Arts Museum, Nha Rong Memorial.

104. PECC4 has surveyed locations running along Cau Bong - Binh Tan 220-110kV transmission line and the survey results showed that there are no cultural sites and heritages within the scope of the survey.

105. In the scope of 500m along the proposed TL, there are some sensitive objects as in Table 14:

Table 14. Cultural, historical, and social objects in the scope of 500m along the TL

No.	Sensitive objects	Distance from TL (m)	Location
1	Hiep Truong Thinh	9	It is 9m far from the G18-G19 section of the TL

	Company Ltd		towards the right, locates in Xuan Thoi Thuong commune, Binh Chanh district.
2	Bus station	4	It is 4m far from the G18-G19 section of the TL towards the right, locates in Xuan Thoi Thuong commune, Binh Chanh district.
3	Nguyen Vu Company	9	It is 9m far from the G27-G28 section of the TL towards the left, locates in Tan Hiep commune, Hoc Mon district.
4	Minh Tuan Company	0	The G28 – G29 section crosses over the land area of Minh Tuan Company in the territory of Tan Hiep commune, Hoc Mon district.
5	Market	240	It is 240m far from the ending point of the TL towards the right, locates in Tan Phu Trung commune, Cu Chi district.

Source: Survey results conducted by PECC4 in 2014

5. UXO clearance (including bombs, mines and other explosives after the wars)

106. After many decades of war, bombs, mines and explosives are still an important issue in Vietnam. Area of bombs, mines and explosives clearance is estimated 14.2ha.

6. Subproject Affected people

107. According to the inventory results of losses in November 2014 and May 2015, there are no households directly affected by the underground cable section. For overhead transmission line section, there are 198 affected households, in which 115 households are affected by having houses and structures under the ROW. There are 62 households whose land is acquired for constructing the tower foundations. All households having houses and structures under the ROW need not to be displaced; these houses and structures will be earthed to ensure safety. The subproject will not cause economic displacement of any PAHs. However, during the construction process, the excavation of cable trench will affect several retail shops along the roads.

a. Underground cable section

108. There are 70 households affected indirectly by the underground cable section (Table 15). However, these households still can normally do business, trade and travel because this section will be constructed by the method of rolling and mostly at night. After completing construction, the immediate site leveling will be implemented to return the ground into original condition.

Table 15: Households affected indirectly by the underground cable section

Precinct/District	Ward/Commune	Number of indirectly affected households
Binh Chanh district	Vinh Loc B commune	8
Binh Tan precinct	Binh Hung Hoa B ward	62
Total		**70**

b. Overhead transmission line

109. There are 198 households with 696 persons affected to houses/structures and land by this transmission line section (Table 16), in which 115 HHs are affected by having their houses/structures under the ROW. All households are the Kinh people. These households live scatterly on the area of eight communes in three districts. More than half of labors of these

households work in the factories, enterprises. The remaining elderly labors work in agricultural sector.

Table 16: Number of households affected by the overhead transmission line

Precinct/District	Commune/Ward	Number of households	Number of persons
Hoc Mon district	Tan Hiep commune	22	72
	Tan Thoi Nhi commune	1	6
	Xuan Thoi Son commune	11	42
Binh Chanh district	Pham Van Hai commune	14	53
	Vinh Loc A commune	17	76
	Vinh Loc B commune	96	301
	Xuan Thoi Thuong commune	14	55
Cu Chi district	Tan Phu Trung commune	23	91
Total		**198**	**696**

110. Land acquired for constructing the subproject will be compensated as described in the compensation and resettlement plan (RP). Loss of land includes permanent and temporary land loss, which is described below:

7. Land acquisition

a. Permanent land acquisition

111. Total land area acquired permanently to construct the tower foundations is 18,616 m^2. This land area is only used for the transmission line, not used in conjunction with any work. Permanently acquired area is mainly productive forest land (Melaleuca spp.) of the local people, rice cultivation land and the remaining area is fruit tree land, ponds.... Particularly, the land proposed to acquire for construction of tower foundations is presented in Table 17.

Table 17: Land proposed to acquire for constructing the tower foundations

No.	Land type	Unit	Precinct	District			Total
			Binh Tan	Binh Chanh	Hoc Mon	Cu Chi	
1	Rice land	m^2	0	1221.82	2,842.32	3,926.96	7991.1
2	Annual tree land	m^2	0	495.48	573.52	491.84	1,560.84
3	Perennial tree land	m^2	0	0	265	0	265.00
4	Productive forest land	m^2	0	4,519.80	991.84	0	5,511.64
5	Residential land	m^2	0	261.04	142	0	403.04
6	Unused land	m^2	0	0.00	137.12	0	137.12
7	River, stream, pond, lake	m^2	0	2457.58	289.68	0	2747.26
Total		**m^2**	**0**	**8,955.72**	**5,241.48**	**4,418.80**	**18,616**

b. Temporary land acquisition under the ROW

112. Total land area under the ROW of Cau Bong - Binh Tan 220-110kV transmission line is 56.83 hectares. This area is mainly productive artificial forest land, paddy land, crops land, the remaining is residential land, fruit tree land, ponds, lakes,..., This land area is located in the ROW but people can still cultivate after the construction process completes. However, they must comply with the regulations on the safety of the plant within the ROW under the Decree No.14/2014/ND-CP. Land use under the ROW is shown in the Table 18:

Table 18: Land affected by restriction of land use under the ROW

No.	Type of land	Unit	Precinct	District			Total
			Binh Tan	Binh Chanh	Hoc Mon	Cu Chi	
1	Paddy land	m^2	0	23,019	85,999	69,696	178,714
2	Annual tree land	m^2	0	12,270	34,518	3,190	49,978
3	Perennial tree land	m^2	0	2,435	25,278	2,904	30,617
4	Productive forest land	m^2	0	145,847	45,474	2,310	193,631
5	Residential land	m^2	0	15,452	25,212	0	40,664
6	Unused land	m^2	0	0	19,272	220	19,492
7	River, roads' pavement, stream, pond, lake	m^2	0	39,940	15,312	0	55,252
Total		**m^2**	**0**	**238,963**	**251,064**	**78,320**	**568,348**

8. Additional Features of Transmission Line Sites

113. TL crosses mainly over agricultural production land of local people. Main plants in the project site include paddy rice, crops, Melaleuca forest, fruit trees etc. A small part is covered by cashew, eucalyptus, and grass (Figure 4*)*. Thus, the impacts on vegetation cover are insignificant.

The project crosses over about 2km long of the residential area. According to the field survey, on this 2 km length, there are 71 HHs with 7,805m^2 houses and 6,834m^2 breeding facilities under the ROW. In the subproject site, houses' structure is metal roofing/tile roofing, built wall, tiled floor/cement floor. Breeding facilities' structure under the ROW is mainly cottage roofing, built wall/bamboo wattle, cement floor/earth floor.

One section of the underground cable is located under the current earth road. Route direction of this underground cable runs parallel with the current Tham Luong - Ben Cat - Rach Nuoc Len channel (Figure 5).

There is also one section of other underground cable which is located under the bypass road running parallel with and lower than Binh Thuan bridge on Highway No.1A with the residential area on the right (and the current overhead transmission line, Figure 6).

Figure 4: Current plant cover in the project site **(overhead transmission line section)**

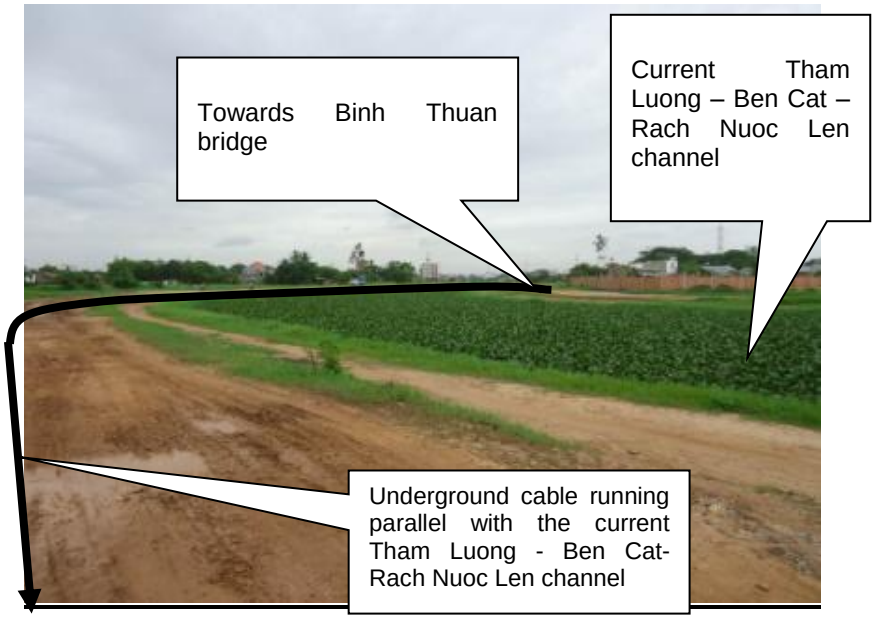

Figure 5**:** Current plant cover in the project site **underground transmission line section - underground cable)**

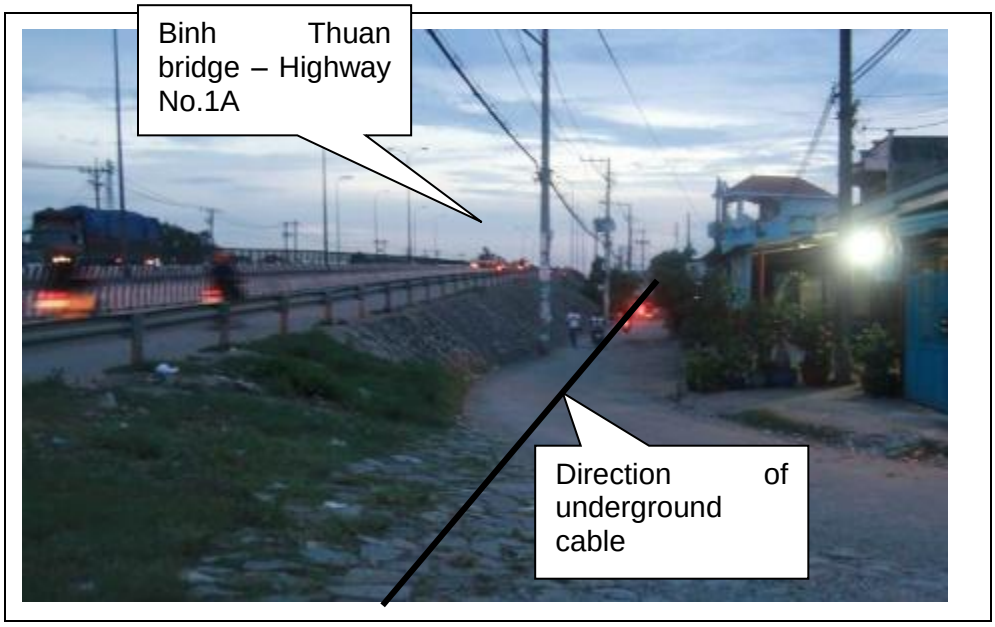

Figure 6. Direction of underground cable on the bypass road running parallel with and lower than Binh Thuan bridge on Highway No.1A

V. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

114. Assessment of potential impacts of the subproject is structured by the three development phases of the subproject: *pre-construction*, *construction*, and *post-construction (operational phase).* The subproject's items including underground cable section and overhead transmission line section are addressed within this assessment.

115. Potential impacts of common activities of the three phases can be addressed together to minimize impacts. Specific potential impacts to the subproject components will be discussed separately. This structure is used to establish the environmental management plan (EMP) that will be prepared for the subproject (Section X).

A. Subproject's benefits

116. The highest benefit of the subproject is to provide a necessary electricity to current and future load of Binh Tan precinct, Binh Chanh, Hoc Mon and Cu Chi districts – HCMC; provide stably electricity for the electric system in the Northwest of HCMC in order to support the urban, commercial, and industrial rapid development that is occurring. The additional electricity will significantly reduce power outage or brownout that occurs in the area.

B. Potential Impacts and Mitigation Measures during Pre-construction phase

a. ***Land acquisition and compensation***:

117. In the basic design stage, it defined permanently and temporarily acquired land areas for constructing the subproject. Total area of permanently acquired land for constructing the tower foundations is 18,616m^2. Acquired land area consists of paddy land, fruit tree land, Melaleuca spp. land,…of local people. Affected land area under the ROW is 56.83 ha. Temporary losses caused by the T/L construction activities include crops and trees cutting, not include land acquisition. This land area will be recovered and returned to the land owner after the subproject construction completion. The details of the land losses and compensation are found in the Resettlement Plan (RP) which is under separate volume.

Impact on houses/structures

118. There are no HHs must displace their houses/structures but there are 115 HHs with houses/structures under the ROW which must be upgraded their roof, wall and earthed. Number of HHs affected by the subproject is presented in the Table 20:

Table 20: Number of households with houses/structures affected by the subproject (for the overhead transmission line section)

Precinct/District	Commune/Precinct	Households having houses affected by the subproject	Households having structures affected by the subproject
Hoc Mon district	Tan Hiep commune	8	4
	Tan Thoi Nhi commune	1	
	Xuan Thoi Son commune	4	1
Binh Chanh district	Pham Van Hai commune	2	
	Vinh Loc A commune	2	7
	Vinh Loc B commune	78	
	Xuan Thoi Thuong commune	1	7
Total		96	19

Impact on trees, crops

119. The subproject must cut down some trees such as Acacia, Eucalyptus, Melaleuca spp. These tree types mainly grow naturally on unused land area with max. height of 30 – 35m in HCMC region. For Cau Bong - Binh Tan 220-110kV transmission line, designed height of tower is about 60m. In addition, according to the Decree No. 14/2014/ND-CP dated Feb. 26th, 2014 of the GOV, for 220kV voltage level inside the city/town/township, distance from any point of tree to the conductor when it is in calm state is not lower than 3m. Therefore only a few trees will be cut down in the conductor scatter process.

Mitigation measures

- Affected persons are informed ahead on the subproject implementation and participated in acquisition and inventory of land, consulted in compensation assistance
- Comply with the regulations of the Land Law 2013 and decrees, circulars, decisions on compensation, assistance and resettlement of the Government and Ho Chi Minh City People's Committee.
- Comply with the regulations of the Electricity Law, the Decree No. 14/2014/ND-CP and relevant regulations.
- Ensure compensation payment to be implemented clearly, openly and fairly in compliance with legal regulations. Estimated cost of compensation and assistance for AHs whose trees/crops will be cut by the subproject is proposed approximate 2.922.000.000 VND.
- Budget for compensation payment will be enough and available.
- Conduct design of tower height to minimize impacts due to crops and trees clearance.
- Construct completely each work item to minimize the duration of temporary land use for the project construction.
- Coordinate to address people's claims/grievances relating to compensation.

b. UXO clearance

120. In the project area, it may still exist UXO, thus if not implement UXO clearance, it may cause risks of worker's and people's life when conducting the project construction. The UXO clearance procedure: before preparing and clearing site for constructing the project, it is necessary to coordinate with the competent agency for UXO clearance in the proposed project area. Area of UXO disarmament is about 14.2ha.

* *The proposed guidance for UXO clearance is as follows:*

- Execution of demining and UXO is done following these steps:

  + Covering UXO detection and clearance area,

  + Clearing the grounds

  + Detection by the detector to a depth of 0.3m

  + Mark, digging test and resolve signal to a depth of 0.3m

  + Detect bomb by detector to a depth of 5m (put in step with high sensitivity)

  + Excavation, checked resolve signal to a depth of 3m

  + Excavation, checked resolve signal to a depth of 5m

- Note: before detecting UXO under wet fields, marshes pond with a depth <0.5 m, it is must to embankment and drain water to avoid remaining tidy UXO. When detecting UXO on terrestrial

land, warning boards and guard have to be arranged to avoid accidents due to entrance of people, animals or vehicles.

- Collecting, sorting, transportation management and destruction of mines and explosives are under strict safety standards for preservation, transport and use of explosives in TCVN 4586-1997, issued by Explosive Engineering Command Ministry, and the other current regulations.

- Competent unit shall be responsible to notify the Ministry of the military commanders in the province (Military Region 5) on the implementation mission: clearance location, construction schedules and staying time in the locality

c. Detailed design:

121. Impact: if the detailed design does not consider the environmental issues (e.g wrong site selection, not suitable construction technology, hazardous material use,..), the subproject can cause some negative impacts during construction and operation. Particularly, (i) Wrong subproject site selection can increase the chances of encroachment on cultural or natural sensitive sites if lacking of the carefully consideration; (ii) the subproject will severely affect to traffic on road and waterway during cable trench excavation (under HW No.1A,…), the transportation process of refused soil, materials, electric equipment,… if detailed design does not select method of optimal excavation, transportation, wire scatter,… for constructing the TL sections crossing over roads, HWs and canals.

122. Mitigation measures: During detailed design, Consultants have to consider the environmental issues for the design, specifically (i) Arrange transmission line direction to avoid cultural and historical heritages, and other sensitive areas. During the feasibility study, the project management board has to consult Department of Industry and Trade of Ho Chi Minh City, the DPCs of Binh Tan, Binh Chanh, Hoc Mon and Cu Chi and the CPCs where the project crossing over for agreement upon the location of the transmission line, (ii) select HDD method for construction of the underground cable sections through HW No.1A to minimize disturbance on traffic; (iii) design the depth to bury cable, the height to suspense wires of the overhead transmission line section for ensure electromagnetic field not affect to people's health. EO of PMB with the support from PIC will be responsible for reviewing detailed design of the subproject to ensure proposed mitigation measures included in the detailed design. Furthermore, after feasibility study was approved, the PMB will notify the local authorities and people of activities and schedule of the subproject so that they can organize their production and business suitably. PMB also coordinate in environmental protection monitoring, and notify the DoNRE the subproject commencement to complete requirements for the environmental assessment, and give permission and certificates for the subproject in the subproject implementation process.

***d. Bidding document establishment*:**

123. Impacts: if terms of reference content in the bidding documents of civil works and equipment supply exclude provisions for environmental protection, it will result in disturbance and pollution during construction and operation phases of the subproject.

124. Mitigation measures: State in bidding documents that contractor must have experience in EMP implementation, or provide staff with sufficient experience; bidding document and construction contracts have to include provisions that require contractors to comply with the mitigation measures proposed in IEE. The mitigation plan is organized into a series of mitigation sub-plans that address specific potential impact areas of the subproject. The sub-plans will assist the contractors with the development of their SEMPs as part of their bid documents, and ultimately will allow the EO/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. Therefore, EO of PMB have to ensure that the civil work contracts are included mitigation sub-plans of the EMP which are drafted for example for: a) trees and vegetation removal and Site Restoration, b) domestic waste from workers; c) refused excavated soil and other wastes; d) noise, dust, and exhausts; e) liquid wastes; f) construction and urban traffic; g) worker and public safety; h) cultural chance finds. Detailed environmental impact mitigation plan is presented in Table 15.

e. Construction site arrangement:

125. Impact: there are several impact sources such as disposal site selection, the planning of material transportation and storage facilities. (i) The selection of disposal site in city is more difficult than that in rural area because of high population density and lack of land area; disposal site will affect local land area and cause pollution for citizens living near the site if the selection process is not careful; (ii) Materials transportation will affect to air environment due to dust, exhausts. Stockpile and material gathering site can cause temporary acquired land and affect to people living near the site because of the movement of vehicles in and out the stockpile, and dust around the gathering site.

126. Mitigation measures*:* During construction site arrangement, (i) Selection of disposal site: disposal site will be proposed and selected by the PMB in next phase when having detailed design drawings. The PMB will be responsible for consultation with the local authorities to get their formal agreement and permission for this site before commencing the subproject. The PMB will require civil contractor to prepare a disposal plan. Based on this disposal plan, civil contractor will be responsible for contracting with specialized unit (e.g. HCMC Urban Environment Company Limited) to collect, transport and dispose the refused excavated materials to the permitted disposal site. PMB will be responsible for supervision and include this content in civil work contracts. (ii) Contractor will develop transportation plan for equipment and materials to reduce negative impacts, (iii) Contractor will arrange the temporary yards for stockpile and material gathering site within the tower foundation area or the ROW in order to avoid arising impacts due to land acquisition, (iv) Contractors will obtain the license for safety and environmental requirements of mobilized machines and vehicles.

C. Potential Impacts and Mitigation Measures during Construction phase

1. Potential impacts and mitigation measures for construction activities

127. Potential environmental impacts and mitigation measures of the subproject activities during the construction phase on the different environmental aspects are described as bellows:

a) Ambient air quality

128. Impacts:

- Noise, dust and exhausts generated by machines', equipment's and transportation means' activities; soil excavation of tower foundation pits of the overhead TL section; soil excavation of the underground cable section will impact on ambient air environment. These impacts are short-term and will be stopped when the construction is completed. Specifically:

- *Dust generated by soil excavation of tower foundation pits of the overhead TL section; soil excavation of the underground cable section:* Based on volume of excavated and filled soil, the concentration of diffused dust which is calculated at the distance of 80m from the excavated underground cable site equals 296µg/m^3 and at the distance of 90m from the excavated underground cable site equals 290µg/m^3 (these values meet the standard QCVN 05:2013/BTNMT < 300µg/m^3). Therefore, dust from soil excavation and fill for constructing civil works will not severely affect to air environmental quality. The calculation result of concentration of dust showed that outside of the scope of 80-90m far from the impact source, the residential areas near the site will not be affected. The impact will last 2 months during excavation for underground cable construction and 25 days during excavation for TL construction.

- Dust and exhausts such as NOx, SO_2, CO generated by construction machines' and equipment's, and transportation means' activities: everyday, there will be approximate 37 vehicles which will run on roads to transport workers, fuel, towers and other materials for civil works. They will emit dust and exhausts with the concentration of 47.1 mg N/m^3 (dust), 66.4 mg N/m^3 (SO_2), 638.5 mg N/m^3 (NO_x), 145.4 mg N/m^3 (CO), and 52.5 mg N/m^3 (VOC) lower than the allowable limits under QCVN 19:2009/BTNMT (column B), so impacts from this activity will be negligible. Dust and exhausts from vehicles will affect to ambient air environment in the construction site and along the transport roads (HW No. 1A, HW No.22, Tham Luong - Ben Cat-Rach Nuoc Len channel and roads near to the subproject site). The impact will be last 11 months during construction phase.

- Noise generated by construction and transportation activities: Noise will be generated by activities of machines, equipment and means such as truck, crane, bulldozer, excavator,… According to calculation results, noise generated by these machines, equipment and means will reduce lower than the allowable limit (70dB) at the distance of above 200m. The subproject area is far from the crowded residential areas. In addition the machines, equipment and means will be only operated in the daytime. Thus, noise impact is insignificant and short term. It impacts only on some households living along transport roads and near the construction site within the distance of 200m.

