

Environmental Monitoring Report

Semi-Annual Environmental Monitoring Report
January – June 2017

VIE: Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project (Dak Pring Hydropower Project)

Prepared by Central Power Corporation for Vietnam Electricity and the Asian Development Bank

CURRENCY EQUIVALENTS

(As of 30th June 2017)

Currency unit	-	Vietnamese Dong (VND)
VND1.00	-	\$0.0000439
\$1.00	-	VND22.770

ABBREVIATIONS

ADB	Asian Development Bank
AH	Affected households
AP	Affected People
CGC	Central Grid Company
Co., Ltd.	Company Limited
CPC	Central Power Corporation
CREB	Central Rural Electricity Project Management Board
DARD	Division of Agriculture and Rural Development
DONRE	Department/Division of Natural Resources and Environment
DPC	District People's Committee
DPC	District Peoples' Committee
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMS	Environmental Management System
HPP	Hydropower Project
IEE	Initial Environmental Examination
JSC	Joint Stock Company
LFDC	Land Fund Development Center
PPC	Provincial Peoples' Committee

WEIGHTS AND MEASURES

MW	-	Megawatt
Km	-	Kilometer
Km ²	-	Square kilometers
l/s	-	Litres per second
M	-	Meter
m ³	-	Cubic metre
m ²	-	Square metre
mm	-	Milimeter
s	-	seconds
mg/l	-	Miligram/litre
dB(A)	-	Decibel (weighted average)

NOTE

- (i) In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1.1. Project information

Dak Pring Hydropower Project is a sub-project of Loan 2517-VIE: belonging to component 01 of 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 Central Power Corporation (CPC). Central Grid Company is assigned by CPC to implement and manage the Project.

Project location

Dak Pring Hydropower Project (Dak Pring HPP) is located in Dak Pring Stream in Cha Val Commune, Nam Giang District, Quang Nam Province, 40km far from Thanh My Town to the West and 160km far from Tam Ky Town to the Northwest. The project area is located within a buffer zone of Song Thanh Nature Reserve and about 02km far from the edge of its core zone. National Highway 14D is 02km far from the dam site and 500m far from the powerhouse site. Location of Dak Pring Hydropower Plant is shown in Figure 1.

Main objective of Project

The main objective of Dak Pring Hydropower Project is power generation for the national grid and for the local with an average annual energy of 30.45 million kWh in order to improve power quality and supply the households who have not yet been provided with electricity. Furthermore, the Project will contribute to promote socio-economic development in the project area, enhance living standards of ethnic minority households which form a part of the population of Quang Nam Province in the event of formation of reservoir, supplying water for irrigation and employment creation resulting from the Project.

Main work items

According to the technical design of Dak Pring HPP approved by Central Power Corporation under Decision No.1422/QD-EVNCPC dated April 4, 2013, Dak Pring Hydropower Plant has the following salient figures:

Basin

- *Area of basin Flv* *296 km²*
- *Mean annual flow Qo:* *18.1 m³/s*

Reservoir:

- *Fully supply level (FSL):* *287.0 m*
- *Minimum operating level:* *286.0 m*
- *Consolidated water level P=0.5%:* *295.98 m*
- *Reservoir area at FSL:* *0.36 km²*
- *Gross storage:* *3.22 x 10⁶ m³*
- *Active storage:* *0.36 x 10⁶ m³*

Capacity

- Installed capacity (Nlm): 7.5 MW
- Firm capacity (Nđb): 1.15 MW
- Number of generators: 02
- Mean annual energy: 30.44×10^6 kwh/year

Total project cost: 280,867,000,000 VND

Commencing time: 2013

Intended completion time: 2017

Project components

Key project components include spillway, diversion intake, intake gate, headrace tunnel, powerhouse and tailrace canal, 35 kV distribution station and transmission line, site office, access roads connecting the project site with National Highway 14D.

Apart from the key components, there are several auxiliary works established to serve the project construction.



Figure 1: Location of Dak Pring Hydropower Project

1.2. Purpose of environmental monitoring

In the past, the Central Rural Electricity Project Management Board (CREB) of the Central Power Corporation (CPC) was been appointed as the department to undertake the management of the implementation of sub-projects of Loan 2517-VIE. But from May 1st 2015, CPC has changed the representative for managing hydropower projects of Section 1 of Loan 2517-VIE from CREB to the Central Grid Company (CGC) (Following the Decision no.2396/QD-EVNCPC signed by Mr. Tran Dinh Nhan on April 15th 2015).

The Hydropower Section, directly monitoring the implementation of DakPring Hydropower Project, has been moving from CREB to CGC to continue managing DakPring Hydropower Project. The CGC 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.

This Environmental Monitoring Report presents the results of the monitoring of the construction of DakPring Hydropower Project from January to June 2017. 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.

The CREB reviewed and monitored the implementation of the EMP based on the Initial Environmental Examination (IEE) report which was submitted to 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 the implementation of the mitigation measures.

The objectives of the monitoring are

The periodic environment monitoring aims to:

- Monitor the project's compliance with Vietnam Technical Regulations and Law on Environment;
- Monitor the project's compliance with ADB's Environment Safeguards requirements;
- Monitor the contractors' compliance with mitigation measures to address construction impacts on the environment as per Contract Conditions and the EMP;
- Determine corrective actions to minimize negative impacts on the environment during the construction phase;

This report presents the results of the 5th environmental monitoring.

II. STATUS OF LEGAL AND POLICY COMPLIANCE

The Environmental Impact Assessment (EIA) report of DakPring Hydropower Project was approved by Quang Nam Province People's Committee in Decision No.4000/QD-UBND on 19 December 2013. The IEE was also endorsed by ADB. The EMP 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 Hydropower Section of CGC and Environment monitoring consultant.

The DakPring Hydropower Project has secured the following licenses and clearances for its implementation:

Table 1: Environmental Licenses and Clearances Secured

<i>License/Clearance</i>	<i>License/Clearance No.</i>	<i>Issued by</i>	<i>Date Issued</i>
EIA Approval	4000/QD-UBND	Quang Nam Province People's Committee	19/12/2013
Confirmation on completion of site clearance and compensation	23/XNHTGPMB	Nam Giang DPC	31/12/2014
Notice of safety for the site to which detection and disposal of bomb, mine, and explosive ordnance was conducted	1075/TB-CT	Military Region 5 High Command	29/9/2014

III. ENVIRONMENTAL MANAGEMENT SYSTEM

The Environment and Social Development Cell has not been created by CPC. Instead, a focal person on environmental matters has been appointed within CREB 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 CREB.

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

<i>Parties</i>	<i>Responsibilities</i>
CGC	Management and monitoring to ensure contractors to perform compliance in EMP implementation; Prepare semi-annual environmental monitoring report to submit to ADB and Quang Nam Department of Natural Resources and Environment (Quang Nam DONRE);
Construction Contractor	Implement contents of EMP following the signed contract;
Environmental monitoring consultant	Examine and monitor the implementation of mitigation measures for environmental impacts on natural and social environment in the project area; Provide recommendations on EMP implementation for contractors;
Quang Nam Department of Natural Resources and Environment (Quang Nam DONRE)	Supervise and examine the implementation of mitigation measures for project environmental impacts according to the EIA report (Vietnamese DTM) approved by Quang Nam Provincial People's Committee;
Nam Giang District People's Committee	General management of natural resources and the environment in the district area;
Nam Giang District Division of Natural Resources and Environment	Management of natural resources and the environment in the district area;
Chaval Commune People's Committee	General management of natural resources and the environment in the commune area;

The following are the personnel assigned by CGC and the contractor to monitor compliance with environmental mitigation measures (up to the 5th monitoring time):

Table 3: List of contacts/members in EMS

<i>Name of Personnel</i>	<i>Organization</i>	<i>Responsibilities</i>
Tran Ngoc Quyen	CGC	Supervision team leader – Supervising package No. 04-DPr
Nguyen Hien	CGC	Supervisor of packages No. 03-DPr, No.05-DPr and No. 09-DPr
Ngo Tan Cung	CGC	Supervisor of package No. 06-DPr
Luu Van Hung	CGC	Supervisor of package No. 10-DPr
Nguyen Hai Thinh	Construction No.564 Co., Ltd.	Deputy director – Contractor of access roads/operation route construction, Package No. 03-DPr
Nguyen Tuan Phi	Consulting Construction & Electric power development JSC	Engineer – Contractor of powerhouse and suspended substation construction, Package No. 06-DPr
Pham Van Nguyen	Dai Han Mechanical and Erection JSC	Site manager – Contractor of Installation of hydraulic mechanical equipment, electrical equipment in the powerhouse and substation, Package No. 7-DPr

IV. WORK PROGRESS

Packages and construction contractors are listed in the table below:

Table 4: Information on packages and construction contractors

<i>Construction package</i>	<i>Description of work item in the package</i>	<i>Name of construction contractors</i>	<i>Contact information</i>
No. 03-DPR	Construction of access roads/operation route	Construction No.564 Co., Ltd.	Nguyen Hai Thinh
No. 04-DPR	Construction of head works	Joint venture of Nghe An Hydraulic Construction No.1 JSC and Construction No.564 Co., Ltd.	Nguyen Hai Thinh
No. 05-DPR	Construction of headrace tunnel and intake gate	Construction No.47 JSC	Completed
No. 06-DPR	Construction of powerhouse and suspended substation	Consulting Construction & Electric power development JSC	Nguyen Tuan Phi
No. 07-DPR	Installation of hydraulic mechanical equipment, electrical equipment in the powerhouse and substation.	Dai Han Mechanical and Erection JSC	Pham Van Nguyen
No. 08-DPR	Processing and installation of hydro-mechanical equipment	Dai Han Mechanical and Erection JSC	Pham Van Nguyen
No. 09-DPR	Construction of house for administration	Ha Giang Phuoc Tuong Mechanical JSC	Completed
No. 10-DPR	Construction and supply material and equipment for 35kV electric line	Hoang Duoc Phat Co., Ltd.	Completed

According to the report of the project implementation of CGC in the 2nd quarter of 2017, the project implementation progress is shown as follows:

Table 5: Work progress until 30th June, 2017

<i>Project component</i>	<i>Time started</i>	<i>Completion</i>	<i>Remarks</i>
Detection and disposal of bomb and mine	2014	100%	
Construction of site office		100%	
Construction and supply material and equipment for 35kV electric line	01/2015	100%	
Construction of headrace tunnel and intake gate	9/2015	100%	
Construction of head works	11/2014	98%	
Construction of powerhouse and suspended substation	12/2014	90%	
Construction of access roads/operation route	11/2014	85%	
Processing and installation of hydro-mechanical equipment	7/2016	85%	
Installation of hydraulic mechanical equipment, electrical equipment in the powerhouse and substation.	7/2016	40%	Completion and power generation are expected by the end of August 2017.

V. ENVIRONMENTAL COMPLIANCE MONITORING

Environmental compliance monitoring is implemented by CGC to check compliance with EMP in the implementation of the construction activities by the contractors and environmental impacts to local areas/local residents during construction.

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

Notes:

- *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 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.*

Summarization of compliance monitoring

There are 3 contractors whose construction is currently under progress, namely (i) Construction No.564 Co., Ltd; (ii) Consulting Construction & Electric power development JSC; (iii) Dai Han Mechanical and Erection JSC.

There are total 3 Compliance monitoring sheets for 3 contractors of construction packages. The table below shows average value of compliance level from 3 contractors to represent the project compliance level.

In general, compliance level and effectiveness of implemented mitigation measures were assessed from 1-3. Contractors have performed mitigation measures pretty well during construction. No accidents or incidents have occurred up to the monitoring time.

At the 5th environmental monitoring time (June 2017) main construction activities performed include: (i) Completion of access road to the powerhouse (currently under construction of roadbed with graded aggregates); (ii) Completion of concreting in the dam site (except for diversion intake), installation of guard rail (iii) completion of the construction of the powerhouse (painting, wall tiling, etc.) and consolidation of discharge canal; (iv) delivery of construction materials; (v) installation of mechanical equipment for powerhouse.

Compliance with mitigation measures for environmental impacts is assessed in the following table.



Table 6: Assessment of environmental compliance

<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
Earth works for new access roads and construction of penstock on steep slopes leading to erosion & encroachment.	<p>Slopes along access roads & penstock will be provided with:</p> <ul style="list-style-type: none"> + Catchments/ cut-off drains & chutes to minimize soil erosion. + Masonry retaining structures to control landslides and runoff. + Formation of sediment basins & slope drains to collect runoff water 	Drainage trenches have been completed along positive talus. Some landslide and erosion-prone areas locations were reinforced.	1	1	Landslide locations due to heavy rains observed in the previous monitoring (December 2016) have been reinforced. There is no new landslide location recorded in the 5 th monitoring.	Investor cooperates with construction contractors to monitor and detect landslide-prone areas for timely treatment.	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	Maximum usage of materials in fill areas	Maximum usage of materials in fill areas: Excavated rocks are crushed for reinforcement of tunnel roof, concreting in the dam and powerhouse, etc.	1	1		Should be maintained	Agree
	Spoils planning particularly on steep slopes with bench terracing for high cut areas & avoidance of any runoff of material on down slopes	Bench terracing, catchments, masonry are being implemented.	1	1		Should be maintained	Agree
	Tree planting programme on penstock area, access roads and	Tree planting is planned to be carried out after completion of construction	1	1		Areas of the penstock, access roads, surrounding areas, temporary construction areas	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	surrounding areas to rehabilitate the temporary construction areas at the dam site and the powerhouse site.					should be returned to their original state or planted with trees.	
Taking of borrow materials with potential for loss and degradation of land	No earth will be borrowed from cultivable lands	Contractors have been taking advantage of waste soil and rock for backfilling during construction. If there is not sufficient backfill materials, contractors will buy this type of material in the locality. To date, there is no need to buy more soils or exploit new	1	1		Should be maintained	Agree
	Borrowing to take place from barren, wastelands, & riverbeds.						
	For new borrow areas, all measures will be taken to avoid loss of any productive						



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	soil	borrow pits.					
	Any borrow areas will be refilled, re-vegetated & landscaped with tree planting						
Taking of quarry materials with loss and degradation of land	Quarry materials will be obtained from existing operating sites with proper licenses & environmental clearances	Contractors have taken advantage of rocks from roads building and blasting for tunnel excavation for works such as crushing and concreting.	1	1		Should be maintained	Agree
	New quarries to be opened only with permission of respective authorities	In case, more rocks are required, contractors will buy rocks instead of exploiting new quarries. Up date, there is no need to buy more quarry					



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
		materials.					
Operation of construction equipment and construction activities and contamination of soils and water pollution	Fuel storage & refueling will have adequate containment and away from water bodies/channel.	Fueling areas were located in a high location and away from water bodies/channel	3	3	Mitigation measures recommended in the previous monitoring have not yet been taken by contractors. Specifically, oil and grease containers used for vehicle repair were not carefully covered; these containers were gathered outdoors (observed at the camp site of Construction & Electric Power Development JSC).	Contractors need to take the recommended mitigation measures strictly including the careful covering of oil and grease containers and gathering of these containers in an area with roof and a waterproof floor.	Agree
	Construction machines and equipment will be properly maintained.	Equipment will be properly maintained on site if necessary. Machines and equipment that are not yet used are gathered in vehicle gathering area.	2	2	Equipment and vehicles have been maintained on a periodic basic; however, the maintenance was not meaningful because the consultant founded oil and grease on the	Contractors can carry out repair and maintenance of equipment and vehicles on the construction site; however, they need to take measures	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
					ground and damaged tires which were not collected. (observed at the camp site of Construction & Electric Power Development JSC).	such as using waterproof tarpaulin and collection of wastes after completion of the repair and maintenance.	
	Precautions to be taken to prevent water pollution due to increased siltation & turbidity at weir site & road construction.	Construction contractors treated wastewater generated from vehicle washing and concrete placing through a settlement tank before discharging into DakPring stream.	1	1	At the dam site and the powerhouse site, there was no case of washing vehicle in the stream observed. Wastewater-generating activities are currently insignificant.	The contractors who are responsible for the construction of the dam and the powerhouse to maintain mitigation measures for impacts on surface water.	Agree
	Waste materials must be stored and treated at regulated places.	Waste materials must be collected at designed disposal site.	3	3	In the 5 th monitoring, the consultant observed domestic wastes littered at some locations around the camp site (observed at the camp site of Construction No.564	The contractor (Construction No.564 Co.,Ltd., Dai Han Mechanical and Erection JSC) to terminate waste	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
					Co.,Ltd., Dai Han Mechanical and Erection JSC).	littering.	
					Although the access road to the dam site has been completed, redundant materials (gravel, stone) have not yet been collected.	The contractor who is responsible for construction of the access road (Construction No.564 Co.,Ltd.) to collect redundant materials and clean up the construction area after completion of the road construction.	
					Refuse batteries were gathered outdoors in an area without roof and water-proof floor (Construction & Electric Power Development JSC).	Contractor needs to gather refuse batteries in an elevated area with roof and a water-proof floor.	
	Waste oil must be collected, stored and	Waste oil has been collected in drums and plastic contain-	2	2	Waste oil was contained in drums which were not carefully covered and	Contractors (Construction No.564 Co.,Ltd., Construc-	Agree to consider mitigation



