

Socialist Republic of Vietnam

Pha Lai Thermal Power Plant Project (I) – (IV)

External Evaluators: The Japan Economic Research Institute

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Field Survey: November 2007, February–March 2008

1. Project Profile and Japan's ODA Loan



Map of the project area



Pha Lai Thermal Power Plant

1.1 Background

In Vietnam, under the “Doi Moi” (renovation) policy adopted at the 6th Party Congress in 1986, transition from a planned economy to a market economy has been promoted. The GDP growth rate which was 2.8% in 1986 and 5.1% in 1990 reached over 8% per annum between 1992 and 1994.

This rapid economic growth substantially boosted national power consumption which marked an approximately 2.9 fold increase in the 10 years from 1985 to 1995, together with an approximately 2.3 fold increase in power consumption in the northern region during the same period. In the northern region, a large-scale hydropower plant was constructed in 1994 and the power supply capacity increased. However, considering that the output of the hydropower plant declines greatly during the dry season and further increase in power demand was expected, it was necessary to address the increasing power demand and to ensure stable power supply during both the rainy and dry seasons.

1.2 Objective

The project's objective is to meet the increasing power demand and to ensure stable power supply in the northern region by constructing a new anthracite coal fired power plant adjacent to the existing power plant, namely the Pha Lai Thermal Power Plant No.1 located in Hai Duong province near Hanoi, together with two substations and related transmission lines; thereby contributing to the economic vitalization in the northern

region.

1.3 Borrower/Executing Agency

Government of the Socialist Republic of Vietnam/Vietnam Electricity (EVN)

1.4 Outline of Loan Agreement

	Phase I	Phase II	Phase III	Phase IV
Loan Amount	11,057 million yen	20,000 million yen	32,529 million yen	8,510 million yen (Total 72,096 million yen)
Loan Disbursed Amount	65,118 million yen			
Exchange of Notes	Apr. 1995	Mar. 1996	Jan. 1997	Mar. 1999
Loan Agreement	Apr. 1995	Mar. 1996	Mar. 1997	Mar. 1999
Terms and Conditions				
-Interest rate	1.8%	2.3%	2.3% (Consulting: 2.1%)	1.8%
-Repayment period (grace period)	30 years (10 years)	30 years (10 years)	30 years (10 years)	30 years (10 years)
-Procurement	General untied	General untied	General untied	General untied
Final Disbursement Date	September 2004			
Main Contractors	Hyundai Engineering & Construction (Korea), Mitsui Babcock Energy (UK), Stone & Webster Engineering (UK) Sumitomo Corporation (Japan) (JV), ABB Substations (Sweden)			
Consulting Services	J-POWER (Japan), PACIFIC POWER (Australia) (JV)			
Feasibility Study (F/S), etc.	1992 EPDCI 1993 JBIC (SAPROF) 1994 JBIC (E/S Loan)			

2. Evaluation Result (Overall Rating: A)

2.1 Relevance (Rating: a)

This project has been highly relevant with Vietnam's national policies both at the time of appraisal and at the time of ex-post evaluation.

2.1.1 Relevance at the time of appraisal

At the time of appraisal of Phase IV of this project, rapid increase in power supply was stated in the industry development program under the 5-Year Socio-Economic Development Plan (1996–2000), and it was stated in the infrastructure development program under the same plan to ensure power supply in each region to meet the electricity demand. According to the 4th Power Development Master Plan (1996–2000), the power demand was estimated to be doubled from 14,640 GWh to 30,105 GWh between 1995 and 2000. In order to meet this demand increase, it was planned to build not only hydropower plants but also thermal power plants to achieve well-balanced electric power development.

Power supply in the northern region relied on the existing hydropower plant and Pha Lai No.1. However, during the dry season, generation capacity of the hydropower decreased substantially, and Pha Lai No.1 was quite old and had some problems in operation.

This project, which was to construct a thermal power plant which could support the base load in both the dry and rainy seasons, was considered to be highly consistent with the national policy, the electric power sector development program, and the development needs. Consequently, it is considered to be relevant.

