ELECTRICITY OF VIETNAM
POWER COMPANY NO.1

REHABILITATION AND EXPANSION OF MV DISTRIBUTION
SYSTEM OF HAIDUONG CITY PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT
(EIA)

Prepared by:
POWER NETWORK PROJECT MANAGEMENT BOARD

Hanoi, October 2003
ELECTRICITY OF VIETNAM
POWER COMPANY NO. 1

REHABILITATION AND EXPANSION OF
MV DISTRIBUTION SYSTEM IN
HAI DUONG CITY – HAI DUONG PROVINCE

ENVIRONMENTAL IMPACT ASSESSMENT

Prepared by:
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Hai Duong, October 2003
Abbreviations

CPC Commune People Committee
DoNRE Provincial Departments of Natural Resources and Environment
DoSTE Department of Science, Technology, and Environment
EIA Environmental Impact Assessment
EMD Environmental Management Division
EVN Electricity of Vietnam
GOV Government of Vietnam
IMC Independent Monitoring Consultant
Km Kilometre
KVA Kilovolt Ampere
M/LV Medium/Low Voltage
MoNRE Ministry of Natural Resources and Environment
MoSTE Ministry of Science, Technology, and Environment
PAH Project Affect Household
PCI Power Company No. 1
PMU Project Management Unit
POP Persistent Organic Pollutants
PPC Provincial People’s Committee
PPS Provincial Power Services
RAP Resettlement Action Plan
REP Rural Energy Project
ROW Right of way
T/L Transmission line
WB World Bank
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Executive Summary

Background

The project of rehabilitation and expansion of MV distribution systems in Hai Duong city - Hai Duong province is to construct a power network that supplies electricity for Hai Duong city, including 11 inner communes and 2 outer communes. Hai Duong city – Hai Duong province is now supplied power by only the 110KV Pha Lai – Hai Duong transmission line that provides power for 110KV Dong Nien substation. The capacity of 110kV Dong Nien Substation is 105 MVA. The Hai Duong network is an important component of the Northern power network of Viet Nam.

The objective of the Rehabilitation and Expansion of MV distribution system of Hai Duong city - Hai Duong Province is to improve the national power network for Hai Duong province (supplying power for 110KV Dong Nien substation), enhance the reliability and safety of transmission in the power network for additional charges of Hai Duong province. Thus, the project will speed up the electrification process and agricultural and industrial development in Hai Duong province.

Implementation Schedule and Budget

Project implementation occurs between May 2001 to December 2004. The total investment for the project is estimated at about VND 108,140 million (equivalent US$ 7.2 million).

Project Scope

The Project will rehabilitate and construct the MV distribution network in Hai Duong City, Hai Duong Province. 11 inner communes and 2 outer communes will be provided electricity by this network. These communes are Pham Ngu Lao, Tran Phu, Quang Trung, Tran Hung Dao, Nguyen Trai, Le Thanh Nhi, Thanh Binh, Cam Thuong, Binh Han, Ngoc Chau, and Hai Tan, Tu Minh and Viet Hoa.

102.82 km of 22 kV transmission line and 3.54 km of 35 kV transmission line will be constructed and rehabilitated. Also, 246 substations/253 transformers with total capacity of 65,245 KVA will be constructed and upgraded.

Alternatives

Alternatives to the Project: In order to have the best solution to supply the electricity to the project area, some different alternatives such as small hydropower, wind energy, solar energy, diesel generators, and medium hydropower were considered. Based on this comparison, the construction and rehabilitation of the electricity network and substations was considered most advantageous for the following reasons:

- The national network grid was already available; therefore it was most cost effective to add to the grid rather than to develop new energy sources.
- If diesel, wind, solar, energy, or small hydro were selected, the beneficiaries would be much more limited than the proposed project.
- If medium hydropower used, the proposed network would still need to be developed.
- Solar energy and wind energy would require tremendous investment to support 11 inner communes and 2 outer communes. Also, if solar or wind energy was used, EVN’s support for investment, installation, and operation would not be considered cost efficient.
- A grid network is more reliable – is most common way to utilize energy by grid.
- A grid network has added benefit of creating infrastructure for installing fibre-optic cables and other communications lines.
Alternatives within the Project: For within the project, the following alternatives were considered: transmission line options, alignment and substation options, conductor cross-section and capacity of transformers, and selection of substation type. The choices for each consideration are presented within the main text of the EIA report.

"No-Project" Alternative: If the “No Project” alternative was implemented, 133,272 people in Hai Duong city could not have a stable supply of electricity due to the current backward network. Furthermore, as urbanization is rapidly increasing in Hai Duong province, the current network will not be capable of fulfilling the coming demand of electricity. This will affect the city’s chances of economic and social development, two pillars of Vietnamese development policy.

Impacts

An assessment of the Project’s potential environmental impacts was conducted for pre-construction, construction and operation phases. The assessment evaluated a range of potential impacts that could occur as a result of the project. The selection of potential impacts for evaluation was based on site visits, discussions with EVN staff, Department of Natural Resources and Environment, project affected people, reviewing relevant documents (e.g. World Bank’s Environmental Assessment Sourcebook, World Bank’s Safeguard Policies, Feasibility Study, Technical Design, Urban Master Planning). Table E1 provides a summary impacts evaluation of potential impacts that could be created by the Project’s activities in Hai Duong city.

Table E1: Summary of Impacts.

<table>
<thead>
<tr>
<th>Impact Title</th>
<th>Impact Valuation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Construction Phase Impacts</td>
<td></td>
</tr>
<tr>
<td>Project Affected Households</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Land Acquisition</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Impacts Caused By Clearing the ROW</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Cultural Property</td>
<td>No Impact</td>
</tr>
<tr>
<td>Health Risks Related to Explosives, and Toxic Substances</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Construction Phase Impacts</td>
<td></td>
</tr>
<tr>
<td>Soil Erosion</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Petroleum and Hazardous Waste Spills</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Temporary Loss of Productive Land</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Impacts of Temporary Access Roads</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Generation of Dust</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Generation of Noise</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Water Contamination</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Traffic Congestion</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Solid Waste Generated from Excavating Work for Underground Cable Installation</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Operations Phase Impacts</td>
<td></td>
</tr>
<tr>
<td>Social and Economic Development</td>
<td>Significant Positive Impact</td>
</tr>
<tr>
<td>Avian and Aircraft Hazards</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Induced Effects from Electromagnetic Fields</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Petroleum and Hazardous Waste Contamination</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>Mitigable Impact</td>
</tr>
</tbody>
</table>
Public Consultation and Disclosure

The meetings for public consultation were organised in every commune with the local people during the period of the preparation of Feasibility Study at the end of 2002.

At these meetings, the major technical, resettlement and compensation entitlement, land acquisition, environmental issues and proposed mitigation measures were discussed. The local authority and people will give their comments on: appropriate designed line routes, any other potential risk to environment, all questions of PAP should be addressed, all recommendations and concerns of PAP and PC have been recorded.

The commune/city authorities also signed the drawings. The original EIA was sent to the concerned PPCs for clearance and to DoNRE for public display in 2003.

Environment Management Plan (EMP)

The EMP consists of mitigation, monitoring measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. Environmental management during construction period is implemented by the Project Management Unit (PMU). PMU is responsible for guiding and supervising Contractors during application of mitigation measures as well as environmental monitoring. During the operation phase, the environmental issue will under responsibility of the Hai Duong Power Service. Local authorities will be hired to measure the environmental quality along transmission lines and substations and report will be made and submitted to relevant responsible authorities.

The EMP includes plan and cost for institutional strengthening such as training on environmental issues.

Conclusion

The Project will supply stable electricity to 13 communes in Hai Duong City. By providing this service, the Project will help improve the life of 133,272 people. The impact of this service is evaluated as significant positive and long term. In order to provide stable electricity services, the Project will create some negative impacts to the natural and social environment. Most of these impacts are minor negative and short term, or mitigable.
1 Introduction

The objective of the Project on Rehabilitation and Expansion of MV Distribution System in Hai Duong City, Hai Duong Province is to improve the national power network for Hai Duong province (supplying power for 110kV Dong Nien substation), enhance the reliability and safety of transmission in the power network for additional charges of Hai Duong province. The project will:

- Satisfy development demand in the city
- Supplement current power sources in Hai Duong province.
- Increase reliability and convenience during operation process
- Reduce power losses in Hai Duong Province
- Supply power more sufficiently and improve the energy quality for lighting and other civil purposes in the area.
- Create premises for development of the economy, agriculture, industry, etc.
- Improve the cultural life of people
- Push up development of the handicraft industry, and
- Improve security, stability and upgrade civilization.

This report reviews the environmental impacts of the project. Because the GOV will receive a World Bank loan to conduct the Project, this report and its related activities follow both World Bank’s safeguard policies and GOVs policies on environmental assessment and environmental protection.

The content of this environmental assessment was prepared in accordance with the main subject areas identified World Bank’s OP 4.01, Annex B:

- Project Description
- Policy, legal, and administrative framework
- Baseline Data
- Environmental Impacts
- Analysis of Alternatives
- Disclosure
- Public Consultation
- Environmental Management Plan

Supporting information to the environmental assessment are supplied in accordance with annexure subjects identified in OP 4.01 Annex B:

- List of EA report preparers
- References—written materials both published and unpublished, used in study preparation
- Record of interagency and consultation meetings
- Tables presenting the relevant data referred to or summarized in the main text
2. Description

2.1 Name of Project
Rehabilitation and expansion of the MV distribution system in Hai Duong city - Hai Duong province

2.2 Executing Agencies
- Investor: Power Company No. 1 (PC 1)
- Project Management Unit: Power Network Project Management Board - PC1
- Consulting Company: Power Construction Consulting Center - PC1

2.3 Socio-economic Target of Project
The project of rehabilitation and expansion of MV distribution systems in Hai Duong city - Hai Duong province is to construct a power network that supplies electricity for Hai Duong city, including 11 inner communes and 2 outer communes. The project will:
- Satisfy development demand in the city
- Supplement current power sources in Hai Duong province.
- Increase reliability and convenience during operation process
- Reduce power losses in Hai Duong Province
- Supply power more sufficiently and improve the energy quality for lighting and other civil purposes in the area.
- Create premises for development of the economy, agriculture, industry, etc.
- Improve the cultural life of people
- Push up development of the handicraft industry, and
- Improve security, stability and upgrade civilization.

2.4 Main Features of Project
The main features of the project are summarized in Table 2.1, further details on Project Scope can be found in Appendix 5, and the Master Plan of the Distribution Network is given in Appendix 3.
Table 2.1: Main Features of the Project

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>22 kV</td>
</tr>
<tr>
<td>Line ROW</td>
<td></td>
</tr>
<tr>
<td>- Overhead line</td>
<td>4.2 m wide</td>
</tr>
<tr>
<td>- Underground cable</td>
<td>2 m wide</td>
</tr>
<tr>
<td>Conductor</td>
<td>AC150 and AC70 for overhead line and AL-3x240 mm² for underground cable</td>
</tr>
<tr>
<td>Tower</td>
<td>Centrifugal concrete pole</td>
</tr>
<tr>
<td>Conductor-to-ground distance</td>
<td>≥ 6 m</td>
</tr>
<tr>
<td>110kV Dong Nien Substation</td>
<td>- Install 11 feeders of 22kV at 22kV distribution room. (5 current feeders and</td>
</tr>
<tr>
<td></td>
<td>6 new feeders)</td>
</tr>
<tr>
<td></td>
<td>- Construct and upgrade 600 m cable tunnel and install 4200 m underground cable</td>
</tr>
<tr>
<td>MV transmission lines</td>
<td>Construct and upgrade 102.82 km of 22 kV transmission line, of which:</td>
</tr>
<tr>
<td>- 22 kV</td>
<td>- Construct 85 km</td>
</tr>
<tr>
<td></td>
<td>- Upgrade 8.8 km</td>
</tr>
<tr>
<td></td>
<td>- Salvage 9.02 km</td>
</tr>
<tr>
<td>- 35 kV</td>
<td>Construct and upgrade 3.54 km of 35kV transmission line, of which:</td>
</tr>
<tr>
<td></td>
<td>- Construct 2.27 km</td>
</tr>
<tr>
<td></td>
<td>- Upgrade 1.27 km</td>
</tr>
<tr>
<td>Substations</td>
<td>Construct and upgrade 246 substations/253 transformers with total capacity of</td>
</tr>
<tr>
<td></td>
<td>65,245 KVA, of which:</td>
</tr>
<tr>
<td></td>
<td>- Substation 22/0.4 kV: 142 substations/143 transformers</td>
</tr>
<tr>
<td></td>
<td>- Substation 22(35)/0.4 kV: 28 substations/30 transformers</td>
</tr>
<tr>
<td></td>
<td>- Substation 22(6)/0.4 kV: 76 substations/80 transformers</td>
</tr>
</tbody>
</table>

2.5 Project Schedule
Project implementation occurs between May 2001 to December 2004.

2.6 Project Cost
The total investment for the project is estimated at VND 108,140,000,000 (equivalent US$ 7.2 million). A summary of estimated costs is provided in Table 2.2.

Table 2.2: Summary of Estimated Project Costs

<table>
<thead>
<tr>
<th></th>
<th>USS million</th>
<th>VND billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>1.71</td>
<td>25.62</td>
</tr>
<tr>
<td>Construction</td>
<td>3.36</td>
<td>50.49</td>
</tr>
<tr>
<td>Other cost</td>
<td>1.36</td>
<td>20.44</td>
</tr>
<tr>
<td>Contingencies</td>
<td>0.77</td>
<td>11.59</td>
</tr>
<tr>
<td>Total</td>
<td>7.20</td>
<td>108.14</td>
</tr>
</tbody>
</table>
3 Policy, Legal, and Administrative Framework

3.1 World Bank Policy on Environmental Assessment

The Project is classified as a Category B project and therefore requires an EIA. The World Bank’s policy on conducting an EIA is to follow Operational Directive 4.01: *Environmental Assessment*. This directive describes guidance on Bank’s policies and procedures for conducting environmental assessments of proposed projects. Annex B of the Operational Directive specifies the requirements for an EIA report.

Additional World Bank policies that were considered through the Project’s EIA process include:

- *OPN 11.03 Cultural Property*
- *OP 4.04 Natural Habitats*
- *OP 4.09 Pest Management*
- *OP 4.12 Involuntary Resettlement;*
- *OD 4.20 Indigenous Peoples;*
- *OP 4.36 Forestry; and*
- *BP 17.50 Public Disclosure*

Detailed guidance on assessment methodologies and common impacts associated with transmission projects are found in:


3.2 Vietnamese Policy and Administrative Framework on Environmental Assessment

3.2.1 Vietnamese Policy Framework

Vietnam’s most relevant environmental policies for environmental assessment are:

(i) *Law on Protection of the Environment (LEP)* was enacted in 1993. The LEP:

- identifies the responsibilities of the state centre, provinces, organizations and individuals to prevent and remedy environmental deterioration and pollution and carry out specified environmental protection functions;
- provides for the development of environmental standards and submission of environmental impact assessment reports on new and existing facilities;
- provides for responsible parties to pay compensation for environmental damage;
- establishes the right of individuals and organizations to petition for enforcement of environmental regulations;
- calls for civil and criminal penalties for violations; and
- encourages international environmental co-operation.

(ii) *Decree 175/CP* was promulgated in 1994 to guide implementation of the LEP and provides broad guidelines for division of responsibility among Ministries; environmental impact
assessments; pollution prevention and disaster control; sources of finance; and environmental inspections and standards.

(iii) Circular No. 490 was promulgated in 1998 to provide guidance on setting up and appraising environmental impact assessment reports for investment projects. The Circular identifies the legal requirements according to the stages of implementation of a project and its category; defines the content of project subject to the EIA procedures; and specifies management of the EIA report appraisal.

To supplement the above key environmental assessment policies, there are a large range of laws, decisions, regulations, and standards may also be considered:

(iv) **Law on Forest Protection (1992).** This law regulates forest management, protection, development, and exploitation, prevention of wood-cutting, and forest destruction. It also encourages individuals and organizations to protect and develop forests.

(v) **Decree 54/1999/ND-CP** specifies guidance on the protection of high-voltage networks.

(vi) **Decree 70/1987-HDBT** specifies safety casements of high-voltage transmission lines.

(vii) **Decree 24/2000/ND-CP** specifies the implementation on the Law on Foreign Investment in Vietnam (Article 82) concerning environmental protection as follows: 1) enterprises with foreign investment capital and joint ventures are obligated to observe regulations, satisfy standards in environment protection, and comply with Vietnam legislation on environment protection; 2) if investors apply international advanced environmental standards these standards should be registered with MoSTE.

(viii) **Decree 52/1999/ND-CP** was appended to include environmental considerations for construction management as follows: 1) for PFS, Provision 3 of Article 23 stipulates that requirements for environment study relating to the “selection of construction sites, estimation of land use area needed, in ways which comply to the principle of minimizing land use and environmental and social impacts, and resettlement to the lowest possible level”. 2) Provisions 4 and 7 of Article 24 stipulate that FS must propose “specific site options (or regions, routes) which much match with construction plans (including documents on site selection, together with proposed solutions for minimizing environmental and social impacts)”, and “architectural alternatives, construction solutions, preliminary designs suggested for selection, environment management and protection solutions”. 3) For technical design: Section B, Provision 1, Article 37 and Section A, Provision 2, Article 38, contain regulations on appraisal and approval of “techniques for the protection of environment and ecology; for prevention and combating of explosion and fire and for occupational safety and industrial sanitation.”

