

Environmental Monitoring Report

Semi-Annual Report
January – June 2016

Loan 2517-VIE: Renewable Energy Development
and Network Expansion and Rehabilitation for
Remote Communes Sector Project

Subproject: Nam Pay Hydropower Project

Prepared by the Power Development Project Management Board (PDPMB) of the Northern
Power Corporation, for the Asian Development Bank (ADB).

CURRENCY EQUIVALENTS

(as of 22 June 2016)

Currency unit	–	Vietnamese Dong (VND)
VND1.00	=	\$0.0000473
\$1.00	=	VND22,330

ABBREVIATIONS

ADB	-	Asian Development Bank
NPC	-	Northern Power Corporation
PDPMB	-	Power Development Project Management Board
DONRE	-	Department of Natural Resources and Environment
EMS	-	Environmental Monitoring System
ESDC	-	Environment and Social Development Cell
EVN	-	Electricity Vietnam
IEE	-	Initial Environmental Examination
SONRE	-	Section on Natural Resources and Environment
VIE	-	Viet Nam

{WEIGHTS AND MEASURES}

MW	–	Megawatt
Km	–	Kilometer
km ²	–	square kilometers
l/s	–	litres per second
m	–	metre
m ³	–	cubic metre
m ²	–	square metre
mm	–	millimeter
s	–	seconds
mg/l	–	milligram/litre
dBA	–	decibel A

NOTE

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

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I. INTRODUCTION

1. PROJECT INFORMATION

1. The Nam Pay hydropower project is a sub-project of Loan 2517-VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project which is funded by the Asian Development Bank (ADB). The implementing agency of this sub-project is Northern Power Corporation (NPC).

2. The Nam Pay hydropower plant is constructed for rural electric system in Mun Chung Commune, Tuan Giao District, Dien Bien Province. Project location is shown in Figure 1.

3. The project is located in Nam Pay stream in Mun Chung commune of Tuan Giao district, Dien Bien province (Figure 1) and will affect the villages of Pa Tong (between dam and power plant) and Nam Pay (immediately downstream of the hydropower plant). It is planned to be constructed on the Nam Pay River which is the influent level I of Nam Mu river and the influent of Nam Muc river. The rivers originate from a mountainous region with the height of more than 1,000 m at coordinates of 103°22'30" East and 21°55' North. The rivers flow from the North toward the South, then merge into Nam Mu river. The Nam Pay hydropower project is positioned at 103°24'01" East and 21°47'24" North. The reservoir of the Nam Pay hydropower project has a small catchment area of 68 km².

4. The reservoir, headwork route, and energy route are in Pa Ca, Pa Tong, Na Tong, Nam Pay, Nong Tong villahe, Mun Chung Commune, Tuan Giao District, Dien Bien Province.



Figure 1: Project location in the region

5. The sub-project is part of the small hydropower plant development plan in Dien Bien up to 2020, which was approved through Decision No 99/QD-UBND on January 25, 2010 by the PPC.

Main work items

6. The Nam Pay Hydropower sub-project will have 7.5 MW generating capacity and an annual average electricity production of 27.93 million KWh. The main elements are shown in Figure 2 and described as follows:

- a. A dam with maximum height of 25.8 m and reservoir with volume of 370,000m³;
- b. A 1,246-m reinforced concrete tunnel;
- c. A penstock of 843.7m in length, pipe section of 1.2 m and pipe-thickness from 1.2 to 2.0 cm;
- d. A powerhouse with three Francis - horizontal turbines;
- e. Outdoor electricity distribution station;
- f. A 35-KV transmission line to transfer electricity to the national grid through Tuan Giao-Tua Chua; and
- g. Administration and management building

7. Below the dam, all the project components are on the right bank of the Nam Pay river. The power from the Nam Pay hydropower plant will provide electricity to the Mun Chung Commune with a population of 5,580 persons, 62% of which are ethnic Thai.

8. To connect the Nam Pay hydropower plant to the national electricity system, a new 35-kV line connection line is required, including two circuits:

- First Circuit: about 32 km in length, wire AC-150 connecting to the busbar 35kV substation 110/35/22 kV-16 MVA Tuan Giao (E21.1);
- Second Circuit: about 0.8 km in length, wire AC-150 35kV lines connected to Tuan Giao - Tua Chua.

9. The water delivery system of the dam has a calculated head of 224.4 m, which is designed to deliver a maximum of 4.23 m³/s to three turbines and generate 7.5 MW of power. As a result of the project, in the dry season, the Nam Pay River will experience loss of water flow for approximately eight to nine months over the 3.5 km of the river between dam and powerhouse.

10. During low flow months with a flowrate of less than 0.5 m³/s, the plant will operate for only a few hours per day to provide for peak hour power requirements. The water regime will change immediately downstream of the dam.

11. Various access roads are required by the project:

- a. At the dam, 1.5 km of road with the upgrading of existing track road and about 800m temporary road on right and left bank for temporary construction access;
- b. At the surge tank, upgrading of the existing 140-m track road;
- c. For powerhouse, upgrading of the existing 940-m track road to provide permanent access to the plant; and
- d. A 700-m track road along the penstock route for construction purposes.

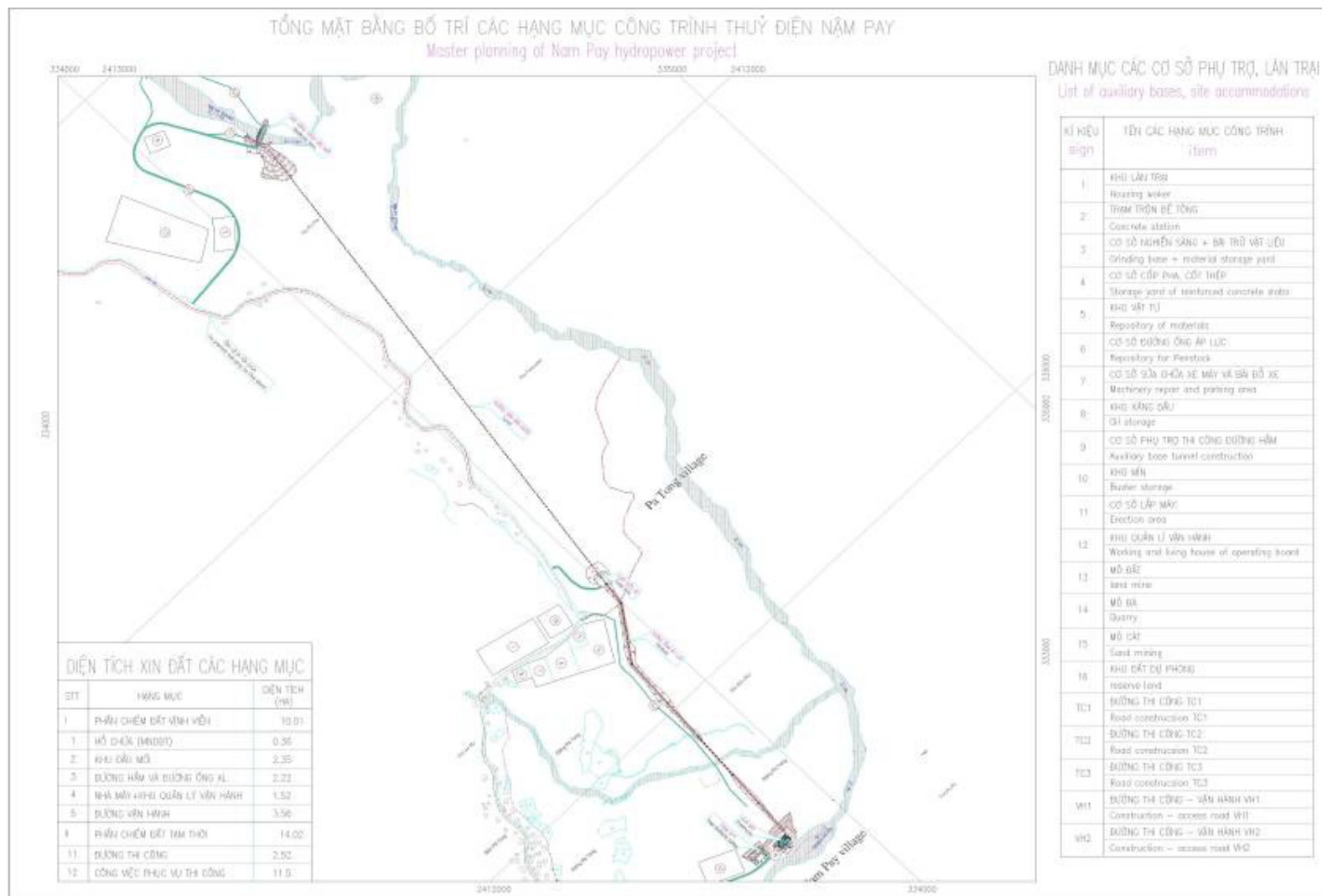


Figure 2: Master Plan of Nam Pay Hydropower Project

12. In addition to the main components, there are also auxiliary components for the Nam Pay Hydropower project which are described in the table below:

Auxiliary components

Components	Area (ha)
Accommodation of workers	1.05
Concrete batching plant	0.4
Base crushing and screening material storage yard	0.75
Steel formwork base	0.4
Blasting materials warehouse	0.04
Park management and operation	0.6
Inventory	0.15
Base of underground components	0.5
Maintenance base and parking area	0.2
Oil storage	0.1
Installed machine base	0.03
Reserve land	0.4

13. The proposed campsite is between the area above Pa Tong village and some houses along the highway. The campsite is close to local communities in Pa Tong village.