2.1.2 Relevance at the time of evaluation

At the time of evaluation, it is cited in the 5-Year Socio-Economic Development Plan (2006–2010) to balance supply and demand of electricity and ensuring stable power supply in the country. The electric power industry is listed among the priority industries for investment in infrastructure investment. According to the 6th Power Development Master Plan, the power demands are estimated to grow at 17–20% per annum between 2006 and 2015, and thus it is necessary to expand the country's power generation capacity to meet this increasing demand.

The electricity sales volume of the northern region and that of the nation as a whole has increased on an average of about 14% per annum in the past 5 years, and the total sales of electricity in the northern region is estimated to increase by about 77% between 2007 and 2010. Therefore, there still remains strong need to meet the continually increasing power demand.

Consequently, it is estimated that the high growth rate of the electricity sales volume in the northern region and the country is estimated to continue, together with the continuous need to meet the increasing electric power demand, which has not changed since the time of appraisal. This project, which aims to contribute to stable electric power supply during

both the dry and rainy seasons, is highly consistent with the national policy, the electric power sector development program, and the development needs; therefore it is highly relevant at the time of evaluation.

Table 1: Electricity Sales in Vietnam and the Northern Region

(GWh)

	2001	2005	2007	2010	2015	2020
National	25,851	44,923	59,030	106,724	223,072	386,104
North	10,295	17,081	26,784	47,389	99,591	172,508

(Source) EVN

Note) Figures for 2007–2020 are estimates.

2.2 Efficiency (Rating: b)

Although the project period exceeded the planned period, the project costs were less than planned; therefore, the evaluation for efficiency is “moderate”.

2.2.1 Outputs

In this project, construction of Pha Lai Thermal Power Plant No.2, construction of related transmission lines and substations were planned at the time of appraisal of Phase I. However, before the time of appraisal of Phase IV, the substation construction site was changed from Dong Anh to Soc Son, and a desulfurization system was added to the project scope.

Comparing the actual outputs of the project with those planned at the time of the appraisal of Phase IV, they have been implemented almost as planned. The total length of the transmission lines is shorter than planned as a result of adjustment based on the actual survey. As for the construction of transmission lines between Pha Lai and Bac Giang, a tower was added due to the difficulty in land acquisition¹. The planned outputs of this project at the time of appraisal of Phase I and actual outputs are shown in Table 2 below.

Table 2: Summary of Outputs

(Planned outputs at the time of the appraisal of Phase I and actual outputs)

Plan (Phase I)	Actual
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¹ The route of the transmission line was modified to detour around the area where land acquisition was difficult by constructing one additional tower.

(1) Boilers: 2 units (2) Steam turbine generators: (300 MW x 2) (3) Related transmission lines and substation (Transmission lines: Pha Lai-Dong Anh 220 kV, etc.; Substations: construction of Dong Anh Substation 220 kV, etc.) (4) Coal handling system (5) Other related facilities (6) Civil engineering (7) Consulting services (Bid evaluation, support for contract negotiation, construction supervision, etc.)	(1) Boilers: 2 units (2) Steam turbine generators: (300 MW x 2) (3) Coal handling system (4) Flue gas desulfurization equipment: 2 units (5) Other related facilities (6) Related transmission lines and substations (Transmission lines: 220 kV, 84.6 km in total, substations: two 220-kV substations (7) Consulting services Support for bidding, construction supervision
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2.2.2 Project period

The planned project period at the time of appraisal of Phase IV was 76 months from April 1995 to July 2001, yet it took 96 months from April 1995 to March 2003, longer than planned (126% of the planned project period as of the appraisal of Phase IV²).

The main reasons for the delay were the delay in hiring a consultant in the engineering services, the procurement procedures, the construction of the power plant (bankruptcy of a member of contractors affected by the Asian Financial Crisis, delay in land acquisition, etc.), and the construction of the transmission lines/substations (delay in land acquisition), etc.

2.2.3 Project cost

The project cost was estimated at 98,410 million yen at the time of appraisal of Phase IV, yet the actual cost was 70,551 million yen, below the estimate (72% of the estimate). The main reasons for the reduction in cost are the efficient contracting through competitive bidding, changes in the exchange rate (yen appreciation and dollar depreciation), and decrease in tax/administration cost, etc.