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	treated at regulated places.	ers which are located outdoors separately.			placed in an area without a water-proof floor (Construction No.564 Co.,Ltd., Construction & Electric Power Development JSC).	tion & Electric Power Development JSC) need to collect and store waste oil in a qualified area with a roof, water-proof floor, drainage trench and oil collecting trench.	measures
Social impacts & pollution from wastewater & solid waste	Construction camps will be located adjoining the dam and powerhouse sites & away from any settlement.	Worker camps were located within construction site and far away from any settlement	1	1		Should be maintained	Agree
	Manual labor will be employed locally.	Contractors hired many local workers to perform unskilled works such as excavation of drains, vegetation clearing,	1	1	Works were performed mainly in the powerhouse site under the supervision and guiding of technical staffs.	Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
		mortar, transportation, etc.					
	Camps & residential colony will have properly designed sewage treatment system for wastewater effluent and a solid waste collection system.	Septic tanks have been provided in the camps. Domestic solid waste has been collected and burned by contractors once every 5-7 days.	1	1	Wastewater from toilets in worker camps was treated by septic tanks. Domestic wastewater from worker camps was treated by a preliminary settlement tank before discharging into streams or infiltrate into the soil.	Should be maintained	Agree to consider mitigation measures
Damage to existing roads	Require contractors to rehabilitate areas or road sections damaged during hauling of materials	Contractors commit to rehabilitate local road sections damaged during transportation of materials. (if any)	1	1	According to the monitoring results, materials transporting has not caused any impact on or damage to existing roads since the construction sites are located far from residential colony and contractors mainly construct new access roads serving construction.	Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
Emission from construction vehicles & equipment causing air pollution	Emission levels of all construction vehicles & equipment will conform to Vietnamese emission standards.	Emission levels of all construction vehicles & equipment conform to Vietnamese emission standards.	2	2	Dust and gases emitted from Construction No.564 Co.,Ltd.'s trucks (delivering construction materials on the access road to the powerhouse) have the affected daily life of local people and the health of children living along the delivery route. However, the impacts have occurred in a short time and the contractor conducted watering on the road to reduce dust emission during the construction period.	Should be maintained	Agree to consider mitigation measures
	Pollutant parameters will be monitored during construction	Monitoring of air quality with parameters such as dust, TPS and noise was carried out.	1	1	Air quality monitoring was conducted every three months at construction areas.	Should be maintained	Agree
	Crushing & concrete batching	Crushing& concrete batching plants/ pet-	1	1		Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	ing plants will be away from population centers and located near the dam and powerhouse sites.	rol filling station are away from surface water sources and populated areas.					
	Require drivers to slow down vehicle speed when passing through populated areas	All drivers drive at a lower speed when passing through populated areas.	1	1		Should be maintained	Agree
Dust particulate causing health impacts for workers and villagers	All precautions to be taken to reduce dust level emissions from crushing & concrete batching plants at dam and powerhouse sites.	Portable crushers & concrete batching plant are located within the construction site and far from areas any settlement. Batching concrete plant is designed as closed plant to minimize dust emission.	1	1	At the 5 th monitoring time, rock crushing plant and concrete mixing plant were almost inactive as most of the construction works have been basically completed. Therefore, the impacts on the air environment due to rock crushing and concrete mixing	When the concrete mixing plant is re-operated to completion of the diversion intake, mitigation measures for dust emission should be maintained by the contractor (Construction No.564	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
		Crushing plant was watered when necessary.			plants are negligible.	Co.,Ltd.)	
	Regular water spraying at all mixing sites & temporary service roads will be undertaken.	Regular water spraying has been conducted at crushing plant area only.	2	2	Construction No.564 Co.,Ltd. carried out watering to reduce dust emission during the construction of the access road to the dam site from March to May 2017. However, in the period from May to June 2017, the contractor has been also completing the access road to the powerhouse but no measures to reduce dust emission were taken.	Construction No.564 Co.,Ltd. to carry out watering to mitigate dust emission, especially at the interchange with National Highway 14D in Ta UI village, Cha Val commune.	Agree
	All delivery vehicles will be covered with tarpaulin	A number of delivery vehicles have been covered with tarpaulin if required.	3	3	Delivery vehicles of Construction No.564 Co.,Ltd. (delivering crushed stone for construction of the access road to the powerhouse site), were not	All delivery vehicles should be covered during gathering and delivery.	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
					covered with tarpaulin.		
	Require drivers to slow down when passing through populated areas	Drivers reduced speed when driving through residential area.	1	1		Should be maintained	Agree
Construction activities, vehicles, plant & equipment causing noise pollution.	All construction equipment & plants will conform to Vietnam national regulation on noise.	All construction machines/equipment are within validity period and conform to Vietnam national regulation on noise.	2	2	The monitoring results of the 2 nd quarter of 2017 show that noise levels measured at the dam site and the powerhouse site are 1.13-1.19 times higher than that of the allowable limits of QCVN 26/2010/BTNMT. However, the exceeding level of noise is negligible and the sites are located far from residential area.	The operation of equipment should be arranged properly to avoid the situation that all big noise-generating equipment operates at the same time.	Agree
	All vehicles & equipment to be fitted with noise abate-	When noise issues arise, vehicles /machines/equipmen t will be maintained	1	1	All construction machines/equipment are within the valid period and operated far away from populated areas;	Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	ment devices	and repaired timely.			therefore, noise abatement devices are not required.		
	Construction workers will be provided with personal protective equipment.	Construction workers have been provided with hearing protection devices when working at special areas	2	2	A number of workers did not use personal protective equipment when working. There was no case of occupational accident recorded on the construction site. However, not using personal protective equipment is a risk of occupational accident.	Contractor's management staffs should monitor and remind workers to use personal protective equipment.	Agree
Noise pollution from any blasting activities at the sites of dam and power tunnel and penstock.	Any blasting works will be in accordance with Vietnamese Explosives Act	Blasting was completed in June 2016.	1	1	No impact		
	Blasting in the daytime only.						
	Residents						



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	close by will be informed well in advance of blasting schedules						
	Workers associated with blasting sites will be provided with earplugs, helmets & other personal safety devices						
Construction of dam, reservoir, tunnel, penstock with loss of vegetation & tree cover	No trees to be removed without prior approval	Site clearance was conducted only within the site clearance boundary	1	1		Should be maintained	Agree
	Compensation for lost trees on private land	Nam Giang DPC confirmed completion of site clearance and compensation for the project in writing.	1	1	Payment of compensation for affected households was made. For additional impacts outside the land demarcation, decision on ap-	Investor cooperates with related parties to pay compensation for additional impacts to affected households.	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
		Land and crops/trees additionally affected by landslides will be compensated.			proval of compensation plan for additionally affected land and crops/trees were available.		
	Tree planting programmer implemented at dam area, tunnel, penstock, temporary construction areas, roads and other elements of the project. Indigenous tree species being accorded priority over exotic species	Tree planting is expected to be performed after all construction activities are completed.	1	1	Tree planting should be carried out in the areas on which all construction activities have been completed. Priority should be given to native plant species.		Agree
Work force during construction causing impacts on	Construction workers to be educated on wildlife conser-	Construction workers to be educated on wildlife conservation with no hunting &	1	1	No hunting or poaching by workers was found.	Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
wildlife	vation with no hunting & poaching to be allowed for workers.	poaching to be allowed for workers.					
Construction activities causing accident and safety risks	Warning signs should be provided in blasting areas and other areas in which occupation risks and safe loss are likely to occur.	Warning signs have been provided in areas in which occupation risks and safe loss are likely to occur; All blasting activities were completed in mid-June 2016.	3	3	Warning signs/safety signs have not been provided at the construction sites.	Installation of additional warning signs and work safety signs at construction areas.	Agree to handle
	Workers will be provided with helmets, gauze masks & safety goggles, etc.	Workers have been provided with helmets, gauze masks & safety goggles, etc.	2	2	A number of workers did not use personal protective equipment when working. There was no case of occupational accident recorded on the construction site. However, not using personal protective equipment is a risk of occupational acci-	Contractor's management staffs continue to remind and monitor workers' use of personal protective equipment.	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
					dent.		
	A readily available first aid unit will be available with medicines and dressing materials.	Medicines and dressing materials have been provided in the camps.	3	3	At the camps, medicine cabinets have been arranged or medicines have been distributed to workers for storage and use. However, there were still very few types of medicines in the cabinets. No readily available first aid unit available on site, contractors will contact the nearest health clinic in the locality for first aid in case of the incident.	If there is no doctor available on site, contractors must contact the nearest clinic for first aid in case of incidents. In addition, workers should be trained on first aid measures and provided with more types of medicines.	Agree
	Road safety education will be given to construction vehicle drivers;	Road safety education has been given to construction vehicle drivers;	1	1		Should be maintained	Agree
	Traffic management will be ensured during	Ensuring traffic safety during construction of roads by	1	1		Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	road construction periods	measures such as slowing down when passing populated areas and not transporting at night.					
	Information dissemination will take place through the Commune's People's Committee regarding activities causing disruption	Information dissemination will take place through the Commune's People's Committee regarding activities causing disruption	1	1		Should be maintained	Agree
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,	The project implementation has not affected public water supply, electric power line and communication line.	1	1		Should be maintained	Agree



<i>Impacts</i>	<i>Mitigation measures from IEE</i>	<i>Mitigation measures implemented</i>	<i>Compliance level</i>	<i>Effective ness</i>	<i>Impact observed/location</i>	<i>More action required & responsibilities</i>	<i>Contractor response</i>
	in consultation with local beneficiaries						
Any discovery of artifacts or articles of historic interest and importance	For all finds of an historic 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.	For all finds of an historic 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.	1	1	There were no artifacts or articles of historic interest and importance detected in the project area.	Project Management Board is responsible for implementing this regulation in case artifacts or articles of historic interest and importance are discovered.	

VI. ENVIRONMENTAL EFFECT MONITORING

6.1. Air and noise

Objective: Air and noise monitoring were conducted to assess impacts of construction on the air in residential areas as well as on project workers.

Frequency: According to TOR, air and noise monitoring will be carried out every three months.

Parameters: TSP, PM10, noise

Air sampling is conducted every three months. The 5th environmental monitoring report (Semi-Annual Report for January – June 2017) provides results of two sampling visits including the 1st quarter sampling and 2nd quarter sampling.

Time and location: Air and noise sampling was conducted 02 times: (i) the sampling in the 1st quarter on March 15th 2017 and (ii) the sampling in the 2nd quarter on June 13th 2017. Air and noise samples were taken at 3 locations including the dam site (sample code: KK1), the powerhouse site (sample code: KK2) and Dac Ring Bridge (sample code: KK3) to assess air and noise impacts by construction on adjacent residential areas and workers.

Table 7: Sampling locations, parameters and analysis standards for air quality monitoring

Code	KK1	KK2	KK3
Locations	Dam site	Powerhouse site	Dac Ring Bridge – National road 14D
Descriptions	Sample taken at a mountainous area where construction was being conducted.	Sample taken at a mountainous area where construction was being conducted.	Sample taken at a sparsely populated mountainous area
Coordinates	107°33'16.450"N 15°37'45.620"E	107°33'21.250"N 15°38'13.454"E	107°33'15.356"N 15°38'19.950"E
Time:			
1. The 1 st quarter sampling	10:30am 15/3/2017	13:55pm 15/3/2017	15:15pm 15/3/2017
2. The 2 nd quarter sampling	13:45pm 13/6/2017	16:10pm 13/6/2017	17:00pm 13/6/2017
Parameters	Noise,	Noise,	Noise,

Code	KK1	KK2	KK3
	Total suspended particles (TSP) Particulate matter PM10	Total suspended particles (TSP) Particulate matter PM10	Total suspended particles (TSP) Particulate matter PM10
Methodology and analysis standard	Dedicated equipment was used to measure the quality of air in the area. Analysis methodology follows the Vietnam Standards: 1. TSP, PM10: TCVN 5067-1995 2. Noise level: TCVN 7878 -2:2010		

The following figure presents locations of air sampling.

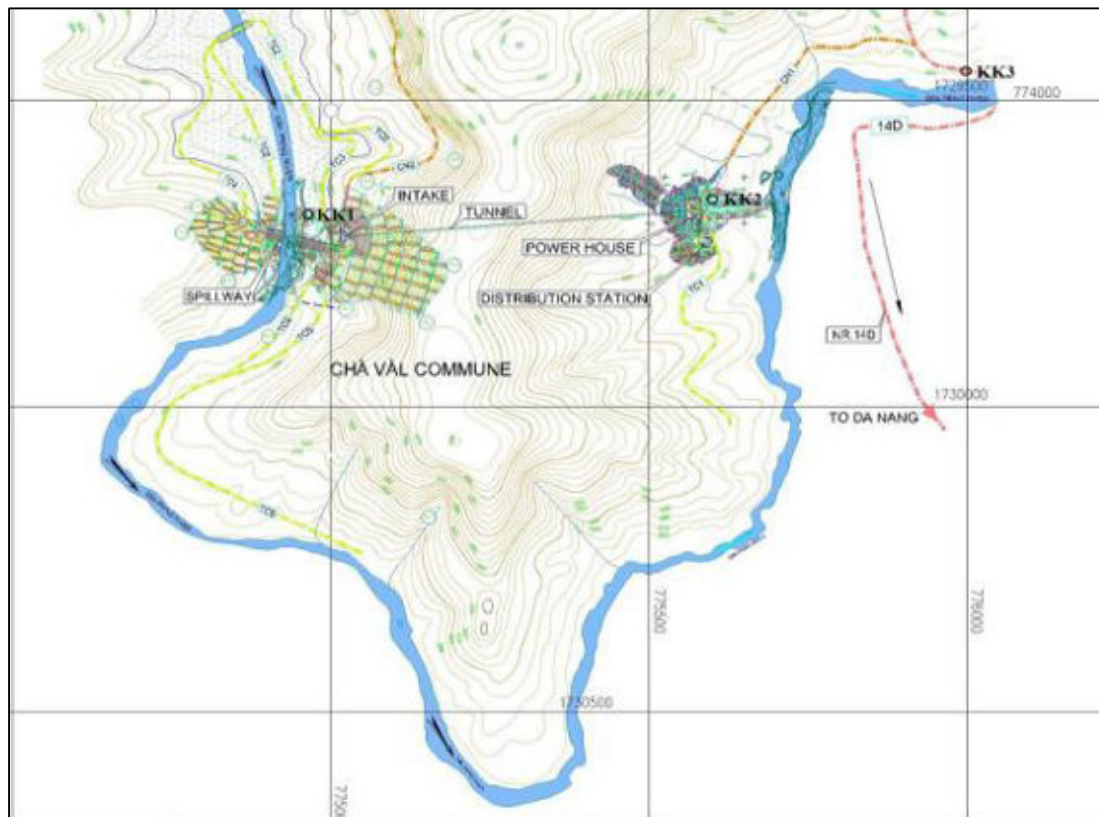


Figure 2: Air sampling location map

Analysis results were compared with National technical regulation on ambient air quality QCVN 05:2013/BTNMT and National technical regulation on noise QCVN 26:2010/BTNMT and given in the following table.

Table 8: Results of ambient air quality analysis

Parameters	Results		QCVN 05:2013/ BTNMT	Remarks	
	1 st quarter sam- pling	2 nd quarter sampling		1 st quar- ter sam- pling	2 nd quar- ter sam- pling
TSP					
KK1	0.07 mg/m ³	< 0.01 mg/m ³	≤ 0.3 mg/m ³	Pass	
KK2	0.08 mg/m ³	0.08 mg/m ³		Pass	
KK3	< 0.01 mg/m ³	0.06 mg/m ³		Pass	
PM10					
KK1	0.03 mg/m ³	< 0.01 mg/m ³	≤ 0.3 mg/m ³	Pass	
KK2	0.04 mg/m ³	0.03 mg/m ³		Pass	
KK3	< 0.01 mg/m ³	0.02 mg/m ³		Pass	

Table 9: Results of noise level analysis

Parameters	Results		QCVN 26:2010/ BTNMT	Remarks	
	1 st quarter sam- pling	2 nd quarter sampling		1 st quar- ter sam- pling	2 nd quarter sampling
Noise					
KK1	65.6 dBA	79.1 dBA	≤ 70 dBA	Pass	Not pass
KK2	62.8 dBA	83.5 dBA		Pass	Not pass
KK3	56.4 dBA	61.3 dBA		Pass	Pass

In terms of air quality: In the 1st quarter sampling and the 2nd quarter sampling, content of TSP and content of Particulate matter PM10 at all sampling locations are within the allowable limits under the QCVN 05:2013/BTNMT.