2. PURPOSE OF ENVIRONMENTAL MONITORING

14. The Power Development Project Management Board (PDPMB) of the Northern Power Corporation has been appointed as the department to undertake the management of the implementation of sub-projects of Loan 2517-VIE. The PDPMB consists of the Hydropower Section, directly monitoring the implementation of Nam Pay Hydropower project. The PDPMB is also tasked to establish and assess the environmental performance of the sub-project and its contractors with a view of improving the environmental performance of the overall project.

15. This Environmental Monitoring Report presents the results of the monitoring of the construction of Nam Pay hydropower project covering the period January to June 2016. The report documents the status of project implementation, compliance with the Environmental Management Plan (EMP), and also compliance with the environmental regulatory requirements of the Government of Vietnam. The report also aims to present corrective or remedial measures for environmental impacts observed during the monitoring period.

16. The PDPMB reviewed and monitored the implementation of the EMP integrated in the Initial Environmental Examination (IEE) report which was cleared by ADB. The Environmental Compliance and Monitoring Form and Environmental Monitoring Checklist provided by ADB were used to assess the compliance of the contractors with the EMP and

with ADB's Environment Safeguards. Site visits were carried out to validate implementation of the mitigation measures.

17. The objectives of the monitoring are:

- ✓ Monitor the status of sub-project's compliance with Vietnam Technical Regulations and Law on Environment
- ✓ Monitor the status of sub-project's compliance with ADB's Environment Safeguards requirements
- ✓ Monitor the compliance of the contractors with mitigation measures to address construction impacts on the environment as per Contract Conditions and the EMP
- ✓ Determine corrective actions need to carry out to address non-compliance activities during the construction phase.

II. STATUS OF LEGAL & POLICY COMPLIANCE

18. The Environmental Impact Assessment (EIA) of Nam Pay Hydropower project was approved by the Provincial People's Committee of Dien Bien on 12 October, 2012. The IEE was also endorsed by ADB. The EMP as contained in the approved IEE was included in the bid document with the contractors. The responsibility of EMP implementation during the construction phase of the project was entrusted to the contractors of the project. The implementation of the EMP by the contractors is being monitored by the field officers of the PDPMB of NPC.

19. The Nam Pay Hydropower Project has secured the following licenses and clearances for its implementation:

Table 1: Environmental Permits and Licenses Secured

License/Clearance	License/Clearance No.	Issued by	Date Issued
Approval of EIA	936/QĐ-UBND	Dien Bien Provincial People's Committee	12 October 2012
UXO license	No 72/ 2014 GP-SCT	People's Committee of Dien Bien Province - Industrial and commercial facilities	21 November 2014
UXO license	No 13/ 2015/GP-SCT	People's Committee of Dien Bien Province - Industrial and commercial facilities	18 March 2015
Approval of reforestation plan	No 4416/UBND-NN	People's Committee of Dien Bien Province	23 December 2015

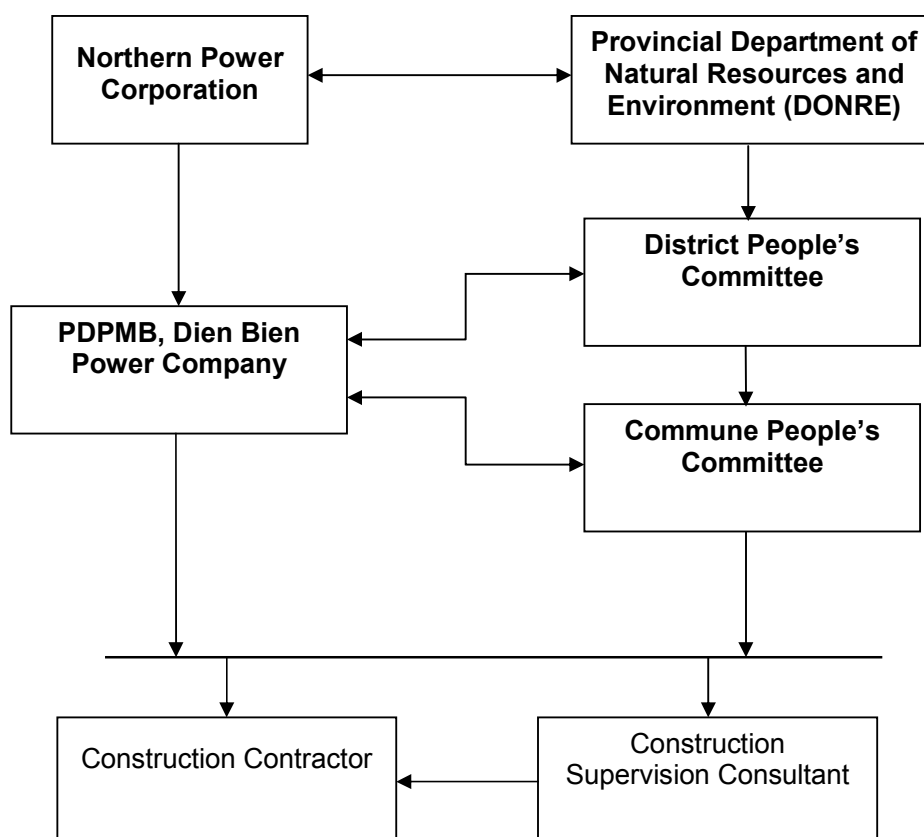
20. Other issue is waiting for approval:

License/Clearance	License/Clearance No.	Issued by	Date Issued
Extraction surface water license	In process	Pending	

III. ENVIRONMENTAL MANAGEMENT SYSTEM

21. The Environment and Social Development Cell has not been created by NPC. Instead, a focal person on environmental matters has been appointed within PDPMB to audit the implementation of the EMP by the contractor and to coordinate activities related to the EMP implementation and monitoring. A monitoring system will be developed and implemented on a regular basis. Documentation of monitoring activities will be retained at the project site by the PDPMB.

22. Environmental management system is shown in the organizational chart as follow:



23. Parties in the EMS and respective responsibilities during construction & operation phases are presented in the table below.

Table 2: Parties and respective responsibilities in the EMS

Parties	Responsibilities
NPC/PMU	Manage for ensuring the implementation of the IEE and EMP
Construction Contractor	Implement contents of EMP following to the signed

Parties	Responsibilities
	contract
Construction Supervision Consultant	Monitor the implementation of the EMP of the contractor and report to NPC/PMU
Provincial Department of Natural Resources and Environment (DONRE)	General management of natural resources and environment
District People's Committee	General management of natural resources and environment
Commune People's Committee	General management of natural resources and environment

24. The following are the personnel assigned by NPC and the contractor to monitor compliance with environmental mitigation measures:

Table 3: List of contacts/members in EMS

Name of Personnel	Organization	Responsibilities
1/ Nguyen Duc Cuong 2/ Pham Cong Hoan 3/ Hoang Van Duong 4/ Nguyen Huy Quyen	1/ Dien Bien Power Company 2/ Song Da commercial investment JSC. 3/ Toan Phat construction industry JSC. 4/ Song Da consulting JSC	Monitor of road
1/ Nguyen Duc Cuong 2/ Pham Cong Hoan 3/ Hoang Van Duong 4/ Nguyen Huy Quyen	1/ Dien Bien Power Company 2/ Song Da commercial investment JSC. 3/ Toan Phat construction industry JSC. 4/ Song Da consulting JSC	Monitor of dam
1/ Le Manh Hung 2/ Nguyen Van Loc	1/ Dien Bien Power Company 2/ Song Da consulting JSC	Head of monitor, Monitor of tunnel
1/ Nguyen Dinh Thien 2/ Pham Dinh Sang	1/ Toan Phat construction industry JSC. 2/ Song Da commercial investment JSC.	Commander, Contractor of road
Nguyen Huy Quyen	construction supervision consultant	
2/ Pham Cong Hoan	1/ Song Da commercial investment JSC.	Environment Specialist, Contractor of tunnel

Note: Song Da commercial investment JSC: contractors package W04, W05
Toan Phat construction industry JSC: contractors package W02

IV. WORK PROGRESS

25. Packages and construction contractors are listed in the table below.

Table 4: Information on packages and construction contractors

Construction Package	Description of work item in the package	Name of construction contractor	Contact
NPC-ADB –NP/W01	Construction of 35 kV line, 35/0.4 kV substation for unelectrified households	Joint stock company commercial and electrical construction Tuan Giao	02303 862 487
NPC-ADB-NP/W02	Construction of 0.4kV line for unelectrified households	Joint stock company commercial and electrical construction Tuan Giao	02303 862 487
NPC-ADB –NP/W03	Construction of head works, intake and pipe	Joint stock company of industrial construction Toan Phat	0435 379 424
NPC-ADB –NP/W04	Construction of water-conveying system (power alignment) (tunnel and surge tank)	Joint stock company commercial and construction Song Da	0463 254567
NPC-ADB-NP/W05	Construction of penstock, valve house, hydropower plant, tailrace, OPY station, road for O&M, house for O&M	Song Da invested and construction JSC - VVV investment JSC	

26. Table below outlines the progress of the project construction:

Table 5: Work progress until 30th June, 2016

Project Component	Time started	Completion	Remarks
Construction of 35 kV line, 35/0.4 kV substation for unelectrified households	31/7/2014	100%	completed.
Construction of 0.4kV line for unelectrified households	1/3/2015	100%	Completed
Construction of head works, intake and pipe	1/7/2014	50%	The work progress is quite slow due to the rainy season; the clearance was difficult; the supply of construction materials does not meet the construction progress on

Project Component	Time started	Completion	Remarks
			the construction site
Construction of water-conveying system (power alignment) (tunnel and surge tank)	17/7/2014	41%	The work progress is quite slow due to the rainy season
Construction of penstock, valve house, hydropower plant, tailrace, OPY station, road for O&M, house for O&M	11/1/2015	28%	The work progress is quite slow due to the rainy season; the clearance was difficult; the supply of construction materials does not meet the construction progress on the construction site

V. ENVIRONMENTAL COMPLIANCE MONITORING

27. The overall role of the Environmental Compliance Monitoring is to assess and report if all construction activities implemented by Construction Contractors follow EMP, IEE and environmental impacts to local areas/local residents during construction.