129. Mitigation measures:

- Construction units will frequently spray water at the construction sites and along the transport roads to minimize dust.
- All vehicles used for construction, and equipment and machines emitting noise, exhausts, fume will be maintained properly to minimize emission, and not operated at night if impossible to minimize noise.
- Contractors will ensure that transportation means, machines and equipment must have effective certificate of environmental standards achievement (QCVN 04: 2009/BGTVT and QCVN 05: 2009/BGTVT) issued by the register department before using for the subproject construction.- Construction materials (e.g., sand, gravel, and stone) that are transported by trucks will be covered by canvas.
- Temporary stockpiles/storage yards will be covered, or sprayed regularly to prevent dust and erosion.
- Reduce excavation and filling duration, and excavated soil will be used to fill right after complete work.
- Replace equipment, machines and vehicles causing large noise.

b) Water environment:

130. Impacts:

Sources causing impacts on water environment include domestic sewage and construction sewage.

- Domestic sewage: is generated by worker's life activities. Number of workers is about 65 people, thus domestic sewage volume generated is small, about 7.8m^3. Components of domestic sewage include residues, SS, organic matters (BOD/COD), nutrient matters (N, P) and micro-organisms. Workers live in the camp area. therefore domestic sewage generated will be collected in movable toilets. For this reason, impacts of domestic sewage will be mitigated, emission source can be managed and controlled.

- Construction sewage: includes mainly water pumped from the underground cable ditches and tower foundation pits, abundant water from concrete maintenance of tower foundation pits, abundant water from concrete mixing. Components of tower foundation pit

pumped sewage are mainly SS, mineral salt and organic matters washed from the ground surface, thus it can cause increase in the turbidity of surface water sources near to the subproject site. Sewage from concrete maintenance of tower foundation pits, concrete mixing only include SS without hazardous substances impacting on environment. Furthermore, the construction works will take place in dry season, so the volume of construction sewage will be small

Refused oil, lubricant and gearse; clouts with oil, grease, lubricant; waste sewage from washing machines, equipment and means with oil, gearse and SS will cause surface water source pollution if not collected and treated. According to research result of "Research of refused lubricant, oil recycle into liquid fuel" conducted by military science and technology center – Ministry of National Defense in 2002, the average volume of oil, lubricant refused from construction machines and vehicles is 7 liters for every changing time. Period for changing lubricant and maintenance is 3÷6 months depending on machines' and vehicles' intensity of activity. With about 45 types of machines and vehicles, construction duration of 11 months, volume of refused oil and lubricant is about 630 litres.

131. Mitigation measures:

Water environmental impact mitigation measures include:

* For domestic sewage: Hire local people's houses for workers' stay. Only construct camps for the TL sections far from the residential areas. In the case worker camps need to be built, provide mobile toilets with septic tanks to locate at the workers' camps. Periodically hire competent unit to collect toilet waste according to regulations. Construct preliminary wastewater treatment system to treat domestic wastewater before discharging into water bodies.

* For construction sewage:

- Arrange construction sewage collection holes for depositing SS before wastewater flows into surface water sources. The detail for technical specification for these holes is depended on each tower foundations or each excavated holes. The common dimensions can be 0.5mx0.5mx0.4m (height x wide x deep).
- Make an earth dyke to prevent construction wastewater flows directly to the water bodies or create a vegetation buffer zone along lake/pond/river to treat preliminarily construction wastewater before discharging into water bodies
- All the reparation and, maintenance of machines, equipment and transportation means will be implemented at garages not in the construction sites. Refused oil and gearse, waste sewage from washing machines, equipment and means, clouts with oil, grease will be collected and treated at these garages as stipulated.

c) Soil environment:

132. Impacts: Sources causing impacts on soil environment include: impacts due to domestic and construction solid wastes, and impacts due to tree clearance under the ROW causing soil erosion.

- Impacts due to domestic solid wastes created by workers' daily-life activities. The number of workers is about 65 people. Thus, domestic solid waste volume is small, about 19.5 - 26kg/day and it can be controlled. The composition of domestic solid wastes includes: organic matters, plastic, paper, glass and other inorganic matter, of which organic matters are accounted for the main part. The domestic solid waste can contain pathogenic bacteria/viruses that are harmful for human health and domestic animals. Therefore, it is necessary to collect and treat rubbishes effectively.

- Impacts due to construction solid wastes created by construction activities. These wastes include: refused filled and excavated soil and rock, fallen materials; empty cement sacks, wooden barrel used for packaging equipment and devices, clouts etc.

+ Excavated soil volume is proposed to be 28,293m^3. Consideration will be given to reuse and salvage materials, e.g. excavated soil may be used on refilling the tower foundations. Volume of reused excavated soil of the subproject is about 9,962 m^3. The remained excavated soil that cannot be reused will be collected, transported to the permitted disposal sites and treated according to regulations.

+ Refused construction materials, empty cement sacks, steel, lubricants, fuels, and wood debris will be generated during the construction process. Packaging materials such as wooden barrel, plastic, foam, cardboard boxes used for equipment and devices, electrical parts will also be generated.

+ Oil may be leaked from machines and equipment during operation and maintenance activities or from changing fuel and lubricants. These can cause soil pollution.

- Impacts due to tree clearance: During the subproject construction, it only cut down trees within tower foundation construction sites, within the scope of lines for scattering and pull conductors, and some trees its height exceeds the allowable limit under the Decree No. 14/2014/ND-CP. Thus volume of trees cut down is insignificant. However, this still can cause increase in soil erosion.

133. Mitigation measures:

Soil environmental impact mitigation measures include:

- Hire residents' houses for workers' staying. Camps are constructed only for the TL sections that are far from the residential areas.
- Contractor will set up dustbins for collecting rubbish at the worker camp sites. Then hiring HCMC Urban Environment Company Limited to collect, transport for treatment as regulations.
- Only cut down trees within the defined scope (under the ROW and some trees out of the ROW which may be impact on the safety of the TL). Salvage branches, trunks of trees cut down for fire. The remaining part of trees cut down and can't be salvaged will be collected and treated like rubbish.
- Cut trees just before construction starts to avoid bare land for a long time, to reduce soil erosion and run-of due to rain.
- Earthworks will be conducted during dry periods.
- Utilize salvage excavated soil, rock for filling cable trench, solidating tower foundations according to excavation and filling balance method.
- For excavated soil which cannot be reused, it will be collected and transported to the disposal site agreed by the local authorities through consultation with them.

Selection of disposal site: disposal site will be proposed and selected by the PMB in next phase when having detailed design drawings. The PMB will be responsible for consultation with the local authorities to get their formal agreement and permission for this site before commencing the subproject. The PMB will require civil contractor to prepare a disposal plan. Based on this disposal plan, civil contractor will be responsible for contracting with specialized unit (e.g. HCMC Urban Environment Company Limited) to collect, transport and dispose the refused excavated materials to the permitted disposal site. With proper collection and disposal procedures, the generation of construction wastes will have minimal impact on environment. IA will be responsible for including these requirements in the contract documents.

- Collect, salvage materials such as steel pieces, cement sacks, wooden barrels, etc. to reuse or sell. For other construction materials which can not be reused, it will be collected and transported to the disposal site for burying along with rubbish.
- Hazardous wastes such as paint containing can, clouts with oil and grease, failed fluorescent lamp, etc. must be collected into tanks and kept temporarily at the construction site, then hiring competent unit for transporting to treat in accordance with current regulations.
- Compact at places with soil filling and excavation activity to mitigate soil erosion and washing.
- Completely finish each work item before start other one. Conduct site cleaning, leveling and compaction after construction completion to return the ground for local people to continue their production or grow trees on the site.
- Present and past land use will be reviewed to assess whether excavated soils are contaminated. If any, contaminated soil should be treated, disposed at a disposal area or a location approved by the DoNRE.

d) Landscape

134. Impacts:

The subproject's land use will not impact on general landscape of the localities because PO have consulted with the local authorities, especially Department of Planning and Investment, to select the optimal environmental-friendly alternatives of the subproject location which will be appropriate with the local planning. However, impact on landscape at particular positions (around subproject site) can be caused by excavation and fill activities. This impact is only temporary in the construction time (about 11 months).

135. Mitigation measures:

- Only cut down trees at the tower foundation construction locations, within the lines of wire pull and scatter, and trees (both within and out of the ROW) with height exceeded the allowable limits and may impact on the TL safety to mitigate landscape change.
- Clear, level, compact and return the impacted locations (underground cable section under streets, and tower foundations) to the initial status right after finishing construction

e) Ecological environment

136. Impacts: Flora: vegetation species impacted by the subproject is mainly artifical forest trees (indigo, eucalyptus), some coconut-palm, fruit trees, paddy and crops of local people. Thus, vegetation clearance will not impact on biodiversity of flora system here. Forest trees (indigo, eucalyptus) that will be proposed to cut down are presented in Table 21:

Table 21: Forest trees proposed to cut down by the subproject

No.	Type of forest tree	Unit	District				Total
			Binh Tan	Binh Chanh	Hoc Mon	Cu Chi	
1	Eucalyptus	m^2	-	51	-	-	51
2	Indigo	m^2	-	141,235	44,560	2,150	187,945
Total		**m^2**	**-**	**141,286**	**44.560**	**2.150**	**187,996**

- The TL crosses over eucalyptus and indigo plant land of local people (artifical forest land), thus it can occur surrounding forest fire if workers do not use carefully fire during construction of tower foundations, and scater and pull of wire. It can cause forest loss or reduce

number of trees.- Fauna (wild animals): According to survey, there are no endangerous and rare wild animal species in the subproject area. There are some common species such as birds, mouse, snakes etc., that live near people and be acquainted with noise, so they will be little impacted when the subproject implements. During the construction process, they will move far from the construction site. After the construction completion, the TL is put into operation, they would come back to this area to live.

137. Mitigation measures:

- Only cut down trees at the tower foundation construction locations, within the lines of wire pull and scatter, and trees (both within and out of the ROW) with height exceeded the allowable limits and may impact on the TL safety to mitigate landscape change.
- Use manual method to clear plants. Not use herbicide for plant clearance.
- Completely construct each work section before start the new one. Arrange construction after harvest to reduce impact on people's porduction and reduce temporary acquisition time.
- For works used temporarily land for constructing the subproject, after completing the construction, this temporarily acquired land will be cleared, leveled, compacted to return to the innitial condition. Local people can continue their production at limit level as stipulated at the Decree No.14/2014/ND-CP (People can grow trees, their max. height ensure that the distance from the vertical highest point to the height of the lowest wire at max. deflection status is 3m or above 3m for 110kV voltage level and 4m or above 4m for 220kV voltage level, and at least 0.5m far from the tower foundation (for paddy and crops).
- The PO in coordination with the local authorities to monitoring the tree cut down and clearance in the area where the locality manages.
- Require construction unit to propagandize, train workers on prevention measures from forest fire; Strictly control fuel-fire and fire use of workers during the construction process to avoid illegal forest exploitation and forest fire occurence during the process of tower foundation construction, and wire pull and scatter through forest.
- Set up safety signs on forest fire prevention at every foundation construction position where the TL crosses over.
- Apply adequately fire fighting and protection requirements during installation and construction to avoid forest fire. Set up rules, fire forbidding signs in places where fire is forbidden, or near combustibles. Forbid arc welding, gas welding in areas where there is gasoline, flammable substances. Forbid the use of electricity for regulated cooking.
- Contractor is responsible for establishing rules on fire fighting and prevention. Arrange necessary tools and means for firefighting as stipulated.
- Closely coordinate with forest owners to prevent illegal activties of workers on forest during construction.
- The PO is legal responsible for the occurrence of forest fire during the construction process.
- In case forest fire occurrence, stop all works to forcus workforce, tools and means on fire fighting. Inform immediately to firefighting police, local authority and people for coordinating firefighting. The PO will be responsible for all cost of firefighting and forest recovery.

- Reforestation forest to replace the acquired forest area after the completion of construction as stipulated at the Decree No.23/2006/NDD-CP and the Circular No.24/2013/TT-BNNPTNT. The reafforestation area is as in Table 22:

Table 22: Reafforestation area to replace the forest area acquired by the subproject

No.	Locality	Reafforestation forest area to replace the required forest area (ha)
1	Binh Tan district	0
2	Binh Chanh district	14,585
3	Hoc Mon district	4,574
4	Cu Chi district	0,231
	Total	**19,39**

For the reforestation task, the project owner need to choose one of two methods as stipulated in Circular 24/2013/TT-BNN dated 06/5/2013 of MARD regulations on reforestation when changing the purpose of land use from forest to others. They are:

- Project owner prepares reforestation plan to comply with regulations on implementing afforestation defined in the Circular 24/2013/TT-BNN then submits to the provincial People's Committee of HCMC for approval,
- In case the project owner can not implement the reforestation activity, they can select the option of payment to the central Fund of Forest Protection and Development. This Department will organize the reforestation activity for them. and the project owner needs to make sure to comply with the provisions in Item 3 and 4, Article 6 of Circular 24/2013/TT-BNN.

f) Other underground works:

138. Impacts: the subproject has 3,485m long of the underground cable section. According to survey, the subproject will run near to or cross over the local existing underground drainage system on HW No.1A (crossing over local drainage box culvert 8 times). In addition, it can also cross over underground cable ditch of other TLs, underground information cables. Thus, ditch excavation for underground cable can cause impacts/failures on the existing other underground works such as drainage pipe break, underground cable ditch or cable break of other TLs, information cable break...impacting on people's life and production activities.

139. Mitigation measures:

- Collect information/data about existing underground works within the underground cable section site.
- Contractor establishes emergency risk/failure response plan such as pipe break, underground cable ditch or cable break of other TLs, information cable break,...(if any).
- Ensure safe distance to existing underground works (if any) when conducting the underground cable section construction. Prepare underground cable construction alternative at the locations where the underground cable section crosses over the existing underground works to ensure safety for these works.
- For construction of the underground cable section at locations where the underground cable section crosses over local existing drainage box culvert, mitigation impact measures are as follows:

- Excavate cable ditch at inter-cross location by manual method in compliance with design drawing.
- Consolidate banks of cable ditch section crossing over drainage culvert by Larsen piles to avoid landslide.
- Consolidate temporarily the existing drainage box culvert.
- If the underground cable ditch crosses over the existing underground drainage box culvert at its junction, it need consolidate that junction location.
- After the underground cable ditch completed, it must be recovered the initial status immediately to avoid landslide for drainage box culvert.
- During construction of the underground cable section at locations where the underground cable section crosses over local existing drainage box culvert, if any extraordinary, the contractor must be stopped construction and inform to the relevant units (the PO, Consultant,…) to check and treat.

g) Quality of road and traffic activities:

140. Impacts:

- Impacts on road traffic: The underground cable section runs under HW No.1A. The overhead TL section crosses over roads 20 times, of which it crosses over Thanh Nien road 1 time, HW No.22 1 time and access road to Cau Bong 500kV substation 1 time. Therefore, excavation for the underground cable section, construction, transportation of construction materials, wire scatter and pull of the overhead TL section can cause existing road surface and foundation collapse (access road to Cau Bong 500kV substation, HW No.1A, HW No.22, inter-commune roads, inter-village roads,…), increase in the quantity of transportation means on roads, increase in traffic jam and increase in risk of traffic accidents. Time for pulling wire to cross over road at the inter-cross locations is within one day, the underground cable construction will be completed every part and finished before 5.00 am every day, asphalt will be poured within 24h to ensure traffic activity of vehicles. Thus, impact on traffic activities is accessed at medium level.

- Impact on waterway traffic: According to survey, some TL sections cross over canals without waterway traffic, except Xang canal (the TL crosses over Xang canal 2 times). On Xang canal, there are some small boats, canoes occasionally. Thus, wire pull and scatter will only impact on small boats', canoes' traveling on Xang canal and at insignificant level. Impact time is short, only in the daytime when conducting wire pull and scatter.

141. Mitigation measures

- Prepare implementation alternative for the TL at every inter-cross location.
- Contact with management unit of the roads for coordination to ensure construction safety and uninterrupted traffic activities.
- Arrange reasonable work to avoid traffic obstacle.
- At the locations where the overhead TL section crossing over the roads, it need to set up scaffolding during wire scatter and pull process.
- Set up signal light when constructing at night.
- Put up warning boards at dangerous road sections where traffic accidents can occur.
- Speed limits should be posted and adhered to by transportation means serving the subproject construction.

- Limit transportation of materials in rush-hours to avoid traffic jam.
- Transport materials with the allowable load. Not expand trucks' body.
- Conduct road upgrading or repairing if collapse occurs due to the subproject construction.
- For the underground cable section under the roads (HW No.1A,…): the HDD excavation method will be used if necessary, especially the underground cable section runs under HW No.1A. The warning boards will be set up at the distance of 200m at the heads of the construction site, and/or fence around the open cable ditch and tower excavation pits to avoid risk of accidents.
- Clear soil and construction materials on road surface; level, compact, recover and return the initial status of the roads just after completing the construction.
- For waterway: conduct warning measures as regulations on waterway safety when conducting wire pull and scatter to cross over Xang canal. Specifically:
    - Inform time of wire pull and scatter to cross over Xang canal to local authority and people.
    - Put up warning board at two heads of the TL section where wire will be pulled and scattered.
    - Height of the suspended conductor of this TL section must be ensured as regulation on waterway safety.
    - Complete wire pull and scatter as quickly as possible and only within the daytime to reduce boats' and canoes' traveling obstacle.

h) Other TLs and communication lines

142. Impacts: According to survey, the TL will not cross over any communication lines, thus there is no impact. The TL will cross over low, medium and high voltage TLs 23 times, of which it crosses over Cau Bong – Phu Lam 500kV TL 2 times. Thus, wire pull and scatter at locations where this TL crosses over other TLs, power of those TLs may be cut off. However, time for wire pull and scatter is short and only during the day, therefore power will be only cut off in each local area at specific time. Impact is assessed insignificantly.

143. Mitigation measures:

- Coordinate with management unit of the TLs to cut off power to ensure safety during wire pull and scatter process at the inter-cross locations if any.

- Inform people for their life and production arrangement before cut-off power.

- Put up scaffolding during wire scatter and pull process. Put warning boards. Have protection measures to prevent impact on other TLs. Ensure safety distance to those TLs.

i) Occupational health and safety of workers

144. Impacts: Construction activities may cause health harm and danger of the workers' lives, specifically: i) Workers can get some disease due to unhygienic condition of worker camp; ii) Accidents can be happened during operation of machines, vehicles or working at height; iii) Traffic accident during transportation of facilities, materials for construction of the subproject; and iv) Electric shocks during connecting and test electric with the existing substations.These impacts last during the construction phase and will stop when the subproject construction phase finishes.

145. Mitigation measures:

- Health and safety plan (HSP) will be prepared and implemented by the contractor.

- All workers will be examined health, especially people working at height, and equipped sufficiently labor protection tools such as hard hats, safety gloves, safety belt, ear protection etc. This must be strictly imposed.
- All construction equipment, tools will be carefully examined for quality and quantity before used. For people working at height, the suspending cables will be carefully checked before climbing on the tower; no work at height will be permitted when it is going dark; it has fogs; it has strong wind with above class V. Workers who climbs on towers must have Safety Certificate of Class 3 or above, and sufficient conditions for working at height. Safety belts will be attained use standard of the nearest inspection, not exceed over 6 months. During movement and working at height, workers will wear safety belts and the safety leather belts must be tightly tied with the tower.
- Carefully check boom guy, cable clip before load heavy objects.
- For tower foundation excavation:
    - Strictly implement safety measures while excavating tower foundation pits.
    - Apply measures to consolidate the slope of tower foundation pits in dangerous positions during construction;
- Use suitable means of transport. Check the load of the vehicles before use, fasten and comply with safety regulations on transportation.
- Strictly comply with safety norms for installation of electrical equipment and relative regulations.
- Workers conducting transport and installation of electrical equipment must understand regulations on installation and transport safety of electrical equipment.
- Use specialized tools and devices to anchor, fasten electrical equipment during movement and installation process. Not use steel wires, cables, chains to tie the insulation parts, the connectors of the base holes.
- Before switching on power to test the power grid and electrical equipment, it must stop relative all works and people not on the duty must go out of the danger area.
- Fuse of the electrical networks connected to electrical equipment which will be installed must be disconnected during the connection time. Fuse is only closed to adjust the equipment after everyone is in a safe location.
- All towers, steel structures and equipment must have earthing system.
- Contractors will prepare emergency measures on time. When accident occurs, conduct in-site first aid, then quickly drive the wounded to hospital for treatment. It must keep a phone number of the nearest hospital to call ambulance. Besides, it must be equipped medicine cabinet for aid.
- As existing commune health services is unable to accommodate additional patients from the construction workforce, the contractor will be required to provide first-aid facilities for the workers. At least one trained first-aid worker should be available at each construction camp.
- PMB will be responsible for including these requirements in the contract documents.

J) Community health and safety:

146. Impacts:

Subproject construction would cause impacts to community health and safety as followings: i) Accidents due to increased traffic activities from the transport of materials; ii) Fires,

emergency spills of materials; iii) Accidents of residents if they enter e into work areas without permission, for example, falling into holes, electric shock during testing electric, etc. These impacts are insignificant and short-term, they occur only in the construction phase (about 11 months) and will stop when the project construction finishes.

147. Mitigation measures:

To mitigate these potential impacts, the civil contractor will develop a community health and safety plan (CHSP) that incorporates good international best practice and recognized standards. The CHSP should include emergency response and preparedness procedures to be developed in close consultation with potentially affected communities and local authorities. The plan should include specific emergency response procedures, communication systems and protocols, interaction with local and regional emergency and health authorities, provision of emergency equipment and facilities such as fire truck, emergency service vehicles,…. The CHSP should also include the requirement for the erection of safety barriers either as tape or fencing as determined by the risk to prevent unauthorized access to the construction areas. Warning signs around sites are to be printed clearly in Vietnamese language.

- Set up warning boards on all high voltage towers to warn people not to be in contact with them.
- Installation of lightning protection systems in all towers as stipulated. Paint color (as defined) on tower with the height of 50m and above.
- When fire occurs due to electricity, first notice immediately to authorized unit to cut off power, then comply with the procedures of fire fighting.
- Check periodically trees outside the ROW which may potentially affect to the safety of the tower.
- Coordinate with the local government of district and commune to propaganda and disseminate knowledge about safety of the ROW to communities living near areas where the TL crosses over.

