ELECTRICITY OF VIETNAM
POWER COMPANY NO. 1
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E208
Volume 4

REHABILITATION AND EXPANSION OF MV DISTRIBUTION SYSTEM OF HA TINH TOWNSHIP PROJECT

ENVIRONMENTAL IMPACT ASSESSMENT
(EIA)

Prepared by:
POWER NETWORK PROJECT MANAGEMENT BOARD

June, 2003

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CONTENT

Name/Position of staffs making this EIA Report

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2. Thai Viet Hung	Manager of Preparation for Construction Dept of PNPMB.
3. Vu Thi Hai Au	Staff of Preparation for Construction Dept of PNPMB

EXECUTIVE SUMMARY

Introduction

This report is prepared for implementing of the Rehabilitation and Expansion of MV distribution system of Ha Tinh Township – Ha Tinh Province Project.

Now, Ha Tinh Township – Ha Tinh province is only supplied power by the 110KV Thach Linh substations.

The Ha Tinh network is important components of the Northern power network of Viet Nam.

The objective of the Rehabilitation and Expansion of MV distribution system of Ha Tinh Township – Ha Tinh Province Project is increasing the national power network for Ha Tinh province (supplying power for 110kV Thach Linh substation); enhancing the reliability and safety of transmission in the power network for the additional charges of the Ha Tinh province. Thus, the project will speed up the electrification process and agricultural and industrial development for Ha Tinh province.

This report is prepared for defining, assessing and forecasting main effects of this project on environment during design, implementation and operation stage; together we promote mitigation measures for negative effects and a plan of Environmental Management and Control for the project.

Project Description

Scope of project

"Rehabilitation and Expansion of distribution systems of Ha Tinh Township – Ha Tinh Province Project" will be constructed and reconstructed of total 208,300.43 m of 22kV and 183 substations. In which:

	Description		Total
Construction	Underground cable	M	4,359.92
	Overhead line	M	75,606.00
Re-construction	Underground cable	M	653.41
	Overhead line	M	124,817.20
Salvage line		M	2,863.90
Substation	Construction	Unit	89
	Re-construction	Unit	94

Details of the project scope is described in Annex 1

- There will be a total of 303 affected households (1262 persons), of which:
  - 25 households with parcels for permanent land acquisition and trees/crops;
  - 242 households with parcels for temporary land acquisition and trees/crops;
  - 61 households with partial impact on business and services

- No households will have to be relocated to other places.
- There is no household with more than 25% of their total residential and agricultural lands their holdings affected.

- Total area of land permanently acquired: 440,812.00 m2
- Total area of land temporally affected: 4,904.00 m2

The Right of Way (ROW), according to the regulation are: 8m wide for the MV T/Ls, respectively from which all housing and building would be removed and all trees higher than 4m must be cut.

Legal, policies and administration management

The EIA is based on:

- Feasibilities studies report of each project component, approved by EVN;
- Agreement by the Ha Tinh's people committee where the project is located or traversed on line route and substation located.
- Environmental legal framework as follow:

Vietnamese legal framework:

- Law on Environmental Protection dated 27/7/1993 of the socialist republic of Vietnam.
- Laws of forest protection and forest development:
- Government Decree N° 175/CP dated 18/10/1994 guiding the implementation of the Law on Environmental Protection.
- Government Decree N° 54/1999/ND-CP dated 08/07/1999 on Protection of High Voltage Networks.
- Ministerial Circular N° 490/1998/TT-BKHCMMT dated 29/4/1998 of MOSTE guiding EIA preparation and appraisal.
- National Criteria on water quality, air quality, noise and on pollution
- Codes on Electrical Equipment Installation - part II – Power transmission line and distribution system No. 11 TCN 19 - 84.

WB procedures on environment impact assessment:

- Environmental Assessment (OP 4.01, BP 4.01, GP 4.01),
- Natural Habitats (OP 4.04, BP 4.04, GP 4.04),
- Public Disclosure (BP 17.50)
- Pest Management (OP 4.09),
- Cultural Property (OPN 11.03),

Environmental management

Presently, the responsibility on environmental management is arranged as follows:

- Ministry of Science - Technology and Environment (MOSTE) of Vietnam is the central government environmental management, responsible for the guidance for the

preparation, appraisal and supervision of the implementation of EIA report for the investment projects for the project classified as the project of type I.

- Department of Science - Technology and Environment (DOSTE) is responsible on environment in each province.
- EVN, through Department of Science, Technology, Environment and Telecommunication, is responsible for supervising and guiding environmental management and protection in power sector as a whole.
- For the distribution projects, like the RE, the project owner is Power Company, therefore during project preparation and construction, PC1 has authorized its Project Management Unit (PMU) to be in charge of project management. After commissioning, the project will be handed over to the Provincial Power Services, where the project are located, for the operation and maintenance. The Power Services will be in charge of environmental management during operation period.

Project Impacts on Environment.

The project impacts on the environment can be divided into 4 types:

Impact on physical environment

The project could cause some impacts on water, air and land. These include runoff and sedimentation from grading for line and substation facilities; loss of land and increase in soil erosion due to placement of towers and substations; oil contamination from construction equipment; dust, noise and vibration due to material transportation and construction works; disposal of installation and construction materials.

Impact on biological and ecological system

The project may cause some negative impacts on biological and ecosystem due to site clearance and maintenance of the project Right of Way (ROW) and substation site. The impacts are effects of clearing and tree cutting, control of vegetable in ROW as all trees of or would be higher 4m in the line ROW must be cut down. The project can also open up more remote lands to human activities and construction of ROW can result in the lost and fragmentation of habitats and vegetation along the ROW.

The total area of the project ROWs is 357,481.90 m^2, of which 162,543.56 m^2 is agricultural land; 102,829.82 m^2 is garden and residential land, the remaining 92,108.52 m^2 is waste land and road-side.

Impact on human:

The project could cause impact on the residential areas as 85 housesholds will be affected by the transmission line. The construction in the residential areas would have negative short-term impacts on air and water quality. Some disruption of waterways and transportation would occur during construction if disposal of waste materials not managed properly. Pollution of dust, noise to human residential area may occur during construction period. The impacts are of a short term nature and would not be a considerable impact if the construction will be managed properly and can be monitored against the national environmental standards.

In operation phase of the Project, the electro-magnetic field intensity produced under the design condition meet the Vietnamese recommended standard (less than 5 kV/m). In case

some electro-magnetic intensity data under outgoing and ingoing lines of the substation are more than 5 kV/m, there is no dwelling in the area though. without impact incurred on the residents.

Mitigation Measures:

Mitigation measures to reduce the project impacts are to be carried out in 3 stages. design. construction and operation.

During the design of the layout of the lines, the design need to be concurred and cleared by the local authority to minimize the adverse impacts, particularly for the resettlement. In the design phase, the alternatives for each component have been considered and selected to ensure they have the lowest impacts on ecosystem. The route have been discussed and agreed with the local authorities and relevant organisations. The substation will be equiped with all necessary protection devices. No transformers with PCB will be used in the project.

In construction stage, mitigation measures include control on tree cutting, ROW clearance and access road; control of soil erosion; ensure safety regulations in place and mine clearance before construction start; health care regulation for workers in camps and other measures. All measure are to be included in the bidding documents for works.

During operation stage, mitigation measures include control of ROW maintenance, access road to sentitive areas, control of fire hazards and ensure safety for workers and local residents.

Analysis of Alternatives:

The analyses of the alternative is based on the principle of maximizing the customers' services, and minimizing the impact on the environment, including the lowest impact on the property of the PAH.

Public Participation and Information Dissemination:

Public consultation for the project was conducted during the period from September to October 2002.

The draft EIA and RAP of the project were sent to concerned PPC for clearance and to Ha Tinh Power Company and PNPMB for public display from May 2003.

Public consultation was carried out by means of holding talks and sending out investigation form. Places involved in the project were investigated in Ha Tinh township of Ha Tinh province.

Consultants from EVN have met with representatives of local Government (Commune. district, provincial People Committees), local people association such as Women Union. Farmer association etc. in the Project area to inform and receive their comments on three main issues:

- Project objectives, scope and components;
- Potential environmental and Socio economic impact of the Project.

- Mitigation measures applied during different phases of the Project.

The public comments on the above mentioned issues are very positive. They all agreed that the Project will effectively increase quality of life of the local peoples. The potential impacts are quite clear to them and they are willing to help Project's owner to implement suggested mitigation measures such as trafic management. solid waste disposal. noise and dust elimination.... There is no negative comment on the raised issues

Process of public consultation was carried out in Ha Tinh provinces. Minutes of meeting between Consultants and local people was attached in Annex 7.

Environment Management Plan

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.

The environmental management plan has been prepared for construction and operation period of the Project. Environmental management during construction period is implemented by the Project Network Project Management Board (PNPMB). PNPMB is responsible for guiding and supervising Contractor during application of mitigation measures as well as environmental monitoring. During the operation phase, the environmental issue will be taken care by Provincials Power Service. Accredited institutions will be hired to measure the environmental quality along transmission lines and substations. Report on environmental monitoring will be made and submitted to relevant responsible authorities. Refer to Table 1 for mitigating measures and the cost applied for the Project. Refer to Table 2 for monitoring plan and cost for the Project

The EMP also includes plan and costs for institutional strengthening such as training on environmental issues for the Project's staffs as well as related institutions, workers involved.

Table 1. Summarize of main Mitigating measures applied for the Project

Phase	*Issue*	*Mitigating measures*	*Institutional Responsibility*	*Supervisor*
Construction	Noise	- Use low noise equipment [1] - Working in the permitted hours	Contractor	PNPMB and Ha Tinh's DOSTEs
	Dust	Guard fence and water spray		
	Agricultural ecology	Recover damaged vegetation timely when the construction ends		

[1] Apply Vietnamese standard TCVN 5949-1988 for the Standard of noise applied for public and residential areas.