(ix) **Decree 26/1996/CP** provides regulations on the punishment of administrative violation of Environmental Protection Law. Chapter 1 describes the general provisions for punishment under the Environment Protection Law. Chapter 2, Article 6 details recommended punishments for parties who violate environmental pollution and prevention act. These punishments include financial penalties for not submitting an EIA report.

(x) **Tiêu Chuẩn Việt Nam (TCVN)** are national standards established by MoSTE and applied to all government agencies. They include engineering, construction, scientific, and environmental standards. Most TCVN standards are direct translations of ISO standards. TCVN environmental standards include acceptable limits of many air, noise, and water quality parameters. In general, the list of bio-physical parameters are broad enough such that most monitoring programmes can employ TCVN standards as metrics of evaluation. There are some exceptions – for example, sediment, soil, and vibration standards do not yet exist. In these cases, it is common practice for ODA projects to use standards from other countries or international organisations.
(xi) **18 TCN-03-92** provides standards for safety clearances for 500 KV Electrical Equipment Installation Standards. Section 1 of this policy states numerous requirements. For example, trees outside of the ROW must have two meters clearance between conductors and trees, and the clearance between top of the trees and conductors in the ROW must not be less than six meters.

(xii) **11 TCN-1984** sets the standard for minimum clearance between live parts of a line and trees. Trees outside of the ROW must ensure two meters of clearance between conductors and tree parts. The clearance between top of the trees and conductors in the ROW must not be less than six meters. The ROW identified by two parallel planes is seven meters from the outer conductors when they are vertical and not less than two meters when conductors are at maximum swing angle.

### 3.2.2 Vietnamese Administrative Framework

The Government of Vietnam is in the process of creating a new administrative framework for environmental management. For the Additional Works Project, the framework's relevant institutes are as follows:

(i) **Ministry of Natural Resources and Environment (MoNRE).** MoNRE was established by a Prime Ministerial Decision on November 11, 2002. This new ministry includes four vice-ministers, 16 departments, one newspaper, and one magazine. MoNRE merges numerous departments from several national agencies. These are outlined in Decree 91/2002/ND-CP: *Providing for the functions, duties, powers and organisational structure of the Ministry of Natural Resources and the Environment.*

(ii) **Environmental Impact Assessment and Appraisal Department.** This Department is under MoNRE. According to Decree 91/2002/ND-CP, the Department's function includes: *To appraise environmental impact assessment reports of projects and of business and production establishments.* Environmental Impact Assessment and Appraisal Department is guided by the Vietnam's established regulatory framework: i.e. LEP, Circular 490, CP 175, etc.

(iii) **Provincial Departments of Natural Resources and Environment (DoNRE).** Each provincial DoNRE houses an Environmental Management Division (EMD). The EMD is responsible for ensuring environmental protection and management of provincial matters in accordance with LEP, Decree 175, and Circular 490. Hence, it is DoNRE – and in particular, its EMD – that will likely play a key regulatory role during project construction and operation.
4 Baseline Conditions

4.1 Demographic Information

Hai Duong City is the socio-economic and political center of Hai Duong Province. The city is located in the center of Northern Delta as well as in the Northern main economic area of Viet Nam, which is so-called the economic growth triangle Ha Noi – Hai Phong – Quang Ninh. The city lies along the National Highway No.5, 58 km from Hanoi and 45 km from Hai Phong.

Below is a description of the administrative boundary of Hai Duong city:

- The North is next to Nam Sach district and Thai Binh River
- The South is next to Gia Loc district and Ke Sat River
- The West is next to Thai Binh river and Thanh Ha district
- The East is next to Nam Sach district.

Hai Duong city consists of 11 inner communes and 2 outer communes. 11 inner communes are Pham Ngau Lao, Tran Phu, Quang Trung, Tran Hung Dao, Nguyen Trai, Le Thanh Nghi, Thanh Binh, Cam Thuong, Binh Han, Ngoc Chau, and Hai Tan. 2 outer communes are Tu Minh and Viet Hoa. More details on socio-economic features of the communes in Hai Duong city are given in Appendix 6.

The total land area of the city is 36,236 km² with population being of 133,272 people and population density being of 3,677.89 people/km². Population status in Hai Duong city is summarized in the below table:

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>Unit</th>
<th>Entire City</th>
<th>Inner City</th>
<th>Outer City</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Population</td>
<td>%</td>
<td>Population</td>
</tr>
<tr>
<td>1</td>
<td>Birth rate</td>
<td>%</td>
<td>1.316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Dead rate</td>
<td>%</td>
<td>0.418</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Natural growth rate</td>
<td>%</td>
<td>0.898</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Un-natural growth rate</td>
<td>%</td>
<td>0.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total population</td>
<td>person</td>
<td>130,270</td>
<td>113,413</td>
<td>87</td>
</tr>
<tr>
<td>5</td>
<td>Agricultural population</td>
<td>person</td>
<td>31,330</td>
<td>account for 24%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agricultural households</td>
<td>household</td>
<td>7,992</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-agricultural population</td>
<td>person</td>
<td>98,940</td>
<td>account for 76%</td>
<td></td>
</tr>
</tbody>
</table>

The economy of the city is very diverse, including industry, small-scale industry, services and agriculture. Many joint-venture and foreign factories are located in city, including Ford Factory, New Zealand Mineral Water Factory, Viet Nam-Korea Silk Factory, Japanese Pump Factory, etc. Due to development of commodity production and internal-aboard investment, the city’s economy is rapidly increasing with GDP being more than 5.00 USD.
4.2 Geography and Climate

Hai Duong city is located on a low, hollow plain. The topography is divided by many rivers, canals, and ponds. The land in the city lies between 1 to 3 meters above mean sea level. The average land slope is between 0 and 0.5%. The direction of topography slope is follows: highest points are along Highway No.5 and the topography slowly slopes down to Thai Binh and Sat rivers. Hai Duong city is an alluvial plain of Hong and Thai Binh rivers. The thickness of the geological layer is between 8 to 10 m including clay, sandy clay, and muddy clay. Loading capacity of soil in the city is between 0.5 and 1.5 kg/cm².

The climate of Hai Duong city is monsoon with 2 seasons - dry and cold in winter and hot and humid in the summer. Average temperature of the city is from 14.3 to 29.5°C with 1281–1800 mm of annual rainfall starting from late April to October. Storming and raining frequency is the city is relatively large. The highest wind speed in Hai Duong city may reach up 40 m/s. The average number of drizzling days is 36.5 day/year and of fog days is 7.8 day/year.

4.3 Hydrology

Hai Duong city is located in the valley of Thai Binh, Sat, and Hong rivers. Below are some main hydrological features of Thai Binh and Sat rivers:

Table 4.2: Hydrological Features of Thai Binh River

<table>
<thead>
<tr>
<th>Mean River Level</th>
<th>Month</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest Mean River Level (cm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Mean River Level (cm)</td>
<td>262</td>
<td>380</td>
<td>472</td>
<td>529</td>
<td>418</td>
<td>370</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.3: Hydrological Features of Sat River

<table>
<thead>
<tr>
<th>Mean River Level</th>
<th>Rainy Season</th>
<th>Dry Season</th>
</tr>
</thead>
<tbody>
<tr>
<td>H max (m)</td>
<td>+ 3.00</td>
<td>+ 2.00</td>
</tr>
<tr>
<td>H average (m)</td>
<td>+2.5 ± 2.8</td>
<td>+1.6 ± 1.7</td>
</tr>
</tbody>
</table>

Groundwater level in rainy season is between 0.5 and 1 m below ground surface and that in dry season is between 1 and 2 m.

4.4 Flora and Fauna

Since Hai Duong city is a populated and urbanized area, the area for flora in the city is very small, only 5 hectares, which is equivalent to 0.14% of the total land. The flora includes mostly landscaping and fruit trees. Indeed, the biological value of the flora and fauna in the city is insignificant. The map of protected areas in Hai Duong Province can be found in Appendix 4.
4.5 Cultural Resources

The city has a number of historic and cultural properties including pagodas and temples. However, most of these cultural sites have reasonable size as well as reasonable cultural values. The largest cultural properties in the region are Con Son pagoda and Kiep Bac temple in Chi Linh district, Hai Duong province, but not in Hai Duong city, the project area. See Appendix 4 for location of Con Son pagoda.
5 Analysis of Alternatives

5.1 Alternatives to the Project

There are several alternatives available for supplying energy to the Project area, including:

- small hydropower;
- wind energy;
- solar energy;
- diesel generators; and
- medium hydropower.

These alternatives were not as viable as the alternative to expand and rehabilitate the existing grid system for the following reasons:

- The national network grid was already available; therefore it was most cost effective to add to the grid rather than to develop new energy sources.
- If diesel, wind, solar, or small hydro were selected, the beneficiaries would be much more limited than the proposed project.
- If medium hydropower used, the proposed network would still need to be developed.
- Solar energy and wind energy would require tremendous investment to support 11 inner communes and 2 outer communes. Also, if solar or wind energy was used, EVN’s support for investment, installation, and operation would not be considered cost efficient.
- A grid network is more reliable - is most common way to utilize energy by grid.
- A grid network has added benefit of creating infrastructure for installing fibre-optic cables and other communications lines.

5.2 Alternatives within the Project

The following alternatives were considered within the Project:

- **Transmission Line Options**: There are two options for transmission lines: high voltage (above 33 KV) and medium voltage (6-35 KV). The option of medium voltage (MV) lines was selected because:
  - MV lines are more cost effective
  - MV lines take less skill and effort to construct, maintain, and operate
  - MV lines have more simple material requirements
  - MV lines require a shorter construction period

- **Alignment and Substation Options**: A number of alignment and substation options were considered in each commune. These options were presented by the Consultant to PC1 using detailed scale maps.

  The relative social/environmental impacts, capital/operating costs, compensation, and technical feasibility of each option were discussed between the Consultant and PC1. Based on the available information and further consultation with relevant parties (Consultant, People’s Committees, etc) alignments and substation positions were selected for each line.

- **Conductor cross-section and capacity of transformers**: Conductor cross-section and capacity of transformer were calculated from forecast of load demand at each commune. Load
demand is directly forecasted based on investigation data on existing situation, scale of production, population allocation, load figured, expected socio-economic growth, and the master plan of Hai Duong city. In addition, the calculation of conductor cross-section and capacity of transformer must be considered with their economic aspects. If not, the project cost is higher and as well as energy loss from them.

- **Selection of substation type**: There are many voltages (15/0.04 kV; 10/0.4 kV; 22/0.4 kV) and capacities (15 kVA, 20 kVA, 25 kVA, 30 kVA, 50 kVA) that could be selected for each substation. The choice(s) for each commune, and their relative capital/operating costs, and technical feasibility were considered by PC 1, PMU and other stakeholders.

### 5.3 “No-Project” Alternative

If the “No Project” alternative was implemented, 133,259 people in Hai Duong city could not have a stable supply of electricity due to the current backward network. Furthermore, as urbanization is rapidly increasing in Hai Duong province, the current network will not be capable of fulfilling the coming demand of electricity. This will affect the city’s chances of economic and social development, two pillars of Vietnamese development policy.

The remaining sections of this report address the environmental impacts, mitigation, and monitoring activities required for the most favoured alternatives of the Project.
6 Analysis of Impacts

6.1 Impact Assessment Methodology

The Environmental Impact Assessment focuses on the major environmental issues of the Project’s Most Favoured Alternative. The potential impacts of the Project’s pre-construction, construction, and operation phases were assessed as being in one of five categories:

i. **NO IMPACT.** The potential impact of the Project activity is assessed as NO IMPACT if the project activity is physically removed in space or time from the environmental component.

ii. **MAJOR IMPACT.** An impact is said to be MAJOR if the project activity has potential to affect an environmental component. Major impacts could be “Major Negative” or “Major Positive.” The following criteria were used to determine whether a given impact is MAJOR:
   a) spatial scale of the impact (site, local, regional, or national/international);
   b) time horizon of the impact (short, medium, or long term);
   c) magnitude of the change in the environmental component brought about by the Project activities (small, moderate, large);
   d) importance to local human populations;
   e) compliance with national, provincial, or district environmental protection laws, standards, and regulations;
   f) compliance with Vietnam’s international commitments. These include the Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR), the Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); and
   g) compliance with World Bank guidelines, policies, and regulations.

iii. **MINOR IMPACT.** If an impact occurs but does not meet the criteria for a Major Impact it is assigned the category MINOR. Minor impacts could be “Minor negative” or “Minor Positive.”

iv. **UNKNOWN IMPACT.** The potential impact of a project activity will be assessed as being UNKNOWN if the magnitude of the effect can not be predicted for any of the following reasons:
   a) the nature and location of the project activity is uncertain;
   b) the occurrence of the environmental component within the study area is uncertain;
   c) the time scale of the effect is unknown; or
   d) the spatial scale over which the effect may occur is unknown.

v. **MITIGABLE IMPACT.** The potential impact of a project activity on an environmental component is said to be MITIGABLE if there is potential for a major negative impact and the proposed mitigation measure will prevent the impact or reduce the impact to acceptable levels.

6.2 Summary of Impacts

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1 See Section 3 of this report for more details.
2 See Section 3 of this report for more details.
Table 6.1 summarises the Project’s impacts during pre-construction, construction, and operation. The details of each impact are discussed in remaining sections of this section.

Table 6.1: Summary of Impacts

<table>
<thead>
<tr>
<th>Impact Title</th>
<th>Impact Valuation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Construction Phase Impacts</strong></td>
<td></td>
</tr>
<tr>
<td>Project Affected Households</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Land Acquisition</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Impacts Caused By Clearing the ROW</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Cultural Property</td>
<td>No Impact</td>
</tr>
<tr>
<td>Health Risks Related to Explosives, and Toxic Substances</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td><strong>Construction Phase Impacts</strong></td>
<td></td>
</tr>
<tr>
<td>Soil Erosion</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Petroleum and Hazardous Waste Spills</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Temporary Loss of Productive Land</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Impacts of Temporary Access Roads</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Generation of Dust</td>
<td>Minor Negative Impact</td>
</tr>
<tr>
<td>Generation of Noise</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Water Contamination</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Traffic Congestion</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td>Solid Waste Generated from Excavating Work for Underground Cable Installation</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>Mitigable Impact</td>
</tr>
<tr>
<td><strong>Operations Phase Impacts</strong></td>
<td></td>
</tr>
<tr>
<td>Social and Economic Development</td>
<td>Significant Positive Impact</td>
</tr>
<tr>
<td>Avian and Aircraft Hazards</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Induced Effects from Electromagnetic Fields</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Petroleum and Hazardous Waste Contamination</td>
<td>Not Significant Impact</td>
</tr>
<tr>
<td>Health and Safety</td>
<td>Mitigable Impact</td>
</tr>
</tbody>
</table>

6.3 Pre-Construction Phase Impacts

6.3.1 Project Affected Households – MITIGABLE IMPACT

A total of 85 households (about 320 persons) will be affected by the Project. Most of these households will be affected by: 1) having some of their trees cut down; 2) relocating their house or other structures within their existing property; 3) land acquisition of part of their land (usually less than 3m²); 4) if their house or agricultural land is in the ROW, they will be restricted to growing trees less than 4m in height (in no cases will the height of houses need to be reduced); and 5) during construction, some PAHs will temporarily lose use of their productive land. A summary of PAH impacts is found in Table 6.2.
Table 6.2: Impacts on Project Affected Households

<table>
<thead>
<tr>
<th>Item</th>
<th>Number of PAHs</th>
<th>Number of PAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>66</td>
<td>189</td>
</tr>
<tr>
<td>Category 2</td>
<td>48</td>
<td>143</td>
</tr>
<tr>
<td>Category 3</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Category 4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Category 5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Category 6</td>
<td>19</td>
<td>76</td>
</tr>
<tr>
<td>Category 7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Category 8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>320</td>
</tr>
</tbody>
</table>

The 8 categories in the above table are clearly defined in the RAP as follows:

**Category 1:** PAP has trees, crops, which are damaged by the project during the construction period due to construction of temporary access roads or conductor stringing.

**Category 2:** PAP has residential, garden, productive lands which are temporarily acquired during the project construction period.

**Category 3:** PAP has houses/structures, which are partially damaged or cut, and the damaged portion will not affect to the safety or using purpose of the entire house or structure (the dismantled areas are less than 25% of total areas), and the lost house/structure portion could be rebuilt in adjacent areas already owned by the PAP. Impact on cleared residential land in ROW would be temporary as it could be reused for restricted purposes.