In terms of noise level: In the 1st quarter sampling, noise level measured at all sampling location is within the allowable limits under the QCVN 26:2010/BTNMT. In the 2nd quarter sampling, noise levels measured at Dac Ring Bridge (KK3) are within the allowable limits under the QCVN 26:2010/BTNMT. While noise levels measured at the dam site (KK1) and

the powerhouse site (KK2) are insignificantly higher than that of the allowable limits (1.13-1.19 times higher).

In general, construction activities which happened at the sampling time have not significantly impacted on ambient air quality and noise level.

6.2. Surface water quality

Objective: Surface water sampling was conducted to monitor impacts by construction activities on adjacent surface water sources.

Frequency: According to TOR, surface water monitoring will be implemented every three months.

Parameters: pH, turbidity, DO, BOD₅, total lubricant and Coliforms.

Surface water sampling is conducted every three months. The 5th environmental monitoring report (Semi-Annual Report for January – June 2017) provides results of two sampling visits including the 1st quarter sampling and 2nd quarter sampling.

Time and location: Surface water sampling was carried out 2 times: (i) the sampling in the 1st quarter on March 15th 2017 and (ii) the sampling in the 2nd quarter on June 13th 2017. Surface water samples were taken at 3 locations in Dak Pring Stream (sample code: NM1, NM2 and NM3) to monitor impacts of construction activities on adjacent surface water sources.

Table 10: Sampling locations, parameters and analysis standards for surface water quality monitoring

Code	NM1	NM2	NM3
Locations	Sample taken in Dak Pring Stream, 300 m far from the dam toward the upstream	Sample taken in the stream section between the dam and the powerhouse	Sample taken in Dak Pring Stream - Dak Ring Bridge – 300 m far from the powerhouse toward the downstream
Descriptions	Strong flow, area under construction, turbid water	Strong flow, area under construction, turbid water	Strong flow, area under construction, turbid water
Coordinates	107°34'24"N 15°35'14"E	107°35'24"N 15°39'57"E	107°33'18"N 15°36'35"E
Time: 1. The 1 st quarter sampling	11:00am 15/3/2017	14:10pm 15/3/2017	15:00pm 15/3/2017

Code	NM1	NM2	NM3
2. The 2 nd quarter sampling	13:00pm 13/6/2017	15:00pm 13/6/2017	17:20pm 13/6/2017
Parameters	pH, Turbidity, DO, BOD ₅ , Total lubricant, Coliforms		
Analysis methods and standards	TCVN 6492:2011 TCVN 7325:2004 TCVN 6001-1:2008 TCVN 6187-2:1996		

Locations of surface water sampling are given in the following figure.

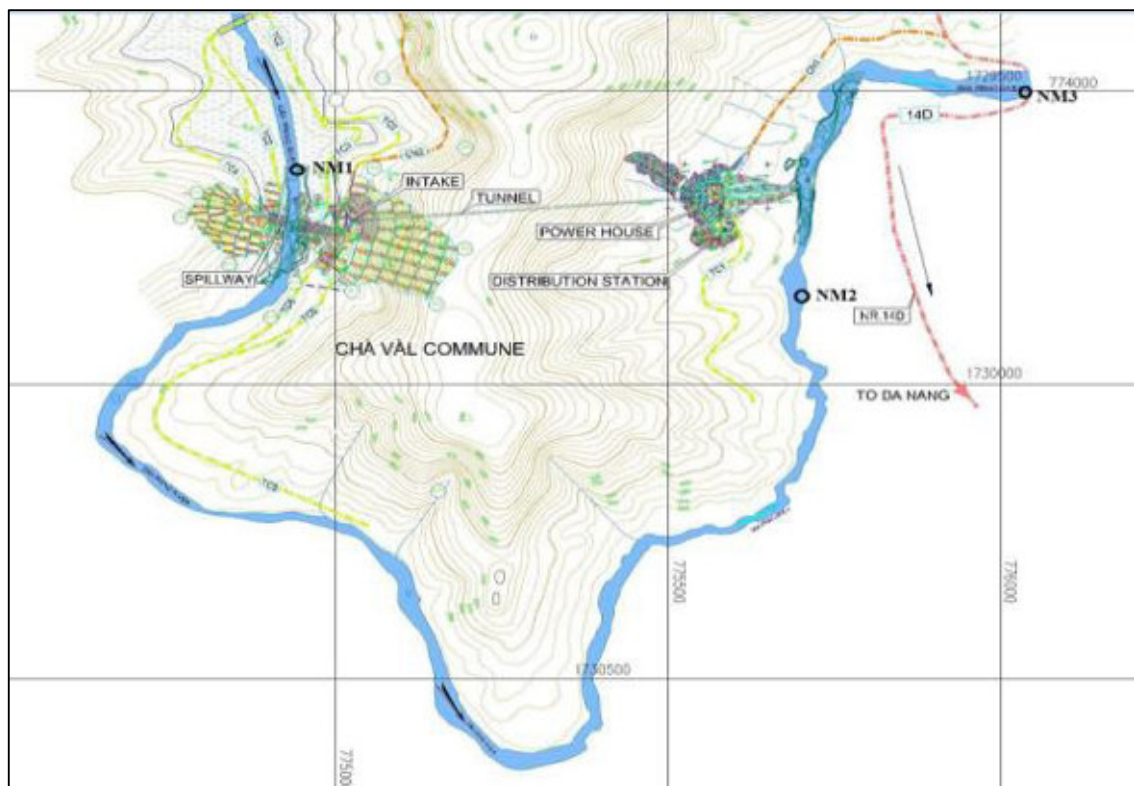


Figure 3: Surface water sampling location map

Analysis results were compared with National technical regulation on surface water quality QCVN 08:2015/BTNMT and given in the following table.

Table 11: Results of surface water quality analysis

Parameters	1 st quarter sampling			2 nd quarter sampling			QCVN 08:2015/BTNMT				Remark
	NM1	NM2	NM3	NM1	NM2	NM3	A1	A2	B1	B2	
pH	7.52	7.45	7.43	7.12	7.10	7.10	6-8.5	6-8.5	5.5-9	5.5-9	Pass
Turbidity (mg/l)	9	8	8	4	6	4	Not specified	Not specified	Not specified	Not specified	-
DO (mg/l)	5.70	5.40	5.36	5.60	5.57	5.65	≥ 6	≥ 5	≥ 4	≥ 2	Pass
BOD ₅ (mg/l)	3	3.5	4	1.4	1.4	1.7	≤ 4	≤ 6	≤ 15	≤ 25	Pass
Total lubricant (mg/l)	<0.3	<0.3	<0.3	< 0.3	< 0.3	< 0.3	≤ 0.01	≤ 0.02	≤ 0.1	≤ 0.3	Pass
Coliforms (MPN/100ml)	43	93	75	230	430	430	≤ 2,500	≤ 5,000	≤ 7,500	≤ 10,000	Pass

Notes:

- ✓ A1 – Use for the purpose of supplying the running water and others purposes as: A2, B1, B2
- ✓ A2 – Use for the purpose of supplying the running water after treating, preserving the aquatic life and others purposes as: B1, B2
- ✓ B1 – Use for the purpose of the irrigation and others purposes as: B2
- ✓ B2 – Use for the purpose of the river traffic and other purposes required the low quality water.

Results of the surface water quality analysis indicate that all of the monitoring parameters are within the allowable limits under the QCVN 08:2015/BTNMT.

Apart from parameters of lubricant and DO, other parameters are all satisfied with Column A1 - Use for the purpose of supplying the running water of the QCVN 08:2015/BTNMT. Content of DO measured at three sampling locations were satisfied with the allowable limit in Column A2 - Use for the purpose of supplying the running water after treating, preserving the aquatic life and others purposes as: B1, B2. Content of lubricant measured at three sampling locations were satisfied with the allowable limit in Column B2 - Use for the purpose of the river traffic and other purposes required the low quality water. Although content of Coliforms in surface water measured in the monitoring of the 2nd quarter of 2017 is higher than that measured in the monitoring of the 1st quarter of 2017, it is still within the allowable limit specified in QCVN 08:2015/BTNMT – Column A1. The turbidity of surface water has been significantly decreased in comparison with that measured in the monitoring visits in the 3rd and 4th quarters of 2016 because of the decrease in rain frequency and construction works on site. In general, the quality of the stream water is less affected by the construction activities of the project to date.

VII. PUBLIC CONSULTATION AND GRIEVANCE REDRESS MECHANISM

7.1. Public consultation

Public consultation of the project was maintained from preparation phase – during IEE report preparation to construction phase – during periodic environmental monitoring.

In the preparation of IEE, public consultations were conducted by a survey team of PECC 1 on the environmental issues related to the Dak Pring hydropower project through meetings with local authorities of the affected communes and interviews with the local people. IEE report was approved and uploaded to ADB's website.

During the environmental monitoring visits, the public consultation was also conducted with representatives of relevant stakeholders. Participants and contents of the consultations are given in the table below:

Table 12: Participants and Contents of Consultations

No.	Participants	Contents	Main results
1	Officers of the Nam Giang DONRE	Environmental issues happened in project commune as well as the project impacts on the local natural and social environment.	There are no environmental issues related to the project recorded in the first 6 months of 2017. There is no written grievance on environmental issues related to the project implementation.
2	Officers of the Nam Giang DARD	Progress of replacement afforestation	The project investor signed the contract on replacement afforestation with Quang Nam Forest Protection and Development Fund. Quang Nam PPC issued the Decision No. 119/QĐ-UBND on 10/01/2017, approving replanting the forest area which was used for construction of Dak Pring Hydropower Project. To date, CGC has completed the payment to Quang Nam Forest Protection and Development Fund, including 2 installments (on 09/01/17 and 22/03/17) with the total amount of VND

No.	Participants	Contents	Main results
			1,548,886,000.
3	Officers of Song Thanh Natural Reserve Management Board	Information on the fauna and flora in the project area as well as on the situation of illegal forestry exploitation in Nam Giang District in general and in project area in particularly.	Since the beginning of the project, there was no case of illegal hunting and/or logging by workers detected in the Dak Pring hydropower project area. The project investor to announce the schedule of reservoir clearance before retaining water.
4	Representatives of contractors	Compliance with mitigation measures for the impacts on the environment, worker management and healthcare and safety for workers	Measures to mitigate impacts on the environment requested by the investor and environmental monitoring unit are noted and considered to be taken.
5	Construction workers	Workers' living conditions, healthcare and occupational safety conditions.	There were no cases of safety loss or occupational accidents happened. Workers were provided with medicine cabinets and personal protective equipment.
6	Representatives of local authorities and local people	Community health and the project impacts on local natural and social environment as well assessment of local people on the implementation of the mitigation measures for negative impacts by the contractors.	The construction of the access roads to the dam and the powerhouse sites generated dust; however, the period of construction was short so its impact was insignificant. The construction of the access road to the powerhouse site affected trees of 02 households in Ta UI village. The investor has cooperated with Cha Val CPC to conduct measurement and compensation for the impact.

Periodic environmental monitoring reports were also uploaded to ADB's website.

7.2. Grievance Redress Mechanism

Complaint procedures related to environmental issues of the project have been disseminated to the community. Affected people and community can bring their complaint in written or verbal forms directly to the project investor and/or contractors or through the local government. These complaints will be verified and handled by the investor and contractors. In the event that these complaints are not satisfactorily resolved, affected people and community can bring their case to higher levels of government in accordance with the Law on Complaints.

The following stages/levels for grievance redress are established based on the Law No. 02/2011/QH13 of the National Assembly on Complaint, dated 11/11/2011:

First Stage, Commune People's Committee: The AP can bring his/her complaint in written or verbal forms to any member of the Commune People's Committee (CPC), either through the Village Chief or directly to the CPC. It is incumbent upon the said member of CPC or the Village Chief to notify the CPC about the complaint. The CPC will meet the aggrieved AP and will have from 30 days to a maximum of 60 days – for complicated case or remote area - after the lodging of the complaint to resolve it; The CPC secretariat is responsible for documenting and filing all complaints that it handles.

Second Stage, District People's Committee: If after 30 days or 45 days (in remote area), the aggrieved AP is not satisfied with CPC's decision or in the absence of any response, the AP may bring the case, either in written or verbal forms, to any member of the District People's Committee (DPC). The DPC in turn will have 30 days or maximum of 70 days – for complicated case or remote area - after the lodging of the complaint to resolve it. The DPC is responsible for documenting and filing of all complaints that it handles and will inform the LFDC of any decision made. The LFDC is responsible for supporting DPC to resolve AP's complaint. The DPC must ensure that the complainant is notified of the decision made.

Third Stage, Provincial People's Committee: If after 30 days or 45 days (in remote area), the aggrieved AP is not satisfied with the DPC's decision or in the absence of any response, the AP may bring the case in writing to any member of the Provincial People's Committee (PPC). The PPC has from 30 days to a maximum of 70 days to resolve the complaint to the satisfaction of the AP, depending on whether the case is complicated or it comes from a remote area. The PPC is responsible for documenting and filing all complaints that reaches the same.

Final Stage, the Court of Law Arbitrates: If after 30 days following the lodging of the complaint with the PPC, the aggrieved AP is not satisfied with the PPC's decision or in the absence of any response, the complainant can appeal again to the PPC. If the complainant is not satisfied with the second decision of the PPC, the case may be brought to a Court of law for adjudication. If the court rules in favor of the complainant, then PPC will have to increase the compensation at a level decided by the court. If the court rules in favor of the PPC, then the complainant will receive compensation approved by PPC.

CGC is responsible for monitoring the progress of the grievance redress process. At the present time, no written complaints regarding environmental issues of the project have been sent to the investor and competent authorities. However, in public consultations, some villagers raised their verbal complaint about the dust generated from the construction of the access road to the powerhouse site; however, the impact only happened in a short time. The complaint was noted by the investor who asked relevant contractors to take proper measures for mitigation.

VIII. KEY ENVIRONMENTAL ISSUES & ACTIONS

Dak Pring Hydropower Project and its components are not passing through any wildlife sanctuary or national park. There are no sensitive areas of monuments of cultural and historical importance that is affected by the project activities.

Summarization of the key issues and action at the previous monitoring (the 4th environmental monitoring for July – December 2016)

Table 13: Assessment of overcoming environmental issues in the previous monitoring (the 4th environmental monitoring)

Key issues (July – December 2016)	Actions implemented by Contractors
<i>Regarding erosion and landslide issues:</i> Landslides happened at high frequency due to heavy rains; there were some serious landslide locations along the access road to the dam site (near warehouse of Construction No.47 JSC) and the access road to the powerhouse site (500m far from the powerhouse) observed in the 4 th environmental monitoring.	Landslide locations due to heavy rains observed in the previous monitoring (December 2016) have been reinforced. There is no new landslide location recorded in the 5 th monitoring.
<i>Regarding air and noise issues:</i> (i) main issue is dust generated from materials delivery, especially in the dry season (from June to September); in the 4 th environmental monitoring dust was partly reduced because of rainy weather; (ii) In the period between June and September 2016, Construction No.47 JSC did not carry out watering on the delivery route; (iii) watering in the crushing and mixing plants was not conducted	Construction No.564 Co.,Ltd. carried out watering to reduce dust emission during the construction of the access road to the dam site from March to May 2017. However, in the period from May to June 2017, the contractor has been also completing the access road to the powerhouse but no measures to reduce dust emission were taken.
<i>Regarding management of construction wastes:</i> littering of construction wastes has still recorded at some locations on construction site such as in front of contractors' worker camps and concrete mixing plant	The consultant recorded that construction wastes were not collected at some location on the construction site, such as piles of redundant materials on the access road to the dam site despite the completion of the road construction.
<i>Regarding management of hazardous wastes:</i> (i) Waste oil was contained in drums which were not carefully and placed in an area without a water-proof floor. (ii)	Mitigation measures related to hazardous waste management have not yet been taken by contractors. Specifically, oil and grease containers used for vehicle repair

<i>Key issues (July – December 2016)</i>	<i>Actions implemented by Contractors</i>
Refuse batteries of Construction & Electric Power Development JSC were gathered outdoors in an area without a roof and a water-proof floor; (iii) There was not a specialized area for equipment maintenance. Area for gathering vehicles and equipment was without a roof and a water-proof floor	were not carefully covered; used batteries were gathered outdoors (observed at the camp site of Construction & Electric Power Development JSC).
<i>Regarding management of domestic wastes:</i> (i) dust bins were unhygienic, prone to leakage and without cover; (ii) waste littering was still observed at some locations surrounding worker camps	In the 5 th monitoring, the consultant observed domestic wastes littered at some locations around camp site (observed at the camp site of Construction No.564 Co.,Ltd., Dai Han Mechanical and Erection JSC).