Implementation of these measures will be the responsibility of the contractor. PMB will be responsible for including these requirements in the contract documents.

k) Social aspect:

148. Impacts: Concentration of workers (65 people) in the subproject site can cause disorder and insecurity, disturbance in the locality due to conflicts between workers and local people, social evils; increase infectious diseases generation etc. These impacts are insignificant, short-term, only occur in the construction phase (about 11 months) and will stop when the project construction finishes.

149. Mitigation measures:

- Local labors will be hired as much as possible to prevent or minimize influx of migrant workers, and incidence of social diseases and community chaos.
- Examine periodically workers' health.
- Manage and educate workers to enhance their awareness of environmental sanitation and health protection .
- In order to minimize the risk of injury to the local residents and the workers, it needs to comply with the GOV's regulations on Occupation, Safety, and public health, or the World Bank's Environment, Health, and Safety Guidelines (2007) that govern the safe and orderly operation of civil works should be followed.
- Equip medicine cabinet for protecting workers' health in time.

- Establish the specific food safety regulations for construction workers.
- Construction units will implement temporary residence registration and provide accurate information about the quantity and stay time of all construction workers to CPCs within the project area during the construction phase. They should also establish the relationship with the local authorities to discuss and take decisions necessary for their management.
- Require workers not to take part in or cause social evils; any contravener shall be strictly treated in accordance with laws.
- Establish rules in camp. Propagandize, educate workers and create good relations with local people in order to avoid conflicts arising. HIV/AIDS education should be given to workers.
- Require workers to respect and not to violate the cultures, habits and customs, religious beliefs, historical and cultural parks, pagodas, and temples in the localities.
- Make a good relationship and proper coordination with the local authorities to manage their workers.

2. Protected areas, rare and precious species, and cultural resources

150. Cau Bong - Binh Tan 220-110kV transmission line is not located in any protected area without rare, precious and endangered animal/plant species. Chances of detection of valuable relics and cultural values will be anticipated by contractors, especially during excavation process. When detection of valuable relics and cultural values, stop immediately all work, untouched to anything of them. And EA/IA informs the authoritized agency (DoCST) to determine their value and treat appropriately. Work at the found site will be stopped until DoCST allows to be continued working.

3. Repair, restore, and return the ground after construction completion

151. Repair, restore, and return the ground after construction completion need to implement to mitigate impacts on environment after construction. The activities and measures are:

- Repair, recover, and return the road sections, culverts, drainage system and public infrastructures damaged by the subproject construction.
- Clear, level and restore the ground after construction completion. Grow trees in temporarily acquired areas.
- Grow trees in temporarily acquired areas.

D. Potential Impacts and Mitigation Measures during Operation Phase

152. Potential impacts on different environmental/social aspects and mitigation measures associated with the activities during the operation phase of the subproject are described as follows:

a) Ecological environment

153. Impacts:

During the operation phase, the process of periodic maintenance and repair of the TL, branches and tops of the trees violating the TL safety inside the ROW, and trees outside the ROW with the risk of falling down or branches affecting to the ROW must be trimmed and cut down. According to the survey result, the transmission line mainly crosses over eucalyptus and indigo artifical forest land, some coconut-palm, paddy and crops land. Therefore, after the TL is come into operation, the cutting of branches and/or top of trees in the maintenance and repair process will have little impact on biodiversity of ecological environment.

After the construction is completed, and the TL is come into operation, people are allowed to cultivate again within the ROW area, but to a limited extent under the Electricity Law, Decree 14/2014/ND-CP to ensure safe operation of the transmission line.

154. Mitigation measures: Cut down only trees and branches which will get risk of the safety of the transmission line as specified in the Decree No. 14/2014/ND-CP of the Government dated February 26th, 2014. Take care of plants inside and outside the scope of the ROW are as follows:

Trees, crops in the ROW: According to Decree No.14/2014/ND-CP, rice and crops must be away from electric tower foundations at least 0.5m. Trees can be grown within the ROW but the vertical distance from the highest point of tree to the height of the lowest conductor of 110kV transmission line while in maximum deflection state must not be less than the distance from the following regulations:

For the transmission line outside city, town, the vertical distance from the highest point of the tree to the height of the lowest conductor while in maximum deflection state must not be less than 3.0 m for 110kV voltage level and 4.0m for 220kV voltage level.

Trees outside the ROW:

In case where there are trees outside the ROW of the overhead transmission line and outside city, town, the distance from any part of the fallen tree to any part of the transmission line must not be less than 1.0m for 110kV and 220kV voltage level. For valuable trees growing rapid in the short term with the risk of causing unsafety for the TL, they must cut down and forbid to be grown newly in order to not impact on economic effect.

- It will be not allowed to cut down or trim trees and branches of trees which locate outside the ROW without affecting to the safety of the TL during operation.
- Use manual method to clear plants. Not use herbicide for plant clearance.
- Trees and branches of trees which are cut down will be collected by local people for firewood or the operation agency will contact to local authorities to collect, transport and handle them as stipulated.
- Recommend local people to grow trees theirs height meets the requirements of height as stipulated. Local people will not be allowed to grow valuable trees growing rapidly and their height might exceed the allowable limits, affect to the safety of the TL.
- Propagandize, train operation workers on prevention measures from forest fire; Strictly control fire use of operation workers during the TL maintainenance and repair process to avoid forest fire occurence.
- Apply adequately fire fighting and protection requirements during installation and construction to avoid forest fire. Set up rules, fire forbidding signs in places where fire is forbidden.
- Operation unit is responsible for establishing rules on fire fighting and prevention. Arrange necessary tools and means for firefighting as stipulated.
- Be legal responsible for the occurrence of forest fire during the maintainenance and repair process.
- In case forest fire occurrence, stop all works to forcus workforce, tools and means on fire fighting. Inform immediately to firefighting police, local authority and people for coordinating firefighting. The PO will be responsible for all cost of firefighting and forest recovery.

b) Occupational health and safety of the workers during the TL periodic maintenance process:

155. Impacts:

The occupational health and safety issues during the operation of high voltage TL include electrocution risk due to exposure to high voltage systems when maintaining and repairing the TL or living under the ROW; accident risk due to working in heights; potential exposure to electric and magnetic fields when maintaining and repairing the TL or living under the ROW. Other accidents that may occur include lightning, fire and explosion, tower collapse.

- Exposure to high voltage systems: Workers may come in contact with power lines/equipment during the maintenance and repair of the facilities and electrocution from direct contact with high-voltage electricity is a hazard directly related to facilities.
- Working at height: Accidents may occur when working at height. However, a working safety plan may be implemented to reduce risks that include testing of structural integrity prior to proceeding with the work and the use of fall protection measures.
- Exposure to electric and magnetic fields (EMF): Typically, workers repairing and maintaining the TL have higher exposure to EMF than community because of working in close proximity to electric power equipment.
- Impact of EMF on operators when conducting the TL maintainenace and repair is follows:
- For the overhead TL section:

Under the Decree No. 14/2014/ND-Cp dated Feb. 26th, 2014 promulgated by the GoV, working time at place with EMF is regulated as in Table 23:

Table 23: EMF intensity and allowable limits of working time during one day

EMF intensity (E) (kV/m)	< 5	5	8	10	12	15	18	20	20 <E<25	≥25
Allowable limits of working time during one day (minu.)	Not limited	480	255	180	130	80	48	30	10	0

Operators of the TL are arranged to work in shifts, crews ensuring working time as stipluated, ensuring time for contacting with EMF. Thus EMF will not impact on operators' health.

- For the underground cable section: risk of negative effects to health due to electromagnetic fields caused by the operation of the underground cable section is essentially zero, but also not affirm because negative effects to health due to electromagnetic fields have not been proved by the medical profession.

156. Mitigation measures:

HCMC high voltage Company will be follow the IFC (2007) and EVN guidelines when carrying out maintenance of the transmission line. Some of prevention and control measures when working with electrical systems are:

- Restricting access to electrical equipment, except workers who are trained and certified to work on electrical equipment. Properly limit time for contacting with EMF for trained workers.
- Adherence to electrical safety standards.
- Proper grounding transmission line.
- Provision of PPE for workers, safety measures, personal safety devices, and other precautions during maintenance work or if working in close proximity to the TL.

Follow safety measures when working at height during maintenance and repair the TL, particularly:

- All workers will be examined health for working at height, equip sufficiently labour protection tools and cloths.
- Workers who climb on towers will have Safety Certificate of Class 3 or above and sufficient conditions for working at height. Safety belts will be attained used standard of the nearest inspection, not exceed over 6 months. During movement and working at height, workers will wear safety belts and the safety leather belts must be tightly tied with the tower.
- All equipment, tools and means will be carefully examined for quality and quantity before used. It should carefully check the suspending cables before climbing on the tower.
- Not permitted to work at height when it is going in night; it has fogs; it has strong wind with above class V.

Occupational EMF exposure will be minimized through the implementation of an EMF safety program that includes:

- Identification of potential exposure levels in the working area including survey of exposure levels and establishment of safety zones
- Properly limit time for contacting with EMF for trained workers as stipulated and those equipped with appropriate PPE when entering safety zones.
- Utilization of personal monitors during work activities.
- Post safety signs and warning signs.

In addition, in the operation phase, training for workers will be conduct so that worker can respond to risks/failures and meet the operation procedures. An emergency and safety guideline will be prepared and disseminated to the workers for handling risks/failures occurring in the operation process, e.g risks of electric shock, fire, explosion, tower collapse. Coordinate with the local authorities at commune, district levels to propagandize, disseminate knowledge of safety of the ROW to communities and residents living near the T/L. Equipment maintenance areas will be located away from the residential areas.

c) Community Health And Safety

157. Impacts:

Electric shock risk: the community can be exposed to electric shock hazards as a result of direct contact with high voltage electricity or from contact with tools, vehicles, or other devices that come in contact with high-voltage electricity.

Exposure to Electromagnetic Field (EMF): The transmission frequency commonly used in transmission systems ranges from 50 Hz - 60Hz which is considered to be an extremely low frequency (IFC, 2007). Effects reduce with distance and electric fields also become shielded by trees, buildings, and other materials that conduct electricity. In general electric fields are the strongest close to the source and diminish with distance.

The subproject will be designed and constructed in compliance with regulations on technique and high voltage network, EMF must be ensured ≤ 5kV/m at any point outside the houses at the height of 1m from the ground and ≤ 1kV/m at any point inside the houses at the height of 1m from the ground. Furthermore, according to observation results, EMF intensity of Thu Duc – Xa Lo 110kV TL, section under the intervals between tower 21 – tower 22A, Nguyen Huu Canh st. is 0.12 kV/m and Hoc Mon – Hoa Xa 220/110kV TL, section under the intervals between tower 6 – tower 7, Le Van Khuong st. is 0.22 kV/m. All these observation results of EMF intensity are lower than the allowable limits (≤ 5kV/m). So impact on local people caused by forcasted EMF of this subproject will be insignificantly.

158. Mitigation measures:

To prevent electrocution risk, HCMC high voltage Company will implement the following:

- Conduct earthing for the TL, especially all towers.
- To ensure absolute safety, operators must comply with operation procedures and safety requirements;
- Provision of warning signs and anti-climbing devices on all towers.
- Periodically check the distance from wire to the ground and/or other objects as stipulated. Monitor minimum approach distances for excavations, tools, vehicles, pruning, and other activities when working around the TL.
- Check earthing system of buildings under the ROW as stipulated. Ensure that any new buildings within the 72 m-wide earthing zone are earthed.
- Observe/Test EMF at resident's buildings for treating appropriately if any complaint.

To prevent impacts of EMF: The World Health Organization (WHO) reported that there is inconclusive evidence about substantive long-term health issues related to radiation emanating from low frequency electric fields at levels generally encountered by members of the community. Potential health effects associated with exposure to EMF is not well-established due to lack of empirical data demonstrating adverse health effects. However, the community will be warned about the safety distances from the transmission system and power lines through warning signs and the restrictions on erecting any houses or buildings within the ROW and earth zone are to be enforced by operation unit.

d) Climate change

159. Regional and Global climate change modeling project showed that climate change induced changes to the frequency and severity of rainfall events in the subproject area. Design of Cau Bong - Binh Tan 220-110kV transmission line considered and calculated floods due to storms with the frequency of P=2%.

VI. GRIEVANCE REDRESS MECHANISM

160. A well-defined grievance redress mechanism will be established to address the APs' grievances and complaints regarding the 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 effective information dissemination. Grievance redress mechanism and appeal procedures will also be explained in a subproject information booklet (PIB) that will be disseminated to all APs.

161. APs are entitled to lodge complaints regarding any aspect of the affected environments, land acquisition and resettlement, problems such as, noise, pollution, entitlements, price 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 grievance committee will be responsible for make a written record during the first meeting with the APs.

162. An appointed grievance committee with environmental and social issues will be set up in the local communes comprising of the local leaders. The designated communal officials shall exercise all efforts to settle the APs' issues at the commune level through appropriate public consultation. All meetings shall be recorded by the grievance committee and copies shall be provided to the APs. A copy of the minutes of the meetings and actions undertaken shall be provided to the EA/IA, and ADB as requested.

163. Procedures for grievance redress is defined as below and summarized in Figure 2. Procedures described below should apply easily to both social and environmental issues and be consistent with the legal procedures for grievances/disputes resolution in Viet Nam.

i. Stage 1: APs can lodge their grievance/complaint verbally or in written form to the Contractor/SPMB because initial environment issues will be most likely be construction-related. The Contractor/SPMB is responsible for receiving, discussing, negotiating with the APs to solve their grievance/complaint 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.

ii. Stage 2: If no understanding or amicable solution can be reached or if no response is received from the Contractor/SPMB within 15 days from filing the complaint, the APs can elevate the case to the Ward/Commune People's Committee (CPC). The CPC wil respond within 15 days upon receipt of APs complaints. All meetings shall be recorded and copies of the minutes of meetings will be provided to APs.

iii. Stage 3: If the AP is not satisfied with the decision of the Grievance Committee within 15 days since the date of submitting complaints, or in the absence of any response, the APs can appeal to the Precinct/District People's Committee (DPC). The DPC will respond within 15 days from the day the complaint is received.

iv. Stage 4: If the AP is still not satisfied with the decision of the District Office 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 People Committee (HCMC People' Committee). HCMC People' Committee will review and issue a decision on the appeal within 15 days from the day the complaint is received.

v. Stage 5: If the AP is still not satisfied with the decision of the HCMC People' Committee or in the absence of any response within the stipulated time, the APs, as a last resort may submit his/her case to the Court at City level. The court will address the appeal by written decision and submit copies to the respective entities which include the EA, PPC, DPC, CPC and the APs. If, however, the AP is still not satisfied with the City Court's decision, the case may be elevated to the court at higher level (the Higher Court).

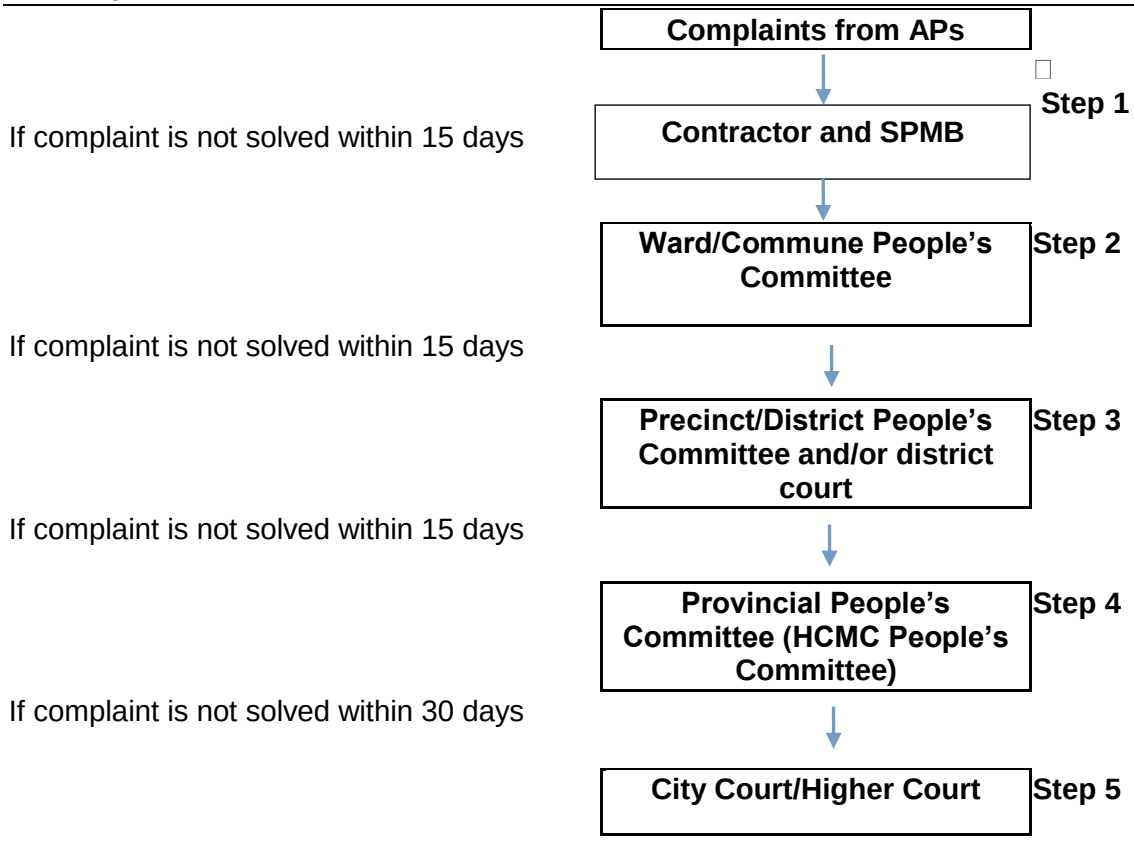

Figure 6: Public grievance redresses process

164. 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 redress unresolved grievances. Environmental specialists will provide the necessary training to improve grievance procedures and strategy for the members of the grievance committee when required.

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

166. If all efforts to resolve disputes under the grievance procedures remain unresolved or unsatisfactory, AHs have the right to directly discuss their concerns or problems with the ADB office in Southeast Asia through the ADB office in Viet Nam. If AHs are still not satisfied with the responses of the ADB office in Viet Nam, they can directly contact the ADB Office of the Special Project.

VII. ENVIRONMENTAL MANAGEMENT PLAN

167. An EMP has been prepared for the subproject "Cau Bong - Binh Tan 220-110kV transmission line" with the purpose of integrating the results of the IEE into a formal management plan that is implemented parallel with the subproject to prevent or minimize 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 a part of the IEE.

168. The EMP consists of an impacts mitigation plan, a monitoring plan, and an emergency response plan. EMP also prescribes the institutional responsibilities for the implementation of

the EMP. 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.

169. Environmental impact mitigation plan has been developed based on each subproject activities with respective impact and mitigation measure. Also, the plan identifies the reports, responsibility of subproject's stakeholders as well as estimated cost for implementing mitigation measures. Detailed contents are shown in table 15.

Table 15: Environmental Impact Mitigation Plan

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
Preparation phase, detailed design								
Detailed designs, bidding document establishment, the project approval and submission	No impacts. But the activities will design and proposed mitigation measures for impacts during construction and operation phase	1. Work with the PIC[2] to supervise the subproject detailed designs. Ensure the following contents: 2. Select the TL alternative to minimize land acquisition, especially agricultural lands; design the height of tower to minimize trees and crops clearance and cutting when constructing the subproject. 3. Select the TL direction to avoid or minimize impacts on other underground works along the underground cable section of the project. 4. Select the TL direction to avoid or minimize disruption, impacts on traffic activities. 5. Select the TL direction to avoid cultural and historical heritages, and other sensitive areas. 6. During the feasibility study, the subproject management board has to consult with the Department of Industry and Trade of Ho Chi Minh City, the DPC of Binh Tan, Binh Chanh, Hoc Mon and Cu Chi and the CPCs where the project crossing over for agreement upon the location of the transmission line.	Subproject location	Before the commencement construction	When designing details, establishing bidding documents, and when feasibility study is approved	No marginal cost	PIC	IA/EO

[1] Costs will need to be updated during detailed design phase.
[2] PIC is Project Implementation Consultant at technical design phase to be determined

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		7. Select HDD method for construction of the underground cable sections through HW No.1A to minimize disturbance on traffic; 8. Design the depth to bury cable, the height to suspense wires of the overhead transmission line section for ensure electromagnetic field not affect to people's health. 9. EO of PMB with the support from PIC will be responsible for reviewing detailed design of the subproject to ensure proposed mitigation measures included in the detailed design. 10. After feasibility study was approved, notify the local authorities and people of activities and schedule of the subproject so that they can organize their production and business suitably. Coordinate in environmental protection monitoring, and notify the DoNRE the subproject commencement to complete requirements for the environmental assessment, and give permission and certificates for the subproject in the subproject implementation process. 11. State in bidding documents that contractor must have experience in EMP implementation, or provide staffs with sufficient experience; bidding document and construction contracts have to include provisions that require contracts to comply with the mitigation measures proposed in IEE 12. Ensure that the civil work contracts are						

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		included mitigation sub-plans of the EMP.						
Land acquisition and compensation	Impacts on local people's life and economy	13. Comply with the regulations of the Land Law 2013 and decrees, circulars, decisions on compensation, assistance and resettlement of the Government and Ho Chi Minh City People's Committee. 14. Affected persons are informed ahead of the subproject implementation and participated in acquisition and inventory of land, consulted in compensation, assistance. 15. Comply with the regulations of the Land Law 2013 and decrees, circulars, decisions on compensation, assistance and resettlement of the Government and Ho Chi Minh City People's Committee. 16. Comply with the regulations of the Electricity Law, the Decree No. 14/2014/ND-CP and relevant regulations. 17. Ensure compensation payment to be implemented clearly, openly and fairly in compliance with legal regulations 18. Budget for compensation payment must be enough and available. 19. Conduct design of tower height to minimize impacts due to crops and trees clearance. 20. Construct completely each work item to minimize the duration of temporary land use for the project construction. 21. Coordinate to address people's	All affected persons in the subproject areas	Before implementing the subproject	See resettlement plan	See resettlement plan	IA/EO	Compensation and resettlement committee