**Category 4:** PAP has house, which are partially or totally damaged, and the damaged portion will affect to the safety or using purpose of the entire house or structure (the dismantled areas are more than 25% of total areas or even less than 25% of total area, but the remaining area can not be used or inconvenient for using), so the house need to be totally removed and rebuild in remaining adjacent areas already owned by the PAPs. Impact on cleared residential areas will be temporary as it can be reused for restricted purposes.

**Category 5:** PAP has houses, which are partially or totally damaged, and the damaged portion will affect to the safety or using purpose of the entire house or structure, so the house/structure need to be totally removed and rebuild. However, PAP does not have sufficient spare residential land for the reconstruction of a house of equal dimensions as the house lost. The threshold of sufficient residential land is at least 60 m² for urban areas and 100 m² for rural areas.

**Category 6:** PAP has residential land, productive land which will be acquired permanently for the project, including for permanent roads construction and maintenance of the project.
   a) acquired productive land areas is more than 25% of total productive land PAPs’ holdings.
   b) acquired productive land areas is less than 25% of total productive land PAPs’ holdings.
   c) The remaining residential-garden land areas is less than 60 m² (in urban areas) and 100 m² (in rural areas).
   d) The remaining residential-garden land areas is equal or more than 60 m² (in urban areas) and 100 m² (in rural areas).
Category 7: PAP impacted on business or other services
Temporary impact on business or other services.
Permanent impact on business or other services.

Category 8: impact on public works: compensation at replacement cost.

The proposed mitigation measure is compensation. The detailed compensation scheme is presented in the Project’s Resettlement Action Plan. The Plan has been prepared according to World Bank guidelines and Vietnamese legislation. The total cost for RAP implementation is VND 10.67 billion (approximately 711,460 USD). The budget for compensation and resettlement will be arranged by the People’s Committees of Hai Duong province.

6.3.2 Lands Acquisition – MITIGABLE IMPACT

Almost the routes will pass along a mix of crops and residential areas. However, because the ROW for the transmission line required is only 4.2m for MV line and 2m for underground cable, the total area of land acquired by the Project is relatively little. In total, the Project will acquire about 65.8 hectares of land. A summary of land acquisition is found in Table 6.3.

<table>
<thead>
<tr>
<th>Total (m²)</th>
<th>Temporary Impacted Land (m²)</th>
<th>Permanent Impacted Land (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Residential Land</td>
<td>Productive Land</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>657,766.69</td>
<td>176,867.29</td>
<td>279,529.92</td>
</tr>
<tr>
<td>614,868.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>42,897.83</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.3.3 Impacts Caused by Clearing the ROW – MINOR NEGATIVE IMPACT

The clearing of the ROW will occur during Pre-Construction shortly after the land acquisition activities. ROW clearing activities include: 1) permanent tree cutting and vegetation control; 2) temporary clearing of agriculture area land; and 3) permanent removal of houses.

Based on the RAP, the following comments can be made on land acquisition:

- More than 45% of the acquired land is agriculture land, which usually be cultivated by the food crops, rice and some industrial trees. The height of these crops are normally less than 1 m, therefore all the agricultural activity will remain unchanged. Therefore, there will be no impact on agricultural areas.

- Data from the field surveys confirmed that there are no primary forests, no protected forests or reserved forests are in the project area. These impacts could be recovered by the proper compensation to the PAH, so that they can use the compensation for re-cultivating the lost trees. The measures of the compensation are discussed in details in RAP of the project.

- Residential and fallow land are already well developed since Hai Duong is the central city of Hai Duong province, and hold very little ecological or biodiversity value. For this reason, project construction in the city would have no impact on ecological integrity or biodiversity.

The main impacts of clearing the ROW include: 1) some people may try to burn waste vegetation on site – this can increase the risk of uncontrolled fires; 2) some people may be injured by felling trees; and 3) soil erosion may occur. The significance of these impacts is considered to be minor negative.
6.3.4 Cultural Property – NO IMPACT
According to the RAP, the Project will not impact any cultural property, as defined by WB OP 11.03. This is for three reasons: 1) most of the work on construction and rehabilitation of transmission and distribution lines is carried out based on the current network, which has already been installed along the existing transport system (streets, roads, etc.); 2) one of the criteria in designing the network alignment is to avoid any sensitive area, including historic and cultural properties; and 3) the participatory nature of designing alignments means that each commune is involved in selected alignment, and the final alignment in each commune must be approved by the city’s People’s Committee.

6.3.5 Health Risks Related to Explosives, and Toxic Substances – NOT SIGNIFICANT IMPACT
There have been no communes in the project areas recorded with mines left from the war time. As most of the network pass by urban areas with high population density, there is a risk that construction activities may come in contact with non-explosive substances that are harmful to humans (toxic barrels, waste materials). However, since the power lines are designed to go along the road sides within the technical corridor in urban areas, construction activities in urban areas of the project include mostly building foundation for poles, which occupies very small areas. Discussions with EVN’s staff and the review of FS report suggest that this impact is often negligible. Thus, this impact is assessed as being not significant.

6.4 Construction Phase Impacts

6.4.1 Soil Erosion – MINOR NEGATIVE IMPACT
The project is located in a flat region with soil structure being quite stable (see Section 4 for more details). Therefore, soil erosion is often considered not a problem in the city. In addition, the overall Project impact on erosion during construction will likely be minor for the following reasons:

- Construction and rehabilitation of medium voltage lines will only occur during dry season;
- The ROW required to construct medium voltage lines is only 4.2 m for overhead line and 2 m for underground cable;
- The construction of underground cable occurs on relatively flat surfaces with little excavation, thereby the rate of erosion will be minimal.

6.4.2 Petroleum and Hazardous Waste Spills – MINOR NEGATIVE IMPACT
Petroleum and hazardous waste spills may be caused by several sources, including: 1) oil leakage from the construction equipment and transformers during their operation; 2) spillage from filling combustible engines such as vehicles and generators; and 3) dumping of waste petroleum products and hazardous chemicals. These impacts will likely be minor for the following reasons:

- The erection of the poles and the electrical equipment from 35 kV and lower, as practice in Vietnam, is done manually. Therefore there will be relatively few combustible engines used during most construction activities.
- The transformers used in the project are very small and contain less than 20 litres of oil. Operation records from other projects show transformer containers rarely break during installation or operation, and therefore, oil leakage from transformers is insignificant.
- PCBs and asbestos, two hazardous materials that are used in Vietnam, will not be used in the Project.
It is expected this impacts can be mitigated through oil and hazardous waste management practices described in later sections of this report.

6.4.3 Temporary Loss of Productive Land – MINOR NEGATIVE IMPACT

According to the RAP, some land will be used temporarily by the Project for many purposes. For example:

- Temporary construction access roads;
- Borrow pits, service yards, and other construction site needs; and
- Construction camps;

It is expected that these impacts are short-term and temporary. However, if unmitigated, even such short-term impacts could be significant for the farmers who rely on small tracts of productive land for their earnings. For this reason, mitigation measures for temporary loss of productive land will be considered by the Project.

6.4.4 Impacts of Temporary Access Roads – NOT SIGNIFICANT IMPACT

As the length of each part of the MV transmission line is relatively short, usually ranged from 0.5 to 2 km, the access roads for the transportation would not be required most of the time. This is because, in practice, if some parts of the lines can not be accessed by the trucks, the contractors usually opt for manual transportation, since the labour costs are much cheaper than the costs of constructing access roads. Furthermore, as the line goes in the technical corridor along the existing transport network, there is no need for temporary access roads.

6.4.5 Generation of Dust – MINOR NEGATIVE IMPACT

Most dust in Hai Duong city originates from large open areas, most of them recently backfilled for development purposes. The backfill materials used are relatively fine, under the sun, the soils become ever dryer, there is no growth, yet, and dust is generated in large quantities whenever trucks or equipment drive over these vast barren areas. Compared to the dust from these areas, dust added as a result from MV lines construction activities is very minimal.

Construction-phase activities that generate some dust will primarily originate from two sources. The first source is materials transport. Project materials (soil/sand, construction refuse, equipment, etc) will be transported by large trucks. During the course of materials transport, the following will occur: soil and sand will be released as airborne particulate from the truck loads; 2) tires will stir up dust as the truck travels over temporary and permanent roadworks; and 3) trucks will release airborne particulate as part of exhaust emissions. The second source is the release of particulate matter from stockpiles of sand and soil. The impacts of dust generating activities may be most serious during the dry season, when dust levels are already well above national standard and rain is not available to naturally mitigate the impacts of dust generation.

This impact is assessed as minor negative. Although detailed quantitative data on the number of vehicle-trips and number of stockpiles are not yet available, it is assumed that the incremental increase in Hai Duong city’s ambient dust levels would be negligible. This assumption is based on data from similar projects. Notwithstanding the assessment of minor negative, the following mitigation measures should be employed to minimize dust generated by the Project: 1) Water sprays should be regularly used on piles of sand; 2) Wind fences should be installed if prevailing winds generate dust; 3) Project vehicles carrying materials should be adequately covered.
6.4.6 Generation of Noise – MITIGABLE IMPACT

Numerous project activities can contribute to the generation of noise: vehicle movement, construction machinery (jackhammers, drilling equipment, excavation equipment); generators, etc. As the Project takes place entirely within an urban area, increased noise levels often directly affect households, business, pagodas, etc.

This impact is assessed as mitigable. The mitigation objective is to ensure that households, businesses, pagodas, etc are not disturbed by excessive noise levels during construction. Mitigation of this impact can occur by: 1) Ensuring noise-generating works (using engines, heavy machinery, etc) do not occur between 2200h and 0700h; 2) Project vehicles should meet TCVN 5948 (1995) standards for noise emissions; 3) Project vehicles should avoid the use of horns in urban areas. 4) Construction equipment should meet relevant standards for noise emissions.

6.4.7 Water Contamination – NOT SIGNIFICANT IMPACT

During construction work of upgrading the substations and other underground installation of the power lines, there will be around 50 persons participating in the construction work: most of them (around 90%) are residents nearby. There will not be any camp for construction workers. A little water generated by constructor’s daily consumption would accumulate in the site, but the amount is negligible.

The excavation work is planned to avoid rainy season. In the case of rain, some run off water will bring soil from work site to the sewage system or to the rice field nearby. However, this is not considered a significant impact due to the time for digging and installing just lasts from 2 to 7 days for each site. The Project will not require a lot of work with mixing concrete and therefore turbid water generated from construction activities is not significant. Attention should still be paid to stopping turbid water from running off to affect water body along.

There is no possibility that construction and rehabilitation work might impact to the underground water.

6.4.8 Traffic Congestion – MITIGABLE IMPACT

The Project will require dozens trucks and utility vehicles be integrated into Hai Duong’s urban traffic composition during construction phase. When these vehicles must work and/or travel through Hai Duong’s narrower streets (i.e. less than 3.5m wide) there is a risk of increased traffic congestion. Whilst “congestion” is not easy to define, the chances of construction creating a true traffic jam — where traffic completely ceases — is much lower than if the same construction works were undertaken in a developed country. This is because the vast majority of motorized vehicles in Hai Duong city are motorcycles. Motorcycles and bicycles can easily navigate through narrow areas and take up very little space. Furthermore, as Hai Duong citizens are used to traveling on less than ideal road conditions (due to floods, poorly constructed roads, and debris on roads) they do not hesitate to manoeuvre around construction sites and other traffic hazards.

6.4.9 Solid Waste Generated from Excavating Work for Underground Cable Installation – NOT SIGNIFICANT IMPACT

Excavating work for underground cable installation will cause impacts to the traffic within the Project site. The time for excavating work is planned for the late afternoon and evening time. Almost all of the works are done manually. The warning sign “Work Ahead” will be displayed in the site.

Firstly, road cover and soil are excavated and temporarily put next to the excavated trench. After excavating, a 5cm layer of sand is put in the bottom of the trench. The cable is installed on the sand
layer and will be covered again by another layer of sand with the same thickness. Photogenic warning paper is put on top of that and the excavated soil is then filled back to the excavated trench. The covering of the road by asphalt covering machines is planned to carry out two weeks after filling up the trench.

The remaining excavated soil and materials are brought away and disposed of in sanitary landfills by the local environment company. Thus the solid waste generated from this activity of the Project will be managed properly and there is no risk of harming to the environment by the Project's solid waste.

### 6.4.10 Health and Safety – Mitigable Impact

The main health and safety issues during construction phase are: 1) industrial accidents for construction workers, and 2) electrical safety for construction workers and the general public alike. Each is discussed below:

- **Industrial Accidents**: Construction workers are at risk from industrial accidents in the workplace. Working near heavy machinery, electricity, erecting transmission/distribution line all comes with their share of safety risks. The severity and frequency of industrial accidents increase when safety procedures are not implemented, when construction equipment is not maintained, when safety gear is not issued or worn, or when construction workers are not trained on safety procedures.

- **Electrical Hazards**: The Project’s construction phase is subject to several types of electricity hazards. For example: 1) on-site electrical supplies will be required for a range of equipment and lighting needs; 2) excavation and land clearing may need to take place near existing electrical utilities; 3) the Project itself is constructing a very large electrical transmission system, which comes with its own unique set of electrical hazards; 4) the Project may need to provide temporary sources of power for households and businesses near project affected areas; 5) there is a risk that when improving existing power systems, the existing power system may not be turned off properly before the Contractor begins construction; and 6) there is a risk that when the Contractor connects the new transmission line to the existing transmission line, the existing line may still be operating (i.e. live). All of these situations could create a risk of electric shock to workers and the general public alike.

### 6.5 Operations Phase Impacts

#### 6.5.1 Social and Economic Development – Significant Positive Impact

The project will provide 133,259 people in Hai Duong city a stable network of electricity. As urbanization is rapidly increasing in Hai Duong province, the current network will not be capable of fulfilling the coming demand of electricity. This will affect the city’s chances of economic and social development. By providing a stable and proper network of electricity distribution and transmission, it is expected that households in the city will be able to raise their standard of living through improvements in both their home and work.

#### 6.5.2 Avian and Aircraft Hazards – Not Significant Impact

The height of the highest towers will be 9 metres for medium voltage lines. The potential for these impacts is not significant for the following reasons:

- **Impact on birds**: First, there are no wetlands near the Project Area, and the vegetated area is quite poor in condition. Due to this situation, there are very few, if any, migratory birds near the Project area. Second, there are no known bird electrocutions/accidents on medium voltage...
lines recorded. This is because the local birds are small—not large enough to touch two lines to create an electric current.

- **Impact on aircraft:** The highest towers created by the Project are only 9m, well below the 50m height required for special safety lights and the new towers will be as high as the existing towers that have not posed any risk to aircraft.

### 6.5.3 Induced Effects from Electromagnetic Fields – NOT SIGNIFICANT IMPACT

The human and environmental impacts of electromagnetic fields are not well known. Published reports from reputable sources show inconsistent conclusions on the relationship between exposure to electromagnetic fields and cancer (e.g. leukaemia, brain cancer). Most scientists agree that the risk of cancer is directly proportional to several factors, of which two are quite important: magnetic field strength and length of exposure.

- **Magnetic field strength:** According to the US EPA, the magnetic field strength of transmission and distribution systems is surprisingly weak (Table 6.4). Indeed, the highest measured results of a 500 KV line in the ROW during peak usage (183 milligauss) is lower than the median measurement of magnetic field strength within six inches of many household items (e.g. hair dryers: 300 milligauss; can openers 600 milligauss).

Table 6.4: Magnetic field measurements of 115, 230, and 500-KV transmission lines

<table>
<thead>
<tr>
<th>Type of Transmission</th>
<th>Max on ROW (milligauss)</th>
<th>Distance from lines (milligauss)</th>
<th>15m</th>
<th>30m</th>
<th>60m</th>
<th>90m</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 KV</td>
<td></td>
<td>Average Use</td>
<td>30</td>
<td>7</td>
<td>2</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak Use</td>
<td>63</td>
<td>14</td>
<td>4</td>
<td>0.9</td>
</tr>
<tr>
<td>230 KV</td>
<td></td>
<td>Average Use</td>
<td>58</td>
<td>20</td>
<td>7</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak Use</td>
<td>118</td>
<td>40</td>
<td>15</td>
<td>3.6</td>
</tr>
<tr>
<td>500 KV</td>
<td></td>
<td>Average Use</td>
<td>87</td>
<td>29</td>
<td>13</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peak Use</td>
<td>183</td>
<td>62</td>
<td>27</td>
<td>6.7</td>
</tr>
</tbody>
</table>

- **Length of exposure to magnetic fields.** The exposure time of household appliances is relatively short because magnetic fields are created when the appliance is in use. Transmission and distribution lines, though relatively low-emitters of magnetic fields, provide constant emission. The effects on long term exposure are not well known.

EMF data is not available for 22-35 kV medium voltage lines. However, based on the data in the above table, the EMF created by the Project would be much lower than those recorded for 115kV lines. These lines are commonly used in urban areas throughout the world with no confirmed health impacts.

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effects. Finally, no houses will be placed in the ROW, where the impact of EMF is highest\(^5\). For these reasons, the impact of EMF from the Project is considered to be not significant.