Outstanding environmental issues in the 5th environmental monitoring (January – June 2017)

In the 5th monitoring visit, there are following contractors on site including (i) Construction No.564 Co., Ltd; (ii) Consulting Construction & Electric power development JSC; (iii) Dai Han Mechanical and Erection JSC.

Activities performed in the 5th monitoring visit include: (i) Completion of access road to the powerhouse (currently under construction of roadbed with graded aggregates); (ii) Completion of concreting in the dam site (except for diversion intake), installation of guard rail (iii) completion of the construction of the powerhouse (painting, wall tiling, etc.) and consolidation of discharge canal; (iv) delivery of construction materials; (v) installation of mechanical equipment for powerhouse.

Outstanding environmental issues recorded in the 5th environmental monitoring visit:

- Regarding air and noise issues:* (i) Results of the monitoring in the 2nd quarter of 2017 showed that noise levels measured in the dam site and the powerhouse site is 1.13-1.19 times higher than that of the allowable limits under QCVN 26/2010/BTNMT; (ii) Delivery vehicles of Construction No.564 Co.,Ltd. (delivering crushed stone for construction of the access road to the powerhouse site) were not covered with tarpaulin; (iii) Construction No.564 Co.,Ltd. carried out watering to reduce dust emission during the construction of the access road to the dam site from March to May 2017. However, in the period from May to June 2017, the contractor has been also completing the access road to the powerhouse site but no measures to reduce dust emission were taken.
- Regarding management of construction wastes:* Although the access road to the dam site has been completed, redundant materials (gravel, stone) have not yet been collected.

3. *Regarding management of hazardous wastes:* (i) oil and grease containers (used in vehicle repair) and refuse batteries of Construction & Electric Power Development JSC were gathered outdoors in an area without a roof and a water-proof floor; (ii) There was not a specialized area for equipment maintenance. Area for gathering vehicles and equipment was without a roof and a water-proof floor.
4. *Regarding management of domestic wastes:* The consultant observed domestic wastes littered at some location around camp sites (of Construction No.564 Co.,Ltd., and Dai Han Mechanical and Erection JSC).
5. *In terms of occupational safety and the health of workers:* (i) A number of workers did not use personal protective equipment when working; (ii) Warning signs/safety signs have not been provided at the construction sites; (iii) Medicine cabinets were arranged in all worker camps; however, there were still very few types of medicines in the cabinets and there was no readily available first aid unit available on site;

Table below summarizes the follow-up actions and the timeframe for implementation:

Table 14: Environmental issues and follow-up actions required

No.	Follow-up actions required	Timeframe	Responsible parties	Reporting to
1	Delivery vehicles of Construction No.564 Co.,Ltd. (delivering crushed stone used for construction of the access road to the powerhouse site) should be covered with tarpaulin.	Immediately	Construction No.564 Co.,Ltd.	Construction supervisor CGC
2	Construction No.564 Co.,Ltd. needs to conduct watering to reduce dust emission during the construction of the access road to the powerhouse site.	Immediately	Construction No.564 Co., Ltd.	Construction supervisor CGC
3	To collect redundant materials at the location where all construction activities were completed (on the access road to the dam site for example).	Immediately	Construction No.564 Co., Ltd.	Construction supervisor CGC
4	Contractors need to gather refuse batteries in an elevated area with roof and water-proof floor. Gathering batteries outdoors should	Immediately	Consulting Construction & Electric Power Development JSC	Construction supervisor CGC

No.	Follow-up actions required	Timeframe	Responsible parties	Reporting to
	be terminated.			
5	There should be a specialized area for equipment maintenance. Area for gathering vehicles and equipment of contractors should be provided with a roof and a waterproof floor.	Immediately	Construction No.564 Co., Ltd. Consulting Construction & Electric power development JSC Dai Han Mechanical and Erection JSC	Construction supervisor CGC
6	Terminating waste littering around camp site	Immediately	Construction No.564 Co., Ltd. Dai Han Mechanical and Erection JSC	Construction supervisor CGC
7	Not using personal protective equipment should be terminated. Contractors should remind and punish workers who do not use personal protective equipment in working time.	Immediately	Construction No.564 Co., Ltd. Consulting Construction & Electric power development JSC Dai Han Mechanical and Erection JSC	Construction supervisor CGC
8	Medicines and first aid tools should be supplemented. Contractors should contact the nearest health clinic in the locality for first aid in case of the incident.	Immediately	Construction No.564 Co., Ltd. Consulting Construction & Electric power development JSC Dai Han Mechanical and Erection JSC	Construction supervisor CGC

IX. ENVIRONMENTAL MONITORING SCHEDULE

Environmental monitoring visit is conducted every 6 months. Monitoring of surface water and air quality is implemented every 3 months. Schedule for the environmental monitoring visits during the construction phase is presented in table below:

Table 15: Environmental monitoring schedule

Activities	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
2015												
Preparation of the inception report												
The 1 st environmental monitoring												
Monitoring of air and surface water quality												
The 2 nd environmental monitoring												
2016												
Monitoring of air and surface water quality												
The 3 rd environmental monitoring												
The 4 th environmental monitoring												
2017												
Monitoring of air and surface water quality												
The 5 th environmental monitoring												

As per the schedule above, the 5th environmental monitoring is the last monitoring in the construction phase. Schedule of environmental monitoring during operation phase will be prepared by the investor in compliance with the provisions specified in the Vietnamese EIA approved by Quang Nam DONRE and IEE approved by ADB.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

At the 5th environmental monitoring time (June 2017) main construction activities performed include: (i) Completion of access road to the powerhouse (currently under construction of roadbed with graded aggregates); (ii) Completion of concreting in the dam site (except for diversion intake), installation of guard rail (iii) completion of the construction of the powerhouse (painting, wall tiling, etc.) and consolidation of discharge canal; (iv) delivery of construction materials; (v) installation of mechanical equipment for powerhouse.

During the monitoring visit, the consultant evaluated compliance in the implementation of mitigation measures by contractors in comparison with those specified in the approved EMP. Furthermore, the environmental quality assessment was also conducted to detect environmental issues arising in the construction phase. In this monitoring visit, the terms of implementation of the environmental management plan, some lapses of the contractor were noted such as:

- Construction No.564 Co.,Ltd. did not cover crushed stone used for construction of the access road to the powerhouse site during delivery. This contractor also did not carry out watering to mitigate dust emission on the route.
- Construction No.564 Co.,Ltd. has not collected redundant materials at the locations in which all construction activities were completed (specifically on the access road to the dam site).
- Waste oil and used batteries were not gathered in regulated area; there was not a specialized area for gathering and maintenance of vehicles and construction equipment.
- Littering of domestic wastes at some locations around camp sites (of Construction No.564 Co.,Ltd., and Dai Han Mechanical and Erection JSC).
- A number of workers did not use personal protective equipment. Medicine cabinets were arranged in all worker camps; however, there were still very few types of medicines in the cabinets and there was no readily available first aid unit available on site.

The contractors were notified about these lapses in the implementation of EMP, EIA, to which they immediately agreed to implement.

As of June, 2017, the contractors have considered to take the following measures:

- To conduct watering during construction of the access road to the powerhouse site and cover loose materials during delivery
- To collect redundant materials on the access road to the dam site
- To arrange a specialized area for gathering and maintenance of delivery vehicles and equipment

- To terminate littering of domestic wastes.
- To remind workers to use personal protective equipment and actively contact the nearest health clinic for medical treatment and for first aid in case of the accident.

In terms of environmental quality: Air and surface water sampling are conducted every three months. The 5th environmental monitoring report (Semi-Annual Report for January – July 2017) provides results of two sampling visits including the 1st quarter sampling and 2nd quarter sampling. In the 2nd quarter sampling, noise levels measured at the dam site (KK1) and the powerhouse site (KK2) are insignificantly higher than that of the allowable limits (1.13-1.19 times higher). Furthermore, other parameters in the two sampling times are all within the allowable limits under the current Vietnam national technical regulations.

Recommendations


Based on outstanding environmental issues, the consultant has proposed the following recommendations in order to ensure compliance with the approved IEE, the approved Vietnamese EIA as well as mitigate negative impacts on the environment:

- *Mitigation measures for impacts on air quality:* Contractors need to strictly implement covering of loose materials during delivery and watering on the access road to the powerhouse site.
- *Mitigation measures for impacts of solid waste:* (i) Collecting redundant materials at the locations where construction is completed; (ii) Terminating waste littering around camp site;
- *Mitigation measures for impacts of and hazardous solid waste* (i) To terminate gathering waste oil and used batteries outdoors; (ii) To arrange a specialized area for gathering and maintenance of delivery vehicles and equipment with roof and water-proof floor;
- *Measures for work safety and community health and safety:* (i) Terminate the fact that some workers did not use personal protective equipment; (ii) supplement more medicines and first aid tools; (iii) Establishment of contact method with the nearest health clinic for first aid in case of the incident.

APPENDICES


Appendix 1: Results of air and surface water quality analysis

Analysis results in 1st quarter of 2017



SỞ TÀI NGUYÊN & MÔI TRƯỜNG TP. ĐÀ NẴNG
TRUNG TÂM KỸ THUẬT MÔI TRƯỜNG
 DANANG DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENT
 DANANG ENVIRONMENT ENGINEER CENTER

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 Tel : (05113).740.556 - 740.660 - 740.661
 Fax : (05113).740.555
 Email : ttktmt@danang.gov.vn
 Web : http://www.deec.vn



Số/Nº: 62-DVK/TKM

Ngày/date: 22/3/2017

PHIẾU KẾT QUẢ THỬ NGHIỆM

(TEST REPORT)

(Phiếu kết quả này không được lập lại nếu không có sự đồng ý bằng văn bản của PTN)
 (This test report will not be reproduced without the written approval of Laboratory)

1. Tên mẫu (Name of sample): **CHÔNG**

2. Ký hiệu mẫu (Mark of sample): **K₁, K₂, K₃**

3. Số lượng mẫu (Quantity): **03**

4. Ngày nhận mẫu (Receiving date): **16/3/2017**

5. Ngày phân tích (Analysing date): **16-22/3/2017**

6. Khách hàng (Client): **Thủy điện Đak Pring (Dak Pring Hydropower Project)**

7. Địa chỉ (Address): **Xã ChaVal, Nam Giang, Quảng Nam (ChaVal Commune, Nam Giang District, Quang Nam Province).**

8. Kết quả thử nghiệm (Test results):

KHÍ (AIR)

03

16/3/2017

16-22/3/2017

Thủy điện Đak Pring (Dak Pring Hydropower Project)
Xã ChaVal, Nam Giang, Quảng Nam (ChaVal Commune,
Nam Giang District, Quang Nam Province).

TT (No)	Thông số (Parameters)	ĐV tính (Unit)	PP thử - Tbị (Test methods)	Kết quả (Test results)		
				K ₁	K ₂	K ₃
1	Tiếng ồn (L _{eq}) (Noise)	dBA	TCVN 7878 - 2:2010	65,6	62,8	56,4
2	Bụi tổng (TSP)	mg/m ³	TCVN 5067:1995	0,07	0,08	< 0,01
3	Bụi PM10 (TSP PM10)	mg/m ³	40 CFR Part 50 Appendix J	0,03	0,04	< 0,01

Ghi chú (Notes):


K₁: Mẫu khí lấy tại khu vực tuyến đập nhà máy Thủy điện.
 Sample taken at the dam site

K₂: Mẫu khí lấy tại khu vực nhà máy Thủy điện.
 Sample taken at the powerhouse

K₃: Mẫu khí lấy tại Quốc lộ 14D - khu vực cầu Đắc Rìng.
 Sample taken at National Road 14D- near Dac Ring Bridge


- Thông tin chi tiết về tình trạng mẫu thể hiện trong Biên bản lấy mẫu kèm theo.
 Details of these samples are shown in the Minutes of Sampling attached herein.

TRẠM TRƯỞNG
TRẠM QUAN TRẮC VÀ PHÂN TÍCH
Head of Monitoring Station.




Trần Đình Sơn


GIÁM ĐỐC
Director



Nguyễn Văn Anh


PTN-QT01.BM05 * 01/6/2012 * 1/1





SỞ TÀI NGUYÊN & MÔI TRƯỜNG TP. ĐÀ NẴNG
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Số/No: 62-DVN/TKM Ngày/date: 22/3/2017

PHIẾU KẾT QUẢ THỬ NGHIỆM (TEST REPORT)

(Phiếu kết quả này không được lập lại nếu không có sự đồng ý bằng văn bản của PTN)
 (This test report will not be reproduced without the written approval of Laboratory)

- Tên mẫu (Name of sample): **NƯỚC MẶT (SURFACE WATER)**
- Ký hiệu mẫu (Mark of sample): **NM₁, NM₂, NM₃**
- Số lượng mẫu (Quantity): **03**
- Ngày nhận mẫu (Receiving date): **16/3/2017**
- Ngày phân tích (Analysing date): **16-22/3/2017**
- Khách hàng (Client): **Thủy điện Đak Pring (Dak Pring Hydropower Project)**
- Địa chỉ (Address): **Xã ChaVal, Nam Giang, Quảng Nam (ChaVal Commune, Nam Giang District, Quang Nam Province).**
- Kết quả thử nghiệm (Test results):

TT (No)	Thông số (Parameters)	ĐV tính (Unit)	PP thử -Tbị (Test methods)	Kết quả (Test results)		
				NM ₁	NM ₂	NM ₃
1	pH	-	TCVN 6492:2011	7,52	7,45	7,43
2	DO	mg/L	TCVN 7325:2004	5,70	5,40	5,36
3	Độ đục (Turbidity)	mg/L	TOA WQC 22A	9	8	8
4	BOD ₅ ^(*)	mg/L	TCVN 6001 - 1:2008	3	3,5	4
5	Tổng dầu, mỡ ^(*) (Total Lubricant)	mg/L	SMEWW 5520B:2012	< 0,3	< 0,3	< 0,3
6	Coliform ^(*)	MPN/100mL	TCVN 6187-2:1996	4,3.10 ¹	9,3.10 ¹	7,5.10 ¹

Ghi chú (Notes):

NM₁: Mẫu nước sông Đak Pring, cách tuyến đập khoảng 300m về phía thượng lưu.
 Surface water sample taken from Dak Pring River, 300m from the dam site toward upstream


NM₂: Mẫu nước sông Đak Pring giữa đập và nhà máy.
 Surface water sample taken from Dak Pring River, section between the dam and the powerhouse

NM₃: Mẫu nước sông Đak Pring tại cầu Đắc Rìng, cách nhà máy khoảng 300m về phía hạ lưu.
 Surface water sample taken from Dak Pring River, at Dac Ring Bridge, 300m toward downstream

(*) : Các chỉ tiêu được công nhận theo ISO/IEC 17025:2005 (VILAS 222)
 Criteria are approved as ISO/IEC 17025:2005 (VILAS 222)


- Thông tin chi tiết về tình trạng mẫu thể hiện trong Biên bản lấy mẫu kèm theo.
 Details of these samples are shown in the Minutes of Sampling attached herein.

TRẠM TRƯỞNG
TRẠM QUAN TRẮC VÀ PHÂN TÍCH
Head of Monitoring Station.




Trần Đình Sơn

GIÁM ĐỐC
Director



Nguyễn Văn Anh

PTN QT01.BM05 * 01/6/2012



Analysis results in 2nd quarter of 2017

SỞ TÀI NGUYÊN VÀ MÔI TRƯỜNG THÀNH PHỐ ĐÀ NẴNG
TRUNG TÂM QUAN TRẮC TÀI NGUYÊN VÀ MÔI TRƯỜNG ĐÀ NẴNG
 DANANG NATURAL RESOURCES AND ENVIRONMENTAL MONITORING CENTER (DMC)

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 Điện thoại: (0238).3740.556 Fax: (0238).3740.55
 Email: tqtnmt@danang.gov.vn Web: www.deec.vn



Số/No: 159-DVK/TKM

Ngày/date: 21/6/2017

PHIẾU KẾT QUẢ THỬ NGHIỆM (TEST REPORT)

(Phiếu kết quả này không được lập lại nếu không có sự đồng ý bằng văn bản của PTN)
 (This test report will not be reproduced without the written approval of Laboratory)

- Tên mẫu (Name of sample): **KHÍ (AIR)**
- Ký hiệu mẫu (Mark of sample): **K₁, K₂, K₃**
- Số lượng mẫu (Quantity): **03**
- Ngày nhận mẫu (Receiving date): **14/6/2017**
- Ngày phân tích (Analysing date): **14-21/6/2017**
- Khách hàng (Client): **Thủy điện Đak Pring (Dak Pring Hydropower Project)**
- Địa chỉ (Address): **Xã ChaVal, Nam Giang, Quảng Nam (ChaVal Commune, Nam Giang District, Quang Nam Province).**
- Kết quả thử nghiệm (Test results):

TT (No)	Thông số (Parameters)	ĐV tính (Unit)	PP thử - Tbị (Test methods)	Kết quả (Test results)		
				K ₁	K ₂	K ₃
1	Tiếng ồn _(Leq) (Noise)	dBA	TCVN 7878 - 2:2010	79,1	83,5	61,3
2	Bụi tổng (TSP)	mg/m ³	TCVN 5067:1995	< 0,01	0,08	0,06
3	Bụi PM10 (TSP PM10)	mg/m ³	40 CFR Part 50 Appendix J	< 0,01	0,03	0,02

Ghi chú (Notes):

K₁: Mẫu khí lấy tại khu vực tuyến đập nhà máy Thủy điện.
 Sample taken at the dam site
 K₂: Mẫu khí lấy tại khu vực nhà máy Thủy điện.
 Sample taken at the powerhouse
 K₃: Mẫu khí lấy tại Quốc lộ 14D - khu vực cầu Đắc Ring.
 Sample taken at National Road 14D- near Dac Ring Bridge
 - Thông tin chi tiết về tình trạng mẫu thể hiện trong Biên bản lấy mẫu kèm theo.
 Details of these samples are shown in the Minutes of Sampling attached herein.