28. Therefore, the environmental monitors will carefully review site conditions and construction activities and provide recommendations to avoid and minimize environmental impact. During site visit, the environmental monitor works directly with construction management representatives to conduct field assessments, make recommendations for additional controls or protection. In addition, the constructor provides daily reports to the environmental monitor to check if all construction activities follow EMP.

29. Table below describes implemented mitigation measures for anticipated impacts from IEE as well as current environmental impacts. Compliance level and Effectiveness of the implemented mitigation measures from Construction Contractors are also assessed.

Note:

- *Compliance level and effectiveness level could be ranged from 1 to 5 (1: very good; 2: Good; 3: Fair; 4: Poor; 5: very poor);*
- *“**Compliance level**” refers the actions which had been implemented to see if the actions follow proposed EMP/IEE or not. In “**Compliance level**” column, the consultant should decide marks ranged from 1-5; other than that, short passage is necessary to explain why ranking that mark.*
- *Could the impacts be reduced by mitigation measures which had been implemented? How is the impact reduced by that actions/mitigation measures? “**Effectiveness level**” reflects these two question. Short passage is also necessary for explanation in this column.*

Table 6: Assessment of environmental compliance

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
Construction Phase							
Earthworks for new access roads and construction of penstock on steep slopes leading to erosion & encroachment	Slopes along access roads & penstock will be provided with: ✓ Catchments/ cut-off drains, silt traps & chutes to minimize soil erosion. ✓ Masonry retaining structures. ✓ Formation of sediment basins & slope drains.	Contractor built masonry, cut-off drains, silt traps	2	2	There were soil and silt along the canals	Require contractor to regularly maintenance, clean the catchments, silt traps & chutes, masonry retaining structures, sediment basins & slope drains	Contractor (Song Da commercial investment JSC; Toan Phat construction industry JSC) agreed
	Maximum usage of material in fill areas.	Yes	1	1		Continue this measure	Contractor agreed
	Spoils planning particularly on steep slopes with bench terracing for high cut areas & avoidance of any erosion and runoff of material on down slopes.	Yes	2	2		Continue this measure	Contractor agreed
	Planting grass and revegetation on disturbed areas and maintaining of landscaping.	Trees and grasses were planted at slopes of road for O&M, Grasses are being planted at slopes of surge tank	1	1	Grasses were planted at slopes of road for O&M and road for surge tank	Continue this measure	Contractor agreed to implement when building stage 2- road
Use of Borrow Materials with potential for loss and degradation of	No earth will be borrowed from cultivable and arable lands. Borrowing to take place from barren, wastelands, & riverbeds. For new borrow areas, all measures will be	Earth materials were taken only from the site. There were no materials taken from agricultural	1	1			

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
land	taken to avoid loss of any productive soil. Any borrow areas will be refilled, re-vegetated & landscaped.	land.					
Taking of Quarry Materials with loss and degradation of land	Quarry materials will be obtained from existing operating sites with proper licenses & environmental clearances. New quarries to be opened only with permission of respective authorities.	Existing quarries were used by the contractor.	1	1			
Operation of construction equipment and construction activities and contamination of soils, loss of water quality & water pollution	Fuel storage & refueling will have adequate containment, away from water bodies/channel.	yes	1	1		Require contractor to collect waste oil to storage and to right area	Contractor (Song Da commercial investment JSC; Toan Phat construction industry JSC) agreed
	Equipment will be properly maintained.	The clouts used to clean equipment are not collected	1	1	Equipment has been maintained regularly.	Contractor has to collect clouts used to clean equipment	
	Precautions to be taken to prevent water pollution due to increased siltation & turbidity for weir site & road construction particularly in dry month when flows are low.	yes	2	2			
	Approved sites defined for storage & disposal of wastes materials	yes	4	4	Soil dumped at disposal sites are scattered out in surrounding cultivation areas and	Require contractor to discharge waste materials to all storage area .	Contractor (Song Da commercial investment JSC;

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
					irrigation canal which cause effect on irrigating and cultivating of local people, especially in Na Tong, Nam Pay villages;		Toan Phat construction industry JSC) agree
	Any waste petroleum products will be collected, stored, & disposed of at approved sites.	Waste petroleum has been collected, stored in containments	1	1		Continue this measure	
Construction activities causing disruption of existing surface drains.	Appropriate rain-storm-water channels will be constructed.	Rain-storm water channels were provided at the access road, construction area, clue dam	1	1			
	Provision for cross drainage structures will be made.	yes	2	2			
Construction Camp & Residential colony. Social impacts & pollution from wastewater &	Construction camps will be located adjoining the dam and powerhouse sites & away from any settlement.	Construction camps are located far from residential communities.	1	1		Continue this measure	Contractor agreed
	Manual labor will be employed locally.	The contractor hired 20-30 workers from the community.	1	1			

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
solid waste	Camps & residential colony will have properly designed sewage treatment system for wastewater effluent. Likewise, solid waste collection system will be employed.	Septic tanks are provided at the camps; Rain-storm water channels front of camps are blocked	1	1		Continue this measure	Contractor agreed
Emission from Construction Vehicles & Equipment causing air pollution	Emission levels of all construction vehicles & equipment will conform to Vietnamese emission standards.	Contractors were required to maintain construction vehicles & equipment regularly.	3	3	Operation of trucks and soil scattered on the public road, cause dust pollution and negative impacts on.	Require contractor immediately remove scattered soil on the public road and in sections go through residential areas	Contractor (Song Da commercial investment JSC; Toan Phat construction industry JSC) agreed
	Pollutant parameters will be monitored during construction.	Ambient air quality samplings at the site were conducted on 7 May,2016. Results show compliance with Vietnamese standards.	1	1			Monitor and Contractor agreed
	Crushing, & concrete plants will be away from population centres at dam and powerhouse sites.	Concrete plants are located away from population centers.	1	1		Continue this measure	Contractor agreed
Dust particulates causing health impacts for workers	All precautions to be taken to reduce dust level emissions from batching plants & portable crushers at dam and powerhouse sites.	The construction site itself is located away from residential community.	1	1			

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
and villagers	Regular water spraying at all mixing sites & temporary service roads will be undertaken.	Water spraying on roads and dusty areas were not being undertaken by the contractor regularly	2	3			Contractor agreed
	All delivery vehicles will be covered with tarpaulin.		1	1			Contractor agreed
Construction activity Noise from Vehicles, Plant & Equipment causing noise pollution	All construction equipment & plants will conform to Vietnamese noise standards.	Careful monitoring	1	1			
	All vehicles & equipment to be fitted with noise abatement devices.	Careful monitoring	2	2			
	Construction workers will be provided with personal protection.	Careful monitoring	1	1			Contractor agreed
Noise pollution from any blasting activities at dam and power tunnel and penstock,	Any blasting works will be in accordance with Vietnamese Explosives Act.	There was blasting done on the dam site, intake gate, water channel and surge tank.	1	1			Contractor agreed
	No blasting between dusk & dawn.		1	1			
	Residents close by will be informed well in advance of blasting times.	Contractor informed residents the blasting times. The blasting works were been in accordance with Vietnamese Explosives Act.	1	1	Contractor informed the time of blasting to residents	Continue this measure	Contractor agreed
	Workers associated with blasting sites will be provided with earplugs, helmets & other personal safety devices.	Careful monitoring	1	1			
Construction of	No trees to be removed without prior approval.	Careful monitoring	1	1			

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
dam, reservoir, tunnel, penstock with loss of vegetation & tree cover.	Compensation for lost trees on private land.	Trees that were removed were compensated.	1	1	Compensated for lost trees on private land		
	Planting grass and maintaining temporary construction areas, roads and other elements of the project.	Tree plantation is implemented on the slopes of dam, and road	1	1		Trees plantation to be undertaken after construction	
Work force during construction causing impacts to wildlife	Construction workers to be educated for wildlife conservation with no hunting & poaching to be allowed for workers.	Workers are not allowed to hunt or kill wildlife animal	1	1		Continue this measure	Workers agreed
Construction Activities & Accident Risks	All blasting sites will have warning & clearance signals. Site will be inspected prior/after blasting.	All blasting sites had warning & clearance signals. Site were inspected prior/after blasting.	1	1		Continue this measure	
	Workers will be provided with helmets, masks, safety goggles, etc.		2	2	Some workers were not wearing helmets, masks, safety ...etc	Require all of workers to wear personal protection equipment	Contractor agreed Contractor (Song Da commercial investment JSC; Toan Phat construction industry JSC)
	A readily available first aid unit will be available with dressing materials etc.	First-aid kit is available at the administration office.	1	1			Contractor provided the first-aid kit at the camp on 20August 2014