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		claims/grievances relating to compensation.						
UXO clearance (bombs, mines and other explosives)	Impact on people's and worker's safety (maybe injured or dead if UXO still exist in the subproject area without cleared)	22. Before preparing and clearing site for constructing the project, it is necessary to coordinate with the competent agency for UXO disarmament in the proposed project area. Area of UXO disarmament is about 14.2ha.	All construction sites	At the beginning of the subproject construction	Once	See monitoring plan below	EO/IA	EO/GOV
Environmental management capacity development and enhancement	No impact. This activity help to prevent or avoid impacts by training/education and help good management of environmental issues of the subproject	23. Develop and implement training plan on environmental management capacity and awareness enhancement and development for staffs of IA/EO/ES to be able to fully implement the EMP, and to manage implementation of mitigation measures by contractors. 24. Develop and implement training plan for contractors in order to enhance/improve awareness of environmental protection and implement effective mitigation measures.	IA/EO office	From before the beginning of the subproject construction	01 time before the beginning of the subproject construction, 02 times afterward (if necessary) or after each event	No marginal cost	PIC	PIC
Construction site arrangement	No impact. This activity help to prevent or avoid impacts by disposal and civil works	25. PMB will be responsible for selection of disposal site, consultation with the local authorities to get their formal agreement and permission for this site before commencing the subproject and civil contractor is required to prepare a disposal plan for implementation. 26. The PMB requires civil contractor to prepare a disposal plan. Based on this disposal plan, civil contractor is responsible for contracting with specialized unit to collect, transport and dispose the refused excavated	Subproject site	Before construction begins	01 time Before construction begins	No marginal cost	PO/PMB/PIC	PMB/contractors

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		materials to the permitted disposal site. PMB is responsible for supervision and include this content in civil work contracts 27. Constructor develops transportation plan for equipment and materials to reduce negative impacts. 28. Constructor will arrange the temporary yards for stockpile and material gathering site within the tower foundation area or the ROW. 29. Contractors must have the license for safety and environmental requirements of mobilized machines and vehicles.						
Construction Phase of Subproject								
Initiate SEMP and sub-plans.	No impact. This activity help avoid, prevent or minimize impacts	30. Initiate updated SEMP including individual management sub-plans for different potential impact areas	All construction sites	Beginning of construction	Once	No marginal cost	IA/PIC	EO and contractors
Tree cutting and site clearance	Cause the loss of vegetation and landscape deformation	31. Only cut down trees at the tower foundation construction locations, within the lines of wire pull and scatter, and trees (both within and out of the ROW) whose height exceed the allowable limits and may impact on the TL safety. 32. Use manual method to clear plants. Not use herbicide for plant clearance. 33. Completely construct every work. Arrange construction after harvest to reduce impact on people's production and reduce	All construction sites	From the beginning to completing the subproject construction	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		temporary acquisition time. 34. After completing the construction, temporarily acquired land will be cleared, leveled, compacted to return to people for continuing their production at limit level as stipulated. 35. The PO in coordination with the local authorities to monitoring the tree cut down and clearance for subproject construction. 36. Require construction unit to propagandize, train workers on prevention measures from forest fire; Strictly control fuel fire and fire use of workers to avoid illegal forest exploitation and forest fire occurrence during the process of tower foundation construction, and wire pull and scatter through forest. 37. Set up safety signs on forest fire prevention at every foundation construction position. 38. Apply adequately fire fighting and protection requirements during installation and construction to avoid forest fire. Set up rules, fire forbidding signs in places where fire is forbidden, or near combustibles. Forbid arc welding, gas welding in areas where there is gasoline, flammable substances. Forbid the use of electricity for unregulated cooking. 39. Contractor is responsible for establishing rules on fire fighting and prevention. Arrange necessary tools and						

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		means for firefighting as stipulated. 40. Closely coordinate with forest owners to prevent illegal activities of workers on forest during construction. 41. In case forest fire occurrence, stop all works to focus workforce, tools and means on fire fighting. Inform immediately to firefighting police, local authority and people for coordinating firefighting. The PO will be responsible for all cost of firefighting and forest recovery. 42. Reafforestation forest to replace the required forest area after the completion of construction as stipulated.						
Concentration of workers and domestic wastes generated	Generate domestic wastes causing environmental pollution; generate social problems, spread diseases	43. Hire residents' houses for workers' staying. Only construct camps for the TL sections away from the residential areas. 44. Contractors consider unskilled jobs for hiring local labors to conduct to prevent or minimize influx of migrant workers, and incidence of social diseases and community unrest. 45. Hire mobile WC with septic tank for camps and put dustbins at camps for collecting domestic sewage, rubbish and treating them adequately. 46. Worker camps must have adequate rainwater drainage system. 47. Examine periodically worker health. Equip medicine cabinet for protecting	All worker camps	Throughout construction phase	Monthly	No marginal cost	IA/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		workers' health in time. 48. Manage, propagandize and educate to enhance the awareness of environmental sanitation and health protection for workers. 49. Establish the specific food safety regulations for construction workers. 50. Construction units should implement temporary residence registration for all construction workers to CPCs within the project area. They should also establish the relationship with the local authorities to discuss and take decisions necessary for their management 51. Require workers not to take part in or cause social evils; any contravener shall be strictly treated in accordance with laws. 52. Establish rules in camp. Propagandize, educate workers and create good relations with people in order to avoid conflicts arising. HIV/AIDS education should be given to workers. 53. Require workers to respect and not to violate the cultures, habits and customs, religious beliefs, historical and cultural parks, pagodas, and temples in the localities.						
Refused rock and soil, debrises, other hazardous wastes generated by	Cause soil and surface water pollution by refused rock and soil, debrises, other	54. Max. salvage excavated soil, rock for filling cable trench, solidating tower foundations according to excavation and filling balance method. 55. For excavated soil which can not be	All construction sites	Throughout construction phase	Monthly	See Environmental Monitoring Plan (EMoP)	PIC / EO and DONRE	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
rock and soil filling and excavation for tower foundation pits, cable trenches, tower installation, and equipment, devices, machines and transportation means	hazardous wastes	reused, it will be collected and transported to the disposal site agreed by the local authorities through consultation with them. 56. Collect, salvage matters such as steel pieces, cement sacks, wooden barrels,… to reuse or sell. For other refused construction materials which can not be reused, hire local competent unit for collecting and transporting to the disposal site for burying along with rubbish. 57. If excavated soil is suspected contamination, it must be tested, and disposed in designated sites and identified as per local regulations. **Hazardous waste impact mitigation** 58. For refused grease, oil: implement equipment, machines and vehicles repair and maintenance at local garage. Waste grease, oil will be collected to treat at this garage as stipulated. 59. Other wastes such as paint containing can; clouts with oil, grease; failed fluorescent lamp,…must be collected into tanks and kept temporarily at the construction site, then hiring competent unit for transporting to treat in accordance with current regulations.						
Construction activities and transportation of materials	Noise, dust and exhausts impact on ambient air environment quality	60. Transportation means, machines and equipment in list of means, machines and equipment to be obliged to register technique and environment safety must have effective certificate of environmental standards	All construction sites	Beginning of construction (for license of equipment, machines and	Monthly	No marginal cost	PIC/EO	ES/Contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		achievement issued by the register department. 61. Frequently water the construction sites and construction material transportation roads. 62. Means transporting construction materials in and out of the project site must be covered by canvas. 63. Cover canvas or water materials storage yards/stockpiles such sand, cement, filling soil etc. 64. Reduce excavation and filling duration, and excavated soil should be used to fill right after complete work. 65. Implement appropriately equipment, machines and vehicles maintenance. 66. Replace equipment, machines and vehicles causing large noise.		means) and throughout construction phase				
Construction materials transportation, and storage	Traffic accidents, increase in traffic activities, damage to roads, traffic disruption	*For road and traffic activities:* 67. Prepare implementation alternative for the TL at every inter-cross location. 68. Contact with management unit of the roads for coordination to ensure construction safety and uninterrupted traffic activities. 69. Arrange reasonable work to avoid traffic obstacle. 70. At the locations crossing over the roads, it needs to set up scaffolding during	All construction sites.	Throughout construction phase	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		wire scatter and pull process. 71. Set up signal light when constructing at night. 72. Put up warning boards at dangerous road sections. 73. Speed limits should be posted and adhered to by transportation means. 74. Limit transportation of materials in rush-hours. 75. Transport materials with the allowable load. Not expand trucks' body. 76. For oversize and/or overweight materials and equipment, it must have special purpose transport means. 77. Conduct road upgrading or repair if collapse occurrence due to the subproject construction. 78. For the underground cable section under the roads, it should use HDD excavation method if necessary. It should set up warning boards at the distance of 200m at the heads of the construction site. Set up warning boards and/or fence around the open cable ditch and tower excavation pits to avoid risk of accidents. 79. Clear soil and construction materials on road surface; level, compact, recover and return the initial status of the roads just after completing the construction.						

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		For waterway: 80. Conduct warning measures as regulations on waterway safety when conducting wire pull and scatter to cross over Xang canal: (i) Inform time of wire pull and scatter to cross over Xang canal to local authority and people. (ii) Put up warning board at two heads of the TL section which will be pulled and scattered wire. (iii) Height of the suspended conductor of this TL section must be ensured as regulation on waterway safety. (iv) Complete wire pull and scatter quickly as possible as and only within the daytime to reduce boats' and canoes' traveling obstacle.						
Wire pull and scatter, and the TL connection to the national grid system	Discontinue utilities and services such as power supply, traffic disruption etc.	*For other TLs:* 81. Coordinate with management unit of the TLs to cut off power to ensure safety during wire pull and scatter process at the inter-cross locations if any. 82. Inform to people for their life and production arrangement before cut-off power. 83. Put up scaffolding during wire scatter and pull process. Put up warning boards. Have protection measures to prevent impact on other TLs. Ensure safety distance to	All construction sites.	Throughout construction phase	Monthly	No marginal cost	PIC/EO and Utility company	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		those TLs. *For other underground works* 84. Collect information/data about existing underground works within the underground cable section site. 85. Contractor establishes emergency risk/failure response plan such as pipe break, underground cable ditch or cable break of other TLs, information cable break,...(if any). 86. Ensure safe distance to existing underground works (if any) when conducting the underground cable section construction. Prepare underground cable construction alternative at the locations where the underground cable section crosses over the existing underground works to ensure safety for these works. 87. For construction of the underground cable section at locations where the underground cable section crosses over local existing drainage box culvert, mitigation impact measures are as follows: (i) Excavate cable ditch at inter-cross location by manual method in compliance with design drawing. (ii) Consolidate banks of cable ditch section crossing over drainage culvert by Larsen piles to avoid landslide. (iii) Consolidate temporarily the existing drainage box culvert.						

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		(iv) If the underground cable ditch crosses over the existing underground drainage box culvert at its junction, it need consolidate that junction location. (v) After the underground cable ditch, it must be recovered the initial status immediately to avoid landslide for drainage box culvert. (vi) During construction of the underground cable section at locations where the underground cable section crosses over local existing drainage box culvert, if any extraordinary, the contractor must be stopped construction and inform to the relevant units (the PO, Consultant,…) to check and treat.						
Soil erosion	Increase in the turbidity of surface flow, the loss of soil nutrients	88. Only cut down trees within the defined scope (under the ROW and some trees out of the ROW which may be impact on the safety of the TL). Salvage branches, trunks of trees cut down for fire. The remaining part of trees cut down and can't be salvaged will be collected and treated like rubbish. 89. Construction to where, cut trees to that in order to avoid bare land for a long time to reduce soil erosion and washing due to rain. 90. Earthworks should be conducted during dry periods. 91. Max. salvage excavated soil, rock for filling cable trench, solidating tower foundations according to excavation and	All construction sites	Throughout construction phase	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		filling balance method. 92. For excavated soil which can not be reused, it will be collected and transported to the disposal site agreed by the local authorities through consultation with them. 93. Compact at places with soil filling and excavation activity to mitigate soil erosion and washing. 94. Completely construct each work item. Construction completion to where, site cleaning, leveling and compaction to return the ground for local people to continue their production or grow trees to that.						
Occupational health and safety of workers	Worker injury and health	95. Health and safety plan (HSP) will be prepared and implemented by the contractor. 96. All workers must be examined health, especially people working at height, and equipped sufficiently labor protection tools. This must be strictly imposed. 97. All construction equipment, tools should be carefully examined for quality and quantity before used. For people working at height, it should carefully check the suspending cables before climbing on the tower; not permitted to work at height when it is going in night; it has fogs; it has strong wind with above class V. Workers who climbed on towers must have Safety Certificate of Class 3 or above, and sufficient conditions for working at height. Safety belts should be attained use standard of the	All construction sites.	Throughout construction phase (fulltime)	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		nearest inspection, not exceed over 6 months. During movement and working at height, workers must wear safety belts and the safety leather belts must be tightly tied with the tower. 98. Carefully check boom guy, cable clip before load heavy objects. 99. For tower foundation excavation: (i) Strictly implement safety measures while excavating tower foundation pits. (ii) There are measures to consolidate the slope of tower foundation pits in dangerous positions during construction; 100. Use suitable means of transport. Check the load of the vehicles before use, fasten and comply with safety regulations on transportation. 101. Strictly comply with safety norms for installation of electrical equipment and relative regulations. 102. Workers conducting transport and installation of electrical equipment must understand regulations on installation and transport safety of electrical equipment. 103. Use specialized tools and devices to anchor, fasten electrical equipment during movement and installation process. Not use steel wires, cables, chains to tie the insulation parts, the connectors of the base holes.						

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		104. Before switching on power to test the power grid and electrical equipment, it must stop relative all works and people without relative task must go out of the danger area. 105. Fuse of the electrical networks connected to electrical equipment which will be installed must be disconnected during connection time. Fuse is only closed to adjust the equipment after everyone is in a safe location. 106. All towers, steel structures and equipment must have earthing system. 107. Contractors have to prepare emergency measures in time. When accident occurs, conduct in-site first aid, then quickly drive the wounded to hospital for treatment. It must keep a phone number of the nearest hospital to call ambulance. Besides, it must be equipped medicine cabinet for aid. 108. As existing commune health services are unable to accommodate additional patients from the construction workforce, the contractor will be required to provide first-aid facilities for the workers. At least one trained first-aid worker should be available at each construction camp. 109. PMB will be responsible for including these requirements in the contract documents.						
Community health and	Local people injury and health	110. Civil contractor will be required to develop a community health and safety plan.	All construction	Throughout construction	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
safety		111. Set up warning boards on all high voltage towers to warn people not to be in contact with them. 112. Installation of lightning protection systems in all towers as stipulated. Paint color (as defined) on tower with the height of 50m and above. 113. When fire occurs due to electricity, first notice immediately to authorized unit to cut off power, then comply with the procedures of fire fighting. 114. Check periodically trees outside the ROW which may potentially affect to the safety of the tower. 115. Coordinate with the local government of district and commune to propaganda and disseminate knowledge about safety of the ROW to communities living near areas where the TL crosses over. 116. PMB will be responsible for including these requirements in the contract documents.	sites.	phase (fulltime)				
Construct drainage system of rainwater, water pumped from the foundation pits	Deposit mud sand; reduce suspended solids in surface rainwater and water pumped from the foundation pits; prevent rainwater and water pumped	117. Provide drainage system of rainwater, water pumped from the foundation pits when constructing to prevent standing water and local flooding; deposit mud sand; reduce suspended solids in surface rainwater and water pumped from the foundation pits before pumping into environment. 118. Install temporary storm drains or	All construction sites.	Design and construction phases	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
	from the foundation pits from overflowing on the ground	ditches for construction sites 119. Ensure connections among surface waters (ponds) are maintained or enhanced to sustain existing storm water storage capacity. 120. Protect surface waters from silt and eroded soil. 121. Arrange construction sewage collection holes for depositing SS before running into surface sources.						
Detect cultural and historical properties or values	Avoid damage to cultural and historical properties or values	122. Chances of detection of valuable relics and cultural values should be anticipated by contractors. Site supervisors should be on the watch for finds. 123. When detection of valuable relics and cultural values, stop immediately all work, untouched to anything of them. And EA/IA informs the authorized agency (DoCST) to determine their value and treat appropriately. 124. Work at the found site will be stopped until DoCST allows to be continued working.	All construction sites	At the begging, and throughout construction phase	Monthly	No marginal cost	PIC/EO	ES/contractor
Repair, restore, return the ground after construction completion	Mitigate impacts on environment after construction	125. Repair, recover, and return the road sections, culverts, drainage system and public infrastructures damaged by TL construction. 126. Clear, level and restore the ground after construction completion. 127. Grow trees in temporarily acquired areas.	All construction sites.	throughout construction phase until the project is put into operation.	Monthly	No marginal cost	PIC/EO	ES/contractor

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
Subproject Operation phae								
Cut trees and branches violating the ROW		128. Cut down only trees and branches which will get risk of the safety of the transmission line as specified. 129. Comply with regulations for growing plants inside and outside the ROW. 130. It will be not allowed to cut down or trim trees and branches of trees which locate outside the ROW without affecting to the safety of the TL during operation. 131. Use manual method to clear plants. Not use herbicide for plant clearance. 132. Trees and branches of trees which are cut down will be collected by local people for firewood or the operation agency will contact to local authorities to collect, transport and handle them as stipulated. 133. Recommend local people to grow trees whose height meets the requirements of height as stipulated. 134. Propagandize, train operation workers on prevention measures from forest fire; Strictly control fire use of operation workers during the TL maintenance and repair process to avoid forest fire occurrence. 135. Apply adequately fire fighting and protection requirements during installation and construction to avoid forest fire. Set up rules, fire forbidding signs in places where	ROW	Fulltime	Biannual	O and M	The high voltage grid management of Ho Chi Minh City	

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		fire is forbidden. 136. Operation unit is responsible for establishing rules on fire fighting and prevention. Arrange necessary tools and means for firefighting as stipulated. 137. PO legal responsible for the occurrence of forest fire during the maintenance and repair process. 138. In case forest fire occurrence, stop all works to focus workforce, tools and means on fire fighting. Inform immediately to firefighting police, local authority and people for coordinating firefighting. The PO will be responsible for all cost of firefighting and forest recovery.						
Occupational health and safety of the workers during the TL periodic maintenance process		139. Restricting access to electrical equipment, except workers who are trained and certified to work on electrical equipment. Properly limit time for contacting with EMF for trained workers. (ii) Adherence to electrical safety standards. (iii) Proper grounding transmission line. (iv) Provision of PPE for workers, safety measures, personal safety devices, and other precautions during maintenance work or if working in close proximity to the TL. 140. Follow safety measures when working at height during maintenance and repair the TL, particularly: (i) All workers must be examined health for	ROW	Fulltime	Biannual	O and M	The high voltage grid management of Ho Chi Minh City	

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		working at height, equip sufficiently labor protection tools and cloths. (ii) Workers who climbed on towers must have Safety Certificate of Class 3 or above and sufficient conditions for working at height. Safety belts should be attained used standard of the nearest inspection, not exceed over 6 months. During movement and working at height, workers must wear safety belts and the safety leather belts must be tightly tied with the tower. (iii) All equipment, tools and means should be carefully examined for quality and quantity before used. It should carefully check the suspending cables before climbing on the tower. (iv) Not permitted to work at height when it is going in night; it has fogs; it has strong wind with above class V. 141. Occupational EMF exposure should be minimized through the implementation of an EMF safety program that includes: (i) Identification of potential exposure levels in the working area including survey of exposure levels and establishment of safety zones (ii) Properly limit time for contacting with EMF for trained workers as stipulated and those equipped with appropriate PPE when entering safety zones. (iii) Utilization of personal monitors during						

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		work activities. (iv) Post safety signs and warning signs. 142. In addition, in the operation phase, conduct training for workers in order that they can respond to risks/failures and meet the operation procedures. An emergency and safety guideline needs to be prepared and disseminated to the workers for handling risks/failures occurring in the operation process. Coordinate with the local authorities at commune, district levels to propagandize, disseminate knowledge of safety of the ROW to communities and residents living near the T/L. Equipment maintenance areas must be located away from the residential areas.						
Community Health and Safety		143. To prevent electrocution risk, HCMC high voltage Company will implement the following: (i) Conduct earthing for the TL, especially all towers. (ii) To ensure absolute safety, operators must comply with operation procedures and safety requirements; (iii) Provision of warning signs and anti-climbing devices on all towers. (iv) Periodically check the distance from wire to the ground and/or other objects as stipulated. Monitor minimum approach distances for excavations, tools, vehicles, pruning, and other activities when working	ROW	Fulltime	Biannual	O and M	The high voltage grid management of Ho Chi Minh City	

Activities of Subproject	Potential Environmental Impacts	Proposed Mitigation Measures	Location	Timing	Activity Reporting	Estimated Cost[1] (USD)	Responsibility	
							Supervision	Implementation
		around the TL. (v) Check earthing system of buildings under the ROW as stipulated. Ensure that any new buildings within the 72 m-wide earthing zone are earthed. (vi) Observe/Test EMF at resident's buildings for treating appropriately if any complaint. 144. To prevent impacts of EMF: the community should be warned about the safety distances from the transmission system and power lines through warning signs and the restrictions on erecting any houses or buildings within the ROW and earth zone are to be enforced by operation unit.						

A. Institutional arrangements and responsibilities

170. At the feasibility, stage in the primary management framework is responsible for the implementation of the environmental management plan (EMP) for the subproject is summarized as follows: The EVNHCMC is the executing agency (EA/PO). The PO is overall responsible for implementing the EMP with executive support from the Ho Chi Minh City Power Projects Management Board (PPMB) directly under the EVNHCMC being the implementing agency (IA) of the subproject. The PPMB under the direction of the PO implements the subproject and the EMP.

171. The PPMB is supported by the Project Implementation Consultant (PIC). The PIC assists in completion of the detailed subproject design, updates the EMP to address the detailed subproject design, and assist the implementation of the EMP. The PIC also provides required capacity development and training to the PPMB. The PPMB monitors and assists the work of the construction contractor who implements the EMP of the contractors (SEMP).

172. External support of the ES for the implementation of the EMP is provided by the international and national environmental specialists of the PIC, and an environmental monitoring consultant (EMC) it is necessary 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 the IA/EO. A summary of responsibilities for the implementation of the EMP is provided below.

173. Responsibilities of the EA/PO with support from the EVN include:

- Overall responsibility for the implementation of the EMP;
- Provide and coordinate to monitor environmental and social safeguards for the IA/EO;
- Maintain the communication with the EVN and the ADB on the implementation of the EMP; and;
- Coordinate with the IA/EO to resolve the issues arising from the implementation of the EMP;
- Submit every semi-annual monitoring reports to the ADB

174. Responsibilities of the EO directly under the IA include:

- Assist the PIC in updating the EMP to meet detailed subproject design;
- Notify the DoNRE to verify whether the subproject met the approvals of the GOV;
- Assist the PIC with inclusion of CEMP requirements in bidding documents for the contractors based on the updated EMP;
- Implement daily management of the EMP activities;
- Work with the EMC to prepare monitoring plan for the EMP;
- Ensure compliance with loan agreement and assurance in respect of the entire subproject, including the EMP (as well as PAPs, resettlement plan);
- Monitor the meetings with all affected stakeholders;
- Prepare and submit quarterly reports on the EMP implementation to the IA/EA;
- Monitor the implementation of the CEMP;

- Coordinate with the international and national environmental specialists of the PIC for the EMP implementation;
- Implement frequently construction site inspection to ensure that the contractor implements the CEMP properly; and
- Ensure the environment staff of the contractor submits monthly report on mitigation measures and construction monitoring.