TRẠM TRƯỞNG
TRẠM QUAN TRẮC VÀ PHÂN TÍCH
 Head of Monitoring Station.



Trần Đình Sơn

GIÁM ĐỐC
 Director



Nguyễn Trần Quân

PTN QT01.BM05 * 01/6/2012 * 1/1

SỞ TÀI NGUYÊN VÀ MÔI TRƯỜNG THÀNH PHỐ ĐÀ NẴNG
TRUNG TÂM QUAN TRẮC TÀI NGUYÊN VÀ MÔI TRƯỜNG ĐÀ NẴNG
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Email: ttqtnmt@danang.gov.vn Web: www.deec.vn



Số/No: 159-DVN/TKM

Ngày/date: 21/6/2017

PHIẾU KẾT QUẢ THỬ NGHIỆM (TEST REPORT)

(Phiếu kết quả này không được lập lại nếu không có sự đồng ý bằng văn bản của PTN)
(This test report will not be reproduced without the written approval of Laboratory)

- Tên mẫu (Name of sample): **NUỐC MẶT (SURFACE WATER)**
- Ký hiệu mẫu (Mark of sample): **NM₁, NM₂, NM₃**
- Số lượng mẫu (Quantity): **03**
- Ngày nhận mẫu (Receiving date): **14/6/2017**
- Ngày phân tích (Analysing date): **14-21/6/2017**
- Khách hàng (Client): **Thủy điện Đak Pring (Dak Pring Hydropower Project)**
- Địa chỉ (Address): **Xã ChaVal, Nam Giang, Quảng Nam (ChaVal Commune, Nam Giang District, Quang Nam Province).**

8. Kết quả thử nghiệm (Test results):

TT (No)	Thông số (Parameters)	ĐV tính (Unit)	PP thử -Tbị (Test methods)	Kết quả (Test results)		
				NM ₁	NM ₂	NM ₃
1	pH	-	TCVN 6492:2011	7,12	7,10	7,10
2	DO	mg/L	TCVN 7325:2004	5,60	5,57	5,65
3	Độ đục (Turbidity)	mg/L	TOA WQC 22A	4	6	4
4	BOD ₅ ^(*)	mg/L	TCVN 6001 - 1:2008	1,4	1,4	1,7
5	Tổng dầu, mỡ ^(*) (Total Lubricant)	mg/L	SMEWW 5520B:2012	< 0,3	< 0,3	< 0,3
6	Coliform ^(*)	MPN/100mL	TCVN 6187-2:1996	2,3.10 ²	4,3.10 ²	4,3.10 ²

Ghi chú (Notes):

NM₁: Mẫu nước sông Đak Pring, cách tuyến đập khoảng 300m về phía thượng lưu.

Surface water sample taken from Dak Pring River, 300m from the dam site toward upstream

NM₂: Mẫu nước sông Đak Pring giữa đập và nhà máy.

Surface water sample taken from Dak Pring River, section between the dam and the powerhouse

NM₃: Mẫu nước sông Đak Pring tại cầu Đắc Ring, cách nhà máy khoảng 300m về phía hạ lưu.

Surface water sample taken from Dak Pring River, at Dac Ring Bridge, 300m toward downstream

(*): Các chỉ tiêu được công nhận theo ISO/IEC 17025:2005 (VILAS 222)

Criteria are approved as ISO/IEC 17025:2005 (VILAS 222)

- Thông tin chi tiết về tình trạng mẫu thể hiện trong Biên bản lấy mẫu kèm theo.

Details of these samples are shown in the Minutes of Sampling attached herein.

TRẠM TRƯỞNG
TRẠM QUAN TRẮC VÀ PHÂN TÍCH
Head of Monitoring Station.

GIÁM ĐỐC
Director



VILAS 222

PTN.QT01.BM05 • 01/6/2012

Trần Đình Sơn



Nguyễn Trần Quân

Appendix 2: Project documents**Decision on approval of the Environmental Impact Assessment Report for the Project**

BẢN SAO

**ỦY BAN NHÂN DÂN
TỈNH QUANG NAM**

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

Số *400* QĐ-UBND Quảng Nam, ngày *19* tháng *12* năm *2013*

QUYẾT ĐỊNH

Phê duyệt Báo cáo đánh giá tác động môi trường của Dự án thủy điện Đắk Pring tại xã Chà Vål, huyện Nam Giang, tỉnh Quảng Nam

ỦY BAN NHÂN DÂN TỈNH QUANG NAM

Căn cứ Luật Tổ chức HĐND và UBND ngày 26/11/2003;
Căn cứ Luật Bảo vệ môi trường ngày 29/11/2005;
Căn cứ Nghị định số 29/2011/NĐ-CP ngày 18/4/2011 của Chính phủ quy định về đánh giá môi trường chiến lược, đánh giá tác động môi trường, cam kết bảo vệ môi trường;
Căn cứ Thông tư số 26/2011/TT-BTNMT ngày 18/7/2011 của Bộ Tài nguyên và Môi trường quy định chi tiết một số điều của Nghị định số 29/2011/NĐ-CP ngày 18/4/2011 của Chính phủ quy định về đánh giá môi trường chiến lược, đánh giá tác động môi trường, cam kết bảo vệ môi trường;
Theo đề nghị của Giám đốc Sở Tài nguyên và Môi trường tại Tờ trình số 297/TTr-STNMT ngày 11 tháng 12 năm 2013 và hồ sơ kèm theo,

QUYẾT ĐỊNH:

Điều 1. Phê duyệt nội dung Báo cáo đánh giá tác động môi trường Dự án thủy điện Đắk Pring tại xã Chà Vål, huyện Nam Giang của Ban quản lý Dự án điện nông thôn Miền Trung (sau đây gọi là Chủ Dự án) với các nội dung chủ yếu như sau:

1. Phạm vi, quy mô của Dự án:

a) Phạm vi: Dự án thủy điện Đắk Pring có tổng diện tích khoảng 71 07 (theo Thông báo số 355/TB-UBND ngày 27/9/2013 của UBND tỉnh về chủ trương thu hồi đất để thực hiện dự án Nhà máy thủy điện Đắk Pring tại xã Chà Vål, huyện Nam Giang); giới hạn được xác định:

- Phía Đông: giáp xã Tân Bình, huyện Nam Giang;
- Phía Tây: giáp xã La ÊÊ, huyện Nam Giang;
- Phía Bắc: giáp xã Zuôi, huyện Nam Giang;
- Phía Nam: giáp xã Đắk Pring, Đắk Pree, huyện Nam Giang.

b) Quy mô (Theo Quyết định số 1422/QĐ-EVNCP ngày 04/4/2013 của Tổng Công ty Điện lực miền Trung), dự án có một số thông số chính như sau:

- Diện tích lưu vực F_{lv} : 296 km²;
- Công suất lắp máy N_{lm} : 7,5 MW;
- Số tổ máy: 02

- Sản lượng điện công suất lắp máy: 4.060 h;
- Điện lượng trung bình năm $E = 30,45.10^6$ kWh;
- Mức nước dâng bình thường MNDBT: 287 m;
- Mức nước chết: 270 m;
- Mức nước già cỗi: 295,98 m;
- Dung tích hồ chứa: $3,22.10^6$ m³;
- Dung tích hữu ích: $0,36.10^6$ m³;
- Diện tích mặt hồ ứng với MNDBT: 0,36 km².

2. Yêu cầu bảo vệ môi trường đối với dự án: Chủ Dự án có trách nhiệm thực hiện những nội dung đã được nêu trong Báo cáo đánh giá tác động môi trường đã được phê duyệt và những yêu cầu bắt buộc sau:

a) Xây dựng phương án và tổ chức giám sát chặt chẽ việc chặt hạ cây trong khu vực lòng hồ, khu vực xây dựng các hạng mục công trình của Dự án được cấp thẩm quyền giao đất; có biện pháp phối hợp với kiểm lâm và chính quyền địa phương trong việc quản lý đội ngũ công nhân thi công xây dựng Dự án nhằm ngăn chặn các hành vi phá rừng, săn bắt động vật hoang dã trong và xung quanh khu vực thực hiện Dự án và các vùng phụ cận giáp với vùng thực hiện Dự án;

b) Xây dựng phương án thu dọn lòng hồ, phương án xử lý chất độc OB trình Sở Tài nguyên và Môi trường thẩm định và phê duyệt; Hợp đồng với đơn vị chức năng tiến hành rà phá bom mìn, chất độc hóa học chiến tranh còn tồn lưu trước khi tích nước;

c) Phải đảm bảo dòng chảy tối thiểu, thực hiện chế độ điều tiết dòng chảy, bảo đảm nhu cầu sử dụng nước và bảo vệ môi trường sinh thái cho đoạn sông sau cửa xả nhà máy và vùng hạ du sau đập Thủy điện Đăk Pring, đặc biệt là đoạn sông chết sau đập theo quy định tại Nghị định 112/2008/NĐ-CP ngày 20/10/2008 về quản lý, bảo vệ, khai thác tổng hợp tài nguyên và môi trường các hồ chứa thủy điện, thủy lợi và Nghị định số 120/2008/NĐ-CP ngày 01/12/2008 về quản lý lưu vực sông;

d) Phối hợp với chính quyền địa phương thực hiện công tác giải phóng mặt bằng theo đúng quy định hiện hành; quy hoạch, bố trí các lán trại công nhân, kho tàng chứa nguyên vật liệu, bãi chứa chất thải những nơi phù hợp, bảo đảm các yêu cầu về an toàn và bảo vệ môi trường;

e) Thực hiện đầy đủ các biện pháp nhằm giảm thiểu các tác động tiêu cực đến chất lượng không khí, tiếng ồn trong quá trình thi công và vận hành công trình, đảm bảo xử lý đạt Quy chuẩn Việt Nam về tiếng ồn như cam kết trong Báo cáo đánh giá tác động môi trường nhằm hạn chế các tác động bất lợi đến hệ động thực vật khu vực xung quanh;

f) Thu gom, xử lý chất thải rắn sinh hoạt và các loại chất thải rắn xây dựng trong quá trình thi công xây dựng công trình, bảo đảm các yêu cầu về vệ

RẮN SẠO

sinh môi trường hiện hành, an toàn trong và sau khi đóng cửa, đảm bảo nước hồ sau khi tích nước không bị ô nhiễm;

g) Tuân thủ các quy định hiện hành về an toàn thi công và phòng chống cháy nổ; lập kế hoạch an toàn thi công, ứng cứu sự cố và bảo đảm ứng phó kịp thời các sự cố xảy ra; tiến hành công tác kiểm tra an toàn và thông báo cho các đơn vị liên quan, cộng đồng dân cư ở khu vực thượng và hạ lưu biết để phối hợp ứng cứu khi xảy ra sự cố;

h) Thực hiện đầy đủ chương trình giám sát môi trường như đã nêu trong Báo cáo đánh giá tác động môi trường, báo cáo kết quả giám sát môi trường cho Sở Tài nguyên và Môi trường, Phòng Tài nguyên và Môi trường huyện Nam Giang để theo dõi, quản lý. Số liệu giám sát 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;

i) Lập, phê duyệt và niêm yết công khai kế hoạch quản lý môi trường của Dự án tại UBND xã Chà Vål, trong đó chỉ rõ: chủng loại, khối lượng các loại chất thải; công nghệ, thiết bị xử lý chất thải; mức độ xử lý theo các thông số đặc trưng của chất thải so với quy chuẩn quy định; các biện pháp khác về bảo vệ môi trường; nghiêm túc thực hiện các yêu cầu về bảo vệ môi trường trong giai đoạn chuẩn bị đầu tư và giai đoạn thi công xây dựng Dự án;

k) Thiết kế chi tiết và xây lắp các công trình xử lý môi trường theo đúng quy định hiện hành về đầu tư và xây dựng công trình; 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 theo quy định tại Thông tư 26/2011/TT-BTNMT ngày 18 tháng 7 năm 2011 của Bộ Tài nguyên và Môi trường quy định chi tiết một số điều của Nghị định số 29/2011/NĐ-CP ngày 18 tháng 4 năm 2011 của Chính phủ quy định về đánh giá môi trường chiến lược, đánh giá tác động môi trường, cam kết bảo vệ môi trường.

Điều 2. Báo cáo đánh giá tác động môi trường của Dự án thủy điện Đak Pring tại xã Chà Vål, huyện Nam Giang, tỉnh Quảng Nam được phê duyệt tại quyết định này là cơ sở để các cơ quan quản lý nhà nước có thẩm quyền kiểm tra, kiểm soát việc thực hiện công tác bảo vệ môi trường của Dự án.

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 UBND tỉnh Quảng Nam, Sở Tài nguyên và Môi trường và chỉ được thực hiện những nội dung thay đổi sau khi được UBND tỉnh Quảng Nam phê duyệt.

Điều 4. Giao Sở Tài nguyên và Môi trường chủ trì, phối hợp với UBND huyện Nam Giang, UBND xã Chà Vål thường xuyên kiểm tra, giám sát việc thực hiện các nội dung và các biện pháp bảo vệ môi trường trong Báo cáo đánh giá tác động môi trường đã được phê duyệt và các yêu cầu nêu tại Điều 1 của quyết định này.

Điều 5. Chánh Văn phòng UBND tỉnh, Giám đốc các Sở: Tài nguyên và Môi trường, Công Thương, Nông nghiệp và Phát triển nông thôn, Kế hoạch và Đầu tư, Xây dựng; Chủ tịch UBND huyện Nam Giang; Chủ tịch UBND xã Chu Vại, Giám đốc Ban quản lý Dự án điện nông thôn Miền Trung, thủ trưởng các đơn vị và cá nhân có liên quan có trách nhiệm thi hành quyết định này.

Quyết định này có hiệu lực kể từ ngày ký. *1/1*

Nơi nhận:

- Như điều 5;
- PCT TT Nguyễn Ngọc Quang;
- LĐVP;
- PC 49 CA tỉnh;
- Lưu: VT, KTN.

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



Nguyễn Ngọc Quang

Quyết định phê duyệt Báo cáo ĐTM này đã được đăng ký Nhà nước tại Sở Tài nguyên và Môi trường Quảng Nam.

Số đăng ký: 29 DK/ĐTM ngày 19 tháng 12 năm 2013.

SỞ TÀI NGUYÊN VÀ MÔI TRƯỜNG

**KT. GIÁM ĐỐC
PHÓ GIÁM ĐỐC**

**CHỨNG THỰC
BẢN SAO ĐÚNG VỚI BẢN CHÍNH**
Ngày: 19/02/14
Số: 17/2014/QĐ-STNMT



**KT. CHỦ TỊCH
PHÓ CHỦ TỊCH**

Nguyễn Ngọc Dũng
Nguyễn Khoa Diệu Thanh



**QUANG NAM PROVINCIAL
PEOPLE'S COMMITTEE**

**SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happi-
ness**

No. 4000 QĐ/UBND

Quang Nam, 19 December, 2013

DECISION ON

Approval of Environmental Impact Assessment Report of Dak Pring Hydropower Project in Cha Val Commune, Nam Giang District, Quang Nam Province

QUANG NAM PROVINCIAL PEOPLE'S COMMITTEE

Pursuant to Law on Organization of People's Councils and People's Committee, dated 26/11/2013

Pursuant to Law on Environmental Protection, dated 29/11/2005

Pursuant to Government's Decree No. 29/2011/NĐ-CP providing strategic environmental assessment, environmental impact assessment and environmental protection commitment

Pursuant to Circular No. 26/2011/TT-BTNMT, dated 18/07/2011 by MONRE detailing a number of articles of the Government's Decree No. 29/2011/ND-CP of 8 April 2011 on strategic environmental assessment, environmental impact assessment and environmental protection commitment

Pursuant to proposal of the Director of Quang Nam Department of Natural Resources and Environment under Submission No. 297/TTr-STNMT, dated 11/12/2013 and attached documents.