Phase	*Issue*	*Mitigating measures*	*Institutional Responsibility*	*Supervisor*
	Land Occupation	Minimize land occupation		
	Traffic disturbance	Excavating in proper time (evening and night time) and shortest duration		
	Solid waste disposanl	Contract with local envirnment and hygene agencies for removal and proper disposal for another construction purposes	PNPMB	
Operation	Training on environmental protection	Educate constructors, Project's staffs, local people	PMB PMB	PCs and Ha Tinh's DOSTEs
	Noise	- Equipment noise is conformed with Vietnamese Standards - Consolidated enclosures to absorb dust and reduce noise		
	EMF	- Use transforming devices conform to standards; - Select height of the power the power distributing structure conform to design requirement phase earth and phase-phase distance		

Table 2. Main features of Monitoring plan of the EMP for the Project

Phase	**Issue**	**Monitoring cost (VDN)**	**Institutional responsibility**	**Supervisor**
Construction	Noise (100 samples/city) 50,000VND/sample)	5,000,000	Accredited institution will be hired by PMB	PMB and lo Department for Science, Technology and Environmer (DOSTE)
	Dust (100 sample/city 50,000 VND/sample)	5,000,000		

Phase	Issue	Monitoring cost (VDN)	Institutional responsibility	Supervisor
	Subtotal	10,000,000		
Operation	Tree cutting and soil erosion	7,000,000	Accredited institution and independent Consultant will be hired by Provincial Power Service	Local Department for Science, Technology and Environment (DOSTE)
	Subtotal	7,000,000		
TOTAL		17,000,000		

- Noise monitoring is once during construction period mainly monitoring construction noise during construction;. In case residents near transmission lines complain, measurement will be made at that time.
- Dust monitoring is once during construction period and once every half-year during operation period.
- Electric and magnetic field will be monitored once per year during operation period; EMF will be measured at 1 m outside the boundary (ROW).
- All measurements should be made on the site along Project's transmission lines.

CHAPTER 1 - INTRODUCTION

1. Introduction

I.1. Introduction of background of power network development in the region.

I.1.1. Power transmitting network

At present. power is supplied to Ha Tinh Town and Thach Ha District by 110kV Thach Linh Station at 10kV and 35 kV. The Station's facilities are as follows:

- Transformer T1 25 MVA 110/35/22/10kV provided by Dong Anh Equipment Manufacturing Factory. The power of 35kV and 22kV part is 100% capacity of the transformer, while that of 10kV does not exceed 7MVA. Power units supplied by Siemen have rated voltage of 24kV, rated current of 1250A, circuit shortening current of 25kA, digital relay. Due to the unease of coils of wire of 22kV part. these power units are now operating at a voltage of 10kV.
- Transformer T2 25MVA 110/30/10kV manufactured by former Soviet Union. Power of 35kV and 10kV part is 100% capacity of the transformer.

  All 10lV Power Units are of old KPY10 model manufactured by former Soviet Union.

The 110kV Thach Linh is now expanded by the electricity industry. replacing the transformer T2 25MVA by a 40MVA one to enhance the stability of power supply for Ha Tinh Province in general and Ha Tinh District in particular. This project will be completed in the period 2001 - 2005 in a separate program; in order to timely and synchronously put into operation together with the improvement of the neutral voltage network, in the immediate future 03 indoor 24kV power units will be supple`mented.

1.2. On the 500kV North-South super high voltage power network in Ha Tinh. there are substations containing closing and energizing equipment, vertical compensation capacitors and horizontal resistance at 500kV. At present, the electricity industry are carrying out the project to extend the 500kV Substation, putting into operation an another transformer 500/220kV 3 x 150MVA and a transformer 220/110kV 125 MVA to strengthen the power supply for Northern Provinces and Central Provinces including Thanh Hoa - Nghe An - Ha Tinh - Quang Binh from the 500kV national power network.

This project will be completed in the period 2001 - 2005.

Therefore, power will be favorably supplied to Ha Tinh Town from the transmission network, thus creating good conditions to supply power stable in the future for this town in the resettling and expanding period.

I.1.2. Neutral voltage power network.

The Ha Tinh Town and its vicinity are using the 10kV neutral voltage power network from the 110kV Thach Linh Station.

Power is supplied to Ha Tinh and its vicinity through 04 neutral voltage lines numbered: 971, 973, 975, and 977 and each characterized as follows:

1.1.917 Line

This line supplies power for the town a long the High Way No.1, starting from the 110kV Thach Linh Station and ending at the Phu Bridge. 46 transformers are installed with the total capacity of 8300kVA in this line.

1.2.975 Line

This line provides power for the central area of the town, additionally charged by key agencies of province. Also, it supplies power for peripheral areas including communes namely Thach Trung, Thach Hung, Thach Mon, Thach Dong, Tuong Son. There are 40 transformers installed with the total capacity of 9170kVA in the line.

1.3.973 Line.

Running along the National High Way No,1A from the Thach Linh Station to Cay, this line supply power for the Northern part of the town, Thach Ha Town and some Northern and West south communes of the district. In the whole line, there are 26 transformers with the total capacity of 6420 kVA.

1.4.977 Line

This line provides power for the Industrial Zone located at the West north of the Town and some peripheral communes of Thach Long, Thach Son, Thach Kenh, Thach Viet, Viet Xuyen. 15 transformers are installed with the total capacity of 3050kVA in the whole line.

Apart from the 4 above lines, 03 35kV lines numbered 372, 373, 375 providing power from the 110kV Thach Linh Station to transitional stations in districts of Ha Tinh province also supply power for some additional charges managed by the Ha Tinh Town Electricity and locating along these lines.

- Line 372 supplying power for 26 35/0,4kV distribution stations with total capactity of 3835kVA.
- Line 373 supplying power for 13 35/04kV distribution stations with total capacity of 3360kVA
- Line 375 supplying power for 8 35/04kV distribution stations with total capacity of 990kVA
- The western part of Thach Ha district including communes: Thach Binh, Thach Hoi, Thach Tri, Thach Van, Thach Lac are lighted by power generated from the transitional station (this station receives from the E18-1 through the line 374), the total number of stations in this turning branch is 12, capacity installed is 1715kVA, the main branch 10kV line running from the transitional station Cam Xuyen to transitional station Thach Tri is up to 24 km length, these transformer stations are now managed by Cam Xuyen Electricity Branch.

All the 10kV lines in the Ha Tinh Town are of ray-structures, with small wires. The wire section in main lines is popularly the AC 70, and only some AC 95. For the 10kV voltage level, the length of line is over sufficient. Thus, the quality of voltage is not ensured, thereby leading to big loss of voltage and energy.

According to data of Ha Tinh Electricity, in the past years, the average growth rate of power is ranging from 15 to 18%, and is estimated to reach 14% in 2001 compared to the 2000 level. With this growth rate, it is necessary to considering the improvement and upgrading of the power network of Ha Tinh Town in the coming time to meet the requirements of socio-economic development of Ha Tinh Town.

I.2. Managerial and Organizational Structure of the Project.

The power network improvement project in Ha Tinh Town uses the loan of World Bank

Principal: Electricity of Vietnam

Project Management: Power Company No 1 – Power network project management board.

I.3. The purposes of evaluating environment effect

The evaluation on the influence of environment impact on the construction is to get these following targets

The impact of the project on natural environment, human health end influence on social economic factors

- Finding out the environment sphere as well as potential risks to the environment, which must be researched to solve

- Locking for the measures to limit the effect on the environment during the work procession and contraction operation management.

- The measures to control and examine the implementation, to protect environment, to minimize effect on environment impact.

- Analyzing economy and evaluating risk level.

I.4. Evaluation methods

Based on the environment protection law and the ordinance 175 CP 18/10/1994 of the Government instructing implementation of environment protection and the instruction document of WB about environment effect analyzed by these level.

a. Widely impact of a type project may have strongly negative and sensitive impact need carefully researching and must have prevention methods.

b. B type project, negative impacts on the environment are characteristic and majority can be changed; minimum methods have had or can be designed more easily than A type project

c. C type project can be little or harmless to the environment.

2. Legal and administrative framework

- WB's policies: 4.01 Environmental Assessment; 4.12 Involuntary Resettlement
- Law on Environmental Protection dated 27/7/1993 of the socialist republic of Vietnam.

This law stipulates the prevention from bad impacts on the environment and environmental protection as well as improvement of ecological environment. "Environment" is defined as the natural environment and the one created by human comprising air, water, sea, land, mineral mines, forests, grass fields, wildlife, trees, natural and historical sites, natural conservation areas, places of interest, cities, villages, etc.

- Laws of forest protection and forest development:

The laws regulate the management, development and use of forest, the prevention of forest destruction, the enhancement of responsibility and the encouragement for institutions/individual of forest protection and forest development, the discovery of forest benefits for the purpose of national protection and the national development.

- Government Decree N° 175/CP dated 18/10/1994 guiding the implementation of the Law on Environmental Protection.
- Government Decree N°. 54/1999/ND-CP dated 08/07/1999 on Protection of High Voltage Networks.
- Ministerial Circular No. 490/1998/TT-BKHCNMT of Ministry of Science – Technology and Environment of Vietnam dated 29 April 1998 on the guidance for the establishment and inspection of EIA report for the investment project.
- Ministerial Circular N° 490/1998/TT-BKHCMMT dated 29/4/1998 of MOSTE guiding EIA preparation and appraisal.
- The WB guidelines on EIA
- National Criteria on water quality TCVN 5942 - 1995, TCVN 5944 - 1995
- National Criteria on air quality TCVN 5949 - 1995
- National Criteria on noise TCVN 5949 - 1995
- National Criteria on pollution TCVN 5937 - 1995

Codes on Electrical Equipment Installation - part II – Power transmission line and distribution system No. 11 TCN 19 - 84In this standard the minimum clearance between the live parts of the line and trees are identified. Trees outside the ROW must ensure two meters clearance between conductors and tree parts when falling. The clearance between top of the trees and conductors in the ROW must be not less than six meters. The ROW identified by two parallel planes is seven meters far from outer conductors when they are vertical and not less than two meters when conductors are at maximum swing angle.