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
	Road safety education will be given to construction vehicle drivers.	All of drivers have license for driving	1	1			Contractor agreed
	Traffic management will be ensured during road construction periods.	Inclusion of measures in contracts and follow up monitoring	1	1		Require contractor to manage traffic during road construction	Contractor agreed Contractor (Song Da commercial investment JSC; Toan Phat construction industry JSC)
	Information dissemination will take place through the Commune's People Committee regarding activities causing disruption.	Inclusion of measures in contracts and follow up monitoring	1	1			
Construction Activities causing disruption to Public Utilities	Any public utilities likely to be impacted, such as water supply pipe system, power/phone lines etc. must be relocated to suitable places, in consultation with local beneficiaries.	Pay attention to mind the power/ phone line of the powerhouse	1	1		Continue this measure	
Any discovery of artifacts or articles of historical interest and importance	For all finds of an historical or cultural value, work will be stopped and the find reported to the nearest office of the Department Culture, Sport and Tourism or the Department of Culture and Information	There were no historical or cultural sites affected by the project.	1	1			
Generated impacts							
Reduced irrigation water flow in river and affected to aquaculture and agriculture cultivation			3	3	As noted from local authorities, tunnel excavation cause reduction of irrigation water which is supplying for 3000 m ³ of aquaculture and agriculture cultivation in	An technical assessment need to be conducted and compensation needed to be provided if any impacts caused by subproject being identified;	NPC, contractor, Dien Bien PC agreed

Impacts & location	Mitigation measures from IEE	Mitigation measures implemented	Compliance level	Effectiveness	Impact observed/ location	More action required & responsibilities	Contractor response
					<p>Na Tong village and affect to income generation sources of 10 households</p> <p>Soil dumped at disposal sites are scattered out in surrounding cultivation areas and irrigation canal which cause effect on irrigating and cultivating of local people, especially in Na Tong, Nam Pay villages.</p>		

VI. ENVIRONMENT EFFECT MONITORING

30. Ambient air, noise and surface water sampling works were conducted on: 7th of May 2016 normal conditions of weather; by technical and environmental analysis Joint Stock Company (EATC).

Air and noise samplings are in the area surrounding and inside Nam Pay Hydropower Project, Construction site locations and the mine rock locations to assess impact of air, noise by construction activities on local residents and existing workers. Results are compared to Vietnam Health Ministry standard QCVN 05:2013/BTNMT – National technical Regulations on Ambient Air Quality, QCVN 26:2010/BTNMT – National Technical Regulations on Noise and QCVN 27:2010/BTNMT – National Technical Regulations on Vibration which are presented in the table below.

Table 7: Results of Ambient Air Quality and Noise Quality Sampling

Air monitoring was performed at three point as follows:

K1: A position as traffic roads features is spacious area, rocky ground, less vehicle passage through the and less dust.

K2: A position dam construction site features is spacious area, rocky ground, construction site under construction pour the foundation dam, moderate noise, less vehicle passage through.

K3: A location rock mines features is spacious area, rocky ground, excavators are working, less dust.

No	Parameter	Unit	Result			QCVN 05:2013/BTN MT	Remarks
			K1	K2	K3		
1	Instantaneous noise (Leq)	dBA	68,8	69,9	71	55	Pass
2	Vibration	dB	0,06	0,41	0,32	75	Pass
3	Carbon dioxide (CO ₂)	mg/m ³	574	597	569	-	No specified
4	Carbon monoxide (CO)	mg/m ³	1,43	1,89	1,59	30	Pass
5	Nitrogen dioxide (NO ₂)	mg/m ³	0,023	0,034	0,031	0.2	Pass
6	Sulfur dioxide (SO ₂)	mg/m ³	0,031	0,039	0,033	0.35	Pass
7	Pb and compound of Pb	mg/m ³	-	-	-	-	-
8	suspended particulates (TSP)	mg/m ³	0,165	0,284	0,253	0.3	Pass

The results show that air and noise quality at the roads Location, Construction location and the mine locations are within limited values in QCVN 05:2013/BTNMT. Construction activities at the at the time of sampling do not impact on ambient air and noise quality.

SURFACE WATER QUALITY

Surface water samplings were conducted in May 7th 2016. Samples were taken at upstream, downstream of Nam Pay streams. The analyzed results are compared with Vietnam standard QCVN 08-MT:2015 - National technical regulation on surface water quality. Results are presented in the table below.

Notes:

- ✓ Sampling station NM1: Upstream of dam
- ✓ Sampling station NM2: Downstream of dam
- ✓ Sampling station NM3: Nam Pay streams
- ✓ B1: Use for the purpose of the irrigation and other purposes as: B2
- ✓ B2: Use for the purpose of the river traffic and other purposes required the low quality water.

The environmental monitoring surface water quality, were performed at locations where have large water sources. Surface water surround the construction areas purpose to evaluate the current stage of water quality in construction time.

Table 8: Surface Water Quality

No	Parameter	Unit	Result			QCVN 08-MT:2015 /BTNMT		Remarks
			NM1	NM2	NM3	Column B1	Column B2	
1	Temperature	°C	25,7	25,6	25,0	-	-	
2	pH	-	6,4	6,7	6,7	5,5 - 9	5,5 - 9	pass
3	Dissolved oxygen (DO)	mg/l	4,9	5,1	5,0	≥ 4	≥ 2	pass
4	Total Suspended Solids (TSS)	mg/l	11,8	9,2	10,6	50	100	pass
5	Total Phosphor	mg/l	0,12	0,10	0,13	-	-	
6	Total Nitrogen	mg/l	1,05	1,34	1,12	-	-	
7	COD	mg/l	7,8	6,2	7,0	30	50	pass
8	BOD5	mg/l	3,7	3,3	3,6	15	25	pass
9	Oil and grease	mg/l	<0,3	<0,3	<0,3	1,0	1,0	pass
10	Coliform	MPN/100ml	669	611	603	7500	10000	pass

The result shows that all environmental parameters are within limited values under present regulation QCVN 08-MT:2015/BTNMT. Sampled values show that water is also qualified to column B1, B2 (the purpose of water supply for living)

WASTE WATER QUALITY

Wastewater were taken at the sewage of the worker camps and at the site of excavation activities. All equipment and analysis methods compliance with the provisions of environmental regulations, respectively by Ministry of Natural resources and Environment issued.

Monitoring:

NT-1: Waste - water taken at the sewage of the worker camps

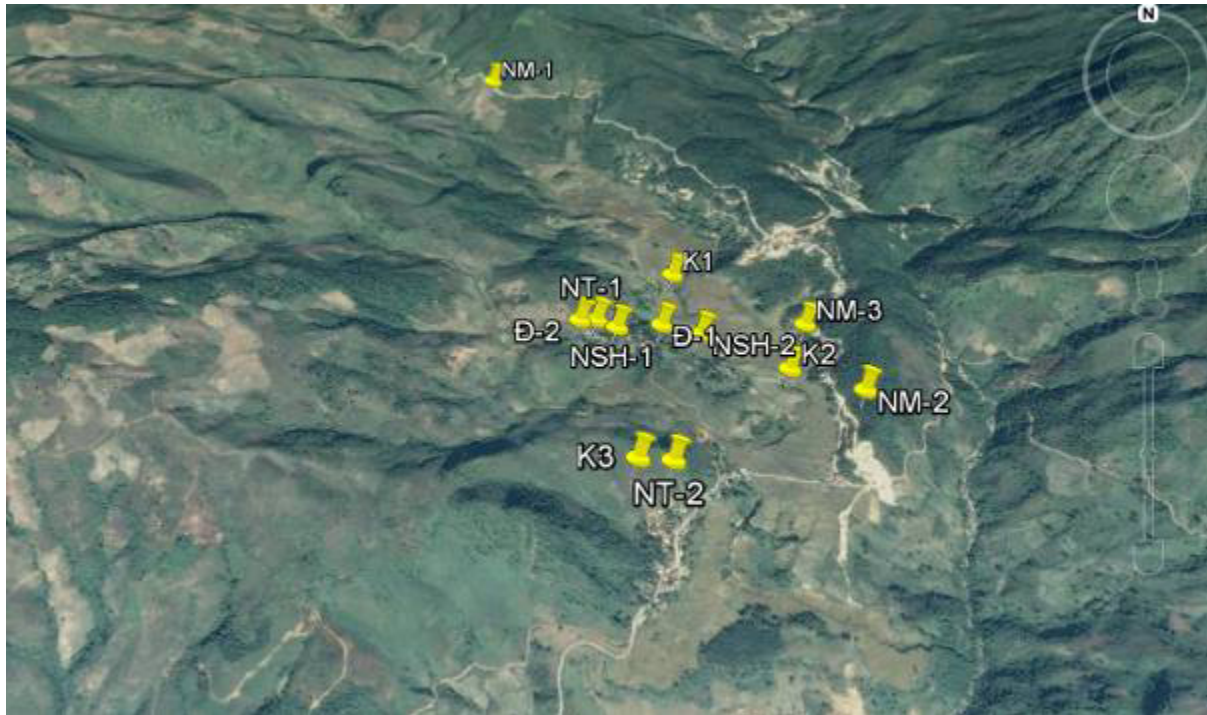
NT-2: Waste- water were taken at the site of excavation activities