DECIDES

Article 1. Approval of Environmental Impact Assessment Report of Dak Pring Hydropower Project in Cha Val Commune, Nam Giang District, Quang Nam Province of the Central Rural Electricity Project Management Board (hereinafter referred to as the Project Investor).

Article 2. Requirements on environmental protection for the Project: The Project investor has responsibility to take all measures envisaged in the approved EIA report and the following involuntary actions:

- a) Planning and close monitoring of cutting down trees within reservoir bed, construction sites of the Project that were allocated by competent agencies; Cooperation with forest rangers and local authorities in management of construction workers to prevent workers from deforestation, hunting and poaching within and surrounding the project area and in its vicinity;

- b) Preparing reservoir clearance plan, OB toxic substance treatment plan to submit to Quang Nam DONRE for appraisal and approval; Contracting a specialized unit for bomb, mine and explosive ordnances before conducting water retaining;
- c) Ensuring minimum flow, regulating flow, ensuring demand of water use and protection of ecological environment for the river section behind discharge gate of powerhouse and downstream area behind the dam of Dak Pring Hydropower Plant, especially dry river section behind the dam in accordance with Decree No. 112/2008/NĐ-CP, dated 20/10/2008 on management, protection and integrated exploitation of resources and environment of hydropower and irrigation reservoirs and Decree No. 120/2008/NĐ-CP, dated 01/12/2008 on river basin management.
- d) Cooperation with local government in site clearance performance in compliance with current regulations; planning and arrangement of worker camps, materials storages, waste disposal sites satisfying requirements on safety and environmental protection;
- e) Meaningful implementation of mitigation measures for negative impacts on air quality, noise during construction and operation to ensure compliance with Vietnam National Technical Regulation on noise as committed in EIA report to minimize negative impacts on flora in surrounding areas.
- f) Collection and treatment of domestic and construction solid wastes in compliance with current regulations on environmental hygiene and safety during and after closing the reservoir to ensure reservoir water is not polluted.
- g) Compliance with current regulations on work safety and fire and explosion prevention and fighting, preparation of plan on work safety and response to incidents; inspection of safety and inform relevant stakeholders and residents in the upstream and downstream areas to coordinate in responding to incidents;
- h) Adequate implementation of environmental monitoring as envisaged in EIA report, reporting results of environmental monitoring to Department of Natural Resources and Environment of Quang Nam Province and Division of Natural Resources and Environment of Nam Giang District for monitoring and management. Monitoring data must be updated and stored and considered as the basis for state agencies to inspect and assess environmental quality in the project area.
- i) Preparation, approval and posting environmental management plan of the Project at Cha Val CPC office, specifying type and quantity of wastes; waste treatment technology and equipment; treatment level according to specific parameters vis-à-vis allowable limits of regulations; other environmental protection measures; meaningfully implementation of requirements on environmental protection in preparation and construction phases of the Project.
- j) Designing and forming environmental treatment works in accordance with current regulations on work investment and construction; preparation of documents on proposals on inspection and confirmation of completion of works and measures for environmental protection in operation phase to submit to respective competent agency before the Project is officially put into operation as per Circular No. 26/2011/TT-BTNMT, dated 18/07/2011 by MONRE, detailing a number of articles of the Government's Decree No. 29/2011/ND-CP of 8 April 2011 on strategic environmental assessment, environmental impact assessment and environmental protection commitment.

Article 2. EIA report of Dak Pring Hydropower Project in Cha Val Commune, Nam Giang District, Quang Nam Province approved under this decision is the basis for competent State agencies to inspect and control the implementation of environmental protection of the Project.

Article 3. During implementation, if any changes compared to Clauses 1 and 2 of Article 1 of this decision arise, Project investor has to report to Quang Nam PPC and Quang Nam DONRE in writing and no change to be happened without prior approval of Quang Nam PPC.

Article 4. Quang Nam DONRE was assigned to preside over and cooperate with Nam Giang DPC, Cha Val CPC to examine and monitor the implementation of environmental protection measures envisaged in the approved EIA report and requirements under Articles of this decision.

Article 5. Chief of PPC Office, Director of Departments of Natural Resources and Environment, Industry and Trade, Agriculture and Rural Development, Investment and Planning, Construction, Nam Giang DPC Chairman, Cha Val CPC Chairman, Director of the Central Rural Electricity Project Management Board, Head of relevant units and individuals are responsible for implementation of this decision.

This decision takes effect as from the date of signing.

Receivers:
As aforesaid in Article 5.
Saved in office

ON BEHALF OF PEOPLE'S COMMITTEE
PP. CHAIRMAN
DEPUTY CHAIRMAN
Signed and sealed

Nguyen Ngoc Quang

Confirmation of completion of site clearance and compensation payment

UBND HUYỆN NAM GIANG
TRUNG TÂM PHÁT TRIỂN
QUỸ ĐẤT

Số: 23/XNHTGPMB

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

Nam Giang, ngày 31 tháng 12 năm 2014

XÁC NHẬN
HOÀN THÀNH BỒI THƯỜNG GIẢI PHÓNG MẶT BẰNG
Công trình: Thủy điện Đăk Pring
Địa điểm: Xã Chà Vål, huyện Nam Giang, tỉnh Quảng Nam

Kính gửi: Ban Quản lý dự án Điện nông thôn miền Trung

Căn cứ văn bản số 224/CV-UBND ngày 07/5/2013 của UBND huyện Nam Giang về việc chấp thuận phương án tổng thể về bồi thường, hỗ trợ và tái định cư dự án nhà máy thủy điện Đăk Pring;

Căn cứ các Quyết định từ số 2057/QĐ-UBND đến số 2108/QĐ-UBND ngày 04/9/2014, các quyết định từ số 2277/QĐ-UBND đến số 2318/QĐ-UBND ngày 18/9/2014 của UBND huyện Nam Giang về việc thu hồi đất của hộ gia đình, cá nhân để thực hiện dự án nhà máy thủy điện Đăk Pring, hạng mục khu đầu mối, đường thi công vận hành, khu nhà máy, lòng hồ và đường dây truyền tải, cấp điện thi công 35KV;

Căn cứ các Quyết định số 2348/QĐ-UBND ngày 30/9/2014, số 2393/QĐ-UBND ngày 15/10/2014 và số 2834/QĐ-UBND ngày 09/12/2014 của UBND huyện Nam Giang về việc phê duyệt phương án bồi thường, hỗ trợ và giải phóng mặt bằng công trình thủy điện Đăk Pring, hạng mục: Đường thi công kết hợp quản lý vận hành, cụm đầu mối, khu nhà máy, lòng hồ và đường dây truyền tải, cấp điện thi công 35KV;

Ban Quản lý dự án Điện nông thôn miền Trung đã phối hợp cùng Trung tâm Phát triển quỹ đất huyện Nam Giang, UBND xã Chà Vål đã thực hiện xong việc chi trả tiền bồi thường, hỗ trợ cho các hộ gia đình, cá nhân bị ảnh hưởng bởi dự án nhà máy thủy điện Đăk Pring theo các Quyết định đã phê duyệt.

Trung tâm Phát triển quỹ đất huyện Nam Giang xác nhận Ban QLDA thực hiện xong công tác chi trả tiền bồi thường, hỗ trợ cho các hộ dân bị ảnh hưởng, hoàn thành công tác bồi thường giải phóng mặt bằng cho tất cả các hạng mục thuộc dự án nhà máy thủy điện Đăk Pring tại xã Chà Vål, huyện Nam Giang, tỉnh Quảng Nam để làm cơ sở cho Ban QLDA Điện nông thôn miền Trung thực hiện các bước tiếp theo.

Nơi nhận:

- Như trên;
- UBND huyện (b/c);
- Lưu TPTQĐ;



GIÁM ĐỐC

NGUYỄN CÔNG BÌNH



**NAM GIANG DISTRICT PEOPLE'S COMMITTEE
CENTER FOR LAND FUND DEVELOPMENT**

**SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness**

No.:23/XNHTGPMB

Nam Giang, 31 December, 2014

**CONFIRMATION OF
COMPLETION OF SITE CLEARANCE AND COMPENSATION PAYMENT
Project: Dak Pring Hydropower Project
Location: Cha Val Commune, Nam Giang District, Quang Nam Province
To: Central Rural Electricity Project Management Board**

Pursuant to Letter no. 224/CV-UBND dated 07/05/2013 by Nam Giang District People's Committee on approval of overall compensation, assistance and resettlement plan for Dak Pring Hydropower Project;

Pursuant to Decisions from no. 2057/QD-UBND to no.2108/QD-UBND, dated 04/09/2014, Decisions from no. 2277/QD-UBND to no. 2318/QD-UBND dated 18/09/2014 by Nam Giang DPC on acquisition of land of households, individuals for implementation of Dak Pring Hydropower Plant, head works, access roads, powerhouse, reservoir and 35kV transmission line;

Pursuant to Decisions no. 2348/QD-UBND dated 30/09/2014, no.2393/QD-UBND dated 15/10/2014 and no.2834/QD-UBND dated 09/12/2014 by Nam Giang DPC, approving detailed compensation and assistance plan for Dak Pring Hydropower Project, components: access roads, head works, powerhouse, reservoir, 35kV transmission line;

The Central Rural Electricity Project Management Board cooperated with Center for Land Fund Development of Nam Giang District, and Cha Val CPC to complete compensation and assistance payment to households and individuals affected by Dak Pring Hydropower Project as per approval decisions.

Center for Land Fund Development of Nam Giang District has confirmed that Project Management Board completed compensation and assistance payment to affected households and individuals and site clearance for all project components in Cha Val Commune, Nam Giang District, Quang Nam Province which is the basis for the Central Rural Electricity Project Management Board to take next steps.

Receivers:

- As aforementioned;
- DPC (to report);
- Saved by DCLFD;

DIRECTOR
Signed and sealed
NGUYEN CONG BINH

Announcement about site safe and free from bomb and explosive ordnances

**BỘ TƯ LỆNH QUÂN KHU 5
CÔNG TY TNHH MTV
ĐẦU TƯ XÂY DỰNG VÀN TƯỜNG**

S&: 1075/TB-CT

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

Đà Nẵng, ngày 29 tháng 9 năm 2014

THÔNG BÁO AN TOÀN
MẶT BẰNG ĐÃ ĐƯỢC RÀ PHÁ BOM Mìn, VẬT NỔ

Kính gửi : - Ban Quản lý dự án Điện nông thôn miền Trung;
- Các đơn vị xây lắp có liên quan trên địa bàn.

Thực hiện Hợp đồng thi công rà phá bom mìn số: 289/10/13/HĐ-CREB-KH ngày 17 tháng 10 năm 2013 giữa Ban Quản lý dự án Điện nông thôn miền Trung và Công ty TNHH MTV Đầu tư xây dựng Vạn Tường về việc thực hiện Gói thầu số 18 - DPR: Thi công rà phá bom mìn, Dự án: Nhà máy thủy điện Đắk Pring, tỉnh Quảng Nam.

Nay, Công ty TNHH MTV Đầu tư xây dựng Vạn Tường xin thông báo:

* Kể từ ngày 29 tháng 9 năm 2016, toàn bộ mặt bằng Dự án nhà máy thủy điện Đăk Pring đã được rà phá và xử lý xong bom mìn, vật nổ, đủ điều kiện để Chủ đầu tư tiến hành các công việc tiếp theo của mình.

* Phạm vi mặt bằng, độ sâu, mốc ranh giới an toàn rà phá bom mìn, vật nổ được xác định trên thực địa bằng các cọc bê tông và cọc gỗ sơn đỏ và bản vẽ hoàn công kèm theo, với tổng diện tích đã được rà phá và xử lý xong bom mìn, vật nổ theo đúng yêu cầu của Chủ đầu tư. Cụ thể như sau :

a. Phạm vi mặt bằng: Theo đúng ranh giới cọc mốc do chủ đầu tư bàn giao tại hiện trường (trùng với mặt bằng cần rà phá theo yêu cầu hợp đồng).

b. Tổng diện tích rà phá bom mìn, vật nổ hoàn thành: **35,71 ha**; Trong đó:

+ Rà phá bom mìn, vật nổ trên can : 35,09 ha

+ Rà phá bom mìn, vật nổ dưới nước : 0,62 ha

c. Độ sâu rà phá bom mìn, vật nổ :

+ Rà phá bom mìn, vật nổ trên can đến độ sâu 0,3m : 15,91 ha

+ Rà phá bom mìn, vật nổ trên cạn đến độ sâu 3m	: 29,14 ha
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+ Rà phá bom mìn, vật nổ trên cạn đến độ sâu 5m	: 5,95 ha
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+ Rà phá bom mìn, vật nổ dưới nước đến độ sâu 5m	: 0,62 ha
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(Tính từ mặt đất tự nhiên hoặc đáy nước hiện tại trở xuống)

d. Hành lang an toàn :

+ Đường thi công vận hành: Tính từ chân ta luy thiết kế ra mỗi bên 3m

+ Khu phụ trợ, lán trại; Cụm công trình dầu mồi; Khu nhà máy: Tính từ mép chu vi đường biên ngoài ra 5m

Công ty TNHH MTV Đầu tư xây dựng Vạn Tường xin thông báo đến Chủ đầu tư được biết để triển khai các công việc tiếp theo theo ranh giới khu vực đã rà phá bom mìn; ngoài phạm vi diện tích và độ sâu kể trên Công ty TNHH MTV Đầu tư xây dựng Vạn Tường không chịu trách nhiệm. *11/6*

Nơi nhận:

- Như trên;

- Low VT

VT.QT.10/B.33



Đại tá Lê Đình Phúc

Lần BH: 03



**HIGH COMMAND OF MILITARY REGION 5
VAN TUONG CONSTRUCTION INVESTMENT
ONE MEMBER COMPANY LTD.**

**SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness**

No.:1075/TB-CT

Da Nang, 29 September, 2014

**ANNOUNCEMENT ABOUT
SITE SAFE AND FREE FROM BOMB AND EXPLOSIVE ORDNANCES**

To: - Central Rural Electricity Project Management Board
- Related contractors

Pursuant to Contract no. 289/10/13/HĐ-CREB-KH on bomb and mine detection and disposal signed on 17/10/1013 between Central Rural Electricity Project Management Board and Van Tuong Construction Investment One-member Company Ltd., implementing Package 18-DPR: Detection and disposal of bomb, mine and explosive ordnance for Dak Pring Hydropower Plan, Quang Nam Province.

Van Tuong Construction Investment One-member Company Ltd. has now announced that:

* As from 29/09/2014, the entire site of Dak Pring Hydropower Project is safe and free from bomb, mine and explosive ordnance and satisfied the conditions for which Investor can conduct its works.

* Area, depth and demarcation of detection and disposal is determined on field by concrete piles or red painted wooden piles and also shown on shop-drawing indicating total area of site free of bomb, mine and explosive ordnance as per requirement of Investor, specifically:

a. Area of site: the same as the demarcation that was handed over by Investor on field (the same as the area specified in the contract)

b. Total area to which the detection and disposal were completed: 35.71ha; of which:

+ Detection and disposal of bomb, mine and explosive ordnance on land: 35.09ha

+ Detection and disposal of bomb, mine and explosive ordnance in water: 0.62ha

c. Depth for detection and disposal of bomb, mine and explosive ordnance:

+ Detection and disposal of bomb, mine and explosive ordnance on land in the depth of 0.3m: 15.91ha

+ Detection and disposal of bomb, mine and explosive ordnance on land in the depth of 3m: 29.14ha

+ Detection and disposal of bomb, mine and explosive ordnance on land in the depth of 5m: 5.95ha

+ Detection and disposal of bomb, mine and explosive ordnance in water in the depth of 5m: 0.62ha

d. Right of Way:



- + Temporary service roads: 3m far from talus foot to each sides
- + Auxiliary area, camps, head works, powerhouse: 5m far from the edge of perimeter of the outer line

Van Tuong Construction Investment One-member Company Ltd. has now notified Investor of the completion of bomb, mine and explosive ordnance detection and disposal so that Investor can carry out next steps within the area free of bomb and explosive ordnance; The Company is not responsible for the area outside the aforementioned area and the depth.