3. Methodology

The method applied in the report is based on environmental checklist .

Based on the guidance on EIA by World Bank, the potential environmental impacts are classified with levels as follows:

a. Little impact or negligible impact:

For these impacts do not need to have measures for mitigation.

b. Having impact but not much:

For these impacts, the measures for mitigation must be shown.

c. Significant impact:

For these impacts, they are necessary to have strict research, and measures for precaution have to be designed more carefully.

CHAPTER 2
PROJECT DESCRIPTION

1. Name of the project:

Rehabilitation and expansion of MV distribution systems of Ha Tinh town - Ha Tinh province

Implementing agencies

Investor: Power Company No. 1

Project manager: Power network project management board - PC1

Consulting company: Power Construction Consulting Center - PC1

2. Project objectives

Necessary of project:

At this moment, Ha Tinh province is not enough power for the economical development work. Therefore, it is necessary to improve the material facilities to develop economy according to 2010 - 2020 construction programs.

In the coming years, the velocity of urbanize will be high, power demand for production and living is increased, while the power network of Ha Tinh Towership is old and backward and it is not satisfied power user demand. So that, it is necessary to improve the Ha Tinh power network.

Project Objectives:

The project of rehabilitation and expansion MV distribution systems of Ha Tinh towership province is to construct network, which supplying electricity for Ha Tinh township – Ha Tinh province, including 11 precincts and 2 communes.

+ Satisfying development load demand in region

+ Supplement current power sources of distribution network Ha Tinh Province.

+ Increasing reliability trust and convenience during operation process

+ Reduction of power losses of Ha Tinh Province

The project of rehabilitation and expansion MV distribution systems of Ha Tinh province is to construct network, which supplying electricity for Ha Tinh province.

Socio-economic objectives of the project

- Supplying power more sufficiently and improve the energy quality for lighting and other civil purposes as well as for industries, agriculture, transportation of area.
- To create premise for development of socio-economy, agricultural production. husbandry, agricultural product processing, etc.
- Improve the spiritual culture life of people

- Develop handicraft industry in households
- Push up development of industry and handcraft industry
- Electricity partly supports the prosperity, security stability and upgrades civilization life of the district.

3. Scope of the project

Name of project:

"Rehabilitation and Expansion of distribution systems of Ha Tinh Township – Ha Tinh Province Project"

Components:

The project will be constructed and reconstructed of total 208,300.43 m of 22kV and 183 substations. In which:

	Description		Total
Construction	Underground cable	m	4,359.92
	Overhead line	m	75,606.00
Re-construction	Underground cable	m	653.41
	Overhead line	m	124,817.20
Salvage line		m	2,863.90
Substation	Construction	Unit	89
	Re-construction	Unit	94
Capacity		KVA	27.180

Details of the project scope is described in Annex 1

4. Project Total Cost

- Total investment includes all equipment costs, erect, and other costs for improvement and upgrade of power network of Ha Tinh town and its vicinities.
- Total investment value: 72,588,579,000 VND

  Including:

  - Construction: 35,041,953,000 VND
  - Equipment: 21,871,663,000 VND
  - Other costs: 9,076,018,000 VND
  - Spare cost: 6,598,963,000 VND (including 11,000,000 VND of monitoring cost)

Analysis of capital sources.

Local loans: 43.387,268,000 VND

WB's loans: 29,201,329,000 VND equivalent to: 1,946,755USD

5. Proposed Schedule of Project.

- Based on WB plan, the project rehabilitation and expansion of distribution systems of Ha Tinh town - Ha Tinh Province - period 2002 - 2010.

CHAPTER 3
ENVIRONMENT BACKGROUND SITUATION

The power network project distributing power for Ha Tinh city is located in an infrastructure - planned area.

3.1/ Meteorological conditions and physical environment.

Ha Tinh City is a coastal delta with even terrain, 0.002 - 0.008 slope and at 0.5 - 3.0 height above sea level: wet, hot tropical climate and directly affected by northeast monsoon with main wind direction: Southwest - Northeast.

Average temperature: 26 - 27; Humidity: 84%

Rainy season starts from June to the end of October and represents 82% of the rainfall of the whole year. Average rainfall is 2661 mm.

Ha Tinh Town is in the several stormy influenced areas

3.2/ Ecological Environment.

The project's resident area is getting stable, located in the central city and co-bordered by the two rivers: Cay and Rao Cai which is heavily affected by tide. Environmentally, the City has not had a planned rubbish dump.

The mid-voltage lines used in the City have to be based on the streets' corridors. The mid-voltage ones have the corridor of 4m from the central point and that of low-voltage lines is 1,5m with the corridor's width of 3m, therefore, the corridor is not a concerned issue.

3.3/ Socio-economic environment.

Total natural land area of Ha Tinh is 772 ha, populations 56.000 people (2001); people density: 750 persons/km^2.

The city's economic situation is mainly dependent on small and medium business, handicraft with low developed industry.

Neighboring communes are mainly engaged in agriculture and fishery.

No cultural and historic heritage is reported by surveys.

No toxic factory is found.

CHAPTER 4

THE ENVIRONMENT IMPACT DURING CONSTRUCTION PHASE

Project is mainly focused on rehabilitation of the existing distribution network of Ha Tinh Towership – Ha Tinh Province. New construction work is placed at populated area. there is no new construction work happed in the remote or forested sites. The followings are potential impacts that can be occured during construction phase of the Project. Generally, the project will not cause any significant impacts to the environment.

183 substations are string substation. They have small size (50 X 70 X100 cm) and are hang up at leasr 5m high from the ground. The installation of string substations will be carried out by man power. The upgrading part of 110 kV substation will not required any expansion of land ot construction work. The impacts of the Project therefore will be considered just only with activities of rehabilitation and construction of distribution lines.

4.1. Identification of environment

Table. Project impacts during construction phase

No.	*Item*	*Environment impact*
1	Land occupation	Tower foundation occupation. . Temporary occupation for construction.
2	Hydrological condition and flood	No impact
3	Construction noise	Certain impact on constructors and acoustic environment.
4	Construction dust	Minor impact on ambient air.
5	Sanitary water during construction	Minor or no impact
6	Waste water effluent during construction	No impact
7	Vegetation	Vegetation damaged in occupied land
8	Wetland ecology	No impact
9	Scenic view	Affected a little
10	Traffic disturbance	Little impact
11	Highway	No impact
12	Agricultural production	Litte impacts due to temporary occupation of land
13	Influx of construction team	. No cultural conflict . To increase residential incomes . Increase life facilities
14	Cultural relics	No impact

No.	Item	Environment impact
15	Scenery and places of interest	No impact
16	Resettlement	No resettlement required; some emigration for the transmission lines.
17	Post and telecom communication wires and power transmission lines	No impact on the communication wires due to a long distance away in design.
18	Solid waste	No impact

4.2/ Impact on physical environment

Impact on water:

During contruction work of upgrading the 110 kV substation and other underground installation of the power lines, there will be around 50 persons participating in the construction work, most of them (aroud 90%) are residentd nearby. There will not be any camp for constructors. A little sanitary water produced for constructor's daily consumption would accumulate in the site, but amount is negligible.

The digging work is planned to avoid rainny 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 will not be considered as significant impact due to the time for digging and installing just lasts from 2 to 7 days for each site. The Project will not required a lot of work with mixing concrete , turbid water from construction therefore is very litte.Attention should be paid to stopping turbid water from running off to affect water body along.

Construction work is carried out in the area that have a fairly good infrastructure facilities, so no brigde or temporary bridge needs to be constructed to support Project. Water body along the Project's site will not be impacted.

There is no possibility of construction or rehabolitation work might impact to the underground water.

Impact on air

Certain amount of dust produced when excavating foundation and underground drain for line installation will affect environment and residents nearby.However, such impact will be incurred temporarily and partially. The excavating work is planned to do in the proper time and in the shortest duration to minimize the impact to residents.

Noise impact

For the intallation of new distribution lines and upgrading of the existing lines, limited number of construction machines is required, they are mixing machine, vehicle, etc.

Construction machine with low noise level will be selected. Construction, installation of the Project is carried out at daytime during the shortest time. The installation of underground cable will be carried out part by part. In each part the work and the duration are planned to do within 2 to 7 days. Construction machines are required at day time so the national standards TCVN 5948:1998 is meet during construction work.

- Shipping of equipment is carried out by car along the existing roads. Within the Project area, the transportation is common practices with highly growed system of

roads. Transportation of the Project will not cause any additional impact interm of noise. Futhermore no transportation of equipment, material will be carry out in the evening or night time so residents nearby will not be affected.

Solid waste disposal from excavating work for installation of underground cable

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 temporary 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 after that it will be covered again by another layer od sand with the same thickness. Photogenic warning paper is covered and then the excavated soil is filled back to the excavated trench. The covering of the road by the asphalt covering machines is planned to carry out two weeks after filling up the trench.

The remaining excavated soil and material is brought away by contract with responsible local environment and hygiene company (EHC). Such kind of solid waste is sold by local EHCs for construction purpose. So the solid waste of the Project will be managed properly, there is no risk of harming to the environment by Project's solid waste.

Traffic disturbance

The above-mentioned activities for installation of underground cables is managed to do part by part. In the central of city or in highly traffic road, each part has a length of approximately 500m. In other areas with low traffic demand, each part can be longer with a length of 1 or 2 km. The part that goes through the highly traffic area is planned to do within the evening and nighttime. The traffic is impacted due to road occupation for excavating, for temporary gathering the excavated soil and material and for road covering by asphalt covering machine. This time is not traffic rush hours, so the impact can be considered as a little impact. The installation for each part of underground cables is managed to do within 1 to 2 days. The covering of the road by asphalt is managed to do in the daytime and within half of a day for each part.

Considering the nature and duration of impact that cause for traffic during installation of underground cables it can be concluded that the impact for the traffic caused by the Project is negligible or little impact.