2.3 Effectiveness (Rating: a)

² Since the project period was planned to be 60 months from April 1995 to March 2000 at the time of the appraisal of Phase I, the actual project period is 160% of the period planned at the time of the appraisal of Phase I.

The power plant has been achieving a load factor of approximately 80% since 2005, and outage hours caused by machine trouble have been stabilized compared with the situation right after the operation started. Electric power production at the plant exceeds the estimate at the time of appraisal, accounting for approximately 19% of total electric power production in the northern region and approximately 7% of the national electric power production (as of 2006), and thus the plant is considered to be playing an important role in power supply in Vietnam. Therefore, this project has largely achieved its objectives, and effectiveness is highly satisfactory.

2.3.1 Operational status

(1) Power plant

Table 3 shows the operational status of the power plant after it was taken over. The maximum output is almost as planned. The plant load factor has been achieving approximately 80% since 2005 except for the slight decrease in 2007 when the overhaul was conducted; thus it is being maintained at a sufficient level for the base load. Annual electric power



Control Room

production has also been exceeding the estimate at the time of appraisal since 2005. As for outage hours and times by cause (Figure 1), there has been no power outage due to human error, and the total hours and frequency of outage caused by machine trouble have decreased and been stabilized compared to the situation right after the operation started.

Table 3: Operation and Power Generation of Pha Lai Thermal Power Plant

	Availability Factor		Maximum Output	Plant Load Factor	Annual Electric Power Production	Auxiliary Power Ratio	Gross Thermal Efficiency
	Unit1	Unit2					
Plan at the Time of Appraisal ¹	Around 83–90%		300 MW x 2 units	Around 70–90%	3,680 GWh	Around 8%	35–40%
2003	57.04	85.21	300	61.45	3,230	9.37	36.68
2004	78.76	76.51	300	67.03	3,533	9.26	36.05
2005	87.07	93.14	300	81.89	4,304	8.95	36.30
2006	86.31	83.47	300	82.13	4,317	8.67	36.17
2007	78.44	95.10	300	79.87	4,198	8.78	35.52

(Source) Pha Lai Thermal Power Joint Stock Company (PPC)

Note 1) As the planned figures for availability factor, plant load factor, auxiliary power ratio and gross thermal efficiency at the time of appraisal are not available, these figures are the targets for JBIC

operation/effect indicators.

Note 2) The data of auxiliary power ratio and gross thermal efficiency for 2007 are for the period from January to October.

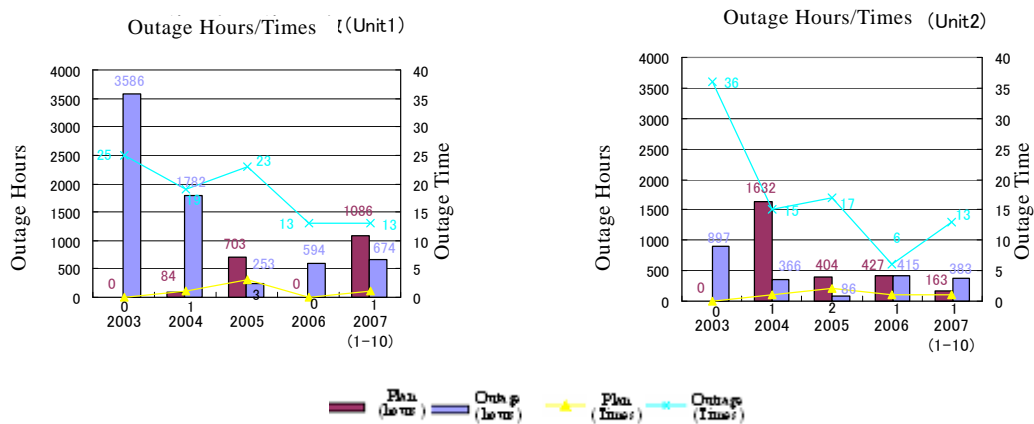
Note 3) Availability factor (%) = (hours of operation per year / hours per year) x 100

Plant load factor (%) = annual electric power production / (rated output x hours per year) x 100

Auxiliary power ratio = (annual auxiliary power consumption / gross electric power production) x 100

Gross thermal efficiency (%) = (annual gross electric energy production x 860³) / (annual fuel consumption x fuel calorific value) x 100

Figure 1: Outage Hours (hours/year) and Times (times/year) by Cause



(Source) PPC

(Note) There has been no human error.