175. Responsibilities of the national environmental specialist of the PIC include:

- Provide technical direction and assist the EO/IA with the implementation of the EMP;
- Monitor design and implement capacity development and enhancement training for the EO/IA and environmental staff of the contractor(s);
- Provide advice and support to the EMC with their monitoring activities;
- Support to prepare and review all reports prepared by the EO/IA and the EMC for the EA and the ADB; and
- Review locations where may be contaminated near the subproject site.

176. Responsibilities of the Environmental Staff (ES) of the Contractor include:

- Supervise/monitor the implementation the SEMP of constructor and all mitigation measures mentioned in part VI and table 15 for the construction phase of the subproject; and
- Prepare and submit monthly reports on any environmental issue mitigation and monitoring activities related to environmental included in work contacts with PO, including the SEMP at the construction site.

177. Responsibilities of external Environmental Monitoring Consultant (EMC) include:

- Implement environmental sampling required for monitoring plan of the EMP that cannot be conducted by the contractor and the EO/IA/ES.
- Perform laboratory analyses (if necessary) for detailed monitoring program in the EMP; and;
- Prepare and submit quarterly reports or semi-annual environmental monitoring report on monitoring activities to the IA/EO.

178. Department of Natural Resources and Environment (DoNRE) is the provincial agency which monitors environmental management in the city. DoNRE along with the district staff will provide direction and support for environmental protection-relating issues including application of the Law on Environmental Protection, EIA, and environmental standards.

179. ADB provides guidance to the EA/IA with any issues related to the EMP, and reviews every 6-month reports on the EMP activities compiled and submitted by the EA.

B. Monitoring Plan

180. The environmental monitoring plan for the EMP is provided in Table 16. The monitoring plan focuses on all three phases (pre-construction, construction, post-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.

181. The external 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 analyzed in a laboratory. The ES 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.

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

183. After construction is completed the potential impacts of the operation of the subproject will be monitored by EVNHCMC. 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.

C. Performance Monitoring

184. Performance monitoring is required to assess the overall performance of the EMP. A performance monitoring system is normally developed by the EA for the subproject. Select 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 15.

D. Reporting

185. 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/EO and should be conducted in conjunction with regular meetings with stakeholders as part of the continuation of stakeholder communications. The mitigation and monitoring plans (Tables 15 and 16) summarize proposed timing of reporting.

186. A report on environmental monitoring and implementation of EMP will be prepared quarterly for the EA by the IA/EO. The IA report will compile monthly reports provided by the ES of contractor, the reports of the EMC on monitoring, and input from the international and national environmental specialists of the PIC. The IA/EO 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 17), and will include relevant environmental quality standards as regulation.

Table 16: Environmental monitoring plan

Environmental Indicators	Location	Means of Monitoring	Frequency	Reporting	Responsibility		Estimated Cost (USD
					Supervision	Implementation	
Pre-construction Phase							
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 and substation area	a. ROW	Original field work, community consultations	Once	Once	PIC/PPMB	PPMB (Monitoring Consultant)	$ 1,000.
a) Air quality: dust, CO, NO_2, SO_2, noise b) Affected surface water quality: pH, TSS, oil and grease, COD, BOD_5, NO^-_3, PO_4^{3-}, Coliform	a: 02 positions; one in substation and the other in the UGC. b: 01 position at Te canal	Using field and analytical methods approved by DoNRE.	Once	Assessment of physical environment included in the IEE	PIC/PPMB	Consultant who preparing the IEE and the subproject	A&B: including in consultancy cost ($500)
Construction Phase							
a) Air quality: dust, CO,	a) 02 positions; one in	a-b) Using field and	(A - C)	monthly	(A - C):		

Environmental Indicators	**Location**	**Means of Monitoring**	**Frequency**	**Reporting**	**Responsibility**		**Estimated Cost (USD**
					Supervision	**Implementation**	
					PPMB	PPMB (Monitoring Consultant)	A & B: $ 1,500 C: $700
					(D & E) observation		
					PPMB	Contractor	D&E: $200
Operation phase							
Incidence of worker accidents, or maintenance of the ROW	The substation and TL	Regular documentation and reporting	Continuous		EVNHCM		O&M cost
Electromagnetic field monitoring	In the Substation and along the connection line	Equipment for measuring electromagnetic field	Biannual	Biannual	EVNHCM		

Table 17: Performance Monitoring Indicators for Subproject

Activities of subproject	Mitigation activities	Key Indicator	Performance Objective	Data Source
Pre-construction Phase				
Detailed designs, bidding document establishment, the project approval and submission	Mentioned in table 15	Design documents Local GOV's letters for agreement of TL alternative Requirements of EMP (SEMP)	All mitigation measures are considered during detailed designs All stakeholders contacted during IEE re-contacted for follow-up consultation EMP appended to bidding documents with clear instructions to bidders for SEMP	Design documents EMP Bid documents
Land acquisition and compensation	Mentioned in table 15	Mentioned in RP	Mentioned in RP	Resetlement Plan
UXO	Mentioned in table 15	UXO disarmament	No risk of life safety of workers and people	Monitoring by PIC/PMB
Training of PMB/EO		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
Construction site arrangement	Mentioned in table 15	- License of disposal - Transportation plan - location of temporary area for stock pile and material gathering - License for safety and environment ensure of vehicles/machines	By end of pre-construction phase, meeting with contractors to check licenses and observation in the construction site for checking the arrangement	Monitoring by PIC/PMB
Construction Phase				
Tree cutting and site clearance	Mentioned in table 15	- Important habitat, rare or endangered species if presenting during tree cutting and site clearance - Fire protection at section crossing forest - Implementation of reforestation	All *present* critical habitat and rare and endangered species if unchanged, and unharmed - Prevent forest fire - Forest coverage	Monitoring by EMC
Concentration of workers and domestic wastes generated	Mentioned in table 15	Hygiene situation, availability of toilet and waste basket Residential register of workers	Rigorous program of procedures to manage worker's camp	EMC and contractor monitoring reports

Activities of subproject	Mitigation activities	Key Indicator	Performance Objective	Data Source
		Rainwater drainage system in worker camps Food safety regulations Educating and training about health and hygiene for workers		
Refused rock and soil, debrides, other hazardous wastes generated by rock and soil filling and excavation for tower foundation pits, cable trenches, tower installation, and equipment, devices, machines and transportation means	Mentioned in table 15	Solid waste and liquid waste treatment system Hazardous waste: Oil, gasoline, grease collection and treatment license	- Rigorous program of procedures to manage and store all waste from construction camps and sites practiced, and manage earthworks. - Rigorous program of procedures to manage and store all waste from construction camps and sites practiced.	EMC and contractor monitoring reports,
Noise, dust and exhausts due to construction activities and transportation of materials	Mentioned in table 15	dust, CO, NO_2, SO_2, noise levels meet Vietnamese standards	The content must not exceed the level at pre-subproject. Complying with mitigation measures for water quality mentioned in table 15	EMC and monitoring report of contractors
Construction materials transportation, and storage	Mentioned in table 15	Frequency of disruptions and blocked roadways is reduced Maintenance and operation method of equipment, machines, and vehicles	Disruptions, stoppages, or detours are managed to absolute minimum.	Public input, contractor reports, EMC reports
Power supply and other utilities due to wire pull and scatter, and the TL connection to the national grid system	Mentioned in table 15	Timing of power cut Methods of pulling wire at section crossing over existing TLs Methods of constructing underground cable	Minimized time of power cut, effect on existing Tls and underground works.	EMC and monitoring report of contractors
Soil erosion	Mentioned in Table 15	Earth dyke, Embankment were built; vegetation are grown on bare land	Land quality and minimize land slide or erosion	EMC and monitoring report of contractors
Community and worker safety	Mentioned in table 15	Frequency of injuries are reduced	Adherence to GoV occupational health and Safety regulations	Contractor reports
Construct drainage system of rainwater, water pumped from the foundation pits	Mentioned in table 15	pH, TSS, oil and grease, COD, BOD_5, NO^-_3, PO_4^{3-}, Coliform levels meet Vietnamese	GoV environmental standards and criteria met Complying with mitigation measures	Monitoring by EMC

Activities of subproject	Mitigation activities	Key Indicator	Performance Objective	Data Source
		standards	for water quality mentioned in table 15	
Detect cultural and historical properties or values	Mentioned in table 15	cultural and historical properties are conserved	No valued cultural property, or unearthed valuable relic is harmed in any way	Public input, contractor reports, public input, EMC reports
Repair, restore, return the ground after construction completion	Mentioned in table 15	Remain construction material at the site are collected Construction solid waste; un-clearance of worker camp etc. are cleaned.	Recovery of construction site; remove construction solid waste; clean worker camp etc.	Site observation; Contractor and EMC monitoring reports
Operation phase of transmission line				
Worker and community Safety	Mentioned in table 15	Frequency of accidents, and spills is reduced Electromagnetic field monitoring	No increase in pre-construction frequency	EVNHCMC
Clearance of trees and branches violating the ROW	Mentioned in table 15	Clearance of trees and branches follow regulations	Ensure safety of the TL	EVNHCMC

VIII. ESTIMATED COST OF EMP

187. The 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 16 the preliminary cost for the implementation of the EMP for the subproject including an estimated environmental training budget for EVN*HCMC*/PMB is approximately USD $4,200.0 which is summarized in Table 18.

Table 18: Estimated costs for Environmental Monitoring Plan of EMP

Activity Type	Estimated Cost (USD)
Pre-construction phase	
Cultural receptors	$ 1,000.00
Inspecting environmental quality and site clearance	including in consultancy cost ($500.00)
Construction Phase	
Monitoring environmental quality	$ 1,500.00
Inspecting environmental compliance	$ 700.00
Operation Phase	
Monitoring environmental quality (electromagnetic measurement)	O&M cost (average $1,000.00 per year)
Training and capacity development of EVN*HCM C*/ PPMB	$ 1,000.00
Total	**$ 4,200.00**

188. The environmental costs in Table 18 are for field sampling and laboratory analyses which include per working expenses of professional technicians.

189. An estimated budget of USD $1,000.00 is required for training of the PO/PMB/EO 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 PMB/EO during the pre-construction phase.

IX. INFORMATION DISCLOSURE AND PUBLIC CONSULTATION

A. Public consultation

190. A public consultation strategy with the stakeholders was established to meet the requirements of the consultant as stipulated by the SPS (2009). This strategy embodied the principles of meaningful, transparent and comprehensive consultation to ensure that affected people groups and fragile people groups such as women and poor people, were given equal opportunities to participate in the design of the subproject.

1. Identification of Stakeholders

191. Stakeholders were identified and participated in consultation. Communication with Stakeholders focused on the affected organizations and communities, and persons directly affected by the proposed subproject. The stakeholders of the subproject include:

- Institutional stakeholders such as: (i) People's committee of the city, (ii) People's committee of the precinct/district; (iii) Project management agency, (iv) PECC4, and (v) commune/ward leaders;
- Organizations/unions/associations such as Women Union and Farmers Union which provided various information for the design of the subproject, and which might participate in implementation of measures and interventions;
- Households and enterprises living along the transmission line can be people who will be directly affected or be adversely impacted or can be people who will be received benefits from the determination and implementation of mitigation measures against adverse impacts, and
- Organizations, individuals affected by the subproject.

2. Public consultation meeting

192. Formal public consultation meetings were held to discuss the location and impacts of "Cau Bong - Binh Tan 220-110kV transmission line" in 09 communes, HCMC in Nov. 2014, with the total of 177 participants (including 35 female).

193. Public consultation meetings consisted of the following three component procedures:

i. Engineering consultant introduced the subproject "Cau Bong - Binh Tan 220-110kV transmission line" and the length of the transmission line that will cross over the communes and wards.

ii. Environmental consultant presented environmental policy, safety regulations of the ADB and the Vietnam power sector, anticipated environmental impacts and respective mitigation measures (to be developed in the IEE), grievance redress mechanism for environmental and resettlement problems; and

iii. Social/resettlement consultants presented: ADB's resettlement plan; impacts due to land and properties acquisition; policies of the GOV and local authorities, the Project's policies on compensation for the losses when the State acquires land and properties on land; and potential impacts due to land acquisition/resettlement.

194. During the meeting, people presented their questions and comments on environmental issues. PECC4's consultants answered and explained all questions of the participants.

195. Participants of the public consultation meeting included the commune/ward leaders, the representatives of Vietnamese Fatherland Front of the locality and the affected organizations/unions. List of participants in the public consultation meetings sees in appendix B.

3. Results of public consultation

Comments from communal authorities/people

196. Comments/questions of the local authorities/people include as follows:

Table 19: Summary of feedbacks/ questions of the local authorities and people, Project Owner's /Consultant's answer, and project's response

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
Vinh Loc B commune, Nov. 10th,	In the construction process, request the construction units to set up warning boards, fence round the	- Agree. The PO presented in bidding document	The EMP presented environmental protection measures,

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
2014	subproject site to avoid accidents occurrence.	in order to require contractors for implementing environmental impact mitigation measures, including construction safety ensurerment.	including impact mitigation measures due to dust, exhausts, and noise and safety ensurement during construction.
	Request the construction units to prepare mitigation measures against negative impacts on environment: dust, exhausts and especially noise to avoid impacts on residents living in the surrounding area.		
	For underground works, it is necessary to have emergency risk/failure response and prevention measures (tunnel collapse, water pipe break, power cable touch).	- Agree. The PO will require contractors for considering carefully existing underground works before cable excavation in order to avoid impact on other underground works and having safety measures during construction.	The EMP presented impact mitigation measures and failure/risk response measures for other underground work during the underground cable construction process of the project.
	Mitigate impacts on trees, crops of the local residents during the construction process.	- Compliance with the defined ROW scope.	The EMP presented impact mitigation measures on trees, crops of local people during the project operation and construction such as: comply with legal regulations, design of tower height.
	Closely coordinate with the localities to implement well compensation to avoid grievances/complaints about unfair compensation during the implementation process.	- Ensure compensation for damages to be implemented in compliance with the Governmental regulations and Ho Chi Minh City People's Committee.	As per the RP

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
	Request that the PO implements in compliance with the regulations of the GOV and the city. However, the PO needs to have satisfactory assistance alternatives/measures for the PAHs.		
Vinh Loc A commune, Nov. 11th, 2014	It needs to have mobile toilets arrangement alternatives/measures to serve living activities of the workers to avoid impacts on environment and residents in the surrounding area.	- The PO will require contractors for implementing environmental impact mitigation measures.	The EMP presented solutions for this issue
	In the construction process, request the PO to have mitigation measures against soil erosion due to excavation, filling leveling and construction of tower foundations.		
	Request the PO to closely coordinate with the localities to implement well worker management to prevent from social evils occurrence in the localities.	Will do that	The EMP presented this issue.
	Request the PO to implement compensation for the losses/damages before implementing the land acquisition, site clearance for constructing the project.	- Ensure the project implementation in compliance with the Governmental regulations and Ho Chi Minh City People's Committee.	As per the RP
	Inventory of the losses/damages caused by the subproject, it needs to have a participation of the parties as the locality, the PO and the local residents to ensure fair implementation.	- Agree. Inventory, survey of the losses will be implemented openly, clearly with the stakeholders and relevant agencies as stipulated.	The EMP presented that inventory; survey of the losses will be implemented in accordance with legal regulations.
Pham Van Hai commune, Nov. 12th, 2014	The subproject crosses over mainly agricultural land. This area is far from the residential areas. Therefore, environment is not impacted much.	Agree	-
	During the implementation process, it is necessary to closely coordinate with the localities to avoid risks/failures occurrence.	Will do that	The EMP presented this issue.

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
	Immediately clean clear to return the initial situation after completing the construction.	Will do that	The EMP presented the requirements of initial site return/recovery at the construction sites.
	Request the subproject implementation in compliance with the current regulations/laws.	Agree	The EMP described that the PO, contractors will comply with the environmental protection law and relevant legal documents when implementing the project.
Xuan Thoi Thuong commune, Nov. 13th, 2014	The subproject crosses over some traffic roads in the locality where many vehicles travel, therefore when constructing the transmission line sections crossing over these roads, it needs to ensure traffic on the roads, avoid traffic jam and accident occurrence.	The PO will comply with regulations on traffic safety.	The EMP presented ensurement on transportation activity and safety when implementing the project.
	For solid wastes: construction solid wastes and domestic solid wastes of the workers must be collected and transported to rubbish disposal areas of the localities.	Ensure wastes collection and management following the proposed mitigation measures.	The EMP presented this issue.
	Impacts prevention of electromagnetic field must be concerned to avoid impacts on health of people living near to the subproject site.	Implementing as stipulated at the Decree No. 14/2014/ND-CP.	The EMP described impacts due to EMF and EMF monitoring when the project is put into operation to control impacts caused by EMF.
	Compensation for the losses/damages of land, trees, crops must be implemented openly, fairly and before land acquisition and site clearance for constructing the subproject.	- Agree. Compensation payment will be conducted openly, clearly and in compliance with the Governmental regulations and Ho Chi Minh City People's Committee.	As per the RP
	Request to comply with the regulations of the current	Agree	The EMP presented this issue.

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
	legislations.		
TanThoi Nhi commune, Nov. 14th, 2014	Equipment and materials transportation for construction will cause increase in traffic density, risk of surface road collapse and damage. Request the construction units to have suitable measures to avoid the above problems occurrence.	Agree. The PO, contractors will repair damages to traffic roads caused by the project construction.	The EMP presented the requirements of initial site return/recovery at the construction sites, in which including traffic road damage repair caused by the project.
	PO and construction units must be responsible for repair or compensate in cash for the damaged roads contributed to build by residents. Return the original situation after the construction completion.		
	During the construction process, in order to create jobs for the local labors and avoid worker transportation from other places to the subproject site (who can cause social unorder and unsecurity in the locality), request the PO to use the local labors for doing unskilled jobs.	Agree	The EMP presented this issue.
	Construct completely, rapidly every work item of the subproject in order to reduce the land acquisition time.	Agree	The EMP presented this issue.
	Damages/losses must be compensated, assisted satisfactory under the current regulations of the State and HCMC people's committee.	Agree. Compensation payment will be conducted openly, clearly and in compliance with the Governmental regulations and Ho Chi Minh City People's Committee.	As per the RP
	PO must ensure budget for implementing compensation, assistance and site clearance for the subproject.	Agree	As per the RP
Xuan Thoi Son commune, Nov. 17th, 2014	Subproject mainly crosses over agricultural land area, runs far away from the residential areas, thus not impact on environment.	Will implement the approved environmental impact mitigation measure.	The EMP described that the PO, contractors will comply with the environmental protection law and relevant legal documents when implementing the

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
			project.
	Request to implement sufficiently, properly environmental impacts mitigation measures approved by the competent agency.		
	Request the PO to use the local labors for unskilled jobs.	Agree. The PO will consider no-skilled suitable jobs for hiring local labours to do.	The EMP presented this issue.
	Compensation payment must be implemented before land acquisition, site clearance for constructing the project.	Will do that	As per the RP
	PO engages to implement the procedures of land acquisition, change in land use purpose according to the current regulations.	Will implement in compliance with regulations at the Land Law 2013 and relevant legal documents.	The EMP described that the PO will comply with current laws and regulations, in which including regulations on land acquisition and land use purpose change.
	Closely coordinate with the site clearance and compensation committee when there are grievances/complaints of residents.	Agree	This issue was presented in the grievance address mechanism of the EMP.
Tan Hiep commune, Nov. 18th, 2014	During the construction and operation processes, it must ensure safety for people living in the surrounding areas.	All activities during the construction phase will be monitored strictly to mitigate impacts on people's life.	The EMP presented safety ensurement for people during the project construction process.
	PO need monitor closely types of wastes in order to ensure not impact on residents' life in the surrounding areas.		
	During the operation phase, it should be frequently maintained, timely repaired to avoid risks/failures occurrence such as fire, explosion.	Ensure the maintenance of the TL as in regulations of electric sector and timely repair when failure occurrence.	The EMP presented this issue.
	Frequently monitor the construction process in order to ensure wastes not be created liberally (uncontrolled).	Agree	The EMP presented this issue.
	Besides assistance as stipulated, request the PO has other assistances when it must implement	Ensure compensation payment in	As per the RP

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
	change in land use purpose.	compliance with the Governmental regulations and Ho Chi Minh City People's Committee.	
	Request the PO to compensate and have policies in order to create the best conditions for the residents to keep their mind on production for early stabilizing their life.		
	PO must coordinate with the district/city site clearance and compensation in order to apply unit price to make the basis of compensation for the local residents.	Agree	As per the RP
Tan Phu Trung commune, Nov. 19th, 2014	T/L crosses over mainly agricultural land of the local people, therefore during the subproject construction process, request not to encroach on land out of the inventoried and compensated land scope. Supplement exhausts and noise mitigation measures round the residential areas.	Ensure land acquisition implementation within the defined scope.	Scope of land acquisition will be set up landmark and the PO will only conduct construction activities in this scope.
	Request to supplement irrigation channel protection measure in order to ensure water for irrigating field.	The project will conduct mitigation measures against erosion and sedimentation in rivers, ponds and irrigation canals as recommended.	The EMP presented this issue.
	All impacts on land and properties of the local people must be inventoried and compensated before construction.	Agree	As per the RP
	Request compensation in compliance with the regulations of the current laws	Ensure compensation payment in compliance with the Governmental regulations and Ho Chi Minh City People's Committee.	As per the RP
Binh Hung Hoa B precinct, Nov.	Request to implement properly and sufficiently the contents of the environmental protection laws,	Ensure the implementation in compliance with	The EMP described that the PO, contractors will

Meeting place and time	Comments/questions of the local authorities and people during the public consultation meetings	Project Owner's/ PECC4 Consultant's answer	Project's response (issues are addressed by EMP or RP)
20th, 2014	decrees.	the regulations of the environmental protection law No. 55/2014/QH13.	comply with the environmental protection law and relevant legal documents when implementing the project.
	Supplement mitigation measures against traffic jam on the current roads where the T/L crosses over.	Agree	The EMP presented this issue.
	For the T/L sections crosses over the underground works, water pipe,…, request the PO and the construction units to have consolidation, treatment measures to ensure properly absolute safety, avoid failures/risks occurrence.	- The PO will require contractors to have protection measures for other underground works if any.	The EMP presented this issue.
Conclusion	All communes agree with construction of the T/L crosses over the area of their precincts/districts.		Follow-up the comments/feedbacks of the public consultation meetings held

B. Information disclosure

197. Formal information disclosure to the affected persons and stakeholders of "Cau Bong - Binh Tan 220-110 kV transmission line" subproject that presented in the IEE aims to the beginning of continued information disclosure and participation of relevant parties as the subproject is implemented. As part of the communication strategy for the relevant parties (stakeholders), regular information exchange meetings with stakeholders are strongly encouraged throughout the implementation of the subproject.