Hanging on of the overhead cables the sector that crosses the road is managed to do by the way that will not cause any traffic disturbance. It can be considered as a no impact for the traffic and local transportation.

4.3/ Impacts on Ecological Environment

Damage to vegetation

The easement of the 22kV lines is limited by 2 parallel planes, 2,1 m out of the outer conductors when they are vertical. Trees outside the easement must be controlled to ensure 0.5m clearance in all condition. The clearance from conductor to the treetop in the ROW must be ≥ 2m.

All trees of or would be > 4m in the line ROW must be cut down. So if the line routes pass natural and industrial forests with trees higher than the limit, such trees must be cut down.

The distribution lines of the Project comes along the road in the city as well as in the well developed areas. The requirement of new vegetation clearance is limited.

Temporary occupation of agricultural land will be required for over 160.000 sqm. The loss of agricultural product is for one harvest and is equally compensated for the affected farmers.

Vegetations in the site are common species (rice, shadow trees along the road, grass etc) with low ecological value. The damage to the vegetation therefore considered as negligible and manageable.

Impact on wetland

Site option for the Project has no impact to the wetland. There is no wetland site in the Project area.

Impact on natural reserves and national park

There is no risk of the Project to the National Parks or natural reserve. The forested areas in the Ha Tinh Province is rather poor. (See Map of Existing and Proposed areas in Ha Tinh for referrence). There is no protected area or high ecological value sites located in or nearby the Project site.

4.5. Social impacts

Principle work of the substation and distribution lines is undertaken by professional or skilled staff who have been trained on special technology usually from electric constuction team. Due to speciality of their work, thay can not be replaced by locals. However, some local staff may be hired to take up foundation excavation or underground cable drain. That can offer locals some temporary work opportunities.

The mass of construction peoples will locally increase the consumption and demand of social commodities and services. The staple and non-staple foodstuffs, daily requsites and other services required by the mass of construction people will lead to acceleration of social commodities.

Demand of constructing demand for the building and constructing materials for the Project will promote development of local building material suppliers. That direct or indirect increase the employment opportunities for the locals and forward the development of local economy and enhancement of living standard of local people.

Land occupation and resettlement & rehabilitation

- No resettlement is required. 814,104 sqm will be temporary occupied. Permanent land occupation is 3,186 sqm. No house removal is requred. The temporary occupation of land can be recovered for farming when construction is completed.

- In term of land occupation and compensation, the RAP report is reflected in more details.

CHAPTER 5

THE ENVIRONMENT IMPACT DURING OPERATION PHASE

5.1/ Indentification of environmental impacts

Table Potential environmental impact during operation period

No.	Item	Environment impact
1	Land occupation	Foudation permanent occupation
2	Substation afforestation	Helpful to improve atmospheric
3	EMF	No impact
4	Noise	No impact
5	Sanitary water and oily waste water	No impact
6	PCBs	No PCBs containing matter, no impact
7	Wetland	No impact
8	Vegetation	Some vegetation will be cut to protect safe ROW
9	Rare animal	No impact
10	Community	No impact
11	Cultural relics	No impact
12	Scenic view	No impact
13	Human health	No impact
14	Agricultural production	No harvest on lost land

5.2/ Impact on physical environment

Impact on water

Oily waste water of the substation only comes from overhauling transformers or acidental leakage and blows off. Discharged oily waste water will be collected in the accidental oil pond. After going through the oil-water separator, oil will be reused and the water will be released to the out side environment.

PCBs and PCBs containing equipment are no longer be in use. Therefore, there is no risk of PCBs contamination in to water or environment.

Impact of Electric Field on Human and Animals

Basing on the criteria of the power sector: "Limitation for power frequency electric field intensity" and stipulations on the working environment "Limitation for electric field intensity, working time in the affected area", the electric field affected area is the area with the power frequency electric field intensity of > 5kV/m. For inhabitants living under

the lines, the safe electric field intensity is ≤ 5kV/m. However, the electric field of the HV lines does not affect human's health in the line ROW.

Permitted duration for human and animal under electric field intensity:

Elec. field intensity (kV/m)	<5	5	8	10	12	15	18	20	20<E<25	>25
Permitted duration per day (h)	no limit	8	4.25	3	2.2	1.33	0.8	0.5	1/6	0

Impact of Electric Field on Telecommunication Projects

elecommunication projects include:

- Communication lines going closed to or across the 22 kV lines.
- Audio frequency, PLC telephone lines going closed to or along the lines.

Medium voltage transmission lines and other Project's equipment will have no impact on tellecomunication system existing close or along the lines. There is also no risk of impact on wireless communication.

5.3/ Other potential impacts

Impact on agricultural production

The Project will permanently occupy around 20 000 sqm. (20 ha) which could reduce agricultural out put. For example, the harvest would decrease about 100 tons of rice/year based upon a production level of 5 tons rice/ha/year.

Under transmission line corridor, low trees can be planted and there is no impact on further agricultural farming and harvest. The area where residentila houses are removed under the ROW can be returned to farm field for planting crops.

Influx of labor force

Professional trained technicians will conduct routine operation during operation period of the Project. Similar to the construction phase, the operating personnel would not generate inflict with locals in employment and culture. On contrary, their daily life demand will enhance incomes of loacl commerce and services.

CHAPTER 6
ENVIRONMENTAL MANAGEMENT PLAN (EMP)

A - MITIGATION MEASURES

6.1. In Design Stage :

For rehabilitation and expansion of Ha Tinh province, many supply options have been considered and analysed for different localities in the survey design stage to ensure the techno-economic criteria of the project, meanwhile the project impacts on the environment have also been considered to find out mitigation measures for negative impacts.

The overhead lines are designed to avoid crossing the residential, school, hospital, church and pagoda. In the technical aspect the Project is aimed also to supply the power to some schools. The designed lines should be right next to these premises. Selection of road is considered not only by technical aspects but also social and environmental management terms. There is no line designed to transverse pagoda, church and other public premises.

6.1.1. Line Routes.

Selection of the line routes and mitigation measures:

+ For ecological area:

Cut all trees of potential impact in the line ROW. According to the law on forest protection, tree cutting is strictly under control. Thus, the line routes try to avoid dense forests. The lines just traverse secondary forests, newly planted forests and sparsely forests of low economical and ecological value.

As such, there would be a small impact on ecology.

The Overhead line and the underground cable are in developed scheme in Ha Tinh towership – Ha Tinh Province.

The activities for installation of the underground cables are described in details in Chapter 4. In the during designed phase, the underground lines are designed according to the present regulations to minimize the land occupation, the excavating work.

The overhead and underground lines are crossed over the city. In Ha Tinh towership there is no area with high ecological value. The most planted areas are gardens, rice, crop field and newly planted forests

+ For residential areas :

The optimal routes have been considered to avoid houses. For those unavoidably traversing residential plots, the mitigation measures are numerous small angles and road crossings to avoid houses and structures.

Technical measures have been made of full use: Reasonable span, special technical options for: Towers, arms, guys, foundations at dangerous positions to mitigate the project impacts on houses and structures.

The survey results show that the line routes will not traverse any houses and structures.

+ For communication lines.

All the designed lines are apart from important telecommunication lines. The lines rarely traverse or go closed to the inter district and inter commune telecommunication lines. Moreover, the transmission lines are only some kilometers long with moderate voltage, as such it is not necessary to mention the influence and adverse impact on telecommunication lines.

+ For lands, army sites, airports, historical places, pagodas and other structures:

The actual survey shows that the lines would not traverse any historical or cultural places, army sites, airports, pagodas and impact the surrounding lands.

+ Other technical solutions for the line configuration :

To minimize the environmental impacts, the line configuration is selected basing on: most negative temperature and weather of the areas.

Thus, ensure the project bearing acity and minimize electric shock due to tower fall and conductor break.

The minimum line-to-ground clearance is designed as 6m, other clearances are in compliant with the electrical regulations, as such, the electric field intensity below the lines is much smaller than regulations of WHO and the sector (≤ 5 kV/m).

6.1.2. Substations:

- Type of Ha Tinh 22/0.4 kV substation: Outdoor type, kios substation. The land acquisition for substations is not very large, substation location is on public land and there is no affection to houses and residential areas.

- The substation is isolated with adjacent area by fence to assure safe operation and prevent people and animal against dangerous area.

- The project transformers will not contain PCB.

- Connection diagram of the substation is designed with protection equipment:

  + Over current protection for MV side of transformer used FCO.

  + Over voltage protection for transformer from lightning used LA.

  + Over current protection for HV side of transformer used MCCB.

Thanks to the protection and automatic equipment, all faults occurring in the operation stage would be eliminated at once, safety would be assured, dangers to people living in the served areas would be mitigated.

Summary of mitigation measures during design phase is provided in the following table:

Table 6.1: Mitigation measures to be implemented during design phase

Potential Impact	Mitigating Measures
Impacts on ecological system: trees cutting, deforestation (natural and planted forests)	Select and design Line routes to avoid natural and planted forests; Limit deforestation due to cutting of trees that have economical or ecological value; replant trees as much as number of trees to be cut down. The line routes should verify by the local authority.
PCB substance	Transformers with cooling oil with PCB substance will not be allowed to use in this project. PCBs containing oils are no longer permitted to be use in any EVN's project. Supplier should verify new purchased transformers that there is no PCBs transformer. There is no old transformer is removed from the existing power network. So there is no risk of PCBs contamination in the Project.
Impact on residential areas: Line routes may traverse houses and other constructors; noise disturbance	Align line routes to avoid houses and other structures; increase tower length; design routes to turn frequently to minimize number of houses to be traversed by line routes n equipment to be purchase having maximum noise level during operation not exceeding permitted noise level standards
Safety from electricity shocks	Substations are designed with hanging type and adequate protection. Conductors are designed with the insulation type or cable Dropout fuses on transformer's MV side for short circuit and over current protection
Fire caused by short circuits	Appropriate specification of conductors connecting the house to the MV system Surge arresters for over voltage wave protection. Automatic breaker on MV side for short circuit and over current protection Lightning arrestor is equipped.
Impact on historical sites, reversed areas...	Design route to avoid these sites. Coordinate and agree with local authorities on locations have T/L traverse through;
Danger of mines	Check with the related authority on the possibility of the left mines or bombs along the ROW

6.2. In Construction Stage:

Mitigation Strategies for Construction are:

6.2.1. Construction Arrangement:

Scientific arrangement, completion of separate project components and the line sections would minimize temporary requisition of land.