(2) Desulfurization equipment

Desulfurization availability to generator operation hours has been generally stable at over 90% since 2005. There is no outage caused by human error. For unit 1, although outage hours caused by machine trouble shows an upward trend, they were stabilized compared to the situation right after the operation started.. For unit 2, they have been decreasing.

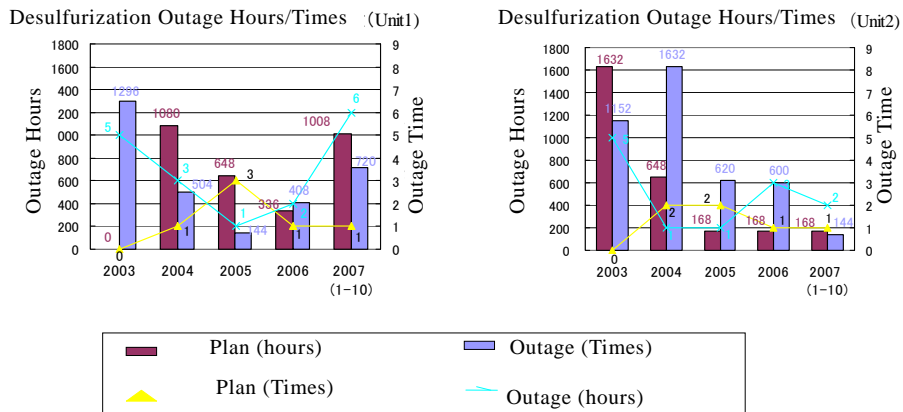
Table 4: Desulfurization Availability to Generator Operation Hours

	2003	2004	2005	2006	2007 (1-10)
Unit 1	60	83.5	97.6	94.1	87.1
Unit 2	64	46.2	91.5	91.2	97.7

Source: PPC

Figure 2: Outage Hours (hours/year) and Times (times/year) by Cause

³ 1 kwh=860 kcal



Source: PPC

(3) Transmission lines and substation facilities

The availability factor of transmission lines and transformers is as shown in Table 5⁴.

Table 5: Availability Factor of Transmission Lines and Transformers

	2003	2004	2005	2006	2007
Pha Lai – Bac Giang 220-kV transmission line	36	88	60	46	53
Pha Lai – Soc Son 220-kV transmission line	32	38	37	57	42
Bac Giang Substation 125 MVA	111	115	88	90	105
Soc Son Substation 125 MVA	103	122	85	65	65
25 MVA	33	37	42	88	106

(Source) PTC No.1



Bac Giang Substation



Soc Son Substation

2.3.2 Effect in meeting the power demand

Table 6 shows electric power production in the whole country, the northern region, and the power plant constructed under this project.

⁴ The transmission loss rate for PTC No.1 was 2.3% in 2005, 2.1% in 2006, and 1.8% in 2007.

In 2006, the power plant generated about 19% of the total electricity production in the northern region and about 7% of the total electricity production in the entire country. In terms of electricity supply capacity, as shown in Table 7, without this project, the power generation capacity would decrease by about 14% in the northern region and about 6% across the entire country. Therefore, this project contributed to meeting the power demand both in the northern region and the whole country.

Table 6: Electric Power Production

	(unit: GWh)		
	2004	2005	2006
National electric power production	46,201	52,078	59,013
Electric power production in the northern region	17,603	20,074	22,368
Electric power production by the project power plant	3,533	4,304	4,317

(Source) EVN and PPC

Table 7: Power Supply Capacity

	(unit: MW)		
	2004	2005	2006
National	8,283	9,255	10,187
North	3,494	3,886	4,233
Project power plant	600	600	600

(Source) EVN and PPC

2.3.3 Calculation of Financial Internal Rate of Return (FIRR)

The Financial Internal Rate of Return (FIRR) was recalculated based on the income from electricity sales as the benefits and the initial investment, operation and maintenance cost, fuel cost and taxes as the costs, with the assumption of the project life being 30 years. The result is 11.4%, which is higher than the 10.3% calculated at the time of appraisal. Major factors for the increase in FIRR are the decrease in the project cost and the unit fuel price and the increase in power production from the bases for calculation at the time of appraisal.