6.5.4 Petroleum and Hazardous Waste Contamination – NOT SIGNIFICANT IMPACT

The Project will use very minimal amounts of oil and no hazardous materials\(^6\) during operation phase. The most common situation when an impact can occur is when transformer oil is being refilled. To refill a transformer, a maintenance crew will remove it from the Project site and bring it to the Proponent’s provincial branch office for refilling oil and/or changing oil. The branch office has designated oil collection and oil treatment facilities. This maintenance procedure occurs about every 2 years during operation phase. There are 253 transformers that will be operated by the Project. As this is the main potential impact during operations, the overall impact of petroleum and hazardous wastes is considered to be not significant during operations phase.

6.5.5 Health and Safety – MITIGABLE IMPACT

The operation of transmission lines and distribution stations come with a certain amount of risk – both to maintenance workers and to the general public. This includes: 1) electrical shock; and 2) fires.

Electric shock is a danger for the human life during the operation phase if there is no proper preventive measure.

\(^5\) Allowable distance of houses from median of ROW is described in Government Decree № 54/1999/ND-CP dated 08/07/1999 on Protection of High Voltage Networks.

\(^6\) The transformers do not contain PCBs.
7 Mitigation Measures for Negative Impacts

The purpose this section is to recommend the most effective approach for mitigating negative impacts created during the Project's pre-construction, construction, and operation phases. In most cases, there is more than one way to mitigate an impact. Mitigation measures can be categorised into four different groups. Each group is presented below:

- **Higher chance of impact mitigation being successful**
  - **Avoid the impact.** To "avoid" means to be able to change some aspect of the project design, construction, or operation such that the impact no longer occurs (e.g., changing the alignment of a transmission line so it avoids a sensitive area).
  - **Minimize the impact.** To "minimize" means to implement measures that will reduce impacts to acceptable levels (e.g., ensuring that construction equipment meets TCVN industrial emission standards).
  - **Rectify the impact.** To "rectify" means to allow an impact to occur, then afterwards take measures to rehabilitate the environment to a level whereby the impact is within acceptable limits (e.g., use land temporarily for the construction then restore it to its original condition after the construction is complete).
  - **Compensate for the impact.** To "compensate" means to allow the impact to occur, then afterwards provide non-monetary compensation (first priority) or monetary compensation (second priority) for losses created by the impact (e.g., if a farmer must be resettled, the first compensation priority is to provide replacement land and housing. If replacement land and housing cannot be provided, the replacement value of losses must be calculated and provided to the farmer).

Experience from EIA practitioners has found that the approaches are roughly listed in their chance of success: avoiding an impact is most likely to be successful, compensating for an impact is least likely to be successful. The below text below identifies the most likely mitigation measures that can be achieved within the Project's physical, temporal, and technical resources.

7.1 Pre-Construction Phase Mitigation Measures

7.1.1 Project Affected Households

**Mitigation Objective**

To reduce the negative effects of resettlement.

**Description of Mitigation Measure**

The measures to mitigate the impacts of resettlement are:

- **Avoid the impact:** Routes were selected during which minimise the need to relocate houses (see Analysis of Alternatives section);
- **minimise the impact:** several pre-construction phase measures will be implemented to minimise impacts on PAHs. These include: i) increasing tower height, ii) increasing the span
between towers; iii) providing special technical options for towers, arms, guys, foundations at
locations that have risk of landslide or erosion; iv) conductors will be designed with the
insulated wires or cable when the lines are passing through the populated places to avoid the
accident of electric shock; v) substations will be designed with the hanging type of about 5m
high to ensure safety operation and avoid hazardous conditions to human and animal passing
by. Substations will also be designed to be equipped with appropriate safety equipment; and
vi) poles will not be erected in front of the main gate of house or on its premise. The house or
structures remained under the line need to be protected according Government Decree No
54/1999/ND-CP dated 08/07/1999 on Protection of High Voltage Networks.

- **compensate for the impact**: household that will be affected by the Project will be
  compensated through the Resettlement Action Plan (see Appendix 7 for more details).

### 7.1.2 Land Acquisition

**Mitigation Objective**
To reduce the negative effects of land acquisition

**Description of Mitigation Measure**
The measures to mitigate the impacts of land acquisition are:

- **avoid the impact**: Selecting routes which minimise the need to acquire land,
- **compensate for the impact**: land owners who must release land to accommodate the Project
  will be compensated through the Resettlement Action Plan (see Appendix 7 for more details).

### 7.1.3 Impacts Caused by Clearing the ROW

**Mitigation Objective**
Minimize the impacts of removing houses and injuries by cutting trees

**Mitigation Measure**

- **minimise the impact**: Project staffs should work with the local forestry department to ensure
  that ROW is cleared and maintained according to specifications. Project should support
  community education activities to inform of hazards of removing houses and cutting trees.

### 7.2 Construction Phase Mitigation Measures

The construction plan should be optimized regarding the schedule for each construction task to reduce
temporary occupation of land and impacts on the environment. The details on how to protect the
environment during construction are found in this section.

#### 7.2.1 Soil Erosion

**Mitigation Objective**
Minimise soil erosion to the point where the project will not exacerbate the severity and frequency of
landslides, that local people can continue to use their land adjacent to the project area without any net
loss in productivity, and that the natural environment is not permanently affected by erosion caused
by the project.

**Description of Mitigation Measure**:

- **avoid the impact**: Excavate
(and similar earth-moving project activities) in erosion-prone areas will be scheduled: 1) during the dry season; and/or 2) after harvest to avoid impacts with agricultural productivity and general environmental stability in and near the project area. This scheduling of excavation to avoid rainy season and harvest season will be written in bidding documents and the General Conditions of Contract.

- **minimise the impact**: Contractor specifications can include the following statements:
  - soil disturbance should be kept to a minimum and shall not be undertaken until immediately prior to construction works beginning in that area.
  - Surface runoff should be redirected around the project area and into suitable drainage channels.
  - Excess soil shall be dumped only in approved locations by the Employer or Engineer.

- **compensate for the impact**: Contractor specifications can include the following statements:
  - if the contractor fails to minimise soil erosion as per contract agreement, they shall be liable to compensate affected parties for their losses.

### 7.2.2 Petroleum and Hazardous Wastes Spills

**Mitigation Objective**
Minimise non-point pollution sources from waste dumps, equipment yards, asphalt plants, cement batching plants, and other types of construction sites. Common substances that should be minimized: petroleum products, sediments, raw and uncured concrete, mortar, glues, paints, PCBs, and asbestos. organic and inorganic contaminants, fuels and oils.

**Description of Mitigation Measure**

- **avoid the impact**: Contractor specifications can include the following statement:
  - PCBs and asbestos shall not be used by the Contractor during any part of project construction.

- **minimise the impact**: Most forms of non-point pollution can be minimised by following TCVN 5524 (1995): General Requirements for Protecting Surface Water Against Pollution; and 2) TCVN 5295 (1995): General Requirements for Protection of Surface and Underground Water Caused by Oil and Oil Products. The relevant contents of these two standards are summarised in the following box:
Best Practices – Management of Petroleum and Hazardous Products

- Prevent the entry of lime, cement, or fresh concrete into waterways. Raw or uncured waste concrete and grouts should be disposed of by removal from the development site or by burial on the site in a location and in a manner that will not impact on a watercourse. Carbon dioxide gas and diffusers should be on site at every water crossing. If uncured concrete spills into the waterbody, CO₂ gas and diffusers can be used to neutralise the lime.

- Wash-down waters from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks should be trapped onsite to allow sediment to settle out and reach neutral pH before the clarified water is released to the storm drain system or allowed to percolate into the ground (approximately 48 hours).

- Fuels and lubricants for equipment used on the development site should be carefully handled to avoid spillage, properly secured against unauthorized access or vandalism and provided with spill contaminant according to codes of practice.

- Fuelling and lubricating of equipment onsite should only be done after the equipment to be serviced is moved to a constructed service pad with a separate drainage collection system, as far as possible from detention or sedimentation facilities and leave strips.

- Any spillage of fuels, lubricants, or hydraulic oils should be immediately contained and the contaminated soil removed from the site and properly disposed of in a location approved by the Engineer.

- Waste oils should be collected in leak-proof containers and removed from the site for disposal in a location approved by the Engineer.

- The rinsing and cleaning water or solvents for glues, paints, wood preservatives, and other potentially harmful or toxic substances on the development site should be controlled so as to prevent leakage, loss or discharge into the storm drain system.

- Wood wastes, such as hog fuel, sawdust and wood chips, are not acceptable for fill material. Wood wastes have the potential to release toxic leachates into the aquatic environment.

- Where land is being re-developed, and there is contamination on site, those contaminants must be removed, disposed of as prescribed by the Engineer.

7.2.3 Temporary Loss of Productive Land

Mitigation Objective

Restore all areas used by the Project to a condition that is at least as environmentally sound as the pre-project condition.

Description of Mitigation Measures

- rectify the impact: Once construction is complete it will be important to return all construction areas temporarily used by the project to a useful state, and to ensure that no long-term environmental impacts of the construction activities persist. The local People’s Committees should be involved in discussions of the rehabilitation process. The following best practices for site clean-up will help mitigate long term environmental impacts of: 1) land affected by the Project (construction camps, equipment yards etc); and 2) rehabilitation of water areas affected by the Project (in and around water crossings).
Best Practices - Rehabilitation of land affected by the Project

- Inorganic waste should be disposed of in an approved sanitary landfill sites away from the construction areas, or be recycled where this is economically feasible.
- Any remaining organic non-toxic wastes should be ploughed into the soil layers.
- All areas where oil has been spilled should be ploughed or tilled using agricultural implements, to facilitate the accelerated chemical breakdown of the oil.
- Disturbed areas within 100 meters of a water body should be stabilised and re-vegetated to prevent erosion and to intercept sediment.
- Riverbanks and fill sloped should be trimmed to a relatively flat angle that will be stable (i.e., 2:1 or flatter).
- All ground surfaces that have been compacted by heavy machinery or by having been sites of construction camps or plants should be ploughed and raked to ensure that sediment compaction is reversed.

7.2.4 Generation of Dust
Mitigation Objective
Ensure minimal impact of dust on local people and sensitive areas such as hospitals and schools.

Description of Mitigation Measures

- minimise the impact of dust: 1) Water sprays should be regularly used on piles of sand and dirt roads; 2) Wind fences should be installed if prevailing winds generate dust; 3) Project vehicles carrying materials should be adequately covered.

7.2.5 Generation of Noise
Mitigation Objective
Ensure minimal impact of noise on local people and sensitive areas such as hospitals and schools.

Description of Mitigation Measures

- minimise the impact of noise: 1) Night works will be carefully considered in order to reduce noise to local residents, and especially near sensitive areas such as schools and hospitals; 2) Project vehicles should meet TCVN 5948 (1995) standards for noise emissions; 3) Project vehicles should avoid the use of horns in urban areas; 4) Construction equipment should meet relevant standards for noise emissions.

7.2.6 Traffic Congestion
Mitigation Objective
Ensure minimal impact of traffic congestion on local people and traffic.

Description of Mitigation Measures

- minimise the impact of traffic congestion: All construction vehicles (including vehicles working under sub-contract to the Contractor) shall clearly display a project logo, and project allocated number. Speed limits for the construction vehicles will be 10 km/hr on construction site and 30 km/hour in Hai Duong city. These speed limit signs will be posted on the construction vehicles. The travel route for construction vehicles should be designed to avoid areas of congestion. Near construction sites, separate traffic flows of: 1) cars/trucks and 2) motorcycles/bicycles. If Project works occur after dark, the Contractor should maintain a lighting system such that vehicles and pedestrians can clearly see the construction area. Contractor should maintain fences throughout
construction areas. Fences shall comply with following requirements: 1) define clearly the
construction boundary that does not occupy the remaining traffic road; and 2) ensure for traffic and
good landscape in resident area. Traffic wedges/islands shall be installed to allocate reasonable
traffic flow in rush hours; and maintain one-way flow of traffic. Project should supply traffic
wardens to co-ordinate traffic flow in areas that are subject to congestion.

7.2.7 Health and Safety

Mitigation Objective #1
To minimise the health and safety problems that could be incurred by construction workers.

Mitigation Objective #2
Ensure no electrical shocks to workers or local people during construction phase.

Description of Mitigation Measures

- minimize health and safety problems at the construction site: During the construction,
workers’ health will be protected in accordance with specific regulation on health and hygiene
methods. Each independent work unit will appoint one medical staff with adequate
competence to take care of the workers and treat diseases as malaria, typhoid fever, diarrhoea,
and other transmitted disease. Mine clearance to be carried out prior to construction for areas
with this potential risks identified during survey and design phase. Transport of long MV
poles must be handled by special transportation vehicles that should be checked before use in
compliance with transportation security regulation. Before starting works on foundations, it is
necessary to coordinate with relevant agencies to identify and avoid damage on water pipes,
postal cables or power cables during foundation and tower works, standard safety regulations
should be strictly followed. As tower work is a manual process, any remaining sand and
broken stones must be cleared so that there are no impacts on future cultivations. Facilities
and equipment must be carefully checked in terms of quality and quantity before use.
Construction leader needs to appoint a person responsible for security supervision. This
person will check production equipment, labour protection facilities and remind every one for
care. During the period of energizing the system after the completion of the project, the safety
engineer of PCI will ensure that every step prepared for energizing the system strictly follows
the technical and safety regulation in order to avoid electricity shocks for the workers and to
ensure the safety of the whole system.

- minimise impacts of electrical hazards: The Contractor must contact the Provincial Power
Department to make sure that the existing power system has been turned off during the period
that they: 1) connect new transmission lines to the existing system; and 2) improve the
existing system. Construction Workers must wear safety clothes and tools approved by the
Employer. This includes safety shoes, safety hats, gloves, etc.

7.3 Operation Phase Mitigation Measures

7.3.1 Health and Safety

Mitigation Objective #1
To minimise the health and safety problems that are related to electric shock.

Mitigation Objective #2
To minimise the health and safety problems that are unrelated to electric shock.
Mitigation Objective #3
To minimize the frequency and severity of fire hazards.

Description of Mitigation Measure

- **minimize the impact of problems created through health and safety issues unrelated to electric shock**: This can be achieved by the following:
  - Regular and ongoing preventive maintenance and fault treatment for the transmission lines and substations. The Hai Duong Power Service of PC1 will undertake operation management of the line and substations.
  - Regular and ongoing training on safety, basic techniques of the network operation and environment management should be provided to the operators. Only the successful trainees with training certificate can undertake the management and operation duty.
  - Regular and ongoing tree cutting/trimming to ensure no trees in ROW are higher than 4m. This work will be carried out manually to reduce impacts on the environment. The use of herbicide for vegetation management will be prohibited. Local authorities, organizations and landowners shall supervise the tree cutting.

- **minimize the impact of problems created through health and safety issues related to electric shock**: This can be achieved by the following:
  - A Danger-Waring sign placed at the foot of every pole and substation;
  - All the protection equipment in the substation need to be checked and tested periodically according to the operation procedures.
  - NOT allow the local people to intrude.
  - Appropriate specification of conductors connecting the house to the system.
  - Surge arresters for over voltage wave protection.
  - Place automatic breaker on LV side for short circuit and over current protection.
  - Place lightning arrestor on appropriate equipment.
  - All the line passing the populated areas for this project have to be designed with the cable or insulated wires, so the accident by contacting with the bare conductors have been already minimized.

- **minimize the frequency and severity of fire hazards**: This can be achieved by the following:
  - The substation is designed and equipped with fire detection and prevention according to Government regulations.
  - All workers will be trained for fire prevention and fighting.
  - There shall be regular monitoring for compliance with fire prevention regulations.
  - To eliminate the fire initiated by the short-circuit, whole the system will be disconnected from the grids when faults occur.
  - Periodically check all the protection equipment, in house wiring, and connection.
8 Public Consultation and Information Dissemination

World Bank (the Bank) policy regarding community involvement is provided in detail in the WB Public disclosure Policy BP 17.50. It is summarized as follows:

It requires that the borrower to publicly solicit, hear and consider the concerns of the local community, other affected groups and local NGOs (non-governmental organizations) and to fully incorporate into the design and implementation of the project and the Environmental Assessment (EA). The rationale for consideration and incorporation of the concerns affected parties is to assure community acceptance and enhance the viability of the project. The Bank has found that where such views have been successfully incorporated into the design and plan of implementation, the projects are more likely to be successful. The Bank has not found community participation to be an impediment to project execution. On the contrary, projects in which affected parties views have been excluded are more likely to suffer from delay and issues resulting from community resistance.

To avoid negative impacts on project affected people. Governmental Decree N 175/CP issued on 18 April 1994 requires that all projects in the development of industry: energy, transport, water resource, agriculture, etc. should conduct a compliant EIA study meeting the requirements of the environmental management authorities and the contents of EIA reports including predicted impacts and mitigation measures must be discussed with the PAP.