Construction activities such as tree cutting, ground clearance, foundation excavation, material transportation, tower erection, wire tensioning, etc. would have certain impacts on the environment. Therefore, concrete mitigation measures required are:

- Tree cutting, route clearances:

Apply measures of soil filling, tree and grass planting after construction; minimize the impact of tree cutting to mitigate future impacts. For land supposed to erosion, maintain trees with the allowable height in the ROW after cutting high trees to keep soil.

Discuss with local authorities involved.

- Safety measures:

Safety measures for construction must fully respect the safely regulations and procedures:

+ (Use specialized machines for) transportation of tools, material or heavy equipment. Check the machines before use. Ligament must be strong. Respect all regulations on transportation safety.

+ Foundation excavation must comply all safety measures. Since the tower foundations are small, there would not be much excavation. Foundation works would be carried out mainly by manual methods. The maximum unused soil volume of < $1m^3$, as a result of excavation, would be left in the surrounding areas as agreed with the local authorities.

Any water pipes, underground sewers, communication or power cables found during excavation must be reported to the concerned agency. Strictly follow instructions of the agency.

+ Apply safety measures for tower erection, arm and insulator installation, wire works and installation of other fittings.

Workers must respect the regulations on works, safety, labor protection and concentrate on their works. They will be given training on their jobs and safety procedures.

Besides, conductor tensioning and tower transportation would be carried out right after harvest of the annual crops to minimize the impact on crops in the ROW.

6.2.2. Construction Camps:

As for the particular characteristics of the rural electrification project, workers may set up camps in the commune or town center for convenient access to food, foodstuff, drinking water and communication means.

For construction in difficult terrain, camps may be laid out near the lines and (workers) construction would be carried out very quickly. Thus temporary tents for a limited number of workers would be needed.

There are firm regulations on medical and sanitary measures to assure workers' health. Each construction team would have one official specializing in medical care to take care of the workers and treat common diseases as malaria, typhoid fever, diarrhea, etc.

6.2.3. Safety on Fire and Explosion.

Explosion substances will not be used in construction works, manual excavation and filling are main measures. Construction teams would not use forest resources but kerosene for cooking. All substations would be equipped with fire and explosion protection equipment.

6.2.4. Noise Pollution.

There may be noise and vibration from construction equipment. The distribution voltages are at 22 kV and so the arcing flashover noise occurring in light rain or humid days would not be taken into account.

The impacts of noise, vibration on the environment in construction stage would be insignificant.

In general, with the above mitigation measures, the project impacts would be rendered as small impacts.

Table 6.2: Mitigation measures during construction phase

Potential Impact	*Mitigating Measures*
Impacts on ecological system: trees cutting	Optimize the timing of the construction; the construction works should start after harvest. The cutting of the fruit tress under the ROW only before energizing the system.
Damaged vegetable cover in ROW	Re-plant of the damaged cover by appropriate type of plant or grass.
Impact on residential areas: Line routes may traverse houses and other constructors;	During the poles erection, no pole is allowed to be placed within the house' premise, before main gate, that make inconvenient to the people. The house or structures remained under the lines; need to be protected according to the Degree 54.
Workers' safety	Strictly follow the labor safety regulation, no works on the pole erection, wiring during the rainy time. Safety engineer to check before energizing the system
Safety from electricity shocks	Use only the appropriate conductor for the connection from house to MV lines. Proper schedule for switch off of power when it is required.

Potential Impact	*Mitigating Measures*
Noise	- Use low noise equipment [2] - Working in the permitted hours
Dust	Guard fence and water spray
Solid waste disposal: excavated soil and disposal construction material	Contract with local environment and sanitation company to removal and proper disposal for other construction purposes
Traffic disturbance	Excavating work is scheduled to do in the less traffic rush hours. Limitation of time duration for excavating work.
Agricultural ecology	Recover damaged vegetation timely when the construction ends
Land Occupation	Minimize land occupation
Clearance in occupied land	Do compensation in accordance with laws
Valuable historical and cultural heritages discovered during construction phase	Contractors, workers and Project's staffs should be awarded that in the case they find some subjects suspected as valuable historical and cultural heritages they should timely inform to local Department of Culture and Information to seek for their interventions
Mine clearance	If there is a possibility, it will be done before any construction activity

6.3. In Management and Operation Stage.

6.3.1. Management, Operation, Repair and Maintenance Works:

Scope of works includes repair, periodical maintenance and fault treatment for the transmission lines and substations. The provincial power services (PPS) under PC1 will undertake such tasks.

To mitigate the adverse impacts and limit the network faults, to ensure safe operation. all workers must strictly follow regulations on safety for management, operation, repair and maintenance of the lines and substations.

According to the project management scheme, PPSs will sign contract with local people on the project management. Prior to the project operation, training on safety, basic techniques of the network operation and management should be provided to the operators. Only the successful trainees with training certificate can undertake the management and operation duty.

6.3.2. ROW Control:

PPSs would monitor and control ROW within the province, detect violations in the ROW: houses, trees, etc. and find prompt resolutions for such violations.

[2] Apply Vietnamese standard TCVN 5949-1988 for the Standard of noise applied for public and residential areas.

Local authorities and tree owners would supervise tree cutting. Take all cut branches and trees out of the environmental ROWs of the lines and substations. Random tree cutting under the name of network repair and maintenance is prohibited.

Underground cable management: principly underground projects are managed by the project owner in cooperation with local authority for transportation and public services. One photogenic nylon coverage was covered to the underground cable to warn people. In the case some one or some authority is doing another underground project they will easily notify the cables. The underground cables are managed, maintained by existing technical regulations. In term of environment there is no need to apply any additional mitigation measure

6.3.3. Public participation:

As the project areas have been electrified and people's knowledge is high, meetings with local people introducing the most basic knowledge on electricity and the electrical safety to avoid possible incidents should not be organized. All information should be propagated on communes' radios or signboard on substation.

Tabe 6.3: Mitigation measures during the operation of the project.

Potential Impact	Mitigating Measures
Impacts on ecological system: trees cutting	Tree cutting within ROW will be carried out manually, and periodically to ensured that no tree higher than 4 m.
Fire hazard	Periodically check all the protection equipments, in house wiring, and connection.
Electric shock	Distribute the safety use of electricity Training of one local person per commune. Periodically check and test the protection equipment Place waning signs in appropriate places
Noise	- Equipment noise is conformed with Vietnamese Standards
Protection of underground cable	- Manage and maintain the cables according to technical regulations.
EMF	- Use transforming devices conform to standards; - Select height of the power the power distributing structure conform to design requirement phase earth and phase-phase distance

B – Monitoring

As discussed in the previous chapters, for the given project the construction activities are small and spreading over the large thinly populated rural areas. the construction activities are carried out by a large number of small construction teams using the labor extensive methods, therefore many of the potential impacts such as noises. pollution caused by the construction activities could be considered as marginal and short term. These impacts may not required further monitoring during the operational stage.

Monitoring Plan

What	*Where*	*How*	*When*	*Cost*	*Source of fund*	*Implemented by*	*Supervised by*
Deforestation	Construction site	Inspection	During construction	0 (*)		PMU	Local Authority
Worker safety	Construction site	Inspection	During construction	0 (*)	Included in the contracts	Contractor	PMU
Soil erosion	In ROW	Compact the fill up, and plan grass on the feed of the poles	During Construction	0 (*)	Included in the contracts	Contractor	PMU
Land use	In ROW	Replace high tree by shorter trees	During the operation	0 (**)	Included in the compensation	PAH	Local Authority
1.Noise (100 samples/township X 50,000VND/sample)	Construction sites	Accreditated institution will be hired by Contractor	During construction phase	5,000,000 VND	Included in the Contract	Accreditated institution will be hired by Contractor	PMB and local Department for Science, Technology and Environment (DOSTE)
2. Dust (100 sample/ Towership X 50,000	Construction sites	Accreditated institution will be hired by Contractor	During construction phase	5,000,000 VND	Included in the Contract		

What	*Where*	*How*	*When*	*Cost*	*Source of fund*	*Implemented by*	*Supervised by*
VND/sample)							
3. Tree cutting and soil erosion	Along the lines	Accreditated institution or Independent Consultant will be hired by Provincial Power Service	During operation phase	7,000,000 VND	Production cost of Provincial Power Service	Accreditated institution or Independent Consultant will be hired by Provicial Power Service	- EVN through Provincial Power Services
TOTAL				**17,000,000 VND**			

Note: - The Contractor will based on the actual scope of the works and estimate the cost for the activities, and this cost will be included in the contract and final from the project costs.

- Contractor is responsible for hiring of accredit Ted Institution and Independent Consultant to carry out the environmental monitoring. Only accreditated or authorized institution can be hired for carrying out of the task. Report on environmental monitoring should be made by the hired body and submitted to Contractor, PMU, DOSTE etc.

- The compensation cost in RAP are estimated for the change of the high trees in ROW- The costs for these activities are in the operational cost of the power sectors. The operational staff are maintenance, inspect, and repair the system daily.Noise monitoring is once during construction period and once every half year during operation period; mainly monitor construction noise during construction. In case residents near transmission lines complain, measurement will be made at that time.

- *Dust monitoring is once during construction period*

Electric and magnetic field will be monitored once per year during operation period; EMF will be measured at 1 m outside the boundary (ROW).

All measurements should be made on the site along Project's transmission lines

C – Training:

The staffs will work as monitoring and supervision of this project are skillfull staffs and they were trained from other projects which were invested in Ha Tinh township – Ha Tinh province.