Table 9: Waste Water Quality

No	Items	Unit	Results		QCVN 14:2008/BTNMT (Column B)
			NT-1	NT -2	
1	pH	-	6.58	6.73	5.5-9
2	Temperature	°C	19.6	20.2	-
3	COD	mg/l	32	48	-
4	BOD ₅	mg/l	15	24.8	50
5	NO ₂ ⁻	mg/l	0.2	0.5	-
6	NO ₃ ⁻	mg/l	6.7	6.5	50
7	NH ₄ ⁺		4.2	3.8	10
8	PO ₄ ³⁻	mg/l	1.3	1.4	10
9	Cl ⁻	mg/l	46	54	
10	Total Oils	mg/l	6.2	5.8	20
11	As	mg/l	<0.0002	<0.0002	-
12	Mn	mg/l	<0.15	<0.15	-
13	Pb	mg/l	0.02	0.03	-
14	Cu	mg/l	0.02	0.02	-
15	Fe	mg/l	0.03	0.03	-
16	Coliform	NPN/100ml	3500	3000	5000

According to waste water results, we see that the concentrations of all parameters are in the range of B column values of National technical regulation on wastewater quality (QCVN

14:2008/BTNMT – column B). Therefore, wastewater discharging to environment did not have significant impact on environment quality



The map of environmental monitoring areas belonging to Nam Nghe Hydropower

VII. KEY ENVIRONMENTAL ISSUES & ACTIONS

31. According to the Environmental Assessment and Review Framework (EARF) of this loan, the sub-project should also not involve activities located in the core zone, or as much as possible, in or near the buffer zone of designated special use forests consisting of national parks, protected landscapes and nature reserves or nature conservation areas and other protected areas where the proposed development is prohibited. The sub-project should as much as possible not involve activities located in or near ecologically sensitive and significant areas as recognized by the Government or any area that is internationally significant. In addition, the sub-project should, as much as possible, not involve activities located in or near any cultural heritage and historical sites designated by the Government or by international agencies such as UNESCO.

32. The Nam Pay hydropower subproject and its components were designed after detailed surveys to ensure strict compliance with the above conditions. The Nam Pay hydropower project and components are not passing through any wildlife sanctuary or national park. There are no sensitive areas or monuments of cultural and historical importance that is affected by the project activities.

VII. 1. Key environmental issues

33. The following are the key issues and follow-up actions that were identified.

- Operation of trucks and soil scattered on the public road, which was not removed immediately, cause dust pollution and negative impacts on local people, especially sections go through residential areas (Ta Tong and Nong Tong villages);
- As noted from local authorities, tunnel excavation cause reduction of irrigation water which is supplying for 3000 m² of aquaculture and agriculture cultivation in Na Tong village and affect to income generation sources of 10 households, it is strongly suggested that a technical assessment need to be conducted and compensation needed to be provided if any impacts caused by subproject being identified;
- Soil dumped at disposal sites are scattered out in surrounding cultivation areas and irrigation canal which cause effect on irrigating and cultivating of local people, especially in Na Tong, Nam Pay villages;

VII.2. Follow-up actions required

34. Table below summarizes the key issues, follow-up actions and the timeframe for implementation:

Table 10: Environmental issues and follow-up actions required

Follow-up Actions Required	Timeframe	Responsible Parties	Reporting to
Cover hauling trucks with tarpaulin	Immediately	PC Dien Bien Contractor	Construction Supervision Officer NPC/PMU
Find solution for irrigation system of 10 households, affected by tunnel construction.	Immediately	Contractor PC Dien Bien NPC	Construction Supervision Officer NPC/PMU
Collect the storage at approved sites	Immediately	Contractor PC Dien Bien	Construction Supervision Officer NPC/PMU
Watering the dusty areas	Immediately	Contractor PC Dien Bien	Construction Supervision Officer NPC/PMU
Require all of workers to wear personal protection equipment	immediately	Contractor PC Dien Bien	Construction Supervision Officer NPC/PMU
Require contractor to manage traffic during road construction	immediately	Contractor PC Dien Bien	Construction Supervision Officer

Follow-up Actions Required	Timeframe	Responsible Parties	Reporting to
			NPC/PMU
Trees plantation to be undertaken after construction	As it in due	Contractor PC Dien Bien	Construction Supervision Officer NPC/PMU
Require contractor to regularly maintenance, clean the catchments, silt traps & chutes, masonry retaining structures, sediment basins & slope drains	immediately	Contractor PC Dien Bien	Construction Supervision Officer NPC/PMU

VII.3. Public consultation and Grievance Redress Mechanism

As noted from local authorities, tunnel excavation cause reduction of irrigation water which is supplying for 3000m² of aquaculture and agriculture cultivation in Na Tong village and affect to income generation sources of 10 households. The affected families did the petition sent to the commune People's Committee Tong Na, Tuan Giao district on 15th May 2016.

Dien Bien Power Company also conducted meetings with the affected households and the commune authorities; promised to find out the cause, the way solve problems for the affected households and also reported to the Provincial Department of Natural Resources and Environment (DONRE) to the agencies and departments supporting the solution.

Some households have arbitrarily for placing fences tunnel opening clue dam; aims to obstructing the construction of the project Pending the conclusion of the authorities.

Tuan Giao District People's Committee has directed, and coordinate with relevant agencies to remove barriers and actively advocating the people not to impede the progress of construction of the project.

VIII. CONCLUSIONS & RECOMMENDATION

35. Until June 30, 2016 The project has accomplished 100% of the 35kV line , 35/0.4 kV substation for unelectrified households and Construction of 0.4kV line for unelectrified households; Construction of head works, intake and pipe 50%; Construction of water-conveying system (power alignment) (tunnel and surge tank) 41% and Construction of penstock, valve house, hydropower plant, tailrace, OPY station, road for O&M, house for O&M 28%

In terms of implementation of the environmental management plan, some lapses of the contractor were noted such as:

- ✓ Workers do not wear full of personal protection
- ✓ Collect the storage at approved sites
- ✓ The contractors were immediately notified about these lapses in the implementation of EMP, to which they immediately agreed to implement.
- ✓ Dust emission from movement of hauling trucks
- ✓ As noted from local authorities, tunnel excavation cause reduction of irrigation water which is supplying for 3000 m² of aquaculture and agriculture cultivation in Na Tong village and affect to income generation sources of 10 households
- ✓ Disposal sites were used sloppy leading to planting area and irrigation systems, farming of local people affected.
- ✓ Trees plantation to be undertaken after construction.

As of June 30, 2016, the contractor implemented the following measures

- ✓ rehabilitation of slopes
- ✓ bench terracing of spoils on steep slopes
- ✓ provided a site for storage/disposal of waste materials
- ✓ provided septic tanks at the campsite
- ✓ delivery vehicles are now covered with tarpaulin
- ✓ Workers wear personal protection equipment.
- ✓ Conduct watering and sprinkling of dusty area
- ✓ Information dissemination take place through the Commune's People Committee regarding activities causing disruption.
- ✓ The level of dust emissions is monitored periodically and in accordance with Vietnam standards
- ✓ Concrete mixing area is located away from residential areas






36. Some of the anticipated environmental impacts during the construction period have been mitigated by implementing the EMP in the process of construction projects.

Jan - Jun 2016: the main environmental problems are detected and timely warnings such as was mentioned above. PDPMB, contractors will solve these problems immediately Dien Bien Power Company will continue to monitor the contractor's performance in terms of sustaining the implementation of the EMP