All the interested parties will be provided with access to EIA, RAIP and project summary so that they can submit their comments and concerns to the project proponents through their authorized representatives, e.g. governmental agencies (the people Committee, People Council) and/or socio-political organizations (Fatherland Front, Farmers Association, Women Union etc.) or non-governmental organizations (e.g. Vietnam Association for the Conservation of the Nature and Environment, Biological Association, Economic Association, Foresters Association etc.). These organizations should collect all comments from the local people and send them to the environmental management authorities (DoNRE at the provincial level or MoNRE at the central level) or even to provincial People’s Council or National Assembly. During the environmental review process, all comments and requirements of the PAP should be discussed and conclusions should be reported to the project proponents, so that the project can develop proper alternatives and implement measures for mitigation of the negative impacts. The project will receive an investment license, only after appropriate modification of location, design, capacity and/or technology of the project has been done to meet requirements of environmental protection and resettlement.

Contents of Public Consultation Meetings.

- PCI together with the commune authorities have organized meetings with the people in the project communes during the design stage in 2002 to discuss with them about the major technical, resettlement, land acquisition and environmental issues.
- Discuss with the people on the project policies entitlement on resettlement and compensation, potential impacts on the environment, and proposed mitigation measures.
- The local authority and people gave their comments on: appropriate design line routes, any other potential risks to the environment.
- In the meetings all questions and recommendations of PAP have been recorded and taken into account during the technical design phase.

Materials presented in the meetings.

The Consultants will present the following materials:
- Summary of the Project Information on project, RAP and EIA. This project information will be placed in the public place after meeting.
- Maps of the project site
- Figures, tables, photos, pictures, etc. presenting the project activities.

**8.1 Aims of Public Consultation and Information Dissemination**

Information dissemination to, consultation with, and participation of affected people and involved agencies: (i) reduce the potential for conflicts, (ii) help to establish a comprehensive environmental management plan and thus, maximize the project socio-economic benefit, (iii) minimize the risk of project delays, and (iv) enable the project to design the resettlement and rehabilitation program as a comprehensive development program to fit the needs and priorities of the affected people, thereby maximizing the economic and social benefits of the project investment.

Public consultation and information dissemination was scheduled for 2 stages: project preparation and project implementation.

**8.2 Public Consultation and Information Dissemination During Project Preparation Stage**

During project preparation stage, the following activities were carried out sequentially:

*Activity 1: Information & discussion with local authorities on the line route.*

During the field survey for the F/S, the Consultants discussed with Hai Duong People's Committee on the project line route to find the best route with minimal effects on compensation and minimal impacts on the environment.

After the line routes have been designed, Consultants sent the designed line route to Hai Duong People's Committee for their further comments.

*Activity 2: Impact survey and statistics*

Based on the agreed line route, survey teams had realized the route at site, made the piling and coordinated with the People’s Committee officials to make a list of PAPs' affected land and crops. The socio-economic survey forms were delivered to affected households (for each commune) as basis for SLS. The survey is carried out by the City Compensation Committee, with the participation of the commune authority. This activity was carried out from October to December 2002.

*Activity 3: Meetings with PAPs*

When the survey finished, the City Compensation Committee in coordination with the commune officials held meetings with PAPs having land in the line ROW and with communes representatives. In these meetings officials informed the participants of the project purposes; presented the project impacts on land and crops in detail; introduce the principles and policies of compensation and advised people not to build new structures in the line ROW. PAPs were consulted on the entitlement policy, property affected, and the compensation amount to each households. If PAHs agree they will sign the inventory. A copy of Public Consultation Meetings can be found in Appendix 8.

*Activity 4: Approval and clearance by City Authority*
After working with the communes, the compensation document will be sent to Steering Committee, which includes representatives from Financial and Pricing Department, Planning and Investment Department, Agriculture and Rural Development Department, and DoNRE. The committee will review the relevant documents and recommends to the Chairman of the People Committee for signing the compensation.

**Activity 5: Consultation and clearance on EIA**

Basing on the survey result, in 12/2002, PMU has prepared a draft EIA to submit to EVN, WB, DoNRE, and PC for review. When the RAP and EIA are cleared by relevant parties, these reports are submitted to DoNRE to apply for an Environmental Permit and these sources of information are available for all people who are interested in the Project.

**8.3 Public Consultation and Information Dissemination During Project Implementation Stage**

Public consultation and information dissemination during project implementation is of great importance as the project impacts on the environment and people at this stage would be worst. The following information campaign will be carried out:

**Activity 1: Information to the local authority**

Before the project starts, the first task for PMU is to assist the Steering Committee to organize meetings with involved departments of the project province and city so as to discuss all aspects of the project, including implementation of RAP and EIA.

**Activity 2: Information to the local people**

All environment impacts, land acquisition, and other impacts that may occur during construction as well as operation of the project will be announced in meetings with local people so as to find prompt solution in order to avoid conflicts and implementation delays.

**8.4 Applying for Environmental Permit**

After carrying out field survey, drafting of EIA, RAP, and public consultation, PC1 sent an application form for Environmental Permit to Hai Duong Province's Department of Natural Resources and Environment (provincial DoNRE). This is a process regulated by the Vietnam Law on Environmental Protection. At the present time, PC1 has already got an Environmental Permit from all Hai Duong DoNRE. A copy of this Environmental Permit is given in Appendix 9.

**8.5 Opinions on the Project from the Public Consultation**

- Construction of the Project will be good for economic development, can increase employment opportunities and enhance living quality of the public;
- The Project should minimize clearance of crops and houses and adequately compensate affected people.

In response to problems put forward by the public, concerning professionals made a detail explanation to residents' representatives in terms of potential environmental impact caused by power transmission construction and rehabilitation. The acquired land must be compensated stringently according to relevant national regulations (including land occupation and young-crop compensation). Land will be reallocated to farmers who lose their farm field and supported labor force will be arranged.
After their questions were answered carefully, the residential representatives understood that the power construction would not have significant impacts on them.

8.6 Public Participation Investigation Results

Local Government, all functional departments and the public support the Project and consider it beneficial to the development of local industries and to the enhancement of local living quality. Long term and short term occupied land should be compensated in accordance with Vietnamese regulations. Project’s affected people considered the Project as one with non-impact on the environment.

8.7 Summary of Comments Received from the Public

- All of the participants in the meeting have agreed that the project will bring a lot of benefits to Hai Duong city. Quality of life of the Project beneficiaries is considerably increased. The Project will increase the stability of the power network of Hai Duong city. Many public organizations such as hospital, schools will be supplied with the higher quality of power.
  
- Generally, the lines routes are well selected. The selection of routes have raised some comments from the local people. The Consultants have explained about the principles of line selections, explanation of technical issues during design and operation.
  
- People are very happy if the line goes close to their places, because that will increase the quality of power supply. They agree that the potential environmental impacts are very minor and can be very well managed. Additional comments are given to the Consultants for the mitigation activities such as where the warning sites should be placed, what time is most suitable for excavating works during construction phase in some specific areas such as hospital and school.
  
- Local people are willing in their ability to help project owners and contractors to manage the environmental issues such as water supply for spraying, to avoid transportation in excavating places etc. It is a very positive sign from local people to welcome the Project.
  
- Other issues raised by the local people mainly focused on compensation issues. This information is available in the Project RAP report.

8.8 Reflection of Public Comments on the EIA Report

The comments of local people are summarized as mentioned above. All of their comments on environmental issues are explained and added if necessary in this EIA report. To address disclosure requirements of OP 4.01, PC1 will:

- Provide Vietnamese-language copies of the EIA report, RAP, and Project Summary to each commune-level and provincial-level People’s Committee in Hai Duong Province.
  
- Advertise in major local newspapers several times over a two-month period. The advertisement will state the EIA, RAP, and Project Summary are available for public review for a two month period during normal working hours at the following locations: 1) the Hai Duong province’s People’s Committee; and 2) The commune level Peoples’ Committees.
  
- English and Vietnamese-language copies of the EIA report will also be sent to the Vietnam Information Development Centre at 63 Ly Thai To in Hanoi, for access by NGOs and public display.
  
- English language copies of the EIA report will be sent to World Bank for publication on World Bank InfoShop.
9 Environmental Management Plan

9.1 Mitigation Plan

When constructing the mitigation measure tables of this section, the following points were considered: 1) Mitigation measures are provided for all "MINOR NEGATIVE" and "MITIGABLE" impacts; 2) Construction mitigation measures should be woven into appropriate contract management documents (e.g. bidding documents, general conditions of contract, contractor specifications, method statements). This enables PMU to have significant authority over their implementation.
<table>
<thead>
<tr>
<th>Potential Negative Impact</th>
<th>Target</th>
<th>Mitigation Measure(s)</th>
<th>Estimated Cost</th>
<th>Funding Source</th>
<th>Implemented By</th>
<th>Supervised By</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Project Affected Households (PAH)</td>
<td>All PAHs will be fairly compensated</td>
<td>Select alignment with minimum conflict with PAHs Compensate PAHs</td>
<td>As specified in Resettlement Action Plan.</td>
<td>GOV</td>
<td>Provincial, City and Commune Peoples' Committees</td>
<td>PMU, PC 1</td>
</tr>
<tr>
<td>2. Land acquisition</td>
<td>Land acquisition will be minimised. Land owners will be fairly compensated for loss of land</td>
<td>Select alignment with minimum conflict with land acquisition requirements. Compensate land owners</td>
<td>As specified in Resettlement Action Plan.</td>
<td>GOV</td>
<td>Provincial, City and Commune Peoples' Committees</td>
<td>PMU, PC 1</td>
</tr>
<tr>
<td>3. Clearing ROW</td>
<td>Minimise impact of burning waste during clearing of ROW</td>
<td>Co-ordinate with local government to support education and enforcement of restricting burning of organic waste in the ROW.</td>
<td>Included in Contractor bidding price</td>
<td>GOV</td>
<td>Contractor</td>
<td>PMU, PC 1</td>
</tr>
</tbody>
</table>

Table 9.1: Pre-construction - potential negative impacts and mitigation measures
Table 9.2: Construction - potential negative impacts and mitigation measures

<table>
<thead>
<tr>
<th>Potential Negative Impact</th>
<th>Target</th>
<th>Mitigation Measure(s)</th>
<th>Estimated Cost</th>
<th>Funding Source</th>
<th>Implemented By</th>
<th>Supervised By</th>
</tr>
</thead>
</table>
| 4. Soil Erosion | Project does not exacerbate the severity and frequency of landslides; local people can continue to use their land without net loss in productivity, natural environment is not permanently affected by soil erosion. | Contractor Specifications should include.  
- Excavation activities in erosion-prone areas will be limited to the dry season and/or after harvest.  
- Soil disturbance will be kept to a minimum and not undermine the dry season and/or after harvest.  
- During construction, surface runoff will be redirected around construction area.  
- Excess soil should be dumped in approved locations by a responsible authority. | Included in Contractor bidding price | WB | Contractor | PMU, PC 1 DoNRE |
| 5. Petroleum and Hazardous Waste Spills | Members of the public and workers are not harmed by direct or indirect contact with petroleum or hazardous wastes. | Employer should encourage Contractor to use "best practices" to minimise hazardous waste spills – as described in the EIA report.  
Contractor Specifications should include  
- Contractor shall not use PCBs and asbestos during any part of Project construction  
- Contractor shall keep petroleum products and hazardous substances in safe locations away from the general public. | Included in Contractor bidding price | WB | Contractor | PMU, PC 1 DoNRE |
| 6. Temporary Loss of Productive Land | Restore all productive land temporarily used during construction phase | Employer should encourage Contractor to "use best practices" to rehabilitate productive land – as described in the EIA report | Included in Contractor bidding price | WB | Contractor | PMU, PC 1 DoNRE |
| 7. Dust | Nuisance dust emissions are avoided. | Contractor Specifications should include  
- Water sprays are to be regularly used on piles of sand  
- Wind fences to be installed if prevailing winds generate dust.  
- Dust generating materials will be covered adequately. | Included in Contractor bidding price | WB | Contractor | PMU, PC 1 DoNRE |
| 8. Noise | Nearby residents are not disturbed by excessive noise levels during construction. | Contractor Specifications should include:  
- Noise-generating works (using engines, heavy machinery, etc) should not occur between 2200h and 0700h.  
- All Project vehicles and noise-generating machinery must meet relevant standards for noise emissions. | Included in Contractor bidding price | WB | Contractor | PMU, PC 1 DoNRE |
<table>
<thead>
<tr>
<th>Potential Negative Impact</th>
<th>Target</th>
<th>Mitigation Measure(s)</th>
<th>Estimated Cost Source</th>
<th>Implemented By</th>
<th>Supervised By</th>
</tr>
</thead>
</table>
| 9. Traffic Congestion   | Traffic does not become congested in the construction area. Traffic hazards are managed to minimise risk to road users | Contractor Specifications should include:  
- All construction vehicles (including vehicles working under sub-contract to the Contractor) shall clearly display a project logo, and project allocated number  
- Speed limits for the construction vehicles will be 10 km/hr on construction site and 30 km/hour in Danang city. These speed limit signs will be posted on the construction vehicles.  
- The travel route for construction vehicles should be designed to avoid areas of congestion  
- Near construction sites, separate traffic flows of: 1) cars/trucks and 2)motorcycles/bicycles.  
- If Project works occur after dark, the Contractor should maintain a lighting system such that vehicles and pedestrians can clearly see the construction area. | Included in Contractor bidding price | WB | Contractor |
|                         |        |                       |                       |                | PMU, PC 1, DoNRE |
| 10. Health and Safety   | Minimise health and safety problems that could be incurred by construction workers. | Contractor Specifications should include:  
All works employed/sub-contracted by Contractor should wear appropriate protective equipment such as gloves and construction hats, waterproof boots to be provided where necessary  
Ensure no electrical shocks to workers or local people during construction phase. | Included in Contractor bidding price | WB | Contractor |
|                         |        |                       |                       |                | PMU, PC 1, DoNRE |
Table 9.3: Operation - potential negative impacts and mitigation measures

<table>
<thead>
<tr>
<th>Potential Negative Impact</th>
<th>Target</th>
<th>Mitigation Measure</th>
<th>Estimated Cost</th>
<th>Funding Source</th>
<th>Implemented By</th>
<th>Supervised By</th>
</tr>
</thead>
</table>
| 11. Health and Safety     | Minimise health and safety problems related to electric shock, fire hazards, etc. | • For electric shock: work closely with Hai Duong Power Department to periodically check ROW, provide appropriate training and certification for staff to operate and maintain power lines and substations.  
• For fire hazards: design substation with fire detection and prevention equipment, train workers in fire prevention and fighting; conduct regular monitoring of fire prevention compliance.  
• For other hazards: place "Danger-Warning" signs at appropriate locations (e.g. foot of poles, substations); ensure appropriate specifications for MV lines; ensure safety equipment (surge arrestors, lightning arrestors, breakers, insulated wires) are purchased, installed, and maintained. | To be estimated by EVN | EVN | Hai Duong Power Department | PC 1 |

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### Table 9.4: Summary of Project Mitigation Measures

#### Pre-Construction Phase Mitigation Measures

- Select alignment with minimum conflict with PAHs
- Compensate PAHs
- Select alignment with minimum conflict with land acquisition requirements
- Compensate land owners who must relinquish their land
- Co-ordinate with local government to support education/enforcement to restrict burning waste in ROW

#### Construction Phase Mitigation Measures

- Excavation activities in erosion-prone areas will be limited to the dry season and/or after harvest
- Soil disturbance will be kept to a minimum, not undertaken until immediately prior to starting works in that area
- During construction, surface runoff will be redirected around construction area
- Excess soil should be dumped in approved locations by a responsible authority
- Contractor shall not use PCBs and asbestos during any part of Project construction
- Contractor shall keep petroleum products and hazardous substances in safe locations away from the public
- Noise-generating works (using engines, heavy machinery, etc) should not occur between 2200h and 0700h
- All Project vehicles and noise-generating machinery must meet relevant standards for noise emissions
- Water sprays are to be regularly used on piles of sand
- Wind fences to be installed if prevailing winds generate dust
- Dust generating materials will be covered adequately
- All construction vehicles (including vehicles working under sub-contract to the Contractor) shall clearly display a project logo, and project allocated number
- Speed limits for the construction vehicles will be 10 km/hr on construction site and 30 km/hour in Danang city. These speed limit signs will be posted on the construction vehicles
- The travel route for construction vehicles should be designed to avoid areas of congestion
- Near construction sites, separate traffic flows of 1) cars/trucks and 2)motorcycles/cycles
- If Project works occur after dark, the Contractor should maintain a lighting system such that vehicles and pedestrians can clearly see the construction area
- All works employed/sub-contracted by Contractor should wear appropriate protective equipment such as gloves and construction hats, waterproof boots to be provided where necessary
- Contractor shall co-ordinate with Hai Duong Power Department prior to beginning construction works
- Only qualified persons will install and maintain electrical systems used at the Project site. These people will be clearly identified by their clothing/hardhat
- Only approved electrical cables and other pieces of electrical hardware shall be used on the Project site

#### Operation Phase Mitigation Measures

- For electric shock work closely with Hai Duong Power Department to periodically check ROW, provide appropriate training and certification for staff to operate and maintain power lines and substations
- For fire hazards, work closely with fire detection and prevention equipment, train workers in fire prevention and fighting, conduct regular monitoring of fire prevention compliance
- For other hazards, place "Danger-Warning" signs at appropriate locations (e.g. foot of poles, substations), ensure appropriate specifications for MV lines, ensure safety equipment (surge arrestors, lightning arrestors, breakers, insulated wires) are purchased, installed, and maintained
9.2 Monitoring Plan

The Project’s performance and environmental effects will be monitored throughout pre-construction, construction, and operation.