2.4 Impact

2.4.1 Contribution to economic vitalization

The GDP growth rate in Vietnam has been reaching over 7% since 2002, as shown in Table 8, and marked a growth rate of 8.44% in 2005. The GDP growth rate in Hanoi, the

capital of Vietnam located in the northern region, has been 11–12% since 2002, exceeding the national growth rate. Both Hanoi and the whole country have been sustaining high economic growth.

Table 8: GDP Growth Rate of Vietnam and Hanoi

	2001	2002	2003	2004	2005	2006 (Prel.)
Vietnam	6.89	7.08	7.34	7.79	8.44	8.17
Hanoi	10.0	12.0	11.4	11.6	11.4	11.5

Source: Statistical Yearbook of Vietnam 2006, Hanoi Statistical Yearbook 2006

The trends in power consumption by customer category (Table 9) show that electric power consumption has increased about 1.7 fold both in the northern region and the whole country between 2001 and 2005. Power consumption in commercial and manufacturing sectors has also increased by the same degree or in some cases has almost doubled.

Table 9: Trends in Power Consumption by Customer Category

	National		North	
	2001	2005	2001	2005
Households	12,651	19,476	5,495	7,880
Commerce	1,251	2,079	315	716
Manufacturing	10,511	21,095	3,726	7,455
Agriculture, Forestry, Fishery	465	571	317	291
Others	972	1,700	442	739
Total	25,851	44,923	10,295	17,080

Source: EVN

Although it is difficult to identify the direct beneficiaries of this project as the power generated at the power plant is transmitted to the grid, a company survey was conducted in the northern region to ascertain the general changes/trends in the electric power supply and its impact on the business operation of companies. According to the result, companies recognize improvement in the frequency of outage. However, their recognition of the state of general power supply (such as the reliability of the power supply and the amount of power supply necessary for their business operation) has shown little change from before 2003 (Figure 3 and 4). For the further improvement of the power supply, it was mentioned to expand power supply capacity to address power shortage especially during the season when hydropower production declines. According to the survey, there was no great change in the companies' recognition of the amount and reliability of power supply for

business operations. Still, without expansion of the power supply capacity, the situation would have been perceived as worsening, because the power demand and consumption have been growing remarkably as Vietnam has been experiencing an increase in economic activities.

Figure 3: Amount of Power Supply

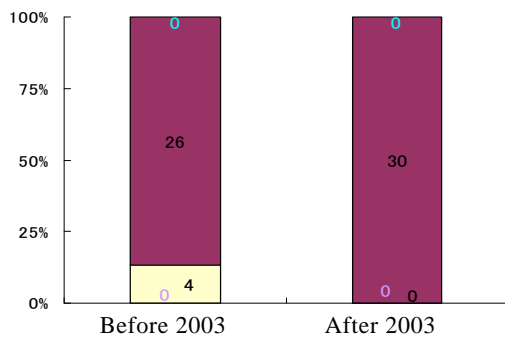
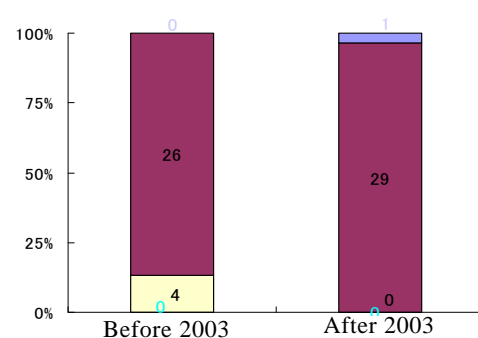


Figure 4: Reliability of Power Supply



■ Not Affected □ Very Poor □ Poor ■ Fair ■ Excellent

(Source) Beneficiary Survey

This project, which accounts for about 19% of the electric power production in the northern region as well as about 7% of the national electric power production (2006), is considered to be supporting the recent high economic growth in the north and that in the whole country by the expanding and stabilizing the electric power supply.

The number of presumed beneficiaries of this project is estimated at 6.47 million⁵ people (accounting for approximately 8% of the national population).