198. IEE must be easily to understand in order that the stakeholders can comment in written and verbal form in local language of Vietnamese. At a minimum, Executive Summary of the IEE should be written in Vietnamese and distributed to all PAPs. IEE should be available on the EVN*HCMC* website, at the EVN*HCMC* office in Ho Chi Minh City, and at the subproject localities. Similarly, all reports on public consultation with the stakeholders, environmental monitoring, and EMP implementation prepared by the EA/IA should be available at the above websites, offices and localities. IEE will be available on the ADB website as well as EMP report that is prepared by the EA/IA after implementation begins.

199. The communal people's committees of Binh Hung Hoa B ward – Binh Tan precinct, Vinh Loc A, Vinh Loc B and Pham Van Hai – Binh Chanh district, Xuan Thoi Thuong, Xuan Thoi Son, Tan Thoi Nhi anh Tan Hiep – Hoc Mon district, and Tan Phu Trung – Cu Chi district, and affected people were received the draft IEE in Vietnamese version during the public consultation process. The final IEE (after receiving the letter of No objection from ADB) will be translated into Vietnamese language, then send to each ward/communal people's committees for disclosure. By doing this, local people and local authorities can easily refer the final IEE.

X. EMERGENCY RESPONSE PLAN

200. The Contractor must develop emergency or incident response procedures during construction and operation phases of the new Cau Bong – Binh Tan 220-110kV Transmission Line 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. The detailed requirements for the ERP are described in Appendix D.

XI. INSTITUTIONAL CAPACITY REVIEW AND NEEDS

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

202. 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.

XII. CONCLUSIONS AND RECOMMENDATION

203. The initial environmental examination of the Cau Bong – Binh Tan 220-110kV Transmission Line subproject in HCMC indicates that potential environmental impacts are construction-related impacts and that can be mitigated and managed.

204. The public consultation meetings underscored the need for effective management of construction impacts such as noise, dust, traffic disruptions, and public safety. Follow-up meetings with the consulted stakeholders to address any construction-related issues are required. 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).

205. 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.

XIII. REFERENCES

- ADB, 2009. Safeguard Policy Statement, ADB Policy Paper.
- ADB, 2003, Environmental Assessment Guidelines of the Asian Development Bank.
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- MOC -Ministry of Construction, 2009. Vietnam building Code 02:2009/BXD.
- PECC4, 2014. Survey report of the Cau Bong – Binh Tan 220-110kV Transmission Line.
- South environment and meteo-hydrology sub-institute, 2012. Underground water quality report.
- Technology and Environment Researching Center, 2014. Base Environmental Analysis report.
- World Bank Group, 2007. Environmental, Health, and Safety Guidelines. Washington DC, 96 pgs.

APPENDICES

Appendix A. Rapid Environmental Assessment (REA) Checklist.

Appendix B. Minutes of Public Consultation Meetings.

Appendix C. Emergency response plan.

Appendix D: Vietnamese EIA certificate

Appendix A: Rapid Environmental Assessment (REA) 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	220-110kV Cau Bong - Binh Tan 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	
▪ Mangrove		X	
▪ Estuarine		X	
▪ Buffer zone of protected area		X	
▪ Special area for protecting biodiversity		X	
B. Potential Environmental Impacts Will the Sub-project cause…			
▪ Encroachment on historical/cultural areas, disfiguration of landscape and increased waste generation?		x	The subproject is not any near the historical/cultural areas.
▪ 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	There is no river, stream flowing through the subproject area
▪ damage to sensitive coastal/marine habitats by construction of submarine cables?		x	There are no submarine cables to be installed by the subproject.
▪ Deterioration of surface water quality due to silt runoff, sanitary wastes from worker-based camps and chemicals used in construction?		x	Construction waste water is discharged into the surface water; the turbidity parameter of water is raised by that. The mitigation measures will

Screening Questions	Yes	No	Remarks
			be implemented.
▪ Increased local air pollution due to rock excavation and filling, crushing?		x	There is no rock excavation and filling, crushing for constructing the subproject. Only use rock for concrete and preventing from collapse with 4 x 6 dimensions.
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?	x		To minimize potential risks, an Occupational Health and Safety Plan (OHSP) will be developed and implemented.
▪ chemical pollution resulting from chemical clearing of vegetation for site clearance?		x	No used chemical clearing of vegetation.
▪ noise and vibration due to blasting and other civil works?		x	Minor impact level due to noise and vibration occurred during movement of construction vehicles along access road in construction phase
▪ Dislocation or involuntary resettlement of people?		x	There are no households who must be dislocated their houses/structures but there are 99 houses/structures within the ROW. Roof, wall of those structures must be improved or earthed.
▪ Dis-proportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		x	There are not ability happening. The social impact assessments are individual implement.
▪ Social conflicts relating to inconveniences in living conditions where construction interferes with pre-existing roads?	x		Small impact. The traffic will be obstructed during the stretching and scattering conductor. However, the mitigation measures had been advanced with high realization such as: to install scaffolds when stretching conductor through roads; to put the warning plate and barricade; to clean daily site for safe traffic.
▪ Hazardous driving conditions where construction interferes with pre-existing roads?	x		Small impact
▪ Creation of temporary breeding habitats for vectors of disease such as mosquitoes and rodents?		x	There are no water pools for a long time by subproject. Site always are cleaned and reinstated after the complete work.
▪ Dislocation and compulsory resettlement of people living in right-of-way of the power transmission lines?		x	The AH who have affected land is only acquired 8.26% of his landholding. There are no houses that are influenced by subproject.
▪ Environmental disturbances associated with the maintenance of lines (e.g. routine control of vegetative height under the lines)?		x	Light impact. Only cut top and branch of trees that are higher than regulated height in the Decree No. 14/2014/ND-CP dated 26 February 2014.
▪ Facilitation of access to protected areas in case corridors traverse protected areas?		x	There are no protected areas in subproject area.
▪ Disturbances (e.g. noise and chemical pollutants) if herbicides are used to control vegetative height?		x	The herbicide is not used.
▪ Large population influx during project		x	The proposed labour is 65 people.

Screening Questions	Yes	No	Remarks
construction and operation that cause increased burden on social infrastructure and services (such as water supply and sanitation systems)?			The houses of local people will be employed for living so that the hygiene system and water supply system are not built.
▪ Social conflicts if workers from other regions or countries are hired?	x		Hiring workers to the subproject construction site can cause some impacts on local communes. For mitigation, contractors will be given preference to employ labour who is the local people.
▪ Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?	x		There are no workers camps are built but hired local houses. Diseases can communicate. The hygiene area of hired local houses can not ensure. The Contractor shall implement measures to ensure the hygiene and health of workers and local people.
▪ Risks to community safety associated with maintenance of lines and related facilities?		x	The risk from operation is rarely happen. A safe plan are prepared and implemented by operation unit.
▪ Community health hazards due to electromagnetic fields, tower fall down, lightning, land subsidence, lowered groundwater table?	x		Small impact. - For electromagnetic field of the underground cable will not affect outside of cable. The electric potential will decrease by XLPE electrical insulation layer and their value will be Zero outside of cable cover. - The transmission line is designed according to the electromagnetic current standards so that electromagnetic field not impact public health. The electromagnetic field is periodically surveyed every six months; to put the emergency warning plate.
▪ 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 are no transport, use, store and disposal of materials such as explosives for the subproject. The petrol using for machines, equipment and transport that will be bought at the depot in area, that are not stored and transported.
▪ Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the subproject (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		Low risk level. These risks may be happened only at locations of the tower but that may be collapsed 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 probably stand the earthquake. Also, in the process of maintenance, the operate unit will conduct regular inspection for timely

Screening Questions	Yes	No	Remarks
			detection and treatment.

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks	**Yes**	**No**	**Remark**
▪ Is the Subproject area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes?	x		The subproject area has been suffered by local flood due to rain (flooded level about 20-30 cm). This is because of the effects of the urbanization process in the region. Also, the area has elevation about 5-10m which can be affected by tides and sea water level rises due to climate change.
▪ Could changes in precipitation, temperature, salinity, or extreme events over the Subproject lifes pan affect its sustainability or cost?		X	
▪ Are there any demographic or socio-economic aspects of the Subproject area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?		X	
▪ Could the Subproject 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	

Appendix B. Minutes of public consultation

- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Vinh Loc B commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Vinh Loc A commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Pham Van Hai commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Xuan Thoi Thuong commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Xuan Thoi Nhi commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Xuan Thoi Son commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Tan Hiep commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Tan Phu Trung commune.
- Minute of public consultation meeting on environmental impact assessment, environmental management plan at Biình Hung Hoa B ward.

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, KẾ HOẠCH QUẢN LÝ MÔI TRƯỜNG

1. Thành phần tham dự:

1. Ông (Bà). Ng.uyễn. Minh. Hiền.....Chức vụ....C.T...UB.N.D..Vĩnh..hội B
2. Ông (Bà). Lại..Thị..Bích..Trâm.....Chức vụ...P.C.T...UBND.....
3. Ông (Bà). Nguyễn..văn..Hùng.....Chức vụ....CT...UBND.....
4. Ông (Bà)..Nguyễn..Đức...Hoàng.....Chức vụ..Đơn.vị..tư.vấn..Recc 4
5. Ông (Bà)..Nguyễn..văn.Thanh.....Chức vụ..Đơn.vị..tư.vấn..Recc 4
6. Ông (Bà).....Chức vụ.....
7. Ông (Bà).....Chức vụ.....

2. Nội dung tham vấn:

- ***Tư vấn thiết kế giới thiệu dự án:*** Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.

- ***Tư vấn môi trường trình bày về:*** Chính sách ADB; các quy định về môi trường trong ngành điện của Chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.

- ***Tư vấn xã hội/tái định cư trình bày về:*** Kế hoạch tái định cư của ADB; Những tác động chính khi thu hồi đất và tài sản trên đất; Những chính sách của Chính phủ Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi nhà nước thu hồi đất; Các tác động thu hồi đất/ tái định dự kiến trên địa bàn.

3. Ý kiến thảo luận:

76

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Trong quá trình thi công để ngăn chặn sự cố thì công cần phải có biển báo, rào chắn xung quanh khu vực thi công nhằm tránh xảy ra các tai nạn đáng tiếc.

- Để ngăn chặn sự thi công cần có các biện pháp giảm thiểu ảnh hưởng đến môi trường: bụi, khí thải và nhất là tiếng ồn nhằm tránh ảnh hưởng đến người dân xung quanh.

- Đối với các công trình ngầm cần phải có biện pháp phòng ngừa, ứng phó sự cố (lụp hầm, bể cống ngầm, chạm cáp điện...)

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

- Hạn chế ảnh hưởng đến cây cối, hoa màu trong quá trình thi công của người dân.

- Phối hợp chặt chẽ với địa phương làm tốt công tác bồi thường tránh xảy ra hiện tượng khiếu nại không cần thiết trong quá trình thực hiện.

- Để ngăn chủ đầu tư thực hiện theo quy định của thành phố và chính phủ Việt Nam. Tuy nhiên, chủ đầu tư cần phải có phương án hỗ trợ thỏa đáng cho các hộ bị ảnh hưởng.

4. Kết luận:

Địa phương thống nhất chủ trương dự án đi qua trên địa bàn

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Be		TM.UBND XÃ VĨNH LỘC B
Trần văn bé	Nguyễn Đức Hoàng	CHỦ TỊCH
		Nguyễn Minh Hiền

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Nguyễn Hoàng long	✓		
2	Lê văn Vũ	✓		
3	Trần văn Bé	✓		
4	Nguyễn Minh Tín	✓		
5	Nguyễn Quốc Phú	✓		
6	Nguyễn Hoàng Bảo	✓		
7	Trần Công Minh	✓		
8	Nguyễn thị Thuý		✓	
9	Nguyễn Quốc Dũng	✓		
10	Phạm văn Phước	✓		
11	Nguyễn Thành Tâm	✓		
12	Nguyễn Quốc Cường	✓		
13	Lê thị Thuỳ		✓	
14	Nguyễn thị Thuý		✓	
15	Nguyễn Quốc Dũng	✓		
16	Trần văn Chiến	✓		
17	Đặng thị Liên		✓	
18	Dương Trung Kiên	✓		
19	Nguyễn văn Lành	✓		
20				
21				

79

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, KẾ HOẠCH QUẢN LÝ MÔI TRƯỜNG

1. Thành phần tham dự:

1. Ông (Bà). Trần Thế Vinh ..... Chức vụ. PCT UBND Vĩnh Lộc A
2. Ông (Bà). Nguyễn Hữu Thanh ..... Chức vụ. CT UBMTTQ
3. Ông (Bà). Nguyễn Đức Hoàng ..... Chức vụ. Đại diện tư vấn PECC4
4. Ông (Bà). Nguyễn Văn Thanh ..... Chức vụ. Đại diện tư vấn PECC4
5. Ông (Bà) ..... Chức vụ .....
6. Ông (Bà) ..... Chức vụ .....
7. Ông (Bà) ..... Chức vụ .....

2. Nội dung tham vấn:

- ***Tư vấn thiết kế giới thiệu dự án:*** Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.
- ***Tư vấn môi trường trình bày về:*** Chính sách ADB; các quy định về môi trường trong ngành điện của Chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.
- ***Tư vấn xã hội/tái định cư trình bày về:*** Kế hoạch tái định cư của ADB; Những tác động chính khi thu hồi đất và tài sản trên đất; Những chính sách của Chính phủ Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi nhà nước thu hồi đất; Các tác động thu hồi đất/ tái định dự kiến trên địa bàn.

3. Ý kiến thảo luận:

80

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Cần có các phương án bố trí các nhà vệ sinh lưu động phù hợp để phục vụ nhu cầu sinh hoạt của công nhân nhằm tránh ảnh hưởng đến môi trường xung quanh.

- Trong quá trình thi công để nghị chủ dự án có biện pháp nhằm giảm thiểu xói mòn đất do quá trình đào đắp, san nền, xây dựng móng cột.

- Kiến nghị chủ dự án phối hợp chặt chẽ với địa phương làm tốt công tác quản lý công nhân ngăn chặn các tệ nạn xảy ra trên địa bàn.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

- Đề nghị chủ đầu tư bồi thường thiệt hại trước khi thực hiện việc thu hồi đất giải phóng mặt bằng xây dựng công trình.

- Việc hiện đến ảnh hưởng của dự án cần có sự tham gia của địa phương, chủ đầu tư với người dân nhằm đảm bảo công bằng.

4. Kết luận:

Hoàn toàn ủng hộ dự án đi qua địa bàn.

81

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Nguyễn Gia Học	Nguyễn Đức Hoàng	CHỦ TỊCH Trần Thế Vinh

92

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Đào Văn Ngon	✓		
2	Nguyễn Của Học	✓		
3	Vũ Thị Hường		✓	
4	Nguyễn Việt Tuấn	✓		
5	Đào Thị Chuông		✓	
6	Nguyễn văn Huấn	✓		
7	Đỗ Văn Vệ	✓		
8	Nguyễn Văn Đài	✓		
9	Hoàng Thị Lan		✓	
10	Trần Trọng Hoành	✓		
11	Trần văn Tâm	✓		
12	Nguyễn Minh Thái	✓		
13	Vũ Minh Hồng	✓		
14	Trần Nguyên Hợp	✓		
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83

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

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

1. Thành phần tham dự:

1. Ông (Bà) Nguyễn Tiến Dũng ..... Chức vụ CT UBND Xã Phạm Văn Hoi
2. Ông (Bà) Nguyễn Văn Huy ..... Chức vụ Cán bộ địa chính
3. Ông (Bà) Nguyễn Đức Hoàng ..... Chức vụ Đơn vị Tư vấn Pecc4
4. Ông (Bà) Nguyễn Văn Thanh ..... Chức vụ Đơn vị Tư vấn Pecc4
5. Ông (Bà)..... Chức vụ.....
6. Ông (Bà)..... Chức vụ.....
7. Ông (Bà)..... Chức vụ.....

2. Nội dung tham vấn:

- Tư vấn thiết kế giới thiệu dự án: Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.

- Tư vấn môi trường trình bày về : Chính sách ADB; Các quy định về môi trường trong ngành điện của chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.

- Tư vấn xã hội/tái định cư trình bày về: Kế hoạch tái định cư của ADB; Những tác động khi thu hồi đất và tài sản trên đất; Những chính sách của chính Phủ Việt Nam và địa phương, chính sách của dự án trong vấn bồi thường thiệt khi nhà nước thu hồi đất và tài sản trên đất; Các tác động thu hồi đất/tái định cư dự kiến trên địa bàn.

3. Ý kiến thảo luận:

84

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

Dự án đi qua khu vực đất nông nghiệp là chủ yếu khu vực này xa dân cư nên vấn đề về môi trường không ảnh hưởng lớn.

- Trong quá trình thực hiện phối phối hợp chặt chẽ với địa phương để tránh các trường hợp đáng tiếc xảy ra.

- Tổ chức dọn dẹp vệ sinh lại hiện trạng ban đầu ngay sau khi kết thúc xây dựng.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

Đề nghị thực hiện theo đúng đầy đủ các quy định của pháp luật hiện hành.

4. Kết luận:

Đề phương thống nhất dự án đi qua.

85

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
trần văn dũng	Ng Đức Hoàng	CHỦ TỊCH Nguyễn Chí Dũng

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Nguyễn văn Hứa	✓		
2	Trần văn Thông	✓		
3	Thái Thị Sạn		✓	
4	Nguyễn Thị Lan		✓	
5	Nguyễn Minh Thắng	✓		
6	Phan thị Nữ		✓	
7	Nguyễn văn Minh	✓		
8	Lê thị tài		✓	
9	Phan Quang Ngọc	✓		
10	Nguyễn Đình Bá	✓		
11	Huỳnh xuân nhẻ	✓		
12	Nguyễn Nhật Tân	✓		
13	Lê Công Phước	✓		
14	Phạm Thị Tính		✓	
15	Nguyễn văn Ty	✓		
16	Nguyễn văn Sang	✓		
17	Nguyễn văn Tâm	✓		
18	Nguyễn Thị Loan		✓	
19	Bùi Xuân Thanh	✓		
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21				

87

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, KẾ HOẠCH QUẢN LÝ MÔI TRƯỜNG

1. Thành phần tham dự:

1. Ông (Bà). Nguyễn Thị Hồng Nhi ....Chức vụ. P.C.T. UBND. Xuân Thới Thượng
2. Ông (Bà). Phạm Thị Hoa .....Chức vụ. P.C.T. UBMTTQ .....
3. Ông (Bà). Phạm Tường Hậu .....Chức vụ. Cán bộ văn Phòng
4. Ông (Bà). Nguyễn Đức Hoàng .....Chức vụ. Đơn vị tư vấn PECC4
5. Ông (Bà). Nguyễn Văn Thanh .....Chức vụ. Đơn vị tư vấn PECC4
6. Ông (Bà).....Chức vụ.....
7. Ông (Bà).....Chức vụ.....

2. Nội dung tham vấn:

- ***Tư vấn thiết kế giới thiệu dự án:*** Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.
- ***Tư vấn môi trường trình bày về:*** Chính sách ADB; các quy định về môi trường trong ngành điện của Chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.
- ***Tư vấn xã hội/tái định cư trình bày về:*** Kế hoạch tái định cư của ADB; Những tác động chính khi thu hồi đất và tài sản trên đất; Những chính sách của Chính phủ Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi nhà nước thu hồi đất; Các tác động thu hồi đất/ tái định dự kiến trên địa bàn.

3. Ý kiến thảo luận:

88

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Dự án có đi qua một số tuyến đường giao thông của địa phương với phương tiện qua lại lớn nên khi thi công các tuyến đường này phải được đảm bảo giao thông thông thoáng và tránh tai nạn xảy ra.

- Đối với các chất thải rắn: rác thải xây dựng, rác thải sinh hoạt của công nhân phải được thu gom và vận chuyển đến các bãi rác của địa phương.

- Công tác phòng chống ảnh hưởng của điện từ trường phải được quan tâm tránh ảnh hưởng đến sức khỏe của người dân xung quanh dự án.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

- Bồi thường cảnh hưởng của dự án đến đất đai, cây cối hoa màu được thực hiện công khai, công bằng và trước khi thu hồi đất, giải phóng mặt bằng xây dựng công trình.

- Đề nghị thực hiện đúng và đầy đủ các quy định của pháp luật.

4. Kết luận:

- Địa phương thống nhất chủ trương dự án.

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Đào Văn Hoàng	Nguyễn Đức Hoàng	KT. CHỦ TỊCH PHÓ CHỦ TỊCH Nguyễn Thị Hồng Nhi

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Đào văn Hoàng	✓		
2	Nguyễn thị Liễu	✓		
3	Trần văn Đưới	✓		
4	Trịnh Anh Thắng	✓		
5	Nguyễn văn Danh	✓		
6	Nguyễn Ngọc Minh	✓		
7	Nguyễn văn Vương	✓		
8	Trần văn Công	✓		
9	Đỗ Minh Cường	✓		
10	Nguyễn Minh Tuấn	✓		
11	Trần văn Hợp	✓		
12	Trần văn Hiền	✓		
13	Nguyễn văn Hoàng	✓		
14	Huỳnh văn Ơn	✓		
15	Nguyễn thị Ly		✓	
16	Nguyễn văn Bánh	✓		
17	Trần văn Tài	✓		
18				
19				
20				
21				

CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, KẾ HOẠCH QUẢN LÝ MÔI TRƯỜNG

1. Thành phần tham dự:

1. Ông (Bà) Nguyễn Thanh Lợi ..... Chức vụ PCT UBND Tân Thới Nhì
2. Ông (Bà) Nguyễn Thị Nga ..... Chức vụ CT UBMTTG .....
3. Ông (Bà) Nguyễn Đức Hoàng ..... Chức vụ Đơn vị tư vấn Pecc4
4. Ông (Bà) Nguyễn Văn Thanh ..... Chức vụ Đơn vị tư vấn Pecc4
5. Ông (Bà) ..... Chức vụ .....
6. Ông (Bà) ..... Chức vụ .....
7. Ông (Bà) ..... Chức vụ .....

2. Nội dung tham vấn:

- ***Tư vấn thiết kế giới thiệu dự án:*** Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.
- ***Tư vấn môi trường trình bày về:*** Chính sách ADB; các quy định về môi trường trong ngành điện của Chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.
- ***Tư vấn xã hội/tái định cư trình bày về:*** Kế hoạch tái định cư của ADB; Những tác động chính khi thu hồi đất và tài sản trên đất; Những chính sách của Chính phủ Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi nhà nước thu hồi đất; Các tác động thu hồi đất/ tái định dự kiến trên địa bàn.