Performance monitoring is conducted to evaluate compliance with standard operating procedures (SOP), national standards, and/or contractor management documents. In most cases performance monitoring results are evaluated against established performance criteria. For example, a Contractor specification may be to place a tarp over all vehicles that carry soil. The performance monitoring activity could be to count the number of soil-carrying vehicles that use tarps, and compare the result against the Contractor Specification.

Environmental effects monitoring is conducted to estimate the impacts of project activities on ambient environmental conditions. For example, total suspended particulate matter (i.e. dust) may be measured to estimate the degree to which project activities are affecting ambient air quality.

Detailed monitoring programmes should be developed during Pre-construction. Table 9.5 can be used as a guide to develop the detailed monitoring programmes.
<table>
<thead>
<tr>
<th>Parameter is to be monitored?</th>
<th>Where is the parameter to be monitored?</th>
<th>How is the parameter to be monitored?</th>
<th>When is the parameter to be monitored?</th>
<th>Why is the parameter to be monitored?</th>
<th>Cost</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td><strong>PRE-CONSTRUCTION PHASE</strong></td>
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<tr>
<td><strong>Environmental Effects Monitoring</strong></td>
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<tr>
<td>1. Receiving Surface Water</td>
<td>In sensitive water bodies that could be affected by the Project (rivers, lakes)</td>
<td>Local institute contracted to monitor parameters using standard field sampling equipment, preservation, transport, and lab analysis techniques</td>
<td>Once during dry season and twice during rainy season</td>
<td>To create pre-project understanding of ambient receiving waters during dry and rainy periods</td>
<td>TSS cost is about USD 4/sample. Turbidity meter can be rented for about USD 20/day. Total cost depends on number of water bodies sampled</td>
<td>PMU and PC 1</td>
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<tr>
<td>- TSS or Turbidity</td>
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<tr>
<td>2. Dust Generation</td>
<td>In communes where construction work could affect TSP levels. Exact locations to be selected during detailed design phase</td>
<td>Local institute contracted to monitor parameters using standard TSP monitoring equipment</td>
<td>Once before construction</td>
<td>To create pre-project understanding of local dust levels</td>
<td>TSP collection equipment and operators can be rented for about USD 30/day. Total number of days required depends upon total number of communes that are selected for monitoring</td>
<td>PMU and PC 1</td>
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<td>- Total Suspended Particulate (TSP)</td>
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<tr>
<td><strong>Performance Monitoring</strong></td>
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<tr>
<td>3. Contractor Bid Evaluation</td>
<td>Bid proposals of each contractor</td>
<td>Environmental management will be quantitatively scored during bid evaluation</td>
<td>During bidding process</td>
<td>To ensure that environmental management is considered by bidders in their workplan, budget, and personnel selection</td>
<td><em>Human Resource Cost: One person-week of time.</em></td>
<td>PMU and PC 1</td>
</tr>
<tr>
<td>- Understanding of potential environmental impacts of the project's construction activities</td>
<td></td>
<td>PMU will review proposals and advise on each bid's likely ability to achieve environmental performance standards identified in Contractor Specifications. Points for each bid's environmental management capability will be awarded. These points will include in overall evaluation of each proposal.</td>
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<tr>
<td>- Proposed environmental monitoring activities</td>
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<tr>
<td>- Proposed environmental mitigation activities</td>
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<td>- Qualifications and experience of individuals responsible for environmental management</td>
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7 Whenever possible, unit prices should be based on Circular 83/2002/TT-BTC: Stipulating the Collection, Submission, and Management of Fees for Standard Methodology and Quality
<table>
<thead>
<tr>
<th>What parameter is to be monitored?</th>
<th>Where is the parameter to be monitored?</th>
<th>How is the parameter to be monitored?</th>
<th>When is the parameter to be monitored?</th>
<th>Why is the parameter to be monitored?</th>
<th>Cost</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION PHASE</strong></td>
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<tr>
<td>Environmental Effects Monitoring</td>
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<tr>
<td>4. Receiving Surface Water</td>
<td>same as pre-construction monitoring</td>
<td>same as pre-construction monitoring</td>
<td>same as pre-construction monitoring</td>
<td>evaluate impacts of construction on receiving waters, compare results with pre-construction data</td>
<td>Human Resource Cost: Depends upon number of water bodies sampled. Financial Cost: Depends upon number of water bodies sampled.</td>
<td>PMU and PC</td>
</tr>
<tr>
<td>5. Dust Generation</td>
<td>same as pre-construction monitoring</td>
<td>same as pre-construction monitoring</td>
<td>two times per year during construction</td>
<td>evaluate impacts of construction on local dust levels</td>
<td>Human Resource Cost: Depends on number of communes sampled Financial Cost: Depends on number of communes sampled</td>
<td>EVN, as part of their quarterly reports</td>
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<tr>
<td>Performance Monitoring</td>
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<tr>
<td>6. Site Environmental Management Plan (SEMP)</td>
<td>throughout Project area</td>
<td>Contractor submits SEMP (e.g. as a method statement) to PMU for approval. This submission should include who will monitor, how they will monitor, when they will monitor, and the table of contents for the quarterly monitoring report</td>
<td>throughout construction</td>
<td>Provides an accountable system for monitoring and evaluating the degree to which Contractor Specifications for environmental protection are being implemented</td>
<td>Human Resource Cost: 5 months PMU/EVN time to monitor and report on SEMP activities</td>
<td>Contractor</td>
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<tr>
<td><strong>OPERATIONS PHASE</strong></td>
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<tr>
<td>Environmental Effects Monitoring</td>
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<tr>
<td>NONE</td>
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</table>
### Performance Monitoring

<table>
<thead>
<tr>
<th>What parameter is to be monitored?</th>
<th>Where is the parameter to be monitored?</th>
<th>How is the parameter to be monitored?</th>
<th>When is the parameter to be monitored?</th>
<th>Why is the parameter to be monitored?</th>
<th>Cost</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7. Health and Safety</strong></td>
<td><strong>At Project commune</strong></td>
<td>Data can be collected either through Commune Peoples' Committee or Hai Duong Power Department. Collaboration with local hospital/health clinic may be advantageous.</td>
<td>Ongoing</td>
<td>Information collected can be used to improve/focus health and safety education and enforcement programmes at each commune.</td>
<td><strong>Human Resource Cost:</strong> Depends upon number and severity of accidents for each commune.</td>
<td></td>
</tr>
<tr>
<td>- Number of accidents caused by electric shock.</td>
<td></td>
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<td>- Number of fires created as a result of Project's electrical services.</td>
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</tr>
<tr>
<td>- Other types of accidents created as a result of Project's electrical services.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>8. Effectiveness of Electricity Services</strong></td>
<td><strong>At Project commune</strong></td>
<td>Local people can lodge complaints either through Commune Peoples' Committee or Hai Duong Power Department.</td>
<td>Ongoing</td>
<td>Information collected can be used to improve effectiveness of electricity services at commune level.</td>
<td><strong>Human Resource Cost:</strong> Depends upon number and severity of complaints for each commune.</td>
<td>Commune Peoples' Committee, Hai Duong Power Department,</td>
</tr>
</tbody>
</table>
9.3 Institutional Framework for Environmental Management

9.3.1 Project Implementation Framework

The institutions and offices responsible for preparation and implementation of the EMP are:

- Electricity of Vietnam (EVN)
- Power Company No 1 (PC1)
- Project Management Unit of PC1 (PMU)
- Hai Duong Province’s People’s Committee
- Hai Duong City’s People’s Committee
- Commune People Committee (CPC)
- Consultant
- Construction Contractors

The responsibilities and roles of the above institutions are specified as followings:

**Electricity Vietnam**

Electricity of Vietnam (EVN) is responsible for the implementation of Rural Energy Project, including overall environmental management of the project. To carry out overall environment management, within EVN, there is an Environmental Management Department in EVN’s Centre for Information Technology, Science and Environment. The department is in charge of guiding and supervising implementation of the EMP for the project.

**Power Company No. 1**

Power Company No. 1 (PC1) is the Project owner for Rural Energy Project’s central region. PC1 is responsible for the project implementation, including implementation of RAP and EMP.

**Project Management Unit of PC 1**

Project Management Unit (PMU) is responsible for Project implementation. PMU responsibilities include:

- Overall planning, management and monitoring of the environmental management
- Ensuring that all environmental protection and mitigation measures of environmental impacts are carried out in accordance with policies, regulations on environment and other relevant laws.
- Coordinating with provinces’ people committees, provinces’ power services, districts’ people committees... in environmental management activities.
- Being in charge of organizing training courses of local staff (provinces, districts) and contractors’ teams on mitigation measures and safety methods (inviting professional expert on environment shall be included).
- Carrying out internal monitoring and supervise independent monitoring, which will be contracted with other consulting services of the project.
- Supervising and providing budget for monitoring activities.
- Reporting on the environmental information to EVN, the concerned DoNRE and the WB.
- Implement changes or adjustments according to DoNRE recommendations to protect the environment according to Vietnam’s standards, laws, and regulations.
Consultant

The Consultant will be selected and managed by PC I to conduct several Project tasks, including:

- Preliminary survey and designs
- Preparation of feasibility study
- Preparation of RAP and EIA report
- Preparation of some bidding documents
- Carry out some EMP tasks, and assist PMU with environmental issues during construction

Hai Duong Province Power Service

Hai Duong Province Power Service (PPS) is provincial-level dependent utilities of PC1. PPS is responsible for EVN’s business within Hai Duong province. For this Project, the PPS will be in charge of the supervision of the contractors during the construction and will be in charge of the operation of the project. For the EMP, the PPS is directly in charge of the supervision of the implementation during the construction stage, and implementation of this plan during the operation stage.

Civil Works Contractor

The Civil Works Contractor (Contractor) will be selected by PMU and approved by PC1. Their responsibility includes Project construction works and following all contractor specifications outlined in the EIA and EMP. These include:

- Applying construction-phase mitigation measures
- Ensuring safety of construction workers and local people during construction
- Following Vietnam and World Bank policies on environmental protection during construction

9.3.2 Project Monitoring of EMP

An independent monitoring consultant (IMC) will be hired by PMB to monitor implementation of the EMP/RAP.

9.3.3 Other EMP Stakeholders

Department of Natural Resources and Environment (DoNRE)

DoNRE is responsible for management on environmental issues within each province’s territory. As part of this responsibility, DoNRE will review and manage the GOV’s approval process for the EIA report. This process is described in CP 490/1998/TB-KHCNMT Circular Letter for Setting Up and Appraising the Environmental Impact Assessment Report for Investment Projects. During EMP implementation, DoNRE will act as an external regulator. Their duties will include:

- Monitoring the implementation of mitigation measures to minimize the project impacts in the construction and operation stage
- Controlling and checking health of workers, operators and inhabitants
- Managing and checking protection measures for plantations and animal subject to the impact caused by the project

Hai Duong Province People’s Committee

The PPC’s responsibilities include:
- Guiding and monitoring environmental management planning and implementation within the province
- Approving method of environmental protection and impact mitigation including estimated costs after DoNRE appraisal
- Reviewing document on environmental activities and granting within the province area
- Providing guidance and leading the coordination between sectors and departments in EMP implementation
- Approving the unit price for the compensation
- Financing the compensation costs

**Hai Duong City People’s Committee**

The Hai Duong City People’s Committee’s responsibilities include:

- Ratifying methods of environmental protection and management
- Coordinating with DoNRE on supervision of implementation process of environmental impact mitigation and protection during and after construction phase
- Carrying out the detailed measurement survey

**Commune People’s Committees (CPC)**

The CPC’s responsibilities include:

- Confirming impact caused by the project in the commune
- Monitoring environmental impact mitigation and protection process within the commune
- Organizing meetings at commune level on matters concerning environment

**Project Affected Households (PAHs)**

PAHs will directly participate in the survey on PAH duties and entitlements. Through these surveys they will: 1) have the opportunity to express their requirements and concerns to the above institutions; and 2) have input to the method and units of compensation. After compensation is complete, PAHs are responsible for co-operating with Contractor to clear relevant sites in a timely manner.

In addition to their own duties and entitlements, PAHs have the right to participate either directly or indirectly in the Project decision-making process during pre-construction, construction, and operation. In order to ensure that PAHs are well informed on the Project, local authorities will provide PAHs with basic knowledge on Project-related activities, and the negative and positive impacts they may have on the natural/social environment. PAHs will be allowed to bring legal action to an appropriate court if the PAH considers its claim for participation or information is ignored, groundlessly refused, or if provided information by local authorities was inadequate.

**9.4 Environmental Reporting Procedures**

PMU will submit Project quarterly reports to the EVN and WB. The reports will include updates on the effectiveness of environmental mitigation measures being carried out, environmental monitoring results collected during the quarter, and a discussion of any outstanding issues which should be addressed in the forthcoming quarter. The format and details of these reports will be discussed and agreed upon by EVN and WB prior to Project implementation.
PMU will submit an annual environmental report to EVN and the WB. The report will summarise environmental protection measures implemented, problems encountered, actions taken to resolve environmental problems and the results of environmental monitoring.

IMC will closely monitor the implementation of RAP and EIA. In case of accident or risk of environment. The IMC will report the results of their work every six months during the Project period. The report will be sent to PMU, DoNRE, Hai Duong City PC, EVN and WB for review.

9.5 Capacity Building

Environmental management is a relatively new task for the power sector. Therefore, prior to project implementation, there should be training for staff that will participate in EMP. Management staff will be equipped with knowledge on mitigation measures for environmental impact and monitoring plan.

The following training has been conducted to date:

1) **2000: Project Launch Workshop.** The main objective of the workshop was to inform all the implementing agencies on the safeguards policies of the Bank, including the environmental issues of the project

2) **May 2002: Training Workshop** on the environmental issues, conducted by international and national environmental specialists. The objectives of the training were:
   - Legal documents on environment protection
   - WB stipulations on safeguard policies
   - Responsibilities and rights of state functional bodies in environment management
   - Identification of typical impacts of power transmission line projects and mitigation measures

3) **August 2003: Hands-on learning-by doing training** for improving environmental reports. Local and international consultants worked with PC 1 staff to improve draft EIA and EMP reports.

4) **September 2003: Hands-on workshop** for environmental assessment of transmission and distribution projects. International and national environmental specialists lead PC 1 staff and other participants on a field trip to test new tools for environmental assessment, held group work activities on challenges and opportunities to improve environmental assessment, and held lectures on WB safeguard policies and GOV environmental requirements for the Distribution and Transmission Lines Project.

Future training includes the following:

5) **E VN training:** Internal training course on how to monitor SEMPs and how to report environmental results as part of quarterly and annual project reports.

9.6 Cost of Implementing the EMP

This section estimates the marginal costs for conducting the EMP's main sub-components: mitigation, monitoring, and capacity building. Costs that are incurred by other project components but satisfy some aspect of the EMP are not included in this section. The division of costs between EVN and IDA funds was developed in consultation with EVN.

The total marginal cost of the EMP from Pre-Construction through to the end of the first year of operation is 46,500 USD (not including contingencies, taxes, or inflation). This amount is about 0.64% of the project's estimated USD 7.2 million budget. EMP costs can be broken down as follows:
Pre-Construction: 7,000 USD; Construction: 30,300 USD; and Operation 9,200 USD/year. More detailed estimates are found in Table 9.6.