Receiver:


- As aforesaid;
- Save in office

GENERAL DIRECTOR

(Signed and sealed)

Colonel Le Dinh Phuc

Announcement about rock blasting in Dak Pring Hydropower Project area to relevant agencies


ISO 9001-2008

CÔNG TY CP XÂY DỰNG 47
CÔNG TRƯỜNG ĐẮK PRING

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

Số: 05 / TB-CT
(V/v thông báo nổ mìn)

Chà Vài, ngày 11 tháng 8 năm 2015

THÔNG BÁO

Kính gửi : - UBND huyện Nam Giang, tỉnh Quảng Nam;
- Công an huyện Nam Giang;
- BCH quân sự huyện Nam Giang;
- UBND xã Chà Vài, huyện Nam Giang;
- Ban quản lý Công trình thủy điện Đăk Pring;
- Các đơn vị tham gia thi công gần khu vực nổ mìn.

Căn cứ quyết định số: 2814 /QĐ-UBND ngày 11 tháng 8 năm 2015 của UBND tỉnh Quảng Nam, về việc cấp giấy phép sử dụng Vật liệu nổ công nghiệp cho Công ty cổ phần xây dựng 47 sử dụng VLNCN để thi công Gói thầu số 05-DPR: Xây dựng Đường hầm và Cửa nhận nước, dự án nhà máy thủy điện Đăk Pring tại xã Chà Vài, Huyện Nam Giang, Tỉnh Quảng Nam.

Nay Công trường thi công Đường hầm và Cửa nhận nước, dự án nhà máy thủy điện Đăk Pring - Công ty cổ phần xây dựng 47, xin thông báo thời gian nổ mìn và hiệu lệnh nổ mìn như sau:

I. Thời gian nổ mìn:

1. Thời gian tiến hành nổ mìn từ nay đến ngày 05/8/2016;
2. Thời gian nổ mìn trong ngày :
 - a. **Nổ mìn mở Cửa vào và ra Đường hầm:**
 - Trưa từ 11 giờ 30 phút đến 12 giờ 30 phút;
 - Chiều từ 17 giờ 30 phút đến 18 giờ 30 phút.
 - b. **Nổ mìn phá Đường hầm dẫn nước:**
 - Khi khoan đá xong là tiến hành nạp thuốc nổ mìn . Thời gian nổ mìn phá Đường hầm không kể thời gian nổ mìn khi nào trong ngày .

II. Hiệu lệnh nổ mìn:

- a. **Nổ mở Cửa vào và ra Đường hầm:**
 - + Cờ + biển báo để báo hiệu khu vực nổ mìn.
 - + Tín hiệu thứ nhất: (*Tín hiệu nạp mìn*), bằng một hồi còi dài hoặc bằng một phát mìn tín hiệu báo, thì yêu cầu tất cả mọi người, gia súc và thiết bị xe máy . . . không liên quan đến việc nạp, nổ mìn phải rút ra khỏi giới hạn vùng nguy hiểm;
 - + Tín hiệu thứ hai: (*Tín hiệu khởi nổ*), bằng hai hồi còi dài hoặc bằng hai phát mìn liên tiếp báo : sau tín hiệu này từ 03 đến 05 phút sẽ nổ mìn;
 - + Tín hiệu thứ ba: (*Tín hiệu báo yên*), bằng ba hồi còi dài liên tiếp, tín hiệu báo bãi mìn đã được kiểm tra nổ hết và đảm bảo an toàn . Tất cả mọi người, gia súc và thiết bị xe máy . . . được trở lại hoạt động bình thường.
- b. **Nổ mìn phá Đường hầm dẫn nước:**

- Về tín hiệu báo hiệu thực hiện như 3 tín hiệu của Hiệu lệnh Nổ mìn mở Cửa vào và ra Đường hầm. Về tín hiệu Còi vẫn giữ như trên nhưng thay tín hiệu nổ mìn báo bằng tín hiệu cắt mở điện ;

III. Bán kính vùng nguy hiểm:

Khi nghe có tín hiệu báo nổ mìn, mọi người và thiết bị xe máy . . . không có liên quan đến công tác nổ mìn phải rời xa khu vực nổ mìn (theo sự hướng dẫn của lực lượng canh gác nổ mìn) :

a. Nổ mở Cửa vào và ra Đường hầm:

- + Đối với người, súc vật là ≥ 300 mét;
- + Đối với thiết bị máy móc ≥ 150 mét.

b. Nổ mìn phá Đường hầm dẫn nước:

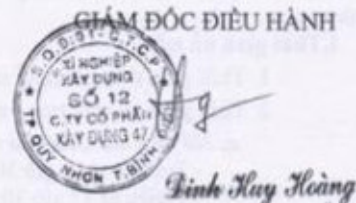
- + Về khoảng cách an toàn áp dụng theo qui phạm nổ mìn trong Đường hầm;
- + Khoảng cách an toàn chỉ áp dụng cho CBCN đang làm việc trong nội bộ của đơn vị, không áp dụng đối với nhân dân địa phương và đơn vị xung quanh.

Vậy Công trường thủy điện Đường hầm và Cửa nhận nước, dự án nhà máy thủy điện Đăk Pring - Công ty cổ phần xây dựng 47 xin thông báo để các cơ quan, địa phương, các đơn vị tham gia thi công gần khu vực nổ mìn được rõ và thông báo rộng rãi cho nhân dân, người trong đơn vị làm việc (hoặc đi lại) xung quanh khu vực nổ mìn biết, để không được đến gần khu vực trên vào thời gian đã thông báo.

Xin trân trọng kính báo./.

Nơi nhận

- Như trên
- Lưu: CT, BC Công ty.



Dinh Huy Hoàng



CONSTRUCTION NO. 47 JSC

SOCIALIST REPUBLIC OF VIETNAM
Independence – Freedom – Happiness

No.:09/TB-CT
(Regarding blasting announcement)

Cha Val, 19 August, 2015

ANNOUNCEMENT

To: - Nam Giang District People's Committee, Quang Nam Province

- Nam Giang District Public Security
- Nam Giang District Military Command
- Dak Pring Hydropower Project Management Unit
- Agencies involved in construction near blasting areas

Pursuant to Decision No. 2814/10/13/QĐ-UBND dated 11/08/2015 of Quang Nam Provincial People's Committee, on granting permission for use of industrial explosives to Construction No. 47 Joint Stock Company to undertaken construction package no. 05-DPR:

Construction of tunnel and intake gate of Dak Pring Hydropower Project in Cha Val Commune, Nam Giang District, Quang Nam Province.

The Site for Construction of tunnel and intake gate of Dak Pring Hydropower Project under Construction No. 47 Joint Stock Company now announces blasting time and signal as follows:

I. Blasting time:

1. Blasting time: from now to 05/08/2016;
2. Blasting time during the day:
 - a. Blasting for opening entrance and exit of the tunnel
 - At lunch: from 11:30 to 12:30
 - In the afternoon: 17:30 to 18:30
 - b. Blasting for opening headrace tunnel
 - When rock drilling is finished, explosive will be arranged. Blasting can be conducted at any time during the day.

II. Blasting signal

- a. Blasting for opening entrance and exit of the tunnel:
 - + Flag + warning sign signal blasting area
 - + The first signal: (explosive charging signal) when a long whistle or a signal explosion is made, any people, livestock and vehicles not involving in mine charging and blasting must leave the dangerous zone
 - + The second signal 2 (blasting start signal), when two long whistles or two continuous signal explosions are made: blasting will happen 3 or 5 minutes later;
 - + The third signal: (safety signal) three long continuous whistles signal the minefield is already examined and safe. People, livestock and vehicles can continue their pre-blasting activities.
- b. Blasting for opening headrace tunnel

- Signals are the same as those for blasting for opening entrance and exit of the tunnel. Whistle signal is also the same but blasting signal is replaced by power-on/power-off signals;

III. Dangerous zone radius

When the blasting alarm sounds are heard, all people and vehicles and equipment, etc. not related to the blasting must keep away from blasting areas (following the guidance of the blasting guard force):

- a. Blasting for opening entrance and exit of the tunnel:
 - + For humans and livestock ≥ 300 meters
 - + For equipment ≥ 150 meters
- b. Blasting for opening headrace tunnel:
 - + The safety distance follows tunnel blasting regulations;
 - + Safety distance only applies to personnel working within the company and do not apply to local people and other contractors.

Therefore, the Site would like to inform local authorities, agencies, contractors involved in construction near the blasting area of blasting time and signals so that local people and contractor staff working (or travelling) surrounding the blasting area must keep out of this area at the aforesaid time.

Receiver:

- As aforesaid;
- Save in office

MANAGING DIRECTOR

(Signed and sealed)
Dinh Huy Hoang

Appendix 3: Minutes of interviews with relevant stakeholders

BIÊN BẢN THAM VẤN VỀ CÁC VẤN ĐỀ MÔI TRƯỜNG
DỰ ÁN NHÀ MÁY THỦY ĐIỆN ĐẮK PRING, TỈNH QUẢNG NAM
Đơn vị tham vấn: **Phòng TNMT huyện Nam Giang, tỉnh Quảng Nam**

I. THỜI GIAN, ĐỊA ĐIỂM

Thời gian: ...13.16.12017...
Địa điểm: ...Phòng TNMT huyện Nam Giang...

II. ĐỐI TƯỢNG THAM VẤN

Họ tên người được tham vấn: ...Nguyễn Văn Trường...
Chức vụ: ...Cán bộ...
Cơ quan: ...Phòng TNMT huyện Nam Giang...

III. NỘI DUNG THAM VẤN

- Các tác động đối với môi trường từ các dự án thủy điện trên địa bàn huyện Nam Giang
- Các ảnh hưởng đến môi trường khi thực hiện Dự án thủy điện Đắc Pring
- Các đơn thư khiếu nại về vấn đề môi trường liên quan đến việc thực hiện Dự án thủy điện Đắc Pring (nếu có)

IV. KẾT QUẢ THAM VẤN

...Dự án thủy điện Đắc Pring do dự án duy nhất đang được thực hiện trên địa bàn huyện Nam Giang...
...Tính đến tháng 5/2017 không có các ảnh hưởng đến môi trường phát sinh từ dự án thủy điện Đắc Pring...
...không có các đơn khiếu nại liên quan đến vấn đề môi trường của dự án...



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Nguyễn Văn Trường



MINUTES OF CONSULTATION ABOUT ENVIRONMENTAL ISSUES**DAK PRING HYDROPOWER PROJECT, QUANG NAM PROVINCE**Consulted unit: **Division of Natural Resources and Environment****I. TIME AND VENUE**

Time: 13/06/2017

Venue: Nam Giang District Division of Natural Resources and Environment

II. PARTICIPANTS

Full name: Nguyen Van Truong

Position: Officer

Workplace: Nam Giang District Division of Natural Resources and Environment

III. CONSULTING CONTENTS

- Environmental impacts of hydropower projects in Nam Giang District
- Environmental impacts of Dak Pring Hydropower Project
- Written complaints on environmental issues related to the implementation of Dak Pring Hydropower Project (if any)

IV. CONSULTING RESULTS

- Dak Pring Hydropower Project is the only one hydropower project that has been implementing in Nam Giang District.
- Up to June 2017, there is no land acquisition impact stemming from Dak Pring Hydropower Project.
- There is no written complaint related to environmental issues under the project.

Representative of consulted unit
Nguyen Van Truong

BIÊN BẢN THAM VẤN VỀ CÁC VẤN ĐỀ MÔI TRƯỜNG
DỰ ÁN NHÀ MÁY THỦY ĐIỆN ĐẮK PRING, TỈNH QUẢNG NAM
Đơn vị tham vấn: Ban quản lý khu Bảo tồn Thiên nhiên Sông Thanh

I. THỜI GIAN, ĐỊA ĐIỂM

Thời gian: 13.16.12.2017

Địa điểm: Ban Quản lý khu Bảo tồn Thiên nhiên Sông Thanh

II. ĐỐI TƯỢNG THAM VẤN

Họ tên người được tham vấn: Nguyễn Văn Lân

Chức vụ: Phó quản đốc

Cơ quan: Ban Quản lý khu Bảo tồn Thiên nhiên Sông Thanh

III. NỘI DUNG THAM VẤN

- Các ảnh hưởng của Dự án đối với thảm thực vật tự nhiên trên địa bàn Dự án và các khu vực lân cận thuộc địa bàn khu bảo tồn thiên nhiên Sông Thanh
- Tình trạng khai thác gỗ và săn bắn động vật trái phép trên địa bàn Dự án và các khu vực lân cận thuộc địa bàn khu bảo tồn thiên nhiên Sông Thanh
- Sự tuân thủ của công nhân Dự án trong việc bảo vệ động thực vật hoang dã tại địa phương

IV. KẾT QUẢ THAM VẤN

I. Các ảnh hưởng của dự án đối với thảm thực vật thiên nhiên trên địa bàn dự án
 Khu vực thuộc phạm vi dự án cách rừng đầu của khu bảo tồn khoảng 2 km. Loại thực vật chủ yếu dự án không gây ảnh hưởng thảm thực vật của khu bảo tồn thiên nhiên. Thảm thực vật bị ảnh hưởng chủ yếu là rừng trồng hoa màu của người dân

II. Tình trạng khai thác gỗ và săn bắn động vật trên địa bàn dự án
 Khu vực thuộc phạm vi dự án cách khu bảo tồn 2 km. Khu vực này rừng bị tàn phá trầm trọng. Lũn lặn và săn bắn động vật trái phép. Các khu vực dự án rừng hoang dã chưa được phân bổ và quản lý. Ban quản lý dự án nên thi công dự án về việc săn bắn động vật và khai thác gỗ trên phạm vi dự án

III. Các chỉ nghị bị vi phạm
 1. Các nghị định của chính quyền địa phương về bảo vệ môi trường



...luân...trà...môi...bằng...môi...trường...Sơn...dê...hình...thước...thi...cây...dây...sân...



Đại diện Đơn vị được tham vấn

Nguyễn Văn Lên

MINUTES OF CONSULTATION ABOUT ENVIRONMENTAL ISSUES
DAK PRING HYDROPOWER PROJECT, QUANG NAM PROVINCE

Consulted unit: **Song Thanh Nature Reserve Management Board**

I. TIME AND VENUE

Time: 13/06/2017

Venue: Song Thanh Nature Reserve Management Board

II. PARTICIPANTS

Full name: Nguyen Van Len

Position: Vice Director

Workplace: Song Thanh Nature Reserve Management Board

III. CONSULTING CONTENTS

- Project impacts on natural vegetation in the project area and neighboring areas in Song Thanh Nature Reserve.
- Status of illegal logging and hunting in the project area and neighboring areas in Song Thanh Nature Reserve
- Compliance of workers in the protection of wildlife in the local.

IV. CONSULTING RESULTS

1. Project impacts on vegetation and its vicinity within Song Thanh Nature Reserve:
 - The Project is located 2km far from the buffer zone of Song Thanh Nature Reserve. The project's construction has not affected vegetation of the Nature Reserve. The vegetation that was directly affected is crops of local people.
2. Illegal logging and hunting:
 - The project area is 2km far from the Nature Reserve. Song Thanh Nature Reserve Management Board also arranged forest protection stations so illegal logging and animal hunting in the project area have been limited.
 - There was not any case of illegal hunting and logging caused by workers.
3. Additional opinions:
 - The investor to clear vegetation in the reservoir before retaining water.
 - Restore borrow areas after completion of the project

Representative of consulted unit

Nguyen Van Len

BIÊN BẢN THAM VẤN VỀ CÁC VẤN ĐỀ MÔI TRƯỜNG
DỰ ÁN NHÀ MÁY THỦY ĐIỆN ĐẮK PRING, TỈNH QUẢNG NAM
Đơn vị tham vấn: UBND xã Cha Val, huyện Nam Giang, tỉnh Quảng Nam

I. THỜI GIAN, ĐỊA ĐIỂM

Thời gian: ...14/11/2017...

Địa điểm: ...UBND xã Cha Val...

II. ĐỐI TƯỢNG THAM VẤN

Họ tên người được tham vấn: ...Thiêng Quý...

Chức vụ: ...Chủ tịch...

Cơ quan: ...UBND xã Cha Val...