3. Ý kiến thảo luận:

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Việc vận chuyển nguyên vật liệu xây dựng, thiết bị phục vụ thi công làm tăng mật độ giao thông, nguy cơ hư hỏng, lún sụt mặt đường. Để ngăn chặn vấn đề này, nhà thầu thi công cần có các biện pháp phù hợp tránh xảy ra các vấn đề trên.

- Chủ đầu tư và đơn vị thi công phải có trách nhiệm sửa chữa hoặc đền bù bằng tiền đối với các tuyến đường do nhân dân đóng góp, trong trường hợp làm hư hỏng trong quá trình vận chuyển thi công.

- Trong xây dựng, kiến nghị chủ đầu tư sử dụng nhân lực địa phương để làm những việc không đòi hỏi kỹ thuật cao để tạo công việc cho người dân địa phương và tránh chuyển công nhân từ nơi khác đến mất trật tự an ninh.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

- Thi công dứt điểm, nhanh chóng từng hạng mục của dự án để giảm thời gian chiếm dụng đất.

- Các thiệt hại được bồi thường, hỗ trợ theo các quy định hiện hành của nhà nước và của UBND thành phố Hồ Chí Minh.

- Chủ dự án đảm bảo ngân sách thực hiện công tác bồi thường, hỗ trợ và giải phóng mặt bằng cho dự án.

4. Kết luận:

- Thống nhất chủ trương của dự án.
- Đề nghị chủ đầu tư thực hiện đúng các ý kiến trên.

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Diep Nguyễn Văn Diệp	Nguyễn Đức Hoàng	PHÓ CHỦ TỊCH Nguyễn Thanh Lộ

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Nguyễn văn Hiệp	✓		
2	Huỳnh Thanh Tâm	✓		
3	Phương Thị mỹ Huyền		✓	
4	Trần Mạnh Quỳnh	✓		
5	Nguyễn Thế Vinh	✓		
6	Lê Xuân Tường	✓		
7	Võ Ngọc Đài	✓		
8	Lê Bái	✓		
9	nguyễn văn Đông	✓		
10	Đoàn Công Tính	✓		
11	Trần Duy Sơn	✓		
12	Đỗ văn Lâm	✓		
13	Lê Đăng Học	✓		
14	Bùi minh Hường	✓		
15	Lý Xuân Thanh	✓		
16	Đỗ văn Cảnh	✓		
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CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, KẾ HOẠCH QUẢN LÝ MÔI TRƯỜNG

1. Thành phần tham dự:

1. Ông (Bà)..Tô..Văn..Phúc.....Chức vụ..P.C.T...UBND..Xuân Thới Sơn
2. Ông (Bà)..Nguyễn..Văn..Hoàng.....Chức vụ...Cán..bộ..địa..chính
3. Ông (Bà)..Nguyễn..Đức...Hoàng.....Chức vụ..Đơn..vị..Tư..vấn..Pecc4
4. Ông (Bà)..Nguyễn..Văn...Thanh.....Chức vụ..Đơn..vị..Tư..vấn...Pecc4
5. Ông (Bà).....Chức vụ.....
6. Ông (Bà).....Chức vụ.....
7. Ông (Bà).....Chức vụ.....

2. Nội dung tham vấn:

- ***Tư vấn thiết kế giới thiệu dự án:*** Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.
- ***Tư vấn môi trường trình bày về:*** Chính sách ADB; các quy định về môi trường trong ngành điện của Chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.
- ***Tư vấn xã hội/tái định cư trình bày về:*** Kế hoạch tái định cư của ADB; Những tác động chính khi thu hồi đất và tài sản trên đất; Những chính sách của Chính phủ Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi nhà nước thu hồi đất; Các tác động thu hồi đất/ tái định dự kiến trên địa bàn.

3. Ý kiến thảo luận:

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Dự án đi qua chủ yếu là khu vực đất nông nghiệp, xa khu vực dân cư xã vậy không ảnh hưởng đến môi trường.

- Đề nghị ủng và đầy đủ các biện pháp quản lý tác động môi trường được các cấp có thẩm quyền phê duyệt.

- Kiến nghị chủ đầu tư sử dụng nhân công của địa phương đối với các công việc.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

- Chi trả bồi thường phải được thực hiện trước thời điểm thu hồi đất, giải phóng mặt bằng xây dựng công trình.

- Chủ đầu tư cam kết thực hiện các thủ tục thu hồi đất, chuyển đổi mục đích sử dụng theo quy định hiện hành.

- Phối hợp chặt chẽ với ban bồi thường, giải phóng mặt bằng khi có khiếu kiện, khiếu nại của người dân.

4. Kết luận:

- Thống nhất chủ trương của dự án.

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
		KT.CHỦ TỊCH PHÓ CHỦ TỊCH
Nguyễn Xuân Hiếu	Nguyễn Đức Hưng	Tô Văn Phúc

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Dương Bá Nghĩa	✓		
2	Đào Sỹ Thuỷ	✓		
3	Nguyễn Xuân Hiếu	✓		
4	Nguyễn văn Nhất	✓		
5	Trần Xuân Viên	✓		
6	Nguyễn Chiến	✓		
7	Nguyễn Sỹ	✓		
8	Lê Công Sinh	✓		
9	Nguyễn Thị Xinh		✓	
10	Nguyễn thị Bé		✓	
11	Trần văn Lâm	✓		
12	Trần văn Thiện	✓		
13	Nguyễn Sỹ Cường	✓		
14	Huỳnh Văn Hằng	✓		
15	Lê văn lai	✓		
16	Huỳnh văn Sanh	✓		
17	Nguyễn Thế Nghĩa	✓		
18	Nguyễn Thị Mỹ		✓	
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CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM

Độc lập - Tự do - Hạnh phúc

BIÊN BẢN THAM VẤN CỘNG ĐỒNG VỀ ĐÁNH GIÁ MÔI TRƯỜNG, KẾ HOẠCH QUẢN LÝ MÔI TRƯỜNG

1. Thành phần tham dự:

1. Ông (Bà)...Trần Minh Tuấn.....Chức vụ....CT....UBND Tân Thập
2. Ông (Bà)...Đỗ Văn Hào.....Chức vụ...Cb...Giao thông - Thuỷ lợi.
3. Ông (Bà)...Ng. Huyền Như Hoàng.....Chức vụ...Tư vấn....PECC4...
4. Ông (Bà)...Ng. Huyền Văn Thanh.....Chức vụ...Tư vấn...PECC4..
5. Ông (Bà).....Chức vụ.....
6. Ông (Bà).....Chức vụ.....
7. Ông (Bà).....Chức vụ.....

2. Nội dung tham vấn:

- ***Tư vấn thiết kế giới thiệu dự án:*** Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.
- ***Tư vấn môi trường trình bày về:*** Chính sách ADB; các quy định về môi trường trong ngành điện của Chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.
- ***Tư vấn xã hội/tái định cư trình bày về:*** Kế hoạch tái định cư của ADB; Những tác động chính khi thu hồi đất và tài sản trên đất; Những chính sách của Chính phủ Việt Nam và địa phương, chính sách của dự án trong vấn đề bồi thường thiệt hại khi nhà nước thu hồi đất; Các tác động thu hồi đất/ tái định dự kiến trên địa bàn.

3. Ý kiến thảo luận:

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Trong quá trình thi công, vận hành phải bảo đảm tuyệt đối an toàn cho người dân sống lân cận.

- Chủ đầu tư cần phải giám sát chặt chẽ các loại chất thải đảm bảo không ảnh hưởng đến đời sống người dân lân cận.

- Trong giai đoạn vận hành thường xuyên bảo trì, bảo dưỡng sửa chữa kịp thời không để các sự cố như: cháy, nổ xảy ra.

- Thường xuyên giám sát quá trình thi công để đảm bảo chất thải không phát thải bừa bãi.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

- Người khản hỗ trợ chung theo quy định, kiến nghị chủ đầu tư nên có các khoản hỗ trợ khác khi phải chuyển đổi mục đích sử dụng đất.

- Đề nghị cơ quan bồi thường và có chính sách tạo điều kiện tốt nhất để bà con yên tâm sản xuất ổn định cuộc sống.

- Chủ đầu tư phải phối hợp với ban giải phóng mặt bằng huyện và thành phố để áp giá cho đúng thời điểm làm cơ sở bồi thường cho người dân.

4. Kết luận:

- Đại phương hoàn toàn ủng hộ dự án đi qua trên địa bàn.

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Nguyễn Văn Tuấn	Nguyễn Đức Hoàng	KT.CHỦ TỊCH PHÓ CHỦ TỊCH Phan Thanh Hiển

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Trần Mạnh Hùng	✓		
2	Nguyễn văn Tuấn	✓		
3	Nguyễn văn Tiến	✓		
4	Bùi văn Lắm	✓		
5	Nguyễn Thị Hải		✓	
6	Trần văn Công	✓		
7	Trần mạnh Diệp	✓		
8	Nguyễn Thái Hiệp	✓		
9	Nguyễn Thế Dũng	✓		
10	Trần Mạnh Tường	✓		
11	Nguyễn Công Lý	✓		
12	Phạm Thị Hiền		✓	
13	Nguyễn Thị Hiền		✓	
14	Lê Hoài Sơn	✓		
15	Diệp Thuận	✓		
16	Nguyễn văn Tâm	✓		
17	Nguyễn Thị Thanh Hoa		✓	
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CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh Phúc

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

1. Thành phần tham dự:

1. Ông (Bà) Đặng Văn Hưng ..... Chức vụ P.CT UBND Tân Thủ Trung
2. Ông (Bà) Đặng Thanh Bảo ..... Chức vụ CT UBMTTQ .....
3. Ông (Bà) Nguyễn Đức Mạng ..... Chức vụ Đơn vị tư vấn Pecc4
4. Ông (Bà) Nguyễn Văn Thanh ..... Chức vụ Đơn vị tư vấn Pecc4
5. Ông (Bà)..... Chức vụ.....
6. Ông (Bà)..... Chức vụ.....
7. Ông (Bà)..... Chức vụ.....

2. Nội dung tham vấn:

- Tư vấn thiết kế giới thiệu dự án: Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.

- Tư vấn môi trường trình bày về : Chính sách ADB; Các quy định về môi trường trong ngành điện của chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.

- Tư vấn xã hội/tái định cư trình bày về: Kế hoạch tái định cư của ADB; Những tác động khi thu hồi đất và tài sản trên đất; Những chính sách của chính Phủ Việt Nam và địa phương, chính sách của dự án trong vấn bồi thường thiệt khi nhà nước thu hồi đất và tài sản trên đất; Các tác động thu hồi đất/tái định cư dự kiến trên địa bàn.

3. Ý kiến thảo luận:

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

Tuyến đường dây đi qua chủ yếu là đất canh tác lúa nông nghiệp của người dân vì vậy trong quá trình thi công dự án đề nghị không triển khai lấn ra ngoài phạm vi bồi thường kiểm đếm. Bổ sung các biện pháp giảm thiểu bụi thải, khí thải, tiếng ồn quanh khu vực dân cư.

- Đề nghị bổ sung các biện pháp bảo vệ tầng nước thủy lợi để làm bão nước tưới tiêu cho đồng ruộng
- Mọi ảnh hưởng đến đất và tài sản của người dân đều phải được kiểm đếm và bồi thường trước khi thi công.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

Đề nghị bồi thường đúng và đầy đủ theo các quy định pháp luật hiện hành.

4. Kết luận:

Điều phương thống nhất phương án tuyến

405

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Nguyễn Văn Hiền	Nguyễn Đức Hùng	KT CHỦ TỊCH PHÓ CHỦ TỊCH Đặng Văn Hùng

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Nguyễn văn Hiền	✓		
2	Trần văn Tính	✓		
3	Hoàng thị Mỹ Lan		✓	
4	Nguyễn Công Bình	✓		
5	Lê Nguyên Nghĩa	✓		
6	Trần Minh	✓		
7	Phạm văn Nghĩa	✓		
8	Nguyễn văn Đính	✓		
9	Trần công Thìn	✓		
10	Lê Thị Điệp		✓	
11	Nguyễn văn Hoàng	✓		
12	Thái Tân	✓		
13	Trần Thị Lan		✓	
14	Nguyễn thiện Nghĩa	✓		
15	Hồ văn Hưng	✓		
16	Trần văn Kế	✓		
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CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh Phúc

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

1. Thành phần tham dự:

1. Ông (Bà) Trần Văn Trinh ..... Chức vụ PCT UBND Bình Hưng Hòa B
2. Ông (Bà) Chung Mỹ Xuân ..... Chức vụ C.T. UBMTTQ .....
3. Ông (Bà) Nguyễn Thị Mỹ Liên ..... Chức vụ Cán bộ văn phòng
4. Ông (Bà) Nguyễn Đức Hoàng ..... Chức vụ Đơn vị Tư vấn PECCH
5. Ông (Bà) Nguyễn Văn Thanh ..... Chức vụ Đơn vị Tư vấn PECCH
6. Ông (Bà) ..... Chức vụ .....
7. Ông (Bà) ..... Chức vụ .....

2. Nội dung tham vấn:

- Tư vấn thiết kế giới thiệu dự án: Vị trí dự án, quy mô công suất, tổng chiều dài tuyến đường dây, chiều dài đường dây đi qua địa bàn xã.

- Tư vấn môi trường trình bày về : Chính sách ADB; Các quy định về môi trường trong ngành điện của chính phủ Việt Nam. Các tác động môi trường của dự án và các biện pháp giảm thiểu tương ứng. Cơ chế khiếu nại khi có các vấn đề về môi trường xảy ra.

- Tư vấn xã hội/tái định cư trình bày về: Kế hoạch tái định cư của ADB; Những tác động khi thu hồi đất và tài sản trên đất; Những chính sách của chính Phủ Việt Nam và địa phương, chính sách của dự án trong vấn bồi thường thiệt khi nhà nước thu hồi đất và tài sản trên đất; Các tác động thu hồi đất/tái định cư dự kiến trên địa bàn.

3. Ý kiến thảo luận:

3.1. Các vấn đề môi trường tiêu cực và biện pháp giảm thiểu:

- Đề nghị thực hiện theo đúng và đầy đủ các nội dung, các Luật, nghị định bảo vệ môi trường.
- Bố trí các biện pháp giảm thiểu ùn tắc giao thông trên các tuyến đường hiện hữu có tuyến đường dây đi qua.
- Đối với các đoạn băng qua các công trình ngầm: ống nước... đề nghị chủ đầu tư và đơn vị thi công cần có biện pháp giữ cố, xử lý nhằm đảm bảo an toàn tuyệt đối, tránh xảy ra các sự cố đáng tiếc xảy ra.

3.2. Các vấn đề thu hồi đất và tài sản trên đất:

Tuyến đường dây đi qua không qua đất của các hộ dân nên không có vấn đề gì đối với việc thu hồi đất và tài sản trên đất.

4. Kết luận:

Thống nhất phương án tuyến đi qua với địa bàn.

Đại diện hộ bị ảnh hưởng	Đại diện đơn vị tư vấn	Đại diện UBND xã
Toàn Văn Mau	Nguyễn Đức Hà	CHỦ TỊCH PHÓ CHỦ TỊCH Bà Văn Thịnh

110

DANH SÁCH CÁC HỘ THAM GIA CUỘC HỌP THAM VẤN VỀ MÔI TRƯỜNG XÃ HỘI TÁI ĐỊNH CƯ

Dự án: Đường dây 220kV- 110kV Bình Tân - Cầu Bông

STT	Họ tên	Nam	Nữ	Ghi Chú
1	Phan Thị Thanh		X	
2	Phạm Hải Chính	X		
3	Trần Thị Mai		X	
4	Lê Văn Non	X		
5	Trần Văn Giỏi	X		
6	Ngô Thị Hồng		X	
7	Trần Văn Thức	X		
8	Nguyễn Văn Út	X		
9	Trần Văn Mau	X		
10	Bùi Ngọc Hoa	X		
11	Trần Hữu Lễ	X		
12	Huỳnh Văn Thông	X		
13	Nguyễn Văn Giấy	X		
14	Nguyễn Thị Chu	X		
15	Lê Văn Nụ	X		
16	Trần Ngọc Bình	X		
17	Trần Minh Đạt	X		
18	Trần Hoàng Canh	X		
19	Trần Văn Thới	X		
20	Trần Thị Niệm		X	
21	Nguyễn Văn Dân	X		
22	Phan Thị Khanh		X	

List of participants in public consultation meetings

No.	Commune/ ward	Meeting date	Number of participants	Number of female participants	Full name	Position
1	Vĩnh Lộc B commune	Nov. 10th, 2014	21	5	Nguyễn Minh Hiền	Chair of CPC
					Lại Thị Bích Trâm	Deputy chair of CPC
					Nguyễn Văn Hùng	Chair of FFC
					Nguyễn Hoàng Long	AP
					Lê Văn Vũ	AP
					Trần Văn Bé	AP
					Nguyễn Minh Trí	AP
					Nguyễn Quốc Phú	AP
					Nguyễn Hoàng Bão	AP
					Trần Công Ninh	AP
					Nguyễn Thị Thủy	AP
					Nguyễn Quốc Dũng	AP
					Phạm Văn Phước	AP
					Nguyễn Thành Tâm	AP
					Nguyễn Quốc Cường	AP
					Lê Thị Thùy	AP
					Nguyễn Thị Thủy	AP
					Trần Văn Chiến	AP
					Đặng Thị Liên	AP
					Dương Trung Bích	AP
					Nguyễn Văn Lành	AP
2	Vĩnh Lộc A commune	Nov. 11th, 2014	16	4	Trần Thế Vinh	Deputy chair of CPC
					Nguyễn Hoài Thanh	Chair of FFC
					Đào Văn Ngan	AP
					Nguyễn Gia Học	AP
					Vũ Thị Hoàng	AP
					Nguyễn Viết Tuấn	AP
					Đào Thị Chu Cộng	AP
					Nguyễn Văn Huấn	AP
					Đỗ Văn Vệ	AP
					Nguyễn Văn Đắc	AP
					Hoàng Thị Lan	AP
					Trần Trọng Hoành	AP
					Trần Văn Tâm	AP
					Nguyễn Minh Thái	AP
					Võ Minh Hồng	AP
					Trần Nguyên Hợp	AP

No.	Commune/ ward	Meeting date	Number of participants	Number of female participants	Full name	Position
4	Phạm Văn Hai commune	Nov. 12th, 2014	21	6	Nguyễn Chí Dũng	Chair of CPC
					Nguyễn Văn Huy	Commune cadastral officer
					Nguyễn Văn Hứa	AP
					Trần Văn Đông	AP
					Thái Thị Sạn	AP
					Nguyễn Thị Lan	AP
					Nguyễn Minh Thông	AP
					Phan Thị Mỹ	AP
					Nguyễn Văn Minh	AP
					Lê Thị Tài	AP
					Phan Quang Ngọc	AP
					Nguyễn Đình Bá	AP
					Huỳnh Xuân Kế	AP
					Nguyễn Nhật Tân	AP
					Lê Công Phước	AP
					Phạm Thị Tính	AP
					Nguyễn Văn Tý	AP
					Nguyễn Văn Sang	AP
					Nguyễn Văn Tâm	AP
					Nguyễn Thị Loan	AP
					Bùi Xuân Thành	AP
5	Xuân Thới Thượng commune	Nov. 13th, 2014	20	3	Nguyễn Thị Hồng Nhi	Deputy chair of CPC
					Phạm Thị Hoa	Deputy chair of FFC
					Phạm Trung Hậu	Commune office staff
					Đào Văn Hoàng	AP
					Nguyễn Thị Liễu	AP
					Trần Văn Đức	AP
					Trịnh Đình Thắng	AP
					Nguyễn Văn Danh	AP
					Nguyễn Ngọc Minh	AP
					Nguyễn Văn Vương	AP
					Trần Văn Công	AP
					Đỗ Minh Cường	AP
					Nguyễn Minh Tuấn	AP
					Trần Văn Hợp	AP
					Trần Văn Hiền	AP
					Nguyễn Văn Hoàng	AP
					Huỳnh Văn Ơn	AP

No.	Commune/ ward	Meeting date	Number of participants	Number of female participants	Full name	Position
					Nguyễn Thị Ly	AP
					Nguyễn Văn Bánh	AP
					Trần Văn Tài	AP
6	Tân Thới Nhì commune	Nov.14th, 2014	17	2	Nguyễn Thành Lợi	Deputy chair of CPC
					Nguyễn Thị Nga	Chair of FFC
					Nguyễn Văn Điệp	AP
					Huỳnh Thành Tâm	AP
					Trương Thị Mỹ Huyền	AP
					Trần Mạnh Quỳnh	AP
					Nguyễn Thế Vinh	AP
					Lê Xuân Tưởng	AP
					Võ Ngọc Trí	AP
					Lê Bá	AP
					Nguyễn Văn Đông	AP
					Đoàn Công Tính	AP
					Trần Duy Sản	AP
					Đỗ Văn Lâm	AP
					Lê Đăng Lộc	AP
					Bùi Minh Nhượng	AP
					Đỗ Văn Gắn	AP
7	Xuân Thới Sơn commune	Nov. 17th, 2014	20	3	Tô Văn Phúc	Deputy chair of CPC
					Nguyễn Văn Hoàng	Commune cadastral officer
					Dương Bá Nghĩa	AP
					Đào Sỹ Thủy	AP
					Nguyễn Xuân Hữu	AP
					Nguyễn Văn Nhật	AP
					Trần Xuân Viên	AP
					Nguyễn Chiến	AP
					Nguyễn Sỹ	AP
					Lê Công Sinh	AP
					Nguyễn Thị Bé	AP
					Trần Văn Lâm	AP
					Trần Văn Thiện	AP
					Nguyễn Sỹ Cường	AP
					Huỳnh Văn Hồng	AP
					Lê Văn Lai	AP
					Huỳnh Văn Sanh	AP
					Nguyễn Thế Nghĩa	AP
					Nguyễn Thị Mỹ	AP

No.	Commune/ ward	Meeting date	Number of participants	Number of female participants	Full name	Position
					Nguyễn Thị Xinh	AP
8	Tân Thiệp commune	Nov. 18th, 2014	19	4	Trần Minh Tuấn	Chair of CPC
					Đỗ Văn Hào	Trafic and irrigation staff
					Trần Mạnh Hùng	AP
					Nguyễn Văn Tuấn	AP
					Nguyễn Văn Tiến	AP
					Bùi Văn Lắm	AP
					Nguyễn Thị Hà	AP
					Trần Văn Công	AP
					Trần Mạnh Diệp	AP
					Nguyễn Thái Hiệp	AP
					Nguyễn Thế Dũng	AP
					Trần Mạnh Tường	AP
					Nguyễn Công Lữ	AP
					Phạm Thị Hiền	AP
					Nguyễn Thị Liên	AP
					Lê Hoài Sơn	AP
					Diệp Thuận	AP
					Nguyễn Văn Tâm	AP
					Nguyễn Thị Thanh Loan	AP
9	Tân Phú Trung commune	Nov. 19th, 2014	18	3	Đặng Văn Hùng	Deputy chair of CPC
					Đặng Thành Bảo	Chair of FFC
					Nguyễn Công Bình	AP
					Lê Nguyên Nghĩa	AP
					Trần Minh Tuấn	AP
					Phạm Văn Nghĩa	AP
					Nguyễn Văn Đính	AP
					Trần Công Thìn	AP
					Lê Thị Điệp	AP
					Nguyễn Văn Hoàng	AP
					Thái Tâm	AP
					Trần Thị Lan	AP
					Nguyễn Thiện Nghĩa	AP
					Lê Văn Hưng	AP
					Trần Văn Kế	AP
					Nguyễn Văn Hiển	AP
					Trần Văn Tính	AP
					Hoàng Thị Mỹ Lan	AP
10	Bình Hưng	Nov.	25	5	Tô Văn Thịnh	Deputy chair of CPC

No.	Commune/ ward	Meeting date	Number of participants	Number of female participants	Full name	Position
	Hòa B ward	20th, 2014			Chung Mỹ Trân	Chair of FFC
					Nguyễn Thị Mỹ Liên	Commune office staff
					Phan Thị Thanh	AP
					Phạm Hải Chính	AP
					Trần Thị Mai	AP
					Lê Văn Non	AP
					Trần Văn Giỏi	AP
					Ngô Thị Hông	AP
					Trần Văn Thực	AP
					Nguyễn Văn Út	AP
					Trần Văn Mau	AP
					Bùi Ngọc Hoa	AP
					Trần Hữu Lê	AP
					Huỳnh Văn Thông	AP
					Nguyễn Văn Giấy	AP
					Nguyễn Thị Chu	AP
					Lê Văn Nụ	AP
					Trần Ngọc Bình	AP
					Trần Minh Đạt	AP
					Trần Hoàng Oanh	AP
					Trần Văn Đức	AP
					Trần Thị Niệm	AP
					Nguyễn Văn Dân	AP
					Phan Thị Khanh	AP

Some photos of public consultation

	
Public consultation meeting at Phạm Văn Hai commune	Public consultation meeting at Xuân Thới Thượng commune
	
Public consultation meeting at Vĩnh Lộc B commune	Public consultation meeting at Xuân Thới Thượng commune

Appendix C: 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:

- Emergency Response Team (ERT) of the Contractor as initial responder;
- 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 technical requirements, human and financial resources for quick response during construction.