Table 9.6: Costs of Implementing the EMP

<table>
<thead>
<tr>
<th>Item</th>
<th>Pre-Construction</th>
<th>Construction</th>
<th>Operation (per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mitigation [see Mitigation Plan for reference numbers]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Soil Erosion</td>
<td>-</td>
<td>1,000</td>
<td>5,000</td>
</tr>
<tr>
<td>5. Petroleum and hazardous wastes</td>
<td>-</td>
<td>1,000</td>
<td>5,000</td>
</tr>
<tr>
<td>10&amp;11 Health and safety impacts</td>
<td>-</td>
<td>500</td>
<td>3,000</td>
</tr>
<tr>
<td>EVN time to supervise/report on mitigation measures</td>
<td>200</td>
<td>400</td>
<td>800</td>
</tr>
<tr>
<td>Sub-total Mitigations</td>
<td>200</td>
<td>600</td>
<td>2,900</td>
</tr>
<tr>
<td>2. Monitoring [see Monitoring Plan for reference numbers]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1&amp;4 Water quality surveys</td>
<td>400</td>
<td>1,600</td>
<td>400</td>
</tr>
<tr>
<td>2&amp;5 Dust surveys</td>
<td>600</td>
<td>2,400</td>
<td>600</td>
</tr>
<tr>
<td>6 SEMP monitoring</td>
<td>-</td>
<td>-</td>
<td>400</td>
</tr>
<tr>
<td>7. Health and safety</td>
<td>-</td>
<td>-</td>
<td>400</td>
</tr>
<tr>
<td>8. Effectiveness of electricity</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>EVN time to supervise/report on monitoring results</td>
<td>400</td>
<td>-</td>
<td>400</td>
</tr>
<tr>
<td>Sub-total Monitoring</td>
<td>1,400</td>
<td>4,000</td>
<td>2,200</td>
</tr>
<tr>
<td>3. Capacity Building</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMU and EVN capacity building</td>
<td>200</td>
<td>600</td>
<td>200</td>
</tr>
<tr>
<td>Additional workshop/training costs</td>
<td>-</td>
<td>-</td>
<td>1,000</td>
</tr>
<tr>
<td>Sub-total Capacity Building</td>
<td>200</td>
<td>600</td>
<td>1,200</td>
</tr>
<tr>
<td>TOTAL COSTS</td>
<td>1,800</td>
<td>5,200</td>
<td>6,300</td>
</tr>
</tbody>
</table>

Unit Cost Assumptions

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Unit Cost (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Consultant (fees and expenses)</td>
<td>1 month</td>
<td>1,000</td>
</tr>
<tr>
<td>EVN staff (salary and training honorariums)</td>
<td>1 month</td>
<td>400</td>
</tr>
</tbody>
</table>

---

8 This budget does not include the costs of hosting training activities 1,2,3,4 from “Capacity Building” section.
Appendix 1: List of EIA Report Preparers

1. Vu Anh Phuong  Director of Power Network Project Management Board (PNPMB)
2. Thai Viet Hung  Manager of Preparation for Construction Department of PNPMB
3. Vu Thi Hai Au  Staff of Preparation for Construction Department of PNPMB
4. Nguyen Trong Binh  Power Construction Consulting Center - PC1
Appendix 2: References

1. Resettlement Action Plan of the Project – PC1

2. Feasibility Study of the Project– PC1

3. Technical Design of the Project – PC1

4. Adjustment of Master Planning of Hai Duong City – National Institute for Urban and Rural Planning, Ministry of Construction

5. World Bank Environmental Assessment Source Book

6. World Bank Safeguard Policies

Appendix 3: Master Plan of the Distribution System in Hai Duong City after Rehabilitation and Expansion

(to be attached herewith in form of jpg. file)
Appendix 4: Map of Protected Areas in Hai Duong Province

Existing and proposed protected areas in Hai Duong province
Các khu bảo vệ hiện có và đề xuất ở tỉnh Hải Dương

Legend / Chữ giải

- Protected area / Khu bảo vệ
- Provincial border / Ranh giới tỉnh
- District border / Ranh giới huyện

Vegetation type / Kiểu rừng

- Evergreen forest / Rừng thung lũng xanh
- Coniferous forest / Rừng lá kim
- Deciduous forest / Rừng rụng lá (kiểp)
- Semi-deciduous forest / Rừng nửa rụng lá
- Limestone forest / Rừng nâu đất
- Bamboo / Rừng tre nứa
- Plantation forest / Rừng lồng
- Grassland and scrub / Đất trồng
- Agricultural land / Đất nông nghiệp
- Water bodies / Mặt nước
- Mangrove / Rừng ngập mặn
- Malaleuca / Rừng lime
Protected areas maps

[Maps index | Key in separate frame]

Click on the protected areas to view the site cards in PDF format.

Existing and proposed protected areas in Hai Duong province
Các khu bảo vệ hiện có và đề xuất ở tỉnh Hải Dương

http://www.wing-wbsj.or.jp/~vietnam/source_book/pro_maps/hai_duong.htm 10/11/03
LEGEND:

- SUBSTATION
- DISTRIBUTION LINE
# Appendix 5: Summary of Project Scope

<table>
<thead>
<tr>
<th>Feeder</th>
<th>Main Line</th>
<th>Branches</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
<td>Reconstruction</td>
<td>Old Line</td>
</tr>
<tr>
<td></td>
<td>Overhead line</td>
<td>Underground Cable</td>
<td>Overhead Line</td>
</tr>
<tr>
<td>470</td>
<td>2,166.00</td>
<td>1,321.00</td>
<td>1,942.00</td>
</tr>
<tr>
<td>474</td>
<td>5,172.00</td>
<td>1,478.00</td>
<td>794.00</td>
</tr>
<tr>
<td>477</td>
<td>8,078.00</td>
<td>1,163.00</td>
<td>3,613.00</td>
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<tr>
<td>478</td>
<td>7,842.00</td>
<td>321.00</td>
<td>158.00</td>
</tr>
<tr>
<td>479</td>
<td>3,906.00</td>
<td>4,039.00</td>
<td>454.00</td>
</tr>
<tr>
<td>480</td>
<td>2,681.00</td>
<td>5,733.00</td>
<td>232.00</td>
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<tr>
<td>481</td>
<td>3,451.00</td>
<td>2,615.00</td>
<td>770.00</td>
</tr>
<tr>
<td>482</td>
<td>3,058.00</td>
<td>2,382.00</td>
<td>519.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36,354.00</strong></td>
<td><strong>19,052.00</strong></td>
<td><strong>1,272.00</strong></td>
</tr>
</tbody>
</table>
## Appendix 6: Socio-Economic Features of Communes in Project Area

<table>
<thead>
<tr>
<th>Commune</th>
<th>Area (km²)</th>
<th>Population (person)</th>
<th>Density (person/km²)</th>
<th>Laborer (person)</th>
<th>Un-natural Increase (person)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pham Ngu Lao</td>
<td>0.740</td>
<td>11,186</td>
<td>15,116.22</td>
<td>6,136</td>
<td>115</td>
</tr>
<tr>
<td>Tran Phu</td>
<td>0.435</td>
<td>7,784</td>
<td>17,894.25</td>
<td>4,346</td>
<td>61</td>
</tr>
<tr>
<td>Quang Trung</td>
<td>0.861</td>
<td>12,251</td>
<td>14,228.80</td>
<td>6,883</td>
<td>110</td>
</tr>
<tr>
<td>Tran Hung Dao</td>
<td>0.388</td>
<td>5,324</td>
<td>13,721.65</td>
<td>3,042</td>
<td>51</td>
</tr>
<tr>
<td>Nguyen Trai</td>
<td>0.578</td>
<td>8,760</td>
<td>15,155.71</td>
<td>4,915</td>
<td>111</td>
</tr>
<tr>
<td>Le Thanh Nghi</td>
<td>0.839</td>
<td>7,485</td>
<td>8,921.33</td>
<td>4,198</td>
<td>84</td>
</tr>
<tr>
<td>Thanh Binh</td>
<td>5.481</td>
<td>19,041</td>
<td>3,474.00</td>
<td>10,589</td>
<td>221</td>
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<tr>
<td>Cam Thuong</td>
<td>2.550</td>
<td>5,570</td>
<td>2,184.31</td>
<td>3,058</td>
<td>87</td>
</tr>
<tr>
<td>Binh Han</td>
<td>2.432</td>
<td>14,713</td>
<td>6,049.75</td>
<td>8,225</td>
<td>124</td>
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<tr>
<td>Ngoc Chau</td>
<td>6.345</td>
<td>17,615</td>
<td>2,776.20</td>
<td>10,128</td>
<td>85</td>
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<tr>
<td>Hai Tan</td>
<td>2.695</td>
<td>7,260</td>
<td>2,693.88</td>
<td>4,103</td>
<td>110</td>
</tr>
<tr>
<td>Tu Minh</td>
<td>6.738</td>
<td>9,159</td>
<td>1,359.31</td>
<td>5,112</td>
<td>31</td>
</tr>
<tr>
<td>Viet Hoa</td>
<td>6.154</td>
<td>7,124</td>
<td>1,157.62</td>
<td>3,991</td>
<td>87</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36.236</strong></td>
<td><strong>133,272</strong></td>
<td><strong>3,677.89</strong></td>
<td><strong>74,226</strong></td>
<td><strong>1,226</strong></td>
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## Appendix 7: Compensation Cost

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Quantity</th>
<th>Unit Price</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>VND</td>
<td>VND</td>
</tr>
<tr>
<td>Rice and crops</td>
<td>m²</td>
<td>150,000</td>
<td>700</td>
<td>105,000,000</td>
</tr>
<tr>
<td>Trees</td>
<td>tree</td>
<td>10,360</td>
<td>32,000</td>
<td>331,520,000</td>
</tr>
<tr>
<td>Block</td>
<td>m</td>
<td>40,000</td>
<td>10,000</td>
<td>400,000,000</td>
</tr>
<tr>
<td>Sullage pit</td>
<td>m</td>
<td>10,000</td>
<td>25,000</td>
<td>250,000,000</td>
</tr>
<tr>
<td>Pavement</td>
<td>m</td>
<td>30,000</td>
<td>11,280</td>
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<td>Road</td>
<td>m²</td>
<td>71,000</td>
<td>28,400</td>
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<tr>
<td>Agricultural land</td>
<td>m²</td>
<td>260,000</td>
<td>9,450</td>
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<tr>
<td>Residential land</td>
<td>m²</td>
<td>820</td>
<td>500,000</td>
<td>410,000,000</td>
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<td>Category 2</td>
<td>m²</td>
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<td>Category 3</td>
<td>m²</td>
<td>255</td>
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<tr>
<td>Category 4</td>
<td>m²</td>
<td>550</td>
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<td>121,000,000</td>
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<tr>
<td>Category 4c</td>
<td>m²</td>
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<td>Other structure</td>
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<td>Transportation allowance</td>
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<td>Production allowance</td>
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<td>350,000,000</td>
</tr>
<tr>
<td>Living allowance</td>
<td>item</td>
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<td>300,000,000</td>
<td>300,000,000</td>
</tr>
<tr>
<td>Other costs</td>
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<td>450,000,000</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>9,205,470,000</strong></td>
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</tbody>
</table>
Appendix 8: Record of Public Consultation Meetings

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

HIỆU HÂN HỢP THAM VĂN GONG DONG
BÁO CÁO ĐÁNH GIA TÁC ĐỘNG MÔI TRƯỜNG
DUÁN: CAI TÁO VÀ PHÁT TRIỂN LƯỢC ĐIỂM TRUNG ÂP
THÀNH PHÔ HẢI DƯƠNG - TỈNH HẢI DƯƠNG

Hải Dương, ngày 1 tháng 11 năm 2002

Tại địa điểm: Chuẩn Xa, xã Hải An, Phường (Xã) Tân Hệ, Đô... TP Hải Dương - Tỉnh Hải Dương

I. Thành phần tham dự:
1. Đại diện UBND Phường (Xã): Bùi Văn Lượng, Chế Đỗ Văn Phương
2. Đại diện các tổ chức xã hội:
   - Yên Bái, phường Thông, Chế Mạnh Thắng
   - Phú Thọ, phường Thông, Chế Mạnh Văn
   - Thái Nguyên, phường Thông, Chế Mạnh Văn
3. Những người bị ảnh hưởng bởi dự án tham dự: 15
   Trưởng đeo: Nguyễn Thị Nguyện
4. Đại diện Ban quản lý Dự án:
   - Nguyễn Văn Đại, Chánh Văn phòng T.T.K.V. Hải Dương
II. Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án, trong đó bao gồm:

1. Đại diện cộng đồng dân cư tham dự dự án tham gia dự án, các phương án liên quan đến dự án, các ảnh hưởng của dự án đối với các khu vực dân cư, cụ thể, trong đó bao gồm cả những các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thông tin các vấn đề trên, chứng cứ thô nhất như sau:

Về cơ bản, tuyến đường tego do Công ty tư vấn xây dựng điện tại chỗ cắt trên địa bàn phường (xã) - Thông qua lời khuyên (bức bản đã móc bấm từ ngày 6 tháng 6), tôi hy vọng, trách nhiệm của việc thực hiện các dự án phát triển và ảnh hưởng từ việc thi công các công trình như thế này với sự chỉ đạo của các chuyên viên liên quan.

Thông tin về các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình thi công, thì công cộng như do Công ty tư vấn Xây dựng điện tại trình bày.

UBND phường (xã) và các tổ chức xã hội dường do thẩm quyền được thông báo cho nhân dân trong phường (xã) mình biết để tham gia các hoạt động.

III.- Các vấn đề còn lại để nghị khi viết thêm:

- Phải tiến bộ cách cơ hóa, mạt cơ cần thực hiện khi thi công công trình.

Biến bản cuộc họp phức hợp thông qua, đại diện các bên thống nhất và ký kết.

DÀI DIỄN TIV XI ĐIỆN LƯC I

XÁC NHẬN CỦA UBND

CÔNG TY ĐIỆN LƯC I

PHƯỜNG (XÃ)

THÔNG XỨ

PHẠM HỒNG KHẢNH

Page 65 October 2003
Hãy đăng ký số điện thoại của bạn để nhận thông tin về các sự kiện sắp tới.

1. Đăng ký số điện thoại của bạn:
2. ✅ Đăng ký thành công.
3. ✅ Đăng ký thành công.
4. ✅ Đăng ký thành công.
5. ✅ Đăng ký thành công.

THÀNH PHÁO HẢI DƯƠNG - TỈNH HẠT ĐƯỜNG

Đoàn: Cty Lão Y Phát Trí - Phiên Bản Giới Thiệu
Báo Cáo Đánh Giá Lịch Sử Mới của Cống Đặng

Đoàn Đoàn Hợp Trí & Cựu Viên

**********

Đoàn 1 - 2 - Hạnh Phúc

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Sau khi xem xét thảo luận các vấn đề trên chúng tôi thống nhất như sau:

Về cơ bản tuyển dụng đầy đủ Công ty tự vận hành xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - Thành phố Hải Dương (theo bản đồ mặt bằng tuyển lý...)

Như được các quy hoạch của địa phương và ảnh hưởng tới thiết đội với khu vực dân cư cũng như đội Với môi trường và các công trình liên quan.

Thống nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyển, thì công công trình do Công ty tự vận hành xây dựng điện 1 trình bày.

UBND Phương (Xã) và các tổ chức xã hội được tham vấn sẽ thông báo cho nhân dân trong phường (xã) minh biết để tham gia thực hiện.

III- Các vấn đề tồn tại để nghị xem xét thêm:
- Phải đến buổi cậy cợi hoa màu cho dân trước khi thi công công trình.

Biến bản cuộc họp được thông qua, đại diện các bên thống nhất và ký tên./

ĐẠI DIỆN TTV XD DIỆN LỰC I
CÔNG TY DIỆN LỰC I

XÁC NHẬN CỦA UBND
PHƯƠNG (XÃ)

GIÁM ĐỐC
TRƯỞNG LỘI XÂY DỰNG DIỆN LỰC

CHỈ ĐƯỢC GIÁM ĐỐC

CHỦ TỊCH
TRẦN TRỌNG TÂN
CÔNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
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BIỂN BẢN HỘP THAM VĂN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MỚI TRƯỜNG
DỰ ÁN: CÂI TÀO VÀ PHÁT TRIỂN LƯỚI DIỆN TRUNG ÁP
THÀNH PHỐ HẢI DƯƠNG - TỈNH HẢI DƯƠNG

Hải dương, ngày... tháng 12 năm 2002

Tại địa điểm: UBND, Phường Trịnh Văn Bô, Phường (Xã) Trang Thông Bao...
TP Hải Dương - tỉnh Hải Dương

I - Thành phần tham dự:
1. Đại diện UBND Phường (Xã): Ông: Phan Hồng Kha - Chủ tịch UBND Phường
2. Đại diện các tổ chức Xã hội:
   Ông: Nguyễn Văn Chính - Chủ tịch Hội Trẻ同时还
   Ông: Bùi Thị Phong - Chủ tịch Phù nu

3. Những người bị ảnh hưởng bởi dự án tham dự: 18
   Trong đó: Nam 13; Nữ 5...

4. Đại diện Ban quản lý/Đơn vị tư vấn:
   Ông: Nguyễn Trong bính - Chánh Văn phòng - T.T.T.Y.X.Nh śmier
   Ông: Nguyễn Văn Chinh - C.K.5 - T.K...

II - Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án trong trung kỳ. Trước dự án: Cải tạo và phát triển lưới điện trung áp Thành phố Hải Dương.

Đại diện Công ty tư vấn xây dựng điện đã trình bày sơ bộ về dự án, các phương án tuyển dụng đất, các ảnh hưởng của dự án đối với các khu vực dân cư, cây cối... trong điều bàn cũng như các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thảo luận các văn đề trên chứng tỏ thống nhất như sau:

Về cơ bản tuyến đường đã do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã). - Thành phố Hải Dương (theo bản đồ mặt bằng tuyến tàu
....A71.A30.........) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tối thiểu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông báo với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyến, thi công công trình do Công ty tư vấn Xây dựng điện 1 trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham vấn để thông báo cho nhân dân trong phường (xã) minh biết để tham gia thực hiện.

III- Các văn đề tồn tại đề nghị xem xét thêm:
- Phải đề bù cây cối hoa màu cho dân trước khi thi công công trình.

Biên bản cuộc họp được thông qua, đại diện các bên thống nhất và ký tên./

DÁI ĐIỆN TTV XD DIỄN LUCE
CÔNG TY DIỄN LUCE 1

XÁC NHẬN CỦA UBND

PHƯƠNG (XÃ)

CHỦ TỊCH
PHẠM HỒNG KHÁNH
Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.