2.4.2 Impact on environment

According to Pha Lai Thermal Power Joint Stock Company, environment monitoring is performed on a regular basis. An external agency is hired to carry out inspection twice a year and the results are submitted to the provincial government. According to the monitoring result in May 2007, most data on water quality (discharged water and ground water) and air quality satisfy the environmental standards in Vietnam.

2.4.3 Impact on local residents

For the implementation of the project, land acquisition was conducted. For the construction of the power plant, 53.67 ha of land was acquired, affecting 300 households including 100 households that were resettled. According to the people's committee

⁵ Estimated by dividing the total electric power production of this plant in 2006 by the electric power consumption per capita of the same year in Vietnam.

concerned, the lives of the households that were moved to the resettlement site are stable.

For the construction of the cooling water discharge canal, 23.7 ha of land was acquired and 250 households were affected, though no households were resettled.

For the construction and transmission lines and substation facilities, 186 ha of land was acquired, affecting 360 households including 52 households that were to be resettled. However, resettlement has not been completed as of the time of evaluation due to the significant delay in the construction of the resettlement site because of the time taken for procurement, etc. The resettlement site is scheduled to be completed in June 2008.

2.5 Sustainability (Rating: A)

There is no problem with the capacity of the executing agency and the operation and maintenance system. This project is expected to be highly sustainable.

2.5.1 Executing Agency

2.5.1.1 Operation and maintenance system

The facilities are operated and maintained by EVN's group organizations, Pha Lai Thermal Power Joint Stock Company and Power Transmission Company No.1. Figure 5 is the organization chart of EVN.