Annua. the Electricity of Vietnam usually oganizes the courses for training of electrical safety. Thereto, all staffs in monitoring and supervision the power network have received documents of monitoring and supervision.

According to all above reasons. traning is not necessary for this project.

D - Supervision

- The Investor - PC1 and local resettlement boards (to be established) are in charge of: compensation for lost of crops and assets.

- The provincial environmental monitors (interdisciplinary) are responsible for:

- 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.

- Ha Tinh Power Company undertakes to:

- Carry out periodical and sudden checks on the network operation, especially after rains and storms for necessary solutions and good operating conditions of the networks. These also help to find out and prevent violations in the line ROW.
- Monitor and prepare annual statistics on the network incidents and faults.
- Give guidance and supervise the implementation of the state regulations on the network protection and safety by the local governments and people. Meanwhile. stop the violations and report to the concerned bodies for violation solving.

CHAPTER 7

PUBLIC CONSULTATION AND INFORMATION DISSEMINATION

World Bank (the Bank) policy regarding community involvement 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 include predicted impacts and mitigation measures must be discussed with the PAP.

All the interested will be provided with access to EIA, RAP 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 (DOSTE at provincial level or MOSTE at 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 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 to meet the requirement of environmental protection and resettlement.

As the this project is a continuation of a on going project, the process of the consultation need to be continue for the new project communes. Since one of the project condition is

that the commune people need to agree on the project, agree to connect to the project, and agree to pay the connection costs as well as to pay the electricity bill, therefore before the project start PC1 together with the commune authority need to organize a consultation meeting with the local people.

Contents of Public Consultation meetings.

PC1 together with the communes and precincts authorities have organized meeting with the people in the project commune during the design stage in 2002 to discuss them about the major technical, resettlement, land acquisition and environmental issues.

Discuss with the people on the project policies entitlement on the resettlement and compensation entitlement, potential impact on the environment, and proposed mitigation measures.

The local authority and people gave their comments on: appropriate designed line routes, any other potential risk to environment

In the meetings all questions and recommendations of PAP has been recorded and concerned during the technical design phase.

Time for the public consultation: October 2002.

Information presented in the meetings.

The Consultants has presented the following materials:

- Project objectives, scope and components;
- Potential environmental and Socio economic impact of the Project.
- Mitigation measures applied during different phases of the Project.

The draft reports of EIA and RAP were displayed in the Ha Tinh Power Company and PNPMB for information disclosures.

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 environment 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.

2. *Public consultation and information dissemination during project preparation stage:*

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

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

During the field survey for the F/S, Consultants discussed with the local authority on the project line route to find the best route with the minimum affect on the compensation and minimum impact on the environment.

After the line route has been designed, Consultants send the designed line route to the communes and precincts 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 local officials to make a list of PAPs' affected land and crops. The socio-economic survey forms were delivered to affected households (for each commune or precinct) as basis for SLS. The Compensation Committee, with the participation of the local authority, carries out the surveys. This activity was carried out in October to December 2002.

Activity 3: Meetings with PAPs

When the survey finished, Compensation Committee in coordination with the commune/precinct officials held meetings with PAPs having land in the line ROW and with all 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 household. If PAH agree they will sign the inventory.

Activity 4: Approval and clearance by Provincial Authority

After working with the communes and precincts, the compensation document will sent to Steering Committee, which include Financial and pricing service, Planning and investment service, Agriculture and rural development service, DOSTE, Cadastral Department. The committee will review the related documents and recommend 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, Power Network Project Management Board (PNPMB) has prepared draft EIA to submit to EVN, WB and concerned DOSTEs and PPCs for review on draft EIA. When related parties clear the RAP and EIA, these reports are submitted to DOSTE applying for an Environmental Permit and these sources of

information are available for all peoples who are interested to know about reports and the Project.

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 the stage would be worst. The following information campaign will be carried out:

* Information to the Local authority:

Before the contraction of the project starts, the first task for PNPMB is to assist the Provincial Steering Committee to organize meetings with involved departments of the project provinces as to discuss all the aspect of the project, including implementation of RAP, EIA, implementation planning of the project.

* Information to the local people

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

4. Opinion on the Project from the public consultation

- Construction of the Project will be good for regional economic development on the spot, can increase employment opportunities and enhance living quality of the public;

- Construction of the Project should minimize clearance of crops and compensate affected crop outputs.

In response to problem put toward by the public, concerning professionals made a detail explanation to residential representatives in terms of potential environmental impact caused by power transmission construction. 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 surplus labour force will be arranged.

After their questions were answered carefully, the residential representatives understood that the power construction would not bring impact on them.

In term of environmental impacts, there is no complain or question of local people for the issue. Local people concern is human intervention to natural environment in the Project is minimum or no impact.

6. Public participation investigation results

Local Government, all functional departments and the public on the Project sites supporting construction of the Project consider it beneficial to development of local industry and to enhance met of local living quality; long term and short term occupied land should be compensated in accordance with Vietnamese regulations. Project's affected peoples considered Project as a Project with non-impact on the environment.

7. Summary of the comment received from public

- All o the participants in the meeting have agreed that the project will bring a lot of benefits to the HaTinh towership. 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 are supplied by the higher quality of power.

- Generally, the lines routes are well selected. The local peoples about the selection of routes have raised some comments. The Consultants have explained about the principles of line selections, explanation of technical issue 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 it should be placed warning site, what time is most suitable for the excavating work during construction phase in some specific areas such as hospital and school.

- Local people are willing in their ability to help project owners, contractors to manage the environmental issues such as water supply for spraying, to avoid transportation in the excavating places etc. It is very positive sign from local people to welcome the Project.

- Other issues rose by the local people mainly focused on the compensation issues. This information is available in the Project RAP report.

8. Reflection of public comments on the EIA reports

- The Comments of local peoples are summarized as above mentioned. All of their comment on environmental issues are explained and added if it is necessary in this EIA report. The EIA report and RAP report are displayed in the Ha Tinh Power Company and PNPMB as describe above.

CÔNG TY ĐIỆN LỰC 1 -----o0o----- BAN QUẢN LÝ DỰ ÁN LƯỚI ĐIỆN Số: 2550 ĐL1/BQLDA - CBXD *V/v: Thông báo tài liệu EIA và RAP – Dự án CT & PT LĐ Tx. Hà Tĩnh*	CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM **Độc lập - Tự do - Hạnh phúc** ---------o0o--------- *Hà Nội, ngày 14 tháng 7 năm 2003*

KÍNH GỬI: ĐIỆN LỰC HÀ TĨNH

Dự án "Cải tạo và phát triển lưới điện thị xã Hà Tĩnh – Tỉnh Hà Tĩnh" được thực hiện với khoản vay số 3034 của Ngân hàng Thế giới. Theo chính sách của Ngân hàng Thế giới, tài liệu về báo cáo đánh giá tác động môi trường (EIA) và Kế hoạch đền bù, tái định cư (RAP) phải được đặt tại một địa điểm để bất kỳ ai quan tâm đều có thể tiếp cận được. Ban QLDA lưới điện kính đề nghị Điện lực Hà Tĩnh cho phép Ban QLDA lưới điện được lưu 2 bản báo cáo này tại văn phòng của cơ quan và đề nghị Điện lực Hà Tĩnh thông báo với công chúng (thông báo ngắn trên các báo, đài địa phương, tờ rơi tại các vị trí công cộng...) trong vùng để những người quan tâm có thể đến tiếp cận với các tài liệu nói trên tại trụ sở Điện lực Hà Tĩnh.

Thời gian tiếp cận tài liệu: từ thời gian thông báo đến khi kết thúc dự án.

Rất mong Điện lực Hà Tĩnh quan tâm giúp đỡ.

Nơi nhận: - *Như trên,* - *Lưu TCQT, CBXD*	KT. GIÁM ĐỐC BAN QUẢN LÝ DỰ ÁN LƯỚI ĐIỆN PHÓ GIÁM ĐỐC TỔNG CÔNG TY ĐIỆN LỰC 1 – BAN QUẢN LÝ DỰ ÁN LƯỚI ĐIỆN Vũ Thế Nam

ANNEX 1: SUMMARY OF PROJECT SCOPE

REHABILITATION AND EXPANSION OF DISTRIBUTION SYSTEMS OF HA TINH TOWNSHIP - HA TINH PROVINCE

Feeder	Main line				Branch				
	Construction		Reconstruction		Construction		Reconstruction		old line
	Overhead line	Underground Cable	Overhead line	Underground Cable	Overhead line	Underground Cable	Overhead line	Underground Cable	
471	566.00		7,500.20	134.93	2,322.00		1,982.00	428.48	253.00
472	620.00	202.00	6,992.00		9,983.00	162.00	16,663.00		466.00
473	5,495.00	225.00	10,656.00		12,887.00		8,203.00		
474	6,515.00	223.00	7,445.00		8,723.00	47.00	6,007.00		
475		2,680.20	2,292.00		56.00	230.72	1,503.00		1,005.90
476	1,654.00	130.00	13,333.00		8,865.00		11,335.00		211.00
477	7,109.00	378.00	12,478.00		9,807.00	82.00	18,428.00	90.00	928.00
total	21,959.00	3,838.20	60,696.20	134.93	52,643.00	521.72	64,121.00	518.48	2,863.90

ANNEX 2: SOCIO - ECONOMIC FEATURES OF CONCERNED COMMUNES

REHABILITATION AND EXPANSION OF MV DISTRIBUTION OF HA TINH PROVINCE

Income				Output				Living condition				
						Strong point						
Total income	Average income (million VND/H)	Good income (million VND/H)	Bad income (million VND/H)	Output in paddy Ton/head	Average output kg/head	Tree type	Annual product	Rusking machine (h)	Television (h)	Cassette player (h)	School (class)	clinic (bed)
	10.4	28	7.4	95118	370.4693	Lúa	71890	1700	20608	23000	894	876