Các bạn dám còn xin một lần nữa, vì địa chỉ của chúng tôi đã dính một số lỗi trong khi in. Cam kết sẽ không có lỗi trong lần in tiếp theo.
Sau khi xem xét thảo luận các văn đề trên chính tôi thông nhất như sau:

Về cơ bản tuyển đường dây do Công ty tư vấn xây dựng điện I lựa chọn trên địa bàn phường (xã) - Thành phố Hậu Giang (theo bản đồ mặt bằng tuyển lô ...) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tới tiêu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyển, thi công công trình do Công ty tư vấn Xây dựng điện I trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham vấn sẽ thông báo cho nhân dân trong phường (xã) minh biết để tham gia thực hiện.

III- Các văn đề tồn tại đề nghị xem xét thêm:
- Phải đến bù cây cơi hoa mâu cho dân trước khi thi công công trình.

Biên bản cuộc họp được thông qua, đại diện các bên thông nhất và ký tên./.

DÁI DIỆN TTV XD DIỄN LỨC I  
CÔNG TY ĐIỀN LỨC I  
TRUNG TÁM TƯ VẤN XÂY DỰNG ĐIỀN LỨC  
XÁC NHÂN CỦA UBND  
PHƯỜNG (XÃ)  
PHÓ CHỦ TỊCH  
VĂN HÒA
CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

BIỂN BẢN HỢP THAM VĂN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MỞ TRƯỜNG
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LƯỢI ĐIỆN TRUNG ÁP
THÀNH PHỐ HÀI DUONG - TỈNH HÀI DUONG

Hải Dương, ngày... tháng... năm 2002

Tại địa điểm: Xã... Phường (Xã)... Thị trấn...
TP Hải Dương - Tỉnh Hải Dương

I - Thành phần tham dự:
1. Đại diện UBND Phương (Xã): Ông Đỗ Văn H'o - Phó Chủ tịch UBND
2. Đại diện các tổ chức Xã hội:
   - Ông... Lê Văn Thông - Chủ tịch MTTQ Xã...
   - Ông... Lê Văn Xanh - Chủ tịch Hội nông dân
   - Ông... Trần Văn Hải - Chủ tịch Câu lạc Chế biến...
   - Ông... Lùa Thị Hợp - Chủ tịch Hội phụ nữ...
3. Những người bị ảnh hưởng bởi dự án tham dự: 13
Trưởng đó: Nam, B, Nữ, S...
4. Đại diện Ban quản lý/Dự án uy quyền:
   - Ông: Nguyễn Tố Trung - Tân... CMAA... TTX... LE I
   - Ông: Nguyễn Văn Chí... CMAK TK...

II- Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án trong quá trình thực hiện dự án: Cải tạo và phát triển lưới điện trung áp Thành phố Hải Dương.

Đại diện Công ty tư vấn xây dựng dự án đã trình bày sơ bộ về dự án, các phương án tuyển dụng dây, các ảnh hưởng của dự án đối với các khu vực dân cư, cây cối... trong địa bàn cũng như các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thảo luận các vấn đề trên chúng tôi thống nhất như sau:

Về cơ bản tuyển đầu dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - Thành phố hải dương (theo bản đồ mặt bằng tuyến xã...MF...MF...) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tối thiểu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyển, thi công công trình do Công ty tư vấn Xây dựng điện 1 trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham vấn sẽ thông báo cho nhân dân trong phường (xã) mình biết để tham gia thực hiện.

III- Các vấn đề tồn tại đề nghị xem xét thêm:
- Phải đến bu cây cối hoa mầu cho dân trước khi thi công công trình.

Biến bản cuộc họp được thông qua, đại diện các bên thống nhất và ký tên./

ĐẠI DIỆN TTV XD DIỄN LỰC I
CÔNG TY DIỄN LỰC I

XÁC NHẬN CỦA UBND
PHƯỜNG (XÃ)

[Signature]
Dương Văn Hoa

[Signature]
Tô Minh,"n

[Signature]
Nguyễn Văn Chinh
CÔNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
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BIỂN BẢN HỢP THAM VĂN CÔNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MỚI TRƯỞNG
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LUÔI DIỄN TRUNG ÍP
THÀNH PHỐ HẢI DƯƠNG - TỈNH HẢI DƯƠNG

Hải Dương, ngày... tháng 6 năm 2002

Tại địa điểm: Khu dân cư... Phường (Xã)... Tp. Hải Dương....

TP Hải Dương - Tỉnh Hải Dương

I - Thành phần tham dự:

1. Đại diện UBND Phường (Xã): ông Đố Văn Đạo - Phó Chủ tịch UBND xã

2. Đại diện các tổ chức xã hội:

ông Văn Huy... Chủ tịch MHP xã...
ông Lê Văn Xanh... Chủ tịch Cách mạng xã...
ông Lý Văn Huy... Chủ tịch Họp quán xã...
ông Trần Văn Huy... Chủ tịch Cách mạng xã...

3. Những người bị ảnh hưởng bởi dự án tham dự: 17

Trong đó: Nạn nhân... Nạn nhân...

4. Đại diện Ban quản lý dự án:

ông Nguyễn Văn Trọng - Chủ tịch... ông Nguyễn Văn Trọng - Chủ tịch...

II - Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án và hướng trình ứng phó dự án: Cải tạo và phát triển luồng diễn trung Íp Thành phố Hải Dương.

Đại diện Công ty tư vấn xây dựng điện I đã trình bày sơ bộ về dự án, các phương án tuyển đường dây, các ảnh hưởng của đường dây đối với các khu vực dân cư, cây cối... trong địa bàn cũng như các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thảo luận các vấn đề trên chúng tôi thống nhất như sau:

Về công bản tuyến đường đầy do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - Thành phố Hải Dương (theo bản đồ mặt bằng tuyếnłożyć...) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tới thiểu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông nhất với các biện pháp giải thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyến, thì công công trình do Công ty tư vấn Xây dựng điện 1 trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham vấn sẽ thông báo cho nhân dân trong phường (xã) mình biết để tham gia tham hiền.

III- Các vấn đề tồn tại để nghị xem xét thêm:
- Phải để tụ cày cỏ hoa mầu cho dân trước khi thi công công trình.

Biên bản cuộc họp được thông qua, đại diện các bên thống nhất và ký tên./.

DÀI DIỄN TTV XD DIỄN LỨC 1
CÔNG TY DIỄN LỨC 1

XÁC NHẬN CỦA UBND
PHƯỜNG (XẢ)

Kiểm tra
Phó Chủ tịch
Họ và tên
CÔNG I HOÀ XÃ HỘI CHỨNG NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
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BIÊN BẢN HỘP THAM VĂN CÔNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỒNG MÔI TRƯỜNG
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LUỐI DIỄN TRUNG ÁP
THÀNH PHỐ HẢI DƯƠNG - TỈNH HẢI DƯƠNG

Hải Dương, ngày... tháng... năm 2002

Tại địa điểm: Xã... Phường (Xã) ... TP Hải Dương - Tỉnh Hải Dương

I - Thành phần tham dự:
1. Đại diện UBND Phường (Xã): Óg: Nguyễn Văn Như - Chủ tịch UBND Phường
2. Đại diện các tổ chức xã hội:
   Đại diện... Chủ tịch... Chủ tịch... Chủ tịch...
3. Những người bị ảnh hưởng bởi dự án tham dự: 19
4. Trong đó: Nam... Nữ...

II - Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án: Cải tạo và phát triển luội diễn trung áp Thành phố Hải Dương.

Đại diện Công ty tư vấn xây dựng diện I đã trình bày sơ bộ về dự án, các dự án của mình trong tương lai, các vấn đề ảnh hưởng của mình đến các khu vực dân cư, cây cối... trong đó bao gồm như các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thảo luận các văn đề trên chứng tôi thống nhất như sau:

Về cơ bản tuyến đường dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - Thành phố hải dương (theo bản đồ mật bằng tuyến lộ ........453.467...........) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tới thiếu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thống nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyến, thì công công trình do Công ty tư vấn Xây dựng điện 1 trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham văn sẽ thông báo cho nhân dân trong phường (xã) mình biết để tham gia thực hiện.

III- Các văn đề tồn tại để nghị xem xét thêm:
- Phải đến bước cải hoa mẫu cho dân trước khi thi công công trình.

Biên bản cuộc họp được thông qua, đại diện các bên thống nhất và ký tên./.

ĐẠI DIỆN TTV XD DIỄN LỰC I

CÔNG TY DIỄN LỰC I

XÁC NHẤN CỦA UBND ;

PHƯƠNG (XÃ)

Đoàn Kiên Sơn

Nguyễn Văn Chinh
CÔNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

BIỂN BẢN HỢP THAM VÀN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LUỘI DIỆN TRUNG ÁP
THÀNH PHỐ HẢI DƯƠNG - TỈNH HẢI DƯƠNG

Hội trưởng, ngày... tháng 4 năm 2002

Tỉnh điểm: Xã Phương (Xã) - Phường (Q)
TP Hải Dương - Tỉnh Hải Dương

I - Thành phần tham dự:

1. Đại diện UBND Phường (Xã): Nguyễn Văn Mạnh - Chủ tịch UBND Phường

2. Đại diện các tổ chức Xã hội:
   - Nguyễn Thị Kim Loan - Chủ tịch Hội Nông dân
   - Hoàng Văn Thành - Chủ tịch Hội Nông dân

3. Những người bị ảnh hưởng bởi dự án tham dự: (các người liên quan)

Trong đó: Nam...; Nữ...;

4. Đại diện Ban quản lý Đơn vị tư vấn:
   - Nguyễn Văn Thành - CNTA - T.T.T.V.XD.DQ.XK
   - Nguyễn Văn Chinh - CNTA - T.T.T.V.XD.DQ.XK

II - Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án: Cải tạo và phát triển luc điện trung áp Thành phố Hải Dương.

Đại diện Công ty tư vấn xây dựng điện I đã trình bày sơ bộ về dự án, các phương án tuyến đường dây, các ảnh hưởng của đường dây đối với các khu vực dân cư, cây cối,..., trong điều kiện cũng như các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thảo luận các văn đề trên chứng tôi thống nhất như sau:

Về cơ bản tuyển dựng dây do Công ty tư vấn xây dựng điện I lựa chọn trên địa bàn phường (xã) - Thành phố Hải Dương (theo bản đồ mặt bằng tuyển bổ sung) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tối thiểu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyển, thi công công trình do Công ty tư vấn Xây dựng điện I trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham vấn sẽ thông báo cho nhân dân trong phường (xã) biết để tham gia thực hiện.

III- Các vấn đề tồn tại đề nghị xem xét thêm:
- Phải denn ở cay cối hoa mầu cho dân tộc khi thi công công trình.

Biên bản cuộc họp được thông qua, đại diện các bên thống nhất và ký tên./

DÀI DIỆN TTV XD DIỄN LỤC I
CÔNG TY DIỄN LỤC I

XÁC NHẬN CỦA UBND
PHƯỜNG (XÃ)

KHÔI GIÁM ĐỐC
TRUNG TÂM TƯ VẤN XÂY DỰNG DIỄN LỤC
GIÁM ĐỐC

CHƯỞNG TĨNH
NGUYỄN VĂN MINH
CÔNG HOÁ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc

BIÊN BẢN HỘP THAM VĂN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MỚI TRƯỜNG
ĐƯỜNG : CÁI TẢO VÀ PHÁT TRIỂN LƯỢI ĐIỆN TRUNG ẨP
THÀNH PHỐ HẢI DƯƠNG - TỈNH HẢI DƯƠNG

Hội đàm, ngày... tháng... năm 2002

Tại địa điểm : Xã (Phường) Nguyê... Trạ... TP Hải Dương - Tỉnh Hải Dương

I - Thành phần tham dự:
1. Đại diện UBND Phường (Xã) : Nguyê... Vá... Minh - Chủ tịch UBND Phường
2. Đại diện các tổ chức xã hội :
   Nguyê... Thị... Làm... Chủ tịch Tổ
   Nguyê... Hò... Chủ tịch Tổ
   Phạm... Chủ tịch Tổ
3. Những người bị ảnh hưởng bởi dự án tham dự : 
   Trong đó : Nam... Nítica...
4. Đại diện Ban quản lý / Đơn vị tư vấn:
   Nguyê... Trạ... Chủ tịch - Cụ... Cụ... 

II - Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của dự án : Cải tạo và phát triển lưới điện trung ấp Thành phố Hải Dương.

Đại diện Công ty tư vấn xây dựng điện 1 đã trình bày sơ bộ về dự án, các phương án tuyển độ đường dây, các ảnh hưởng của đường dây đối với các khu vực dân cư, cây cối... trong địa bàn cũng như các biện pháp giảm thiểu tác động môi trường.
Sau khi xem xét thảo luận các vấn đề trên chúng tôi thống nhất như sau:

Về cơ bản tuyển đường dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - Thành phố Hải Dương (ghi băn đó mặt bằng tuyển lý ... ) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tới tiêu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyển, thi công công trình do Công ty tư vấn Xây dựng điện 1 trình bày.

UBND Phường (Xã) và các tổ chức xã hội được tham vấn sẽ thông báo cho nhân dân trong phường (xã) mình biết để tham gia thực hiện.

III- Các vấn đề tồn tại để nghị xem xét thêm:
- Phải đến bù cây cối hoa màu cho dân trước khi thi công công trình.

Bien bản cuộc họp được thống qua, đại diện các bên thống nhất và ký tên.

ĐẠI DIỆN TTV XD DIỄN LỤC I
CÔNG TY DIỄN LỤC I

XÁC NHẬN CỦA UBND
PHƯƠNG (XÃ)
Linguistic analysis of the text is not possible due to the nature of the content. This text looks like a complex script that might require a specialized tool or a native speaker to decipher accurately.
Sau khi xem xét thảo luận các vấn đề trên chứng tôi thống nhất như sau:

Về cử bàn tuyển đường dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - Thành phố Hải Dương (theo bản đồ mặt bằng tuyến lộ ...) là hợp lý, tránh được các quy hoạch của địa phương và ảnh hưởng tới thiểu đối với khu vực dân cư cũng như đối với môi trường và các công trình liên quan.

Thông nhất với các biện pháp giảm thiểu ảnh hưởng môi trường của dự án trong quá trình chọn tuyến, thì công công trình do Công ty tư vấn Xây dựng điện 1 trình bày.

UBND phường (xã) và các tổ chức xã hội được tham van sẽ thông báo cho nhân dân trong phường (xã) minh biết để tham gia thực hiện.

II- Các vấn đề tồn tại để nghị xem xét thêm:
- Phải đến bù cây cỏ hoa màu cho dân trước khi thi công công trình.

Biến bản cuộc họp được thống quan, đại diện các bên thống nhất và ký tên./

DÁI DIỄN TTV XD DIỄN LỤC I
CÔNG TY DIỄN LỤC I

XÁC NHẬN CỦA UBND PHƯỜNG (XÃ)
Appendix 9: Environmental Permit Issued by Hai Duong DONRE

UBND TỈNH HẢI DƯƠNG
SỞ KHOA HỌC CN&MT

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

Số 303 /TCMT-KHCN

Hải Dương, ngày 25 tháng 6 năm 2003

PHIÊU XÁC NHẬN
BÀN DANG KÝ ĐẤT TIÊU CHUẨN MÔI TRƯỜNG

Tên dự án: Cầu tạo và phát triển lưới điện trung áp thành phố Hải Dương, tỉnh Hải Dương
Địa điểm thực hiện Dự án: Thành phố Hải Dương, tỉnh Hải Dương
Chủ dự án: Ban quản lý Dự án, tỉnh điện

GIÁM ĐỐC
SỞ KHOA HỌC, CÔNG NGHỆ VÀ MÔI TRƯỜNG TỈNH HẢI DƯƠNG
XÁC NHẬN

Điều 1 Dự án cải tạo và phát triển lưới điện trung áp thành phố Hải Dương của Ban quản lý dự án lưới điện Công ty Điện lực I đã trình nội dung bản dạng ký đất tiêu chuẩn môi trường ngày 18 tháng 6 năm 2003 về. Dự án cải tạo và phát triển lưới điện trung áp thành phố Hải Dương

Điều 2 Chủ dự án có trách nhiệm thực hiện đúng nội dung đã được nêu trong Bản dạng ký đất tiêu chuẩn môi trường.

Điều 3 Ban dạng ký đất tiêu chuẩn môi trường của Dự án là cơ sở để các cơ quan Quản lý Nhà nước về bảo vệ môi trường kiểm tra việc thực hiện bảo vệ môi trường của Dự án

Điều 4 Sau khi hoàn thành các hạng mục về bảo vệ môi trường, chủ Dự án phải tổ chức báo cáo bằng Văn bản gửi cơ quan Quản lý Nhà nước về bảo vệ môi trường để kiểm tra.

Nơi nhận:
QL quản điện CTĐDLI
- Sở KH-CN và Môi trường đô B.....
- LĐND tỉnh Hải Dương đô B....
- Lưu VP, MTg

GIÁM ĐỐC
[Signature]
TS. Hà Bạch Đăng