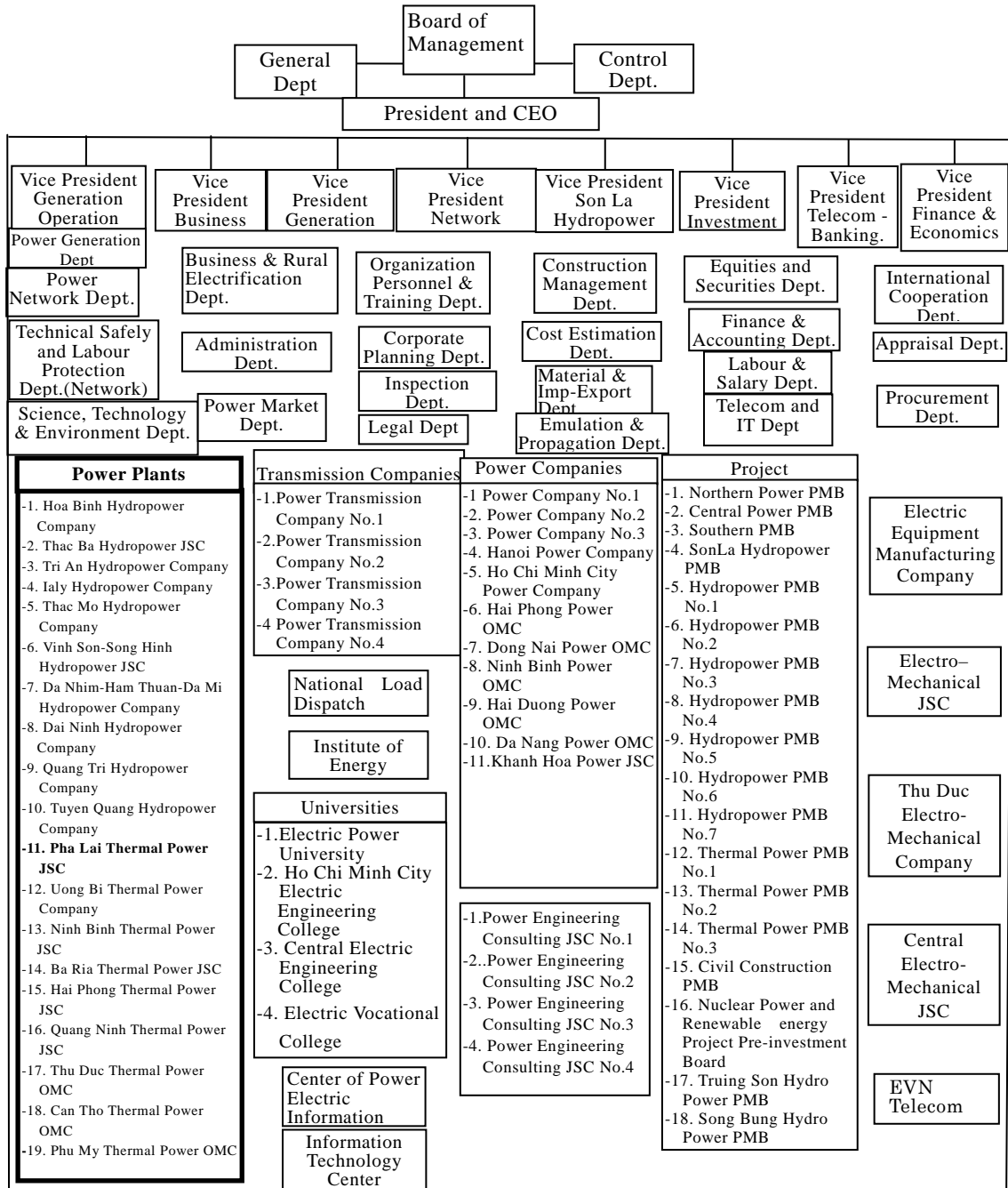
(1) Power plant

The power plant is operated and maintained by Pha Lai Thermal Power Joint Stock Company (PPC). PPC was established as a subsidiary of EVN and became a One-Member Limited Company in July 2005. After the conversion to a joint stock company in January 2006, it was listed on the Hanoi Stock Exchange in May 2006, and it transferred its listing to the Ho Chi Minh Stock Exchange in January 2007.⁶ It has 1,530 employees. The power plant is operated by Operation Workshop No.2 (354 employees) and maintained by Northern Power Service Joint Stock Company, which used to be the former repair and maintenance division of PPC but separated as a joint stock company in July 2007. Most of its 705 employees were transferred from PPC.

As PPC is already listed, transparency through information disclosure and clarification of management responsibility will be further improved, while EVN will continue to hold 51% or more of the shares. Therefore, sustainability of the operation and maintenance system is considered to be high.

⁶ EVN owns 68% of PPC shares as of the time of evaluation.

Figure 5: EVN Organization Chart



(Source) EVN Annual Report (2007)

(2) Transmission lines and substation facilities

Transmission lines and substation facilities installed under the project are operated and maintained by Power Transmission Company No.1 (PTC No.1), whose Thai Nguyen Office and Quang Ninh Office are in charge. PTC No.1 has more than 2,000 employees in total. Each transmission line maintenance team is composed of 11–14 staff members, and

Soc Son Substation and Bac Giang Substation are operated and maintained by 24 and 23 employees, respectively.

PTC No.1 is planned to be merged with other PTCs⁷ in 2008 to become a national transmission company affiliated with EVN. Therefore, the sustainability of the operation and maintenance system is considered to be high.

2.5.1.2 Technical capacity

(1) Power plant

Overseas training and domestic training are carried out in this project, and also EVN carries out other training. According to PPC and Northern Power Service JSC, in most cases their employees are basically capable of handling operation and maintenance by themselves, although there are some cases that they rely on external experts regarding equipment with new technology.

(2) Transmission lines and substation facilities

According to PTC No.1, in most cases their employees are able to deal with problems concerning the use and operation of equipment, etc.

2.5.1.3 Financial status

PPC is financially independent and PTC No.1, practically functions as the cost center of EVN, is financially dependent on EVN. Major financial indicators of EVN (consolidated basis) and PPC are as shown in the tables below. As far as can be judged from these figures, the financial status of both companies can be considered good. The future financial situation of EVN might be affected by the progress of the electricity tariff revision. Electricity tariffs are scheduled to be raised on July 1, 2008, followed by transition to a tariff based on the market price in 2010 (with conditions such as upper and lower limitations of 25%). It is considered that the financial sustainability of EVN could be sustained if the tariff revision is conducted as planned.

Table 10: Profit and Loss Statement of EVN

	(million VND)		
	2004	2005	2006
Revenue	34,530,167	37,273,867	43,766,287
Gross Profit	8,078,171	5,253,547	6,901,246
Profit for the Year	3,331,325	2,839,455	1,692,427

(Source) EVN

⁷ In Vietnam, there are currently four power transmission companies from No.1 to No.4, which respectively serve different areas.