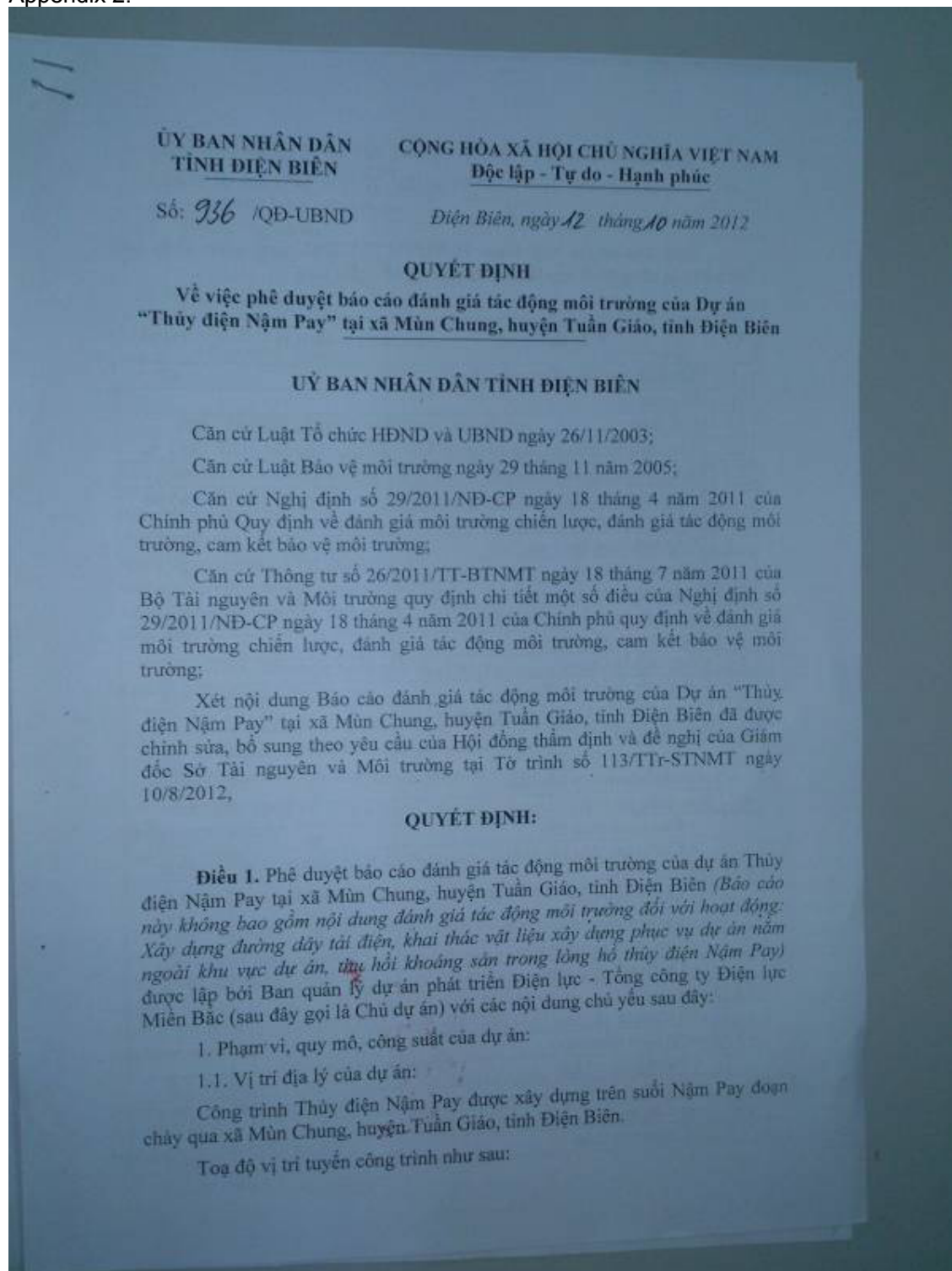
Appendices

- a) Appendix 1: Photos of the Nam Pay project site
- b) Appendix 2: Approval of EIA from Dien Bien Province under Decision No. 936/QĐ-UBND on 12/10/2012
- c) Appendix 3: UXO license
- d) Appendix 4: Proposal Reforestation reimbursement
- e) Appendix 5: Environmental Compliance and Monitoring Since the beginning of construction

ANNEX 1: Photos of the NamPay project site

	
<p>The main reservoir area</p>	<p>Dam site construction area with plantation trees</p>
	
<p>View downstream to power house in the valley – secondary forest growth - no human activity or use of water</p>	<p>The soil field located along the provincial road going Tua Chua</p>
 <p>Plant Location</p> 	 <p>The villagers in project sites receive their drinking water by a pipe system which has been organized through the Commune and pipes water from side streams above the Nam Toong.</p>

Appendix 2:



- Tuyến đầu mối: 21°47'24" Vĩ độ Bắc, 103°24'01" Kinh độ Đông;

- Tuyến nhà máy: 21°47'18" Vĩ độ Bắc, 103°23'54" Kinh độ Đông.

1.2. Quy mô, công suất dự án:

Theo tiêu chuẩn Việt Nam TCXDVN 285-2002 công trình Thủy điện Nậm Pay là công trình cấp III, với các thông số chính sau:

TT	Các thông số	Đơn vị	Trị số
1	Diện tích lưu vực đến tuyến chọn	km ²	68
2	Hồ chứa		
2.1	Hình thức	Điều tiết ngày đêm	
2.2	Mức nước lũ thiết kế ứng với p = 1%	m	583,39
2.3	Mức nước dâng bình thường	m	580,0
2.4	Mức nước lũ kiểm tra ứng với p = 0,2%	m	583,96
2.5	Mức nước chết	m	577,5
2.6	Dung tích toàn bộ	10 ⁶ m ³	0,37
2.7	Dung tích hữu ích	10 ⁶ m ³	0,17
2.8	Dung tích chết	10 ⁶ m ³	0,20
2.9	Diện tích mặt hồ ứng với MNDBT	ha	15
3	Các chỉ tiêu năng lượng		
3.1	Công suất lắp máy	MW	7,5
3.2	Công suất đảm bảo (P _{85%})	MW	1,0
4	Quy mô các hạng mục công trình		
4.1	Đập dâng bờ trái		
	- Cao trình đỉnh đập	m	584,5
	- Chiều cao đập lớn nhất	m	8,7
4.2	Đập dâng bờ phải		
	- Cao trình đỉnh đập	m	584,5
	- Chiều cao đập lớn nhất	m	12,0
4.3	Đập tràn xả lũ		
	- Số khoang tràn	n	1
	- Chiều rộng khoang tràn	m	40,0
	- Cao trình ngưỡng tràn	m	580,0
	- Chiều cao đập tràn	m	12,5
4.4	Công xả cát		
	Số khoang xả cát	k	1
4.5	Đường hầm dẫn nước		
	- Đường kính hầm	m	2,0
	- Chiều dài hầm	m	1.254
4.6	Tháp điều áp		
	- Chiều cao tháp	m	26,6

TT	Các thông số	Đơn vị	Trị số
	- Đường kính trong tháp		
4.7	Đường ống áp lực	m	3,2
	- Đường kính trong ống		
	- Chiều dài đường ống	m	1,2
4.8	Nhà máy thủy điện	m	881,0
	- Số tổ máy	Z	03
	- Cao trình lắp máy	m	356,1

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

2.1. Thực hiện đầy đủ các biện pháp nhằm giảm thiểu các tác động tiêu cực của dự án đến môi trường trong suốt quá trình thi công và vận hành công trình: Quy hoạch, bố trí các hạng mục công trình phù hợp đảm bảo các yêu cầu về an toàn và bảo vệ môi trường; Thu gom, xử lý rác thải sinh hoạt và các loại chất thải khác phát sinh; Xử lý khí thải và nước thải đạt Quy chuẩn Việt Nam hiện hành về môi trường; Tổ chức thu dọn vệ sinh lòng hồ, báo cáo chính quyền địa phương và các cơ quan chức năng kiểm tra trước khi tích nước vào hồ, bảo đảm nguồn nước hồ sau khi tích nước có chất lượng đáp ứng tiêu chuẩn cấp nước hiện hành.

2.2. Thực hiện việc hoàn thổ và khôi phục cảnh quan tại các khu đất được giao làm các công trình phụ trợ.

2.3. Lập kế hoạch ứng cứu sự cố và các biện pháp giảm thiểu bồi, xói lở tại khu vực lòng hồ trong giai đoạn vận hành công trình.

2.4. Niêm yết công khai tại địa điểm thực hiện dự án tóm tắt của báo cáo

2.5. Xây dựng kế hoạch hàng năm về việc điều tiết dòng chảy tối thiểu đảm bảo các yếu tố:

- Đảm bảo mức thấp nhất duy trì nguồn nước đoạn sông, dòng sông;
- Đảm bảo sự phát triển bình thường của hệ sinh thái thủy sinh;
- Đảm bảo mức tối thiểu cho các hoạt động khai thác sử dụng nước.

2.6. Thực hiện đầy đủ Chương trình giám sát môi trường như đã nêu trong báo cáo đánh giá tác động môi trường. Kết quả giám sát phải báo cáo Sở Tài nguyên và Môi trường; phải được cập nhật đầy đủ và lưu giữ làm cơ sở để cơ quan quản lý Nhà nước kiểm tra, đánh giá diễn biến về chất lượng môi trường của khu vực dự án.

2.7. Trong quá trình triển khai các hoạt động thi công và hoạt động của dự án nếu xảy ra tình trạng ô nhiễm môi trường thì phải dừng ngay và báo cáo kịp thời cho phòng Tài nguyên môi trường huyện Tuần Giáo và Sở Tài nguyên và Môi trường tỉnh Điện Biên;

3. Các điều kiện kèm theo:

3.1. Phối hợp với chính quyền địa phương lập, thực hiện công tác phòng mặt bằng, bồi thường, hỗ trợ, tái định cư, định canh theo đúng quy định hiện hành.

3.2. Thực hiện đăng ký chủ nguồn thải chất thải nguy hại tại Sở Tài nguyên và Môi trường tỉnh Điện Biên khi dự án có phát sinh chất thải nguy hại.

Điều 2. Chủ dự án có các trách nhiệm sau đây:

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

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

3. Lập hồ sơ đề nghị kiểm tra, xác nhận việc đã thực hiện các công trình biện pháp bảo vệ môi trường phục vụ giai đoạn vận hành của dự án gửi cơ quan có thẩm quyền để kiểm tra, xác nhận trước khi đưa dự án vào vận hành chính thức.

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

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

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

Điều 6. Quyết định này có hiệu lực thi hành kể từ ngày ký.

Chánh văn phòng Ủy ban nhân dân tỉnh, Giám đốc các Sở; Tài nguyên và Môi trường, Kế hoạch và Đầu tư, Xây dựng, Công thương, Nông nghiệp và Phát triển nông thôn; Chủ tịch Ủy ban nhân dân huyện Tuần Giáo; Chủ dự án và Thủ trưởng các cơ quan có liên quan chịu trách nhiệm thi hành Quyết định này./.

Nơi nhận:

- Như Điều 6;
- Bộ Tài nguyên và Môi trường (b/c);
- TT UBND tỉnh;
- Lưu VT, TN.