ANNEX 3: NATURAL FEATURES OF CONCERNED COMMUNES

REHABILITATION AND EXPANSION OF MV DISTRIBUTION OF HA TINH PROVINCE

Area					Dân số, lao động					
Total area	Agricultural land	Forested land	Residential land	Other	Population 2001	density (people/km2)	Household 2001	Labourer	People on Job	Population growth rate
47217	22600	6650	9720	8247	256750	543.8	35832	103783	72%	3.8%

ANNEX 4: LAND ACCQUISITION IN ROW

Description	Agricultural Land (m2)	Forest Land (m2)	Resident Land (m2)	Commune People Committee land (m2)
Feeder 971	108,362	0	9,030	63,211
Feeder 973	196,582	0	16,382	114,673
Feeder 975	122,027	0	4,500	31,500
Feeder 977	139,991	0	11,666	81,662
Feeder 472	114,156	0	9,513	66,591
Feeder 474+476	122,186	0	10,182	71,275
Underground cable	10,800	0	900	6,300
Total	**814,104**	-	**62,173**	**435,211**

ANNEX 5: TEMPORARY ACCQUISITION LAND

Description	Agricultural Land (m2)	Forest Land (m2)	Resident Land (m2)	Commune People Committee land (m2)
Feeder 971	35,192	0	2,933	20,529
Feeder 973	63,843	0	5,320	37,242
Feeder 975	39,631	0	3,303	23,118
Feeder 977	45,465	0	3,789	26,521
Feeder 472	37,074	0	3,090	21,627
Feeder 474+476	39,682	0	3,307	23,148
Underground cable	3,600	0	300	2,100
Total	**264,487**	-	**22,041**	**154,284**

ANNEX 6: PERMANANT ACQUISITION LAND

Description	Agricultural Land (m2)	Forest Land (m2)	Resident Land (m2)	Commune People Committee land (m2)
Feeder 971	357	0	0	192
Feeder 973	390	0	0	210
Feeder 975	97	0	0	52
Feeder 977	747	0	0	402
Feeder 472	727	0	0	391
Feeder 474+476	867	0	0	467
Total	**3,186**	-	-	**1,716**

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
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BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG
DỰ ÁN : CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH

ngày 15 tháng 10 năm 2002

Tại địa điểm : Phố Phan Đình Phùng **Phường (Xã)**..
Thị xã Hà Tĩnh

I - Thành phần tham dự :

1. Đại diện UBND Phường (Xã) : ông : Trần Trọng Tấn : Chủ tịch UBND
2. Đại diện các tổ chức Xã hội :
   Ông : Nguyễn Ngọc Quynh : Trưởng ban thường binh xã hội
   Ông : Phan Ngọc Chất : Phường đội trưởng
   Ông : Nguyễn Duy Đức : Bí thư Đoàn
   Bà : Nguyễn Thị Thảo : Phường vực Hội phụ nữ
3. Những người bị ảnh hưởng bởi dự án tham dự : 14
   Trong đó : Nam 11 ; Nữ 3....
4. Đại diện Ban quản lý/Đơn vị tư vấn:
   Ông Nguyễn Trọng Bình - CNDA - TTTVXD Điện lực I
   Ông : Nguyễn Văn Chiến - CNCS - TK

II- Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của đường dây trung áp thuộc dự án : Cải tạo và phát triển lưới điện trung áp

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 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 tuyến đường dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) - (theo bản đồ mặt bằng tuyến lộ) 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.

Thống nhất 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 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 đền bù cây cối 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./.

ĐẠI DIỆN TTV XD ĐIỆN LỰC I	XÁC NHẬN CỦA UBND
CÔNG TY ĐIỆN LỰC I	PHƯỜNG (XÃ)
KT GIÁM ĐỐC TRUNG TÂM TƯ VẤN XÂY DỰNG ĐIỆN LỰC I PHÓ GIÁM ĐỐC	CHỦ TỊCH TRẦN TRỌNG TẤN

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
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BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG
DỰ ÁN : CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH

ngày 16 tháng 10 năm 2002

Tại địa điểm : Xã Thạch Linh
Huyện Thạch Hà

I - Thành phần tham dự :

1. Đại diện UBND Phường (Xã) : ông : Hoàng Văn Vinh : Chủ tịch UBND Xã
2. Đại diện các tổ chức Xã hội :
   Bà Lê Thị Đinh : Chủ tịch Hội Phụ nữ
   Ông : Vũ Ngọc Dân : Chủ tịch Hội Chữ thập đỏ
   Bà : Đỗ Thị Khê : Chủ tịch Hội nông dân
   Ông : Quách Đại Giang : Chủ tịch Hội người Cao tuổi
3. Những người bị ảnh hưởng bởi dự án tham dự : 12

Trong đó : Nam 9 ; Nữ 3

4. Đại diện Ban quản lý/Đơn vị tư vấn:
   Ông Nguyễn Trọng Bình : CNOA - TTTVXD điện lực I.
   Ông Nguyễn Văn Chiến : CBKSTK

II- Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của đường dây trung áp thuộc dự án : Cải tạo và phát triển lưới điện trung áp

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 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 tuyến đường dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa bàn phường (xã) (theo bản đồ mặt bằng tuyến lộ) 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.

Thống nhất 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 van 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 đền bù cây cối 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./.

ĐẠI DIỆN TTV XD ĐIỆN LỰC I	XÁC NHẬN CỦA UBND
CÔNG TY ĐIỆN LỰC I	PHƯỜNG (XÃ)
K/T GIÁM ĐỐC TRUNG TÂM TƯ VẤN XÂY DỰNG ĐIỆN LỰC PHÓ GIÁM ĐỐC	CHỦ TỊCH HOÀNG VĂN VĨNH
Đỗ Chiến Sơn	
Nguyễn Văn Chính	

CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập - Tự do - Hạnh phúc
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BIÊN BẢN HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG
DỰ ÁN : CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH

ngày 16 tháng 10 năm 2002

Tại địa điểm : Xã Thạch Hà
Huyện Thạch Hà

I - Thành phần tham dự :

1. Đại diện UBND Phường (Xã) Ông Ngô Đức Thanh - Chủ tịch UBND xã
2. Đại diện các tổ chức Xã hội :
   Ông: Ngô Tấn Dương: Chủ tịch UBND xã
   Ông: Lương Ngọc Nhật - Bí thư Đoàn xã
   Bà: Đinh Thị Hiền: Chủ tịch Phụ nữ xã
   Ông: Phạm Tiến Triển - Chủ tịch Cựu Chiến binh xã
3. Những người bị ảnh hưởng bởi dự án tham dự : 15
   Trong đó : Nam 13, Nữ 2
4. Đại diện Ban quản lý/Đơn vị tư vấn:
   Ông: Nguyễn Trọng Bình - CNTT - TTVXD Điện lực 2
   Ông: Nguyễn Văn Chính - CNCS - TK

II- Các vấn đề tham vấn:

Các bên đã cùng xem xét, thảo luận về các vấn đề ảnh hưởng môi trường của đường dây trung áp thuộc dự án : Cải tạo và phát triển lưới điện trung áp

Đại diện Công ty tư vấn xây dựng điện 1 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 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 tuyến đường dây do Công ty tư vấn xây dựng điện 1 lựa chọn trên địa ban phường (xã) (theo bản đồ mặt bằng tuyến lộ 4) 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.

, Thống nhất 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 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 đền bù cây cối 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./.

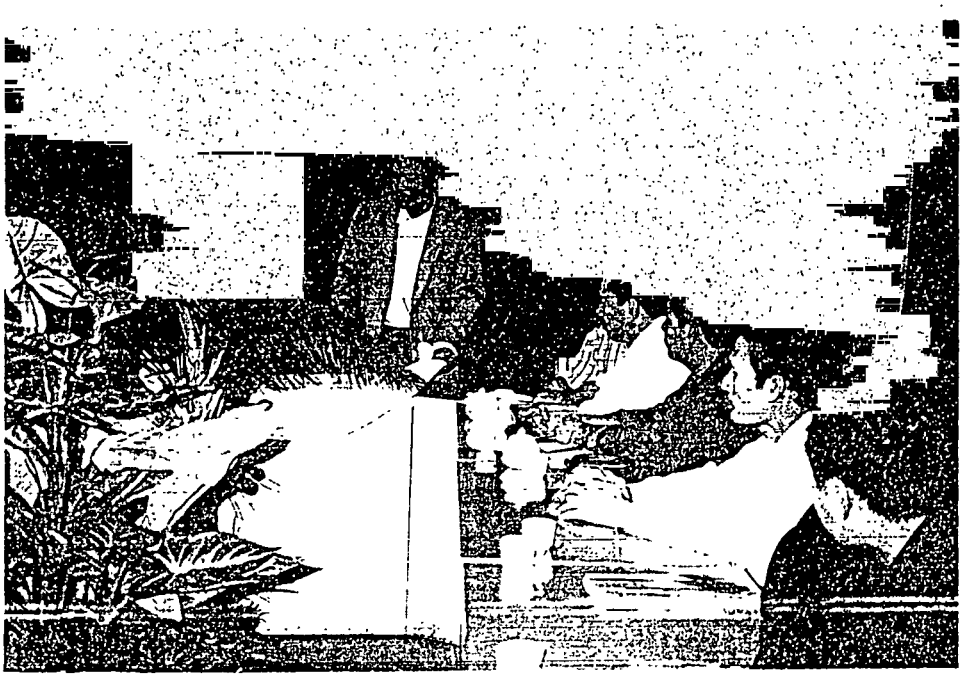
ĐẠI DIỆN TTV XD ĐIỆN LỰC I	XÁC NHẬN CỦA UBND
CÔNG TY ĐIỆN LỰC I	PHƯỜNG (XÃ)
KT. GIÁM ĐỐC TRUNG TÂM TƯ VẤN XÂY DỰNG ĐIỆN LỰC PHÓ GIÁM ĐỐC	CHỦ TỊCH NGÔ ĐỨC THANH
Đỗ Hiến Tôn	
Nguyễn Văn Chiến	