Table 1: Roles and Responsibilities in Emergency Incident Response

Entity	Responsibilities
Contractor Team (CERT)	- 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)	- Solves the emergency/incident
Contractor Resources	- 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 CERT 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 CERT.

4. The Contractor will ensure that CERT 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 PO/PMB, 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;

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 CERT;

ii) set up all support equipment and facilities in working condition

iii) made arrangements with the EERT;

iv) conduct proper training of CERT members, and encouraged trained volunteers from the labour force;

v) conduct orientation to all construction workers on the emergency response procedures at grassroots level, particularly evacuation procedures, evacuation routes, among others; and

vi) conduct 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 CERT

(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; ii) estimated magnitude of the situation; iii) estimated persons harmed; iv) 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.
- PMB 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 2: Evacuation Procedure

Procedure	Remarks
Move out as quickly as possible as a group, but avoid panic	All workers/staff, sub-contractors, site visitors to move out, guided by the CERT
Evacuate through the directed evacuation route	The evacuation route shall have been determined fast by the ERTL/Deputy ERTL and immediately communicated to CERT members
Keep moving until everyone is safely away from the emergency site and its influence area	A restricted area must be established outside the emergency site, all to stay beyond the restricted area
Once outside, conduct head counts	Foremen to do head counts of their sub-groups; ERTL/Deputy ERTL of the CERT.
Report missing persons to EERT immediately	ERTL/Deputy ERTL to communicate with the EERT
Assist the injured in evacuation and hand them over to the CERT first-aiders or EERT medical group	CERT must manage injured persons to ensure proper handling.
If injury warrants special care, DO NOT MOVE them, unless necessary and instructed/directed by the EERT	ERTL/Deputy ERTL communicates with EERT to get instructions/directions in handling the injured.

Table 3: Response Procedure During Medical Emergency

Procedure	Remarks
Administer First Aid regardless of severity immediately.	Fundamentals when giving First Aid: - Safety first of both the rescuer and the victim.

	- 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.
Call the EERT emergency medical services and/or nearest hospital.	ERTL/Deputy ERTL or authorized on-site emergency communicator
Facilitate leading the EERT to the emergency site	ERTL/Deputy ERTL to instruct: - an CERT 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 CERT members to clear access road for smooth passage of the EERT
If applicable, vacate site and influence area at once, restrict site, suspend work until further notice.	Follow evacuation procedure

Table 4: Response Procedure in Case of Fire

Procedure	Remarks
Alert a fire situation	Whoever detects the fire shall immediately: - call the attention of other people in the site, - sound the nearest alarm, - any CERT member among the construction sub-group contacts the fire department (in this case it should be agreed on that it is alright for any CERT member in the sub-group to alert the fire department) - Report/communicate the emergency situation to the ERTL/Deputy ERTL.
Stop all activities/operations and evacuating	All (non-CERT) workers/staff sub-contractors, site visitors and concerned public to move out to safe grounds following the evacuation procedure
Activate CERT to control fire from spreading	Guided by the training they undertook, CERT members assigned to mitigate the fire shall assess their own safety situation first before attempting to control fire spread
Call the nearest fire and police stations, if applicable	When alerting the EERT, ERTL will give the location, cause of fire, estimated fire alarm rating, any injuries.
Facilitate leading the EERT to the emergency site	ERTL/Deputy ERTL to instruct: - An CERT 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 CERT members to control the traffic in the access road to facilitate passage of the EERT in location.
CERT evacuate the site as soon as, if applicable	Follow appropriate evacuation procedure

Appendix D. Vietnamese EIA certificate

HO CHI MINH CITY PEOPLE'S COMMITTEE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
Ref.No.: 737/QD-TNMT-CCBVMT

SOCIALIST REPUBLIC OF VIET NAM
Independence – Freedom – Happiness

Ho Chi Minh City, 15 June 2015

DECISION

Regarding approval on environmental impact assessment report of "220kV -110kV Cau Bong – Binh Tan transmission line" project at Binh Tan, Binh Chanh, Hoc Mon and Cu Chi districts of Ho Chi Minh City gird power projects management board

DIRECTOR OF DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT – HO CHI MINH CITY

Pursuant to Law on environmental protection dated June 23th, 2014;

Pursuant to Decree No. 18/2015/ND-CP dated February, 14th 2015 by the Government (GOV) on strategic environment assessment, environmental impact assessment and environment protection plan;

Pursuant to Decision No. 121/2003/QDD-UB dated July 18th 2003 by Ho Chi Minh people's committee on Department of Natural resources and environment;

Pursuant to Decision No. 04/2012/QD-UBND dated 31 January 2012 by Ho Chi Minh people's committee on change of organization regime of Environmental Protection Branch of Department of Natural resources and environment;

According to the suggestion of Evaluation Committee of environmental impact assessment report of "220kV-110kV Cau Bong – Binh Tan transmission line" project at Binh Tan, Binh Chanh, Hoc Mon, and Cu Chi districts of Ho Chi Minh City of Ho Chi Minh City Grid Power projects management board, which was met in January 14th, 2015 at Department of natural resources and environment;

Consider the revised and supplemented report on environmental impact assessment of "220kV-110kV Cau Bong – Binh Tan transmission line" project at Binh Tan, Binh Chanh, Hoc Mon, and Cu Chi districts of Hoc Chinh Minh City of Ho Chi Minh City attached letter No. 1633/ALD-CBDT dated May 6th, 2015 by Ho Chi Minh City Grid Power projects management board;

According to the suggestion of Chairman of of Environmental Protection Brach.

DECISION:

Article 1. Approve the contents of the environmental impact assessment report of "220kV-110kV Cau Bong – Binh Tan transmission line" project at Binh Tan, Binh Chanh, Hoc Mon, and Cu Chi districts of Hoc Chinh Minh City of Ho Chi Minh City which is established by Ho Chi Minh City Grid Power projects management board (after here called Project Owner with the following main contents:

1. Scope and scale of the project:

1.1. Scope: “220kV-110kV Cau Bong – Binh Tan transmission line” project has total 31,884m in length crossing over Binh Tan, Binh Chan, Hoc Mon and Cu Chi districts, in Ho Chi Minh city.

1.2. Scale: including 2 main items:

- Underground cable:

  + Voltage level: 110kV;

  + number of circuit: double circuit;

  + starting point: busbar of the existing 220/110kV GIS Binh Tan substation

  + ending point: at G3 angle of the 220kV – 110kV Cau Bong – Binh Tan transmission line

  + Length of the route: about 4,417m;

  + cable: XLPE-1200;

  + Optimal cable: intergrated with the XLPE-1200 cable;

  + Insulator: polymer with 70kN and 160kV loading capacity

  + Connection point: Galvanized steel’

  + Foundation: Reinforced concrete;

  + Grounding wire: two round steel rods Φ12;

  + Right of way: to 01m each side from the outermost cable

- Overhead transmission line:

  + voltage level: 110kV and 220kV;

  + Number of circuit: double circuit of 110kV mixed with four circuits including 110kV and 220kV for each double circuit

  + Starting point: at G3 angle of the 220-110kV Cau Bong – Binh Tan TL for the 110kV TL section; and at G15 angle of the 220-110kV Cau Bong – Binh Tan TL for the 220kV TL section.

  + Ending point: at 110kV bar of the existing 500/220/110kV Cau Bong substation for the 110kV TL section; at 220kV bar of the existing 500/220/110kV Cau Bong substation for the 220kV TL section (but in this phase, the ending point of the 220kV TL is G44);

  + Length of the route: about 27,467m;

  + Conductor: ACSR 400/51; phase diving into 2xACSR 330/43;

  + Fighting wire: pastel 147.1;

  + Optical cable: OPGW 120;

  + Insulator: polymer with 70kN and 160kN loading capacity;

  + tower: gavalnized steel, single steel pipe with two and four circuits;

  +Foundation: Reinforced concrete;

  + Earthing wire: round steel rod D12;

  Right of way of 220kV – 110kV TL: to 6m each side from the outermost conductor wire of the 220kV

+ Right of way of 110kV TL: to 4m each side from the outermost conductor wire

2. Requirements of environmental protection for the project:

2.1. Implement mitigation measures, population treatment during construction phase for dust, noise, vibration, emission, sewage and solid waste, which complies to national technical regulations on environment such as QCVN 05:2013/BTNMT; QCVN 06:2009/BTNMT; QCVN 26:2010/BTNMT; QCVN 27/2010/BTNMT; QCVN 14:2008/BTNMT; apply mitigation measures for impacts on traffic activity in the project area and communication wire, other power lines during construction phase of the project;

2.2. Classification, storing and contracting with a specialized agency to collect, transport, treat normal waste, and hazardous waste under the current regulations.

2.3. Implement mitigation measures for impacts on electromagnetic field, safety in grounding wire for houses under the ROW;

2.4. Implement labour safety measures, responding and preventing plans for risk of fire and electric shock; ensure safety of management, operation, repairing, and maintenance for power works;

2.5. Implement environmental management plan during the project's construction and operation phase. Implement environmental monitoring plan, report to Department of Natural resource and Environment (Environmental Protection Brach) and authority agencies on periodic environmental monitoring results.

Article 2. Ho Chi Minh City grid power projects management board has the following responsibilities:

1. Prepare, approve, and public post environmental management plan of the project before commencing the project.

2. Seriously implement requirements on environmental protection regulated in item 2, article 1 of this decision and other responsibilities under regulations of Vietnamese law.

Article 3. During the implementation process, the project has changes different to item 1 and 2 of Article 1 of this decision, the project owner has to report in writing and only to be allowed to implement these changes after receiving agreement letter of Department of Natural Resource and Environment. **Article 4.** The approval decision on environmental impact assessment report of "220kV-110kV Cau Bong – Binh Tan transmission line" project at Binh Tan, Binh Chanh, Hoc Mon, and Cu Chi districts of Ho Chi Minh City of Ho Chi Minh City Grid Power projects management board is the basis for approving the project investment; and the basis for the national authority agencies to check, inspect the environmental protection of the project. **Article 5.** This decision is come into force from the signing date. The decision has 04 (four) pages with stamped./.

Receipt:

- HCMC Grid Power projects MB;
- HCM city PC;
- DOIT;
- DPCs/offices of NRE of Binh Tan;

PP.DIRECTOR

DEPUTY DIRECTOR

- DPCs/offices of NRE of Binh Chanh;
- DPCs/offices of NRE of Hoc Mon;
- DPCs/offices of NRE of Cu Chi;
- Director of DONRE;
- Archival, Environmental protection brach (Mr.Thao 09)

(signed)

Nguyen Van Phuoc

ỦY BAN NHÂN DÂN
THÀNH PHỐ HỒ CHÍ MINH
SỞ TÀI NGUYÊN VÀ MÔI TRƯỜNG

Số: **737** /QĐ-TNMT-CCBVMT

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

Tp. Hồ Chí Minh, ngày 15 tháng 6 năm 2015

QUYẾT ĐỊNH

Về việc phê duyệt Báo cáo đánh giá tác động môi trường dự án "Đường dây 220kV – 110kV Cầu Bông – Bình Tân" tại quận Bình Tân, huyện Bình Chánh, Hóc Môn và Củ Chi của Ban quản lý Dự án Lưới điện Thành phố Hồ Chí Minh

GIÁM ĐỐC SỞ TÀI NGUYÊN VÀ MÔI TRƯỜNG THÀNH PHỐ HỒ CHÍ MINH

Căn cứ Luật Bảo vệ môi trường ngày 23/6/2014;

Căn cứ Nghị định số 18/2015/NĐ-CP ngày 14/2/2015 của Chính phủ quy định về đánh giá môi trường chiến lược, đánh giá tác động môi trường và kế hoạch bảo vệ môi trường;

Căn cứ Quyết định số 121/2003/QĐ-UB ngày 18/7/2003 của Ủy ban nhân dân thành phố về việc thành lập Sở Tài nguyên và Môi trường;

Căn cứ Quyết định số 04/2012/QĐ-UBND ngày 31/01/2012 của Ủy ban nhân dân thành phố về việc chuyển đổi mô hình tổ chức Chi cục Bảo vệ môi trường thuộc Sở Tài nguyên và Môi trường;

Theo đề nghị của Hội đồng thẩm định Báo cáo đánh giá tác động môi trường dự án "Đường dây 220kV – 110kV Cầu Bông – Bình Tân" tại quận Bình Tân, huyện Bình Chánh, Hóc Môn và Củ Chi, Thành phố Hồ Chí Minh của Ban quản lý Dự án Lưới điện Thành phố Hồ Chí Minh, họp ngày 14/01/2015 tại Sở Tài nguyên và Môi trường;

Xét nội dung Báo cáo đánh giá tác động môi trường dự án "Đường dây 220kV – 110kV Cầu Bông – Bình Tân" tại quận Bình Tân, huyện Bình Chánh, Hóc Môn và Củ Chi, Thành phố Hồ Chí Minh đã được chỉnh sửa, bổ sung kèm văn bản giải trình số 1633/ALĐ-CBĐT ngày 06/5/2015 của Ban quản lý Dự án Lưới điện Thành phố Hồ Chí Minh;

Theo đề nghị của Chi cục trưởng Chi cục Bảo vệ môi trường,

QUYẾT ĐỊNH:

Điều 1. Phê duyệt nội dung Báo cáo đánh giá tác động môi trường Dự án "Đường dây 220kV – 110kV Cầu Bông – Bình Tân" tại quận Bình Tân, huyện Bình Chánh, Hóc Môn và Củ Chi, Thành phố Hồ Chí Minh được lập bởi

Ban quản lý Dự án Lưới điện Thành phố Hồ Chí Minh (sau đây gọi là Chủ dự án) với các nội dung chủ yếu sau đây:

1. Phạm vi, quy mô của Dự án:

1.1. Phạm vi: Dự án "Đường dây 220kV – 110kV Cầu Bông – Bình Tân" có tổng chiều dài 31.884 m đi qua địa bàn quận Bình Tân, huyện Bình Chánh, Hóc Môn và Củ Chi, Thành phố Hồ Chí Minh.

1.2. Quy mô: gồm 02 hạng mục chính như sau:

- Đoạn cáp ngầm:
  - + Cấp điện áp: 110kV;
  - + Số mạch: 2 mạch;
  - + Điểm đầu: Thanh cái TBA GIS 220/110kV Bình Tân hiện hữu;
  - + Điểm cuối: Vị trí G3 của tuyến ĐD 220kV – 110kV Cầu Bông – Bình Tân;
  - + Chiều dài tuyến cáp: khoảng 4.417m;
  - + Cáp ngầm: XLPE-1200;
  - + Dây cáp quang: tích hợp trong cáp ngầm XLPE-1200;
  - + Cách điện: Polymer tải trọng 70kN, 160kN;
  - + Cột đấu nối: thép hình mạ kẽm;
  - + Móng: bê tông cốt thép;
  - + Tiếp đất: 2 tia bằng thép tròn Φ12
  - + Hành lang an toàn: ra 01m mỗi bên tính từ mép ngoài sợi cáp ngoài cùng.
- Đoạn trên không:
  - + Điện áp vận hành: 110kV và 220kV;
  - + Số mạch: 2 mạch 110kV và hỗn hợp 4 mạch gồm 2 mạch 110kV và 2 mạch 220kV;
  - + Điểm đầu: Vị trí G3 của tuyến ĐD 220kV – 110kV Cầu Bông – Bình Tân (Phần ĐD 110kV); Vị trí G15 của tuyến ĐD 220kV – 110kV Cầu Bông – Bình Tân (Phần ĐD 220kV);
  - + Điểm cuối: Thanh cái 110kV của TBA 500/220/110kV Cầu Bông hiện hữu (Phần ĐD 110kV); Thanh cái 220kV của TBA 500/220/110kV Cầu Bông hiện hữu (Phần ĐD 220kV). Trong giai đoạn này điểm cuối là G44;
  - + Chiều dài tuyến cáp: khoảng 27.467m;
  - + Dây dẫn: ACSR 400/51; Phân pha 2xACSR 330/43;
  - + Dây chống sét: Pastel 147.1;

+ Dây cáp quang: OPGW 120;
+ Cách điện: Polymer tải trọng 70kN, 160kN;
+ Cột: thép hình mạ kẽm, thép ống đơn thân 02 mạch và 04 mạch;
+ Móng: bê tông cốt thép;
+ Nối đất: hình tia bằng thép tròn D12
+ Hành lang an toàn 220kV – 110KV: ra 6m mỗi bên tính từ mép ngoài dây 220kV.
+ Hành lang an toàn 110KV: ra 4m mỗi bên tính từ mép ngoài dây 220kV.

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

2.1. Thực hiện các biện pháp giảm thiểu, xử lý ô nhiễm trong giai đoạn thi công xây dựng đối với bụi, tiếng ồn, rung, khí thải, nước thải và chất thải rắn đảm bảo đạt các Quy chuẩn kỹ thuật quốc gia về môi trường theo QCVN 05:2013/BTNMT; QCVN 06:2009/BTNMT, QCVN 26:2010/BTNMT, QCVN 27:2010/BTNMT, QCVN 14:2008/BTNMT; có biện pháp giảm thiểu tác động tới hoạt động giao thông khu vực dự án và các tuyến đường dây thông tin liên lạc, điện lực khác trong suốt quá trình thi công xây dựng của Dự án;

2.2. Phân loại, lưu giữ và hợp đồng với các đơn vị có chức năng để thu gom, vận chuyển, xử lý chất thải rắn thông thường, chất thải nguy hại theo đúng quy định hiện hành;

2.3. Thực hiện các biện pháp giảm thiểu tác động do điện từ trường, an toàn nối đất cho các hộ dân trong hành lang an toàn lưới điện;

2.4. Thực hiện các biện pháp an toàn lao động, các phương án phòng chống và ứng phó sự cố cháy nổ, điện giật, đảm bảo an toàn trong công tác quản lý, vận hành, sửa chữa và bảo dưỡng các công trình điện;

2.5. Thực hiện chương trình quản lý môi trường trong suốt quá trình thi công xây dựng và hoạt động của Dự án. Thực hiện chương trình giám sát môi trường, báo cáo kết quả giám sát môi trường định kỳ cho Sở Tài nguyên và Môi trường (Chi cục Bảo vệ môi trường) và các cơ quan chức năng.

Điều 2. Ban quản lý Dự án Lưới điện Thành phố Hồ Chí Minh có các trách nhiệm sau đây:

1. Lập, phê duyệt và niêm yết công khai kế hoạch quản lý môi trường của Dự án trước khi triển khai Dự án.

2. Thực hiện nghiêm túc các yêu cầu về bảo vệ môi trường quy định tại khoản 2 Điều 1 Quyết định này và các trách nhiệm khác theo quy định của pháp luật về bảo vệ môi trường.

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 Sở Tài nguyên và Môi trường.

3

Điều 4. Quyết định phê duyệt báo cáo đánh giá tác động môi trường của Dự án "Đường dây 220kV – 110kV Cầu Bông – Bình Tân" tại quận Bình Tân, huyện Bình Chánh, Hóc Môn và Củ Chi, Thành phố Hồ Chí Minh của Ban quản lý Dự án Lưới điện Thành phố Hồ Chí Minh 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. Quyết định này có hiệu lực thi hành kể từ ngày ký. Quyết định gồm 04 trang, có đóng dấu giáp lai./.

KT.GIÁM ĐỐC
PHÓ GIÁM ĐỐC

Nguyễn Văn Phước

Nơi nhận:
- BQL Dự án Lưới điện Tp.HCM;
- UBND Tp.HCM;
- Sở Công Thương;
- UBND/Phòng TNMT quận BTân;
- UBND/Phòng TNMT huyện Bình Chánh;
- UBND/Phòng TNMT huyện Hóc Môn;
- UBND/Phòng TNMT huyện Củ Chi;
- Giám đốc Sở;
- Lưu: VT, TĐMT, CCBVMT (A.Thảo.09).

4