Table 11: Financial Ratios of EVN

	2004	2,005	2006
Equity Ratio	41%	42%	39%
Current Ratio	1.90	1.50	1.68
Quick Ratio	1.59	1.24	1.41

(Source) Calculated by the evaluators based on financial statements of EVN

Table 12: Profit and Loss Statement of PPC

(million VND)

	2006
Revenue	3,607,073
Operating Profit	1,141,004
Net Profit	979,340

Source: PPC

Table 13: Financial Ratios of PPC

	2006
Equity Ratio (%)	29
Current Ratio (fold)	3.32
Quick Ratio (fold)	2.77

Source: Calculated by the evaluators based on financial statements of PPC

2.5.2 Operation and maintenance status

According to the executing agency, the maintenance program is carried out for the facilities constructed under the project, though the timing may vary depending on the need to address the power demand, and there is no problem in the acquisition of spare parts. Thus, no major problem was found in particular.

3. Feedback

3.1 Conclusion

In light of the above, this project can be said to be highly satisfactory.

3.2 Lessons Learned

- Pha Lai Thermal Power JSC provides training to staff members of other power plants. Also the staff members engaged in this project are involved in other projects and the operation of other thermal power plants. Experiences and technologies acquired through this project have indirectly led to technical transfer to other power plants. Therefore, in a country where construction of a number of power plants is planned following the ODA loan project, more effective contribution is expected from the project by placing more importance on technical transfer.
- Construction of the resettlement site (related to the construction of transmission lines

and substations) has been delayed significantly due to the delay in procurement process etc. and land price is said to have increased with the acceleration of inflation, compared to the time when the compensation was paid. In case that the resettlement site is constructed after the payment of compensation, construction work needs to be carried out as promptly as possible.

3.3 Recommendations

N.A.

Comparison of Original and Actual Scope

Item	Plan	Actual
<p>1. Output</p> <ul style="list-style-type: none"> • Civil engineering and equipment procurement • Consulting services 	<p>(1) Pha Lai Thermal Power Plant No.2 (anthracite coal fired power plant)</p> <p>Boilers: 2 units</p> <p>Steam turbine generators (2 units)</p> <p>Coal handling system</p> <p>Flue gas desulfurization equipment</p> <p>Other related facilities</p> <p>(2) Related transmission lines (220 kV: 92 km), related substations (220 kV: 2 substations)</p> <p>- Support for bidding, construction supervision</p>	<p>(1) As planned</p> <p>(There was a slight addition to the project scope)</p> <p>(2) Almost as planned (length of transmission lines reduced to 84.6 km and one tower added)</p> <p>- As planned</p>
<p>2. Project Period</p> <p>Detailed design</p> <p>Tendering of the main contract</p> <p>Power plant construction</p> <p>Transmission lines and substation facilities</p> <p>Consulting services</p>	<p>Jan. 1995 – Mar. 1996</p> <p>Feb. 1996 – Mar. 1998</p> <p>Mar. 1998 – Jul. 2001</p> <p>Jun. 1997 – Jun. 2000</p> <p>Apr. 1996 – Aug. 2003</p>	<p>Jan. 1995 – Mar. 1996</p> <p>Feb. 1996 – Mar. 1998</p> <p>Mar. 1998 – Mar. 2003</p> <p>Jun. 1997 – Aug. 2002</p> <p>Apr. 1996 – Mar. 2005</p>
<p>3. Project Cost</p> <p>Foreign Currency</p> <p>Local Currency</p> <p>Total</p> <p>ODA Loan Portion</p> <p>Exchange Rate</p>	<p>85,876 million yen</p> <p>12,534 million yen</p> <p>(1,253,353 million dong)</p> <p>98,410 million yen</p> <p>83,642 million yen</p> <p>1 dong = 0.01 yen</p> <p>(as of October 1998)</p>	<p>68,434 million yen</p> <p>2,117 million yen</p> <p>(264,575 million dong)</p> <p>70,551 million yen</p> <p>65,118 million yen</p> <p>1 dong = 0.008 yen</p> <p>(1994–2005 average)</p>