CUỘC HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG (EIA)
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH
ĐỊA ĐIỂM: XÃ THẠCH LINH

CUỘC HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG (EIA)
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH
ĐỊA ĐIỂM: XÃ THẠCH HÀ

CUỘC HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG (EIA)
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH
ĐỊA ĐIỂM: PHỐ TRẦN PHÚ

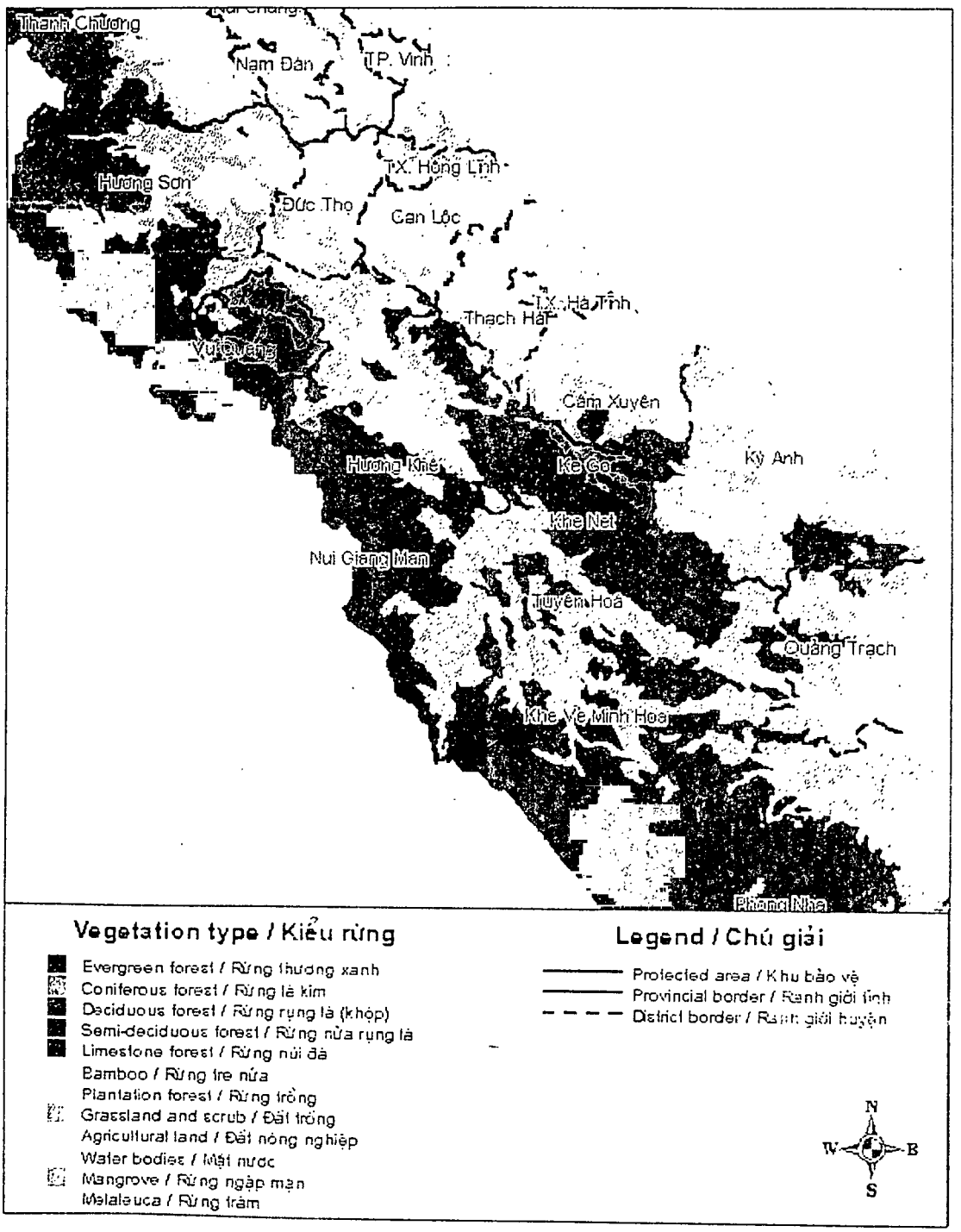
CUỘC HỌP THAM VẤN CỘNG ĐỒNG
BÁO CÁO ĐÁNH GIÁ TÁC ĐỘNG MÔI TRƯỜNG (EIA)
DỰ ÁN: CẢI TẠO VÀ PHÁT TRIỂN LƯỚI ĐIỆN TRUNG ÁP
THỊ XÃ HÀ TĨNH – TỈNH HÀ TĨNH
ĐỊA ĐIỂM: PHAN ĐÌNH PHÙNG



[|]

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

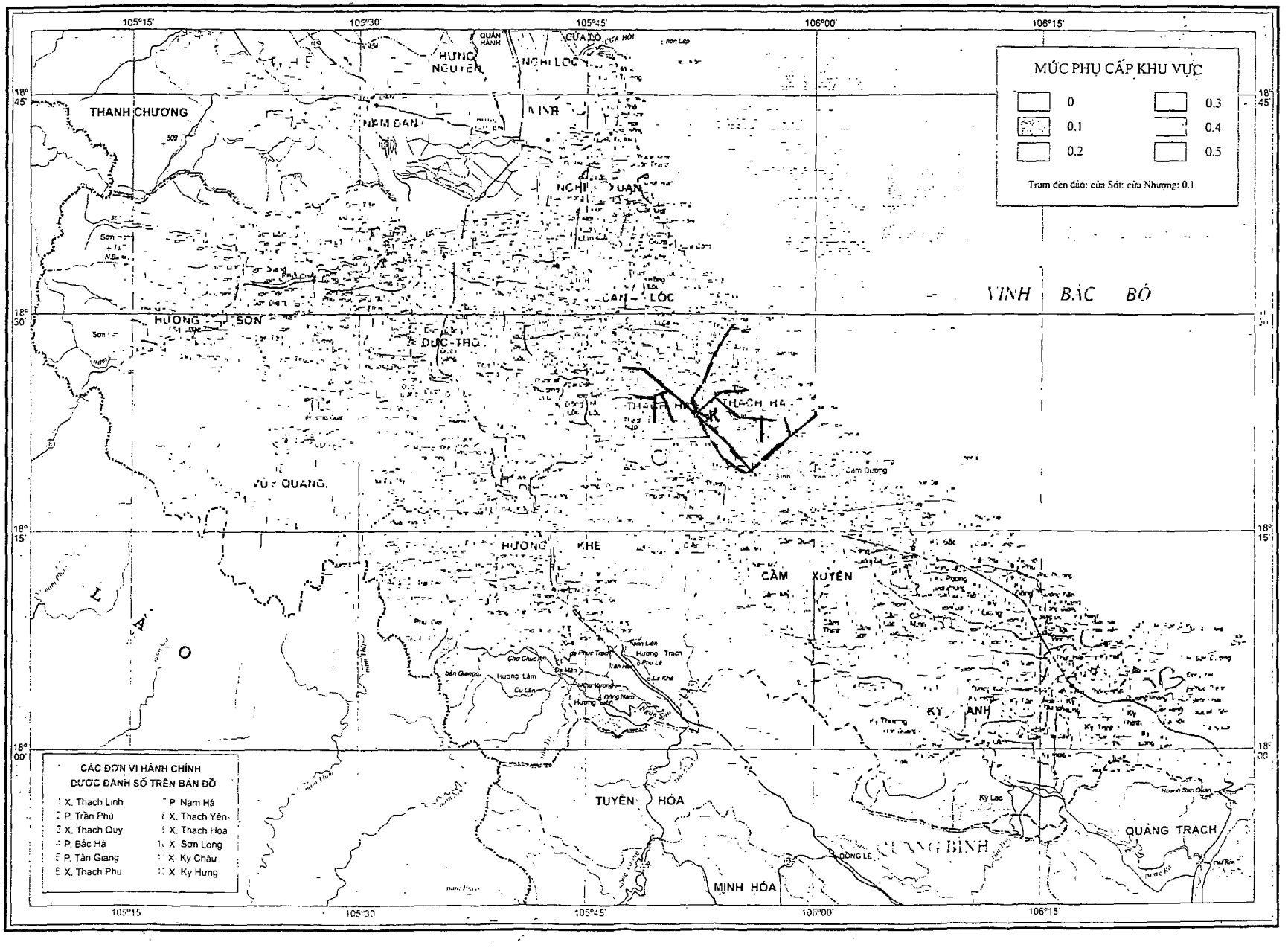
Existing and proposed protected areas in Ha Tinh province
Các khu bảo vệ hiện có và đề xuất ở tỉnh Hà Tĩnh



Project site

[|]

National park


MỨC PHỤ CẤP KHU VỰC
0
0.1
0.2
0.3
0.4
0.5
Trạm đèn đảo: cửa Sót: cửa Nhượng: 0.1
THANH CHƯƠNG
NAM ĐÀN
HƯNG NGUYÊN
NGHI LỘC
NGHI XUÂN
CAN LỘC
HƯƠNG SƠN
ĐỨC THỌ
VŨ QUANG
HƯƠNG KHÊ
CẨM XUYÊN
KỲ ANH
TUYÊN HÓA
MINH HÓA
QUẢNG TRẠCH
VINH BẮC BỘ
LÀO
CÁC ĐƠN VỊ HÀNH CHÍNH
DƯỢC ĐÁNH SỐ TRÊN BẢN ĐỒ
1 X. Thạch Linh
2 P. Trần Phú
3 X. Thạch Quý
4 P. Bắc Hà
5 P. Tân Giang
6 X. Thạch Phú
7 P. Nam Hà
8 X. Thạch Yên
9 X. Thạch Hoa
10 X. Sơn Long
11 X. Kỳ Châu
12 X. Kỳ Hưng
TỶ LỆ 1 : 440 000
105°15'
105°30'
105°45'
106°00'
106°15'
18°45'
18°30'
18°15'
18°00'