TM. ỦY BAN NHÂN DÂN
KT. CHỦ TỊCH
PHÓ CHỦ TỊCH



Lê Thành Đô

a)

Appendix 3: UXO license

CHỦ TỊCH DIỆN BIÊN
SỞ CÔNG THƯƠNG

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

Số 72/2014/GP-SCT

Điện Biên, ngày 21 tháng 11 năm 2014

GIẤY PHÉP
Sử dụng vật liệu nổ công nghiệp

GIÁM ĐỐC SỞ CÔNG THƯƠNG TỈNH ĐIỆN BIÊN

Căn cứ Nghị định số 39/2009/NĐ-CP, ngày 23 tháng 4 năm 2009 của Chính phủ về vật liệu nổ công nghiệp;
Căn cứ Nghị định số 34/2012/NĐ-CP, ngày 22 tháng 6 năm 2012 của Chính phủ về sửa đổi, bổ sung một số điều của Nghị định số 39/2009/NĐ-CP, ngày 23 tháng 4 năm 2009 của Chính phủ về vật liệu nổ công nghiệp;
Căn cứ Thông tư số 23/2009/TT-BCT, ngày 11/8/2009 của Bộ Công Thương quy định chi tiết một số điều của Nghị định số 39/2009/NĐ-CP, ngày 23 tháng 4 năm 2009 của Chính phủ về vật liệu nổ công nghiệp; Thông tư số 26/2012/TT-BCT, ngày 21 tháng 9 năm 2012 của Bộ Công Thương sửa đổi, bổ sung một số điều của Thông tư số 23/2009/TT-BCT;
Thực hiện quyết định số 1312/QĐ-UBND, ngày 26 tháng 12 năm 2011 của UBND tỉnh về việc ban hành quy chế hoạt động, sản xuất, kinh doanh, sử dụng, bảo quản và quản lý VLN-CN trên địa bàn tỉnh Điện Biên;
Xét Đơn đề nghị và hồ sơ cấp giấy phép sử dụng VLN-CN, ngày 18 tháng 11 năm 2014 của **Chi nhánh công ty cổ phần công nghiệp xây dựng Toàn Phát tại Lai Châu**.
Theo đề nghị của **Phòng Kỹ thuật an toàn - Môi trường**.

QUYẾT ĐỊNH

Điều 1. Cho phép **Chi nhánh công ty cổ phần công nghiệp xây dựng Toàn Phát tại Lai Châu**.
Giấy chứng nhận đăng ký doanh nghiệp: 8101748793-003 do Phòng Đăng ký kinh doanh - Sở Kế hoạch và Đầu tư tỉnh Lai Châu cấp ngày 01 tháng 10 năm 2014 (đăng ký thay đổi lần 02).
Trụ sở giao dịch: **Bán Pá Bon, xã Chân Nưa, huyện Sìn Hồ, tỉnh Lai Châu**.

Điện thoại: 0988192377.
Được sử dụng vật liệu nổ công nghiệp để: **Phá đá xây dựng công trình thủy điện**.

Điều 2. Điều kiện sử dụng:

- Địa điểm sử dụng vật liệu nổ: **Gai Thầu NPC-ADB-NPAW 01 (thủy điện đầu mối, cửa nhận nước và đường ống dẫn công trình thủy điện Nậm Poy, xã Nà Tông, huyện Tủa Chùa, tỉnh Điện Biên).**
- Chỉ huy nổ mìn: **Nguyễn Đình Thạc.**
- Điều kiện khác: **Khi sử dụng VLN-CN Doanh nghiệp phải thực hiện đúng phương án nổ mìn đã được duyệt; Đảm bảo khoảng cách an toàn trên 400 mét. Điều kiện nổ bằng phương pháp nổ điện; mìn nổ mìn điện mã hiệu MFB100, số chế tạo (QT): 064569 đã được Trung tâm Kiểm định công nghiệp 1 cấp Giấy chứng nhận Kiểm định kỹ thuật an toàn thiết bị số 7744/KĐCN ngày 15/10/2014. Thuộc nổ sử dụng: ADI, anfo hoặc Nhũ tương.**
- Nổ mìn nổ khoan Ø76; Chiều sâu lỗ mìn 2,5 mét, lượng thuốc nổ nạp cho 1 lỗ tối đa 13,5 kg, lượng thuốc nổ cho 1 đợt nổ tối đa 607 kg.
- Pháo đài quá cỡ lỗ khoan Ø45; Mỗi đợt nổ tối đa 60kg.
- Lượng thuốc nổ sử dụng cho cả công trình không quá 10.560 kg.
- Ngày nổ 2 lượt vào thời điểm từ 11h00' đến 13h00' và 16h00' đến 18h00'; tối thiểu báo nổ bằng loa, còi và cờ hiệu.

Chi nhánh công ty cổ phần công nghiệp xây dựng Toàn Phát tại Lai Châu phải thực hiện đúng các quy định tại Nghị định số 39/2009/NĐ-CP, ngày 23 tháng 4 năm 2009 của Chính phủ về vật liệu nổ công nghiệp; Nghị định số 34/2012/NĐ-CP, ngày 22 tháng 6 năm 2012 của Chính phủ sửa đổi, bổ sung một số điều của Nghị định số 39/2009/NĐ-CP, ngày 23 tháng 4 năm 2009 của Chính phủ về vật liệu nổ công nghiệp; Quy chuẩn Q2-2008/BCT và những quy định pháp luật liên quan; đảm bảo an toàn cho người dân và môi trường; thực hiện đăng ký với cơ quan quản lý Nhà nước về vật liệu nổ công nghiệp tại địa phương.

Điều 3. Giấy phép có hiệu lực từ ngày 30/9/2015.

PHÓ CHỦ TỊCH

Nơi nhận:
- Cục Cảnh sát An ninh Explosif;
- Cục Cảnh sát Quản lý thị trường;
- Sở Cảnh sát Hồ Chí Minh;
- Phòng Cảnh sát Hồ Chí Minh;
- Công an xã, huyện Tủa Chùa;
- Công an xã, huyện Sìn Hồ.

ĐIỂM ĐỌC

SỞ CÔNG THƯƠNG

Lô Văn Khương

Nguyễn Văn Trường

1. Lưu Giấy phép tại cơ sở chính và xuất trình Giấy phép khi được cơ quan có thẩm quyền yêu cầu.
2. Không được tẩy xóa, sửa chữa nội dung trong Giấy phép.
3. Không được chuyển nhượng cho người khác mượn Giấy phép.
4. Đăng ký Giấy phép với Sở Công Thương nơi tiến hành nổ mìn.
5. Báo cáo Sở Công Thương khi chấm dứt hoạt động sử dụng vật liệu nổ công nghiệp hoặc khi bị mất, hỏng Giấy phép.

Yêu cầu lưu giữ: _____

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

ỦY BAN NHÂN DÂN TỈNH ĐIỆN BIÊN
SỞ CÔNG THƯƠNG

GIẤY PHÉP SỬ DỤNG
VẬT LIỆU NỔ CÔNG NGHIỆP

Số: _____/20____GP-SCT

Appendix 4: Proposal for Reforestation

TỔNG CÔNG TY ĐIỆN LỰC MIỀN BẮC CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
CÔNG TY ĐIỆN LỰC ĐIỆN BIÊN Độc lập – Tự do – Hạnh phúc

Số: 824 /TT-PCĐB

Điện Biên, ngày 05 tháng 01 năm 2015

TỜ TRÌNH

Về việc đề nghị phê duyệt phương án trồng rừng thay thế khi chuyển mục đích sử dụng rừng sang xây dựng công trình: Thủy điện Nậm Pay, xã Nà Tông, huyện Tuần Giáo, tỉnh Điện Biên.

Kính gửi: Sở Nông nghiệp và Phát triển nông thôn tỉnh Điện Biên

Tên tổ chức: Công ty Điện lực Điện Biên

Địa chỉ: Số 904, Đường Võ Nguyên Giáp, phường Mường Thanh, thành phố Điện Biên Phủ, tỉnh Điện Biên

Căn cứ Thông tư 24/2013/TT-BNNPTNT ngày 6 tháng 5 năm 2013 Quy định về trồng rừng thay thế khi chuyển mục đích sử dụng rừng sang sử dụng cho mục đích khác, đề nghị Sở Nông nghiệp và phát triển nông thôn thẩm định và trình Ủy ban nhân dân tỉnh phê duyệt phương án trồng rừng thay thế như sau:

Tổng diện tích rừng chuyển đổi mục đích sử dụng: 3,8 ha.

Đối tượng rừng chuyển đổi: Rừng sản xuất và rừng phòng hộ;

Vị trí trồng rừng thay thế: Khoảnh 3, 6, tiểu khu 577, xã Nà Tông, huyện Tuần Giáo.

Thuộc đối tượng đất rừng: Sản xuất.

Vị trí trồng rừng thay thế: Khoảnh 1, 5, tiểu khu 577, xã Nà Tông, huyện Tuần Giáo.

Thuộc đối tượng đất rừng: Phòng hộ

Phương án trồng rừng thay thế:

- Loại cây trồng: Lựa chọn loài Keo tai tượng đối với rừng sản xuất và trồng Thông ba lá đối với rừng phòng hộ

- Phương thức trồng: Thuần loài

- Vốn đầu tư bình quân 1ha rừng phòng hộ: 56.347.760 đồng

- Vốn đầu tư bình quân 1ha rừng sản xuất: 41.182.160 đồng

- Thời gian trồng: Năm 2015

Tổng vốn đầu tư trồng rừng thay thế: 240.509.489 đồng trong đó vốn đầu tư trồng rừng phòng hộ là 162.875.530 đồng; vốn đầu tư trồng rừng sản xuất là 77.633.959 đồng.

Công ty điện lực Điện Biên cam đoan thực hiện đúng quy định của nhà nước về trồng rừng thay thế, nếu vi phạm hoàn toàn chịu trách nhiệm trước pháp luật./.

Nơi nhận: *hư*

- Như kính gửi;
- Lưu VT, QLXD.

KT. GIÁM ĐỐC
PHÓ GIÁM ĐỐC



Appendix 5: Environmental Compliance and Monitoring Since the beginning of construction

ENVIRONMENT SUPERVISION SCHEME DURING CONSTRUCTION

Sub-project: Nam Pay Hydropower

Employer: Northern Power Corporation

Reported by: Le Manh Hung – Construction Management Department – Dien Bien Power Company

Supervision Period: Since the beginning of construction

Package name: NPC-ADB-NP/W03 : Construction of head works, intake and pipe

Bidder's name: Joint stock company of industrial construction Toan Phat

Effects and timeline	Remedial measure stated in IEE	Remedial measures implemented	Level of adherence	Effectiveness	Areas implementing the remedial measures	Next proposal action and responsibility for implementation	Bidder's feedback
Investment project							
Project construction & potential loss of agricultural, forestry & farm land	-Design for maximum use of waste cut and fill materials.	Not applicable					
	- Compensation at market rates, prior to work commencement.	- Compensation at market rates and in accordance with ADB's regulations before the start of construction	1	1	At the positions that cause damage to land and crops of the package	Already completed before construction started.	
Construction stage							
Construction works of access road and penstock on steep hill resulting in invasion and soil erosion.	The dip along access road and penstock will conduct the following works:						
	- Irrigation/making drainage, installing drain to avoid soil erosion.	Make drainages and mount drains	2	2	At access roads and pole foundation positions	To be implemented before and during	Good performance during construction

						construction	n
	- Making sedimentation tank and mount channels at steep positions.	Construction in line with the design document	2	2	At steep positions	To be completed prior to the rain season	complete May/2015
	- Construct structures to protect from erosion.	Construction in line with the design document	2	2	At positions of erosion	To be completed prior to the rain season	Complete May 5/2015
Implement excavation with potential for loss and degradation of land	- No excavation from cultivable and arable lands.	- Have already avoided to the maximum level during exploration and design stage of the package			At pole foundation positions		
	- Excavation to take place from barren, wastelands, & riverbeds	- Have already been prioritized to the maximum level during exploration and design stage of the package			At pole foundation positions		
	- For new excavation, all measures will be taken to avoid loss of any productive soil.	- For new excavation, some measures have been taken to avoid loss of any productive soil	3	3	Service road during construction	during construction	Good performance during construction
	- Any excavated areas will be refilled, re-vegetated & landscaped.	- Excavated areas must be refilled, re-vegetated & landscaped.	2	2	At access road and service road during construction	Soil to be improved after the construction is complete.	To be implemented right after construction completes.
Implement rock cutter with potential for loss and degradation of surrounding land	- Rock cutter works must be implemented from existing operating sites with proper licenses & environmental clearances	- Rock cutter is not applicable in the package construction					

	- Newly cluttered positions must be only with permission of respective authorities.	- Rock cutter is not applicable in the package construction					
Operation of construction equipment and construction activities resulting in degradation of soils, loss of water quality & water pollution	- Fuel storage & refueling will be located away from water bodies/channel..	- Fuel storage & refueling are located away from water bodies/channel..	1	1	At storage areas of fuel oil and refueling of the package	Already constructed separate storage sites.	Construct separate storage sites meeting requirements.
	- Precautions to be taken to prevent water pollution due to increased siltation & turbidity for weir site & road construction particularly in dry month when flows are low.	Construct holes/ sewer, mud trap and drains and	2	2	At access road and pole foundation positions	during construction	Good performance during construction
	- Approve sites defined for storage & disposal of wastes materials from the sites	Already constructed sites for storage of wastes in accordance with rules and regulations.	1	1	At regulated sites	during construction	Good performance during construction
	- Any waste petroleum products will be collected, stored, & disposed of at approved sites.	- Any waste petroleum products have been collected, stored, & disposed of at approved sites.	1	1	At regulated sites	during construction	Good performance during construction
Construction activities causing disruption of existing surface drains.	- Appropriate drainage channels will be constructed.						
	- Provision for cross drainage structures will be made.						

Construction Camp, social impacts & pollution from wastewater & solid waste	- Construction camps will be located adjoining the dam and powerhouse sites & away from any settlement.						
	- Camps & residential colony will have properly designed sewage treatment system for wastewater effluent. Likewise, solid waste collection system will be employed.	- Camps and residential colony are constructed as approved planning and meeting the requirements as regulated.	2	2	- Camps and residential colony are constructed as per approved planning	Already implemented before package construction	In accordance with design and planning
Emission from Construction Vehicles & Equipment causing air pollution	- Emission levels of all construction vehicles & equipment will conform to Vietnamese emission standards.	- Construction machine and equipment have been tested by authorized agencies to ensure conformation to the regulations.	2	2	- Already implemented before construction	during construction	Good performance during construction
	- Pollutant parameters will be monitored during construction.	- Signing contract with authorized agencies.					
	- Concrete works will be conducted away from population centers at dam and powerhouse sites.	- Locations designated to mount concrete mixer, construction material storage as planned.	2	2	- Already implemented before construction	during construction	Good performance during construction
Dust particulates causing health impacts for workers and villagers	- All precautions to be taken to reduce dust level emissions from construction works at dam and powerhouse sites.						
	- Regular water spraying at sites & temporary						

	service roads will be undertaken.						
	- All delivery vehicles will be covered with tarpaulin.	- All delivery vehicles will be covered with tarpaulin.	3	3	All delivery vehicles transport materials, rocks and soil to the waste site.	during construction	Good performance during construction
Activity Noise from construction, vehicles, & Equipment causing noise pollution	- All construction equipment & plants will conform to Vietnamese noise standards.	- Construction machine and equipment have been tested by authorized agencies to ensure conformation to the regulations.	2	2	- Already implemented before construction	during construction	Good performance during construction
	- All vehicles & equipment to be fitted with noise abatement devices	All vehicles & equipment are fitted with noise abatement devices	2	2	- Already implemented before construction	during construction	Good performance during construction
	- Construction workers will be provided with personal protection	Construction workers are provided with personal protection as regulated.	1	1	- Already implemented before construction	during construction	Good performance during construction
Noise pollution from any blasting activities at dam, drainage and penstock	- Any blasting works will be in accordance with Vietnamese Explosives Act.	Blasting works are not applicable					
	- No blasting early morning or dawn	Blasting works are not applicable					
	- Residents close by will be informed well in advance of blasting times.	Blasting works are not applicable					

	- Workers associated with blasting sites will be provided with earplugs, helmets & other personal safety devices.	Blasting works are not applicable					
Construction of plant, penstock, reservoir bed and out-take canal with loss of vegetation & tree cover.	No trees to be removed without prior approval,	Implemented as per approved compensation scheme	1	1	At pole foundation position and corridor for 35kV line.	Implemented as per approved compensation scheme	Good performance during construction
	- Compensation for lost trees on private land	Implemented as per approved compensation scheme	1	1	At pole foundation position and corridor for 35kV line.	Implemented as per approved compensation scheme	Good performance during construction
	- Planting grass and maintaining	Not applicable					
	- Tree plantation implemented at dam area, tunnel, penstock, temporary construction areas, roads and other elements of the project.	Not applicable					
Construction causing impacts to wildlife	- Construction workers to be educated for wildlife conservation with no hunting & poaching to be allowed for workers.	Official documents sent to bidders for performance.	2	2	Package W 01		
Construction Activities & Accident Risks	- All blasting sites will have warning & clearance signals. Site will be affected prior/after blasting.	Blasting work is not applicable					

	- Workers will be provided with helmets, masks, safety goggles, etc.	Provision of labor protection equipments equivalent to each job description as regulated.	1	1	Package W 01	during construction	Good performance during construction
	- A readily first aid unit will be available with materials etc.	Medical staff is available at site.	2	2	Before construction	during construction	Good performance during construction
	- Road safety education will be given to construction vehicle drivers.	Safety cards must be available as regulated.	2	2	Before construction	during construction	Good performance during construction
	- Traffic management will be ensured during road construction periods	Already have had official documents by authorities, employer about traffic management must be available for the bidder.	2	2	Before construction	during construction	Good performance during construction
	- Information dissemination will take place through the Commune's People Committee regarding activities causing disruption.						
Construction Activities causing disruption to Public Utilities	- Any public utilities likely to be impacted, such as water supply pipe system, power/phone lines etc. must be relocated to suitable places for local benefits.	Already have had commitment with local authority.	2	2	Before construction	during construction	Good performance during construction

Any discovery of artifacts or articles of historical interest and importance	- For all findings of an historical or cultural value, work will be stopped and the findings must be reported to the nearest office of the Department Culture, Sport and Tourism or the Department of Culture and Information	Official documents by authorities, employer sent to the bidder.	2	2	Before construction	during construction	Good performance during construction
Operational Stage							
Reduced water flow in river affecting aquatic life	- Provide measures to decrease flow of water in the dry season						
	- Regular monitoring of the quantity of daily water flows at dam intake level.						
	- Conduct further studies and monitoring of downstream ecology						
Possible loss of water resources	- Support aquatic production program.						
Erosion in river bed from discharge gate	- Provide stilling basin at the tailrace to prevent erosion						
Soil erosion, land degradation & vegetation loss particularly on steep slopes	- Maintenance of vegetative cover over initial five year of project around the dam, tunnel, penstock, access road and at other project infrastructure.						
Waste materials at the powerhouse	- Collection of waste oil	Collect back to the regulated site.	2	2	Waste storage site of package	during construction	Good performance during

							construction
	- Categorizing of unused or old equipments.	Categorize and collect back to the regulated sites.	2	2	Waste storage site of package	during construction	Good performance during construction
	- Area will be kept clean and sanitary at all times.	Perform as per approved construction plan					