III. NỘI DUNG THAM VẤN

- Hoạt động khai thác trái phép liên quan đến việc thực hiện Dự án Thủy điện Đăk Pring
- Tình trạng mưa lũ tại suối Đăk Pring trong quý I và II năm 2017
- Các tác động đến môi trường khi thực hiện Dự án Thủy điện Đăk Pring
- Các tác động đến cộng đồng dân cư khi thực hiện Dự án Thủy điện Đăk Pring

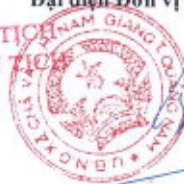
IV. KẾT QUẢ THAM VẤN

I.1. Hoạt động khai thác trái phép liên quan đến việc thực hiện Dự án Thủy điện Đăk Pring
Đến tháng 11/2017, UBND xã Cha Val không phát hiện thấy hoạt động khai thác trái phép của cộng đồng dân cư sống gần khu vực xây dựng.
II. Tình hình lũ lụt tại Suối Đăk Pring
Trong quý I và II năm 2017, Suối Đăk Pring chảy bình thường. Đến tháng 4 và 5, hoạt động xây dựng đập tràn trên dòng chảy của suối bắt đầu gây ảnh hưởng đến khu vực dân cư sống gần khu vực xây dựng.
III. Các tác động đến môi trường khi thực hiện Dự án
Hoạt động xây dựng đập tràn và xây nhà máy sẽ gây ảnh hưởng đến môi trường xung quanh, đặc biệt là hệ sinh thái rừng. Các tác động đến môi trường sẽ được theo dõi và đánh giá định kỳ.
IV. Các tác động đến cộng đồng dân cư khi thực hiện Dự án
Hoạt động xây dựng đập tràn và xây nhà máy sẽ gây ảnh hưởng đến cộng đồng dân cư sống gần khu vực xây dựng, đặc biệt là hệ sinh thái rừng. Các tác động đến cộng đồng dân cư sẽ được theo dõi và đánh giá định kỳ.



Dại diện Đơn vị được tham vấn

KT. CHỦ TỊCH
PHÓ CHỦ TỊCH



Hiêng Gúi



MINUTES OF CONSULTATION ABOUT ENVIRONMENTAL ISSUES**DAK PRING HYDROPOWER PROJECT, QUANG NAM PROVINCE**

Consulted unit: **Cha Val CPC, Nam Giang District, Quang Nam Province**

I. TIME AND VENUE

Time: 14/06/2017

Venue: Office of Cha Val Commune People's Committee

II. PARTICIPANTS

Full name: Hieng Gui

Position: Vice chairman of Cha Val Commune Peoples' Committee

Workplace: Cha Val Commune People's Committee

III. CONSULTING CONTENTS

- Illegal mining related to the implementation of Dak Pring Hydropower Project
- Situation of floods in Dak Pring Stream in the 1st and 2nd quarters of 2017
- Environmental impacts of Dak Pring Hydropower Project
- Impacts of Dak Pring Hydropower Project on local communities

IV. CONSULTING RESULTS

1. Illegal logging and mineral exploitation related to the project:
 - Up to June 2017, Chaval CPC has not received any report on illegal logging and mineral exploitation by project workers.
2. Flooding in Dak Pring:
 - In the 1st and 2nd quarter of 2017, there were 2 floods in Dak Pring Stream in April and May
 - The dam construction has reduced the amount of fish caught by the households living near the project site.
3. Environmental impacts by the project implementation:
 - The construction of the access road to the dam site generated dust; however, the impact lasted in a short time so local people were significantly affected.
4. Impacts on community:
 - The construction of the access road to the powerhouse site affected trees of 02 households in Ta UI village. The investor has cooperated with Cha Val CPC to conduct measurement and compensation for the impact.

Representative of consulted unit

Hieng Gui

DỰ ÁN THỦY ĐIỆN ĐẮKPRING

Giám sát môi trường

Biên bản phỏng vấn sâu

Nội dung: Tham vấn ý kiến của **đơn vị nhà thầu** về các vấn đề môi trường của Dự án Thủy điện ĐăkPring – huyện Nam Giang – tỉnh Quảng Nam

Người được phỏng vấn:

Họ và tên: Nguyễn Ngọc Thuần
 Tuổi: 33 Giới tính: Nam
 Chức vụ: Cán bộ kỹ thuật
 Cơ quan: Hàng ủy cấp huyện An ninh xây dựng và phát triển

I. Thông tin về nhà thầu

- Thời gian thi công dự án: Từ 11/2019 đến hiện tại
- Số lượng công nhân: 50
- Số lượng lán trại: 02

II. Các biện pháp giảm thiểu tác động đến môi trường

1. Các biện pháp giảm thiểu tác động đến môi trường không khí:

a) Trong quá trình vận chuyển nguyên vật liệu:

Trao đổi thông tin về tình hình vận chuyển hàng hóa
nguyên vật liệu hàng hóa
xe vận chuyển đi đúng giờ

b) Trong quá trình trộn bê tông:

khởi động, tắt động cơ, không để máy chạy không cần thiết
không để máy chạy quá lâu

2. Các biện pháp giảm thiểu tiếng ồn:

không nên làm việc quá giờ
không nên làm việc quá giờ
không nên làm việc quá giờ

3. Các biện pháp giảm thiểu tác động đến môi trường nước mặt:

không đổ rác, đổ dầu, đổ chất thải xuống sông
không đổ rác, đổ dầu, đổ chất thải xuống sông

4. Các biện pháp giảm thiểu tác động do xói mòn, sạt lở đất:

...lắp đặt...giai đoạn...thực hiện...đặt...chống...thực...thực...
...thực...
...thực...xây dựng...sạt lở...đất...mưa...đất...nước...sạt...

5. Các biện pháp giảm thiểu nguy cơ cháy nổ:

...hạn chế...thực hiện...sử dụng...chống...cháy...nổ...
...đặt...chống...nước...thực...bị...cháy...quản...thực...cháy...
...mặt...cháy...

6. Các biện pháp xử lý chất thải rắn sinh hoạt, chất thải rắn xây dựng, chất thải nguy hại:

a) Chất thải rắn sinh hoạt:

...chất thải rắn sinh hoạt...đặt...chống...cháy...nổ...
...chống...cháy...nổ...

b) Chất thải rắn xây dựng:

...hạn chế...thực hiện...chống...cháy...nổ...
...chống...cháy...nổ...
...chống...cháy...nổ...
...chống...cháy...nổ...

c) Chất thải nguy hại:

...chống...cháy...nổ...
...chống...cháy...nổ...

7. Các biện pháp đảm bảo an toàn giao thông khu vực:

...sử dụng...chống...cháy...nổ...
...chống...cháy...nổ...

8. Các biện pháp đảm bảo an toàn lao động và sức khỏe công nhân:

...hạn chế...thực hiện...chống...cháy...nổ...
...chống...cháy...nổ...
...chống...cháy...nổ...

9. Những khó khăn trong việc thực hiện các biện pháp giảm thiểu trên:

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10. Các vấn đề phát sinh còn tồn tại:

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...Chà Vạt..., ngày 14 tháng 6 năm 2017

Người phỏng vấn


Trần Quang Huy

Người được phỏng vấn


Nguyễn Ngọc Phái

DAK PRING HYDROPOWER PROJECT**Environmental Monitoring****Minutes of In-depth interview**

*Contents: Interview with **contractor** about environmental issues of Dak Pring Hydropower Project – Nam Giang District – Quang Nam Province*

Information of Interviewee:

Full name: Nguyen Ngoc Phuoc

Age: 33 Gender: Male

Position: Engineer

Workplace: Consulting Construction & Electric Power Development JSC

I. Information of contractor

1. Construction period: November 2014 to September 2017
2. Number of workers: 50 workers
3. Number of camps: 02

II. Mitigation measures for environmental impacts

1. Mitigation measures for impacts on air quality:
 - a. During period of delivery of construction materials:
 - The volume of construction materials delivered in the first six months of 2017 is not large.
 - Delivery vehicles were driven at slow speed.
 - b. During period of concrete mixing:
 - The volume of mixing concrete in one month is about 150m³; concrete mixing was mainly conducted in the first three months of 2017.
 - The contractor conducted watering to reduce dust emission in the concrete mixing plant.
2. Mitigation measures for noise:
 - Construction site is located far from settlement.
 - The contractor has been currently completing operation office which has not generated big noise.
3. Mitigation measures for impacts on surface water
 - Wastewater generated from the concrete mixing plant was not directly discharged into the stream.
 - Wastewater was treated before discharging into the stream.
4. Mitigation measures for impacts by erosion and landslides
 - Reinforcement of talus slopes in the powerhouse site was carried out in the previous monitoring.
 - Landslides were not happened in the flood season at the end of 2016.
5. Mitigation measures for fire and explosion risks

- Construction activities have been conducted without the use of explosive materials
 - Machine oil was stored in closed containers.
6. Mitigation measures for domestic solid waste, construction solid waste and hazardous waste
- a. Domestic solid waste:
- Domestic wastes were collected and buried on a periodic basis.
- b. Construction solid waste
- The construction of operation office did not generated solid wastes.
 - Redundant materials were collected at the warehouse in camp site.
- c. Hazardous waste
- Refuse oil was contained in drums with lids. Batteries were gathered in a roofed store.
7. Measures for ensuring traffic safety in the project area:
- The number of delivery vehicles was minor and they were driven at low speed.
8. Measures for ensuring occupational safety and the health of workers
- Workers were provided with personal protective equipment.
 - Workers were reminded of occupational safety.
 - There was no case of occupational accident recorded.
9. Difficulties in implementing these abovementioned measures
10. Other outstanding issues

Interviewer

(signature)

Tran Quang Huy

Interviewee

(signature)

Nguyen Ngoc Phuoc

DỰ ÁN THỦY ĐIỆN ĐẮKPRING

Giám sát môi trường

Biên bản phỏng vấn sâu

Nội dung: Tham vấn ý kiến của **đơn vị nhà thầu** về các vấn đề môi trường của Dự án Thủy điện ĐăkPring – huyện Nam Giang – tỉnh Quảng Nam

Người được phỏng vấn:

Họ và tên: Nguyễn Văn Ninh

Tuổi: 25 Giới tính: Nam

Chức vụ: Cán bộ kỹ thuật

Cơ quan: Công ty T.N.B.H. Kỹ thuật S.H.

I. Thông tin về nhà thầu

1. Thời gian thi công dự án: Tháng 01/2015 - Dự kiến Tháng 01/2017

2. Số lượng công nhân: 25

3. Số lượng lần trại: 02 lần

II. Các biện pháp giảm thiểu tác động đến môi trường

1. Các biện pháp giảm thiểu tác động đến môi trường không khí:

a) Trong quá trình vận chuyển nguyên vật liệu:

5 tháng 01 năm 2017 không có phương tiện vận chuyển

xe vận chuyển từ huyện đến xã

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xe vận chuyển từ huyện đến xã

4. Các biện pháp giảm thiểu tác động do xói mòn, sạt lở đất:

... khu vực thường xảy ra xói mòn đất, nguy cơ sạt lở đất, sạt lở bờ sông, sạt lở bờ biển...
... phải được xử lý ngay...

5. Các biện pháp giảm thiểu nguy cơ cháy nổ:

... hoạt động xây dựng, kho chứa nhiên liệu, kho chứa vật tư...
... phải được xử lý ngay...

6. Các biện pháp xử lý chất thải rắn sinh hoạt, chất thải rắn xây dựng, chất thải nguy hại:

a) Chất thải rắn sinh hoạt:

... thu gom tập trung, định kỳ để xử lý...
... phải được xử lý ngay...

b) Chất thải rắn xây dựng:

... không phải là chất thải nguy hại...
... phải được xử lý ngay...

c) Chất thải nguy hại:

... phải được xử lý ngay...
... phải được xử lý ngay...

7. Các biện pháp đảm bảo an toàn giao thông khu vực:

... phải được xử lý ngay...
... phải được xử lý ngay...

8. Các biện pháp đảm bảo an toàn lao động và sức khỏe công nhân:

... phải được xử lý ngay...
... phải được xử lý ngay...

9. Những khó khăn trong việc thực hiện các biện pháp giảm thiểu trên:

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10. Các vấn đề phát sinh còn tồn tại:

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Chau vat....., ngày 13 tháng 6 năm 2017

Người phỏng vấn


Trần Quang Huy

Người được phỏng vấn


Nguyễn Văn Nid

DAK PRING HYDROPOWER PROJECT**Environmental Monitoring****Minutes of In-depth interview**

*Contents: Interview with **contractor** about environmental issues of Dak Pring Hydro-power Project – Nam Giang District – Quang Nam Province*

Information of Interviewee:

Full name: Nguyen Van Ninh

Age: 35 Gender: Male

Position: Technical officer

Workplace: Construction No.564 Co., Ltd

I. Information of contractor

1. Construction period: From November 2015 to August 2017
2. Number of workers: 25
3. Number of camps: 02

II. Mitigation measures for environmental impacts

1. Mitigation measures for impacts on air quality
 - a. During period of delivery of construction materials
 - In the first 6 months of 2017, the contractor bought about 500 tons of cement.
 - Delivery vehicles were driven at slow speed.
 - b. During period of concrete mixing:
 - Watering before concrete mixing to minimize dust emission.
2. Mitigation measures for noise
 - Noise arose mainly from concrete placing
 - Crushers and other machines were not operated regularly.
3. Mitigation measures for impacts on surface water
 - Domestic wastewater and wastewater generated from concrete mixing were not directly discharged into the stream.
 - Septic-tank toilets were provided.
4. Mitigation measures for impacts by erosion and landslides
 - Drainage trenches on talus slope of the route were reinforced.
5. Mitigation measures for fire and explosion risks
 - Construction activities caused no risk of explosion.
6. Mitigation measures for domestic solid waste, construction solid waste and hazardous waste
 - a. Domestic solid waste:
 - Domestic solid waste was collected periodically and burned once a week.

- b. Construction solid waste
 - No construction solid waste such as spoils was generated.
- c. Hazardous waste
 - Used machine oil was collected in drums with lids.
- 7. Measures for ensuring traffic safety in the project area
 - Delivery vehicles moved at slow speed and the delivery was not occurred regularly
- 8. Measures for ensuring occupational safety and workers' health
 - Construction workers were provided with personal protective equipment.
- 9. Difficulties in implementing these abovementioned measures
- 10. Other outstanding issues

Interviewer
(signature)
Tran Quang Huy

Interviewee
(signature)
Nguyen Van Ninh

DỰ ÁN THỦY ĐIỆN ĐẮKPRING

Giám sát môi trường

Biên bản phỏng vấn sâu

Nội dung: Tham vấn ý kiến của **đơn vị nhà thầu** về các vấn đề môi trường của Dự án Thủy điện ĐăkPring – huyện Nam Giang – tỉnh Quảng Nam

Người được phỏng vấn:

Họ và tên: Phạm Văn Nguyễn

Tuổi: 42 Giới tính: Nam

Chức vụ: Đoàn trưởng kỹ thuật

Cơ quan: Công ty Cổ phần Xây dựng và Lắp đặt Máy Điện Hòa

I. Thông tin về nhà thầu

1. Thời gian thi công dự án: Tháng 7/2016 đến đầu tháng 8/2017

2. Số lượng công nhân: 20

3. Số lượng lán trại: 01

II. Các biện pháp giảm thiểu tác động đến môi trường

1. Các biện pháp giảm thiểu tác động đến môi trường không khí:

a) Trong quá trình vận chuyển nguyên vật liệu:

Nhà thầu đã dùng ô tô vận chuyển hàng hóa và đã dùng bạt che phủ để tránh bụi phát sinh.

b) Trong quá trình trộn bê tông:

Không thực hiện trộn bê tông.

2. Các biện pháp giảm thiểu tiếng ồn:

Không dùng máy khoan, máy phát sinh tiếng ồn.

3. Các biện pháp giảm thiểu tác động đến môi trường nước mặt:

Không phát sinh nước thải, nước rửa máy.

4. Các biện pháp giảm thiểu tác động do xói mòn, sạt lở đất:

...Nhả...khả...không...thực...hình...thai...chấp...đầu...không...gây...sạt...lở...

5. Các biện pháp giảm thiểu nguy cơ cháy nổ:

...Sông...nhóm...thực...hình...đến...an...tồn...đặt...thực...sử...phòng...
...chống...cháy...và...

6. Các biện pháp xử lý chất thải rắn sinh hoạt, chất thải rắn xây dựng, chất thải nguy hại:

a) Chất thải rắn sinh hoạt:

...Chất...thải...sinh...hoạt...thuộc...theo...giảm...đến...trung...và...chôn...lấp...

b) Chất thải rắn xây dựng:

...không...phải...sinh...chất...thải...xây...dựng...

c) Chất thải nguy hại:

...không...phải...sinh...chất...thải...nguy...hại...

7. Các biện pháp đảm bảo an toàn giao thông khu vực:

...Nhả...khả...không...thực...chức...vận...chuyển...nguyên...vật...dầu...vật...
...sông...trường...

8. Các biện pháp đảm bảo an toàn lao động và sức khỏe công nhân:

...Sông...nhóm...thực...trung...bị...đầu...lực...hệ...
...Sông...nhóm...thực...đặt...chuẩn...an...tồn...đặt...thực...tài...khí...tham...
...qua...chỉ...an...

9. Những khó khăn trong việc thực hiện các biện pháp giảm thiểu trên:


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10. Các vấn đề phát sinh còn tồn tại:

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Chauval....., ngày 14 tháng 6 năm 2017

Người phỏng vấn


Trần Quang Huy

Người được phỏng vấn


Lương Văn Nguyễn

DAK PRING HYDROPOWER PROJECT**Environmental Monitoring****Minutes of In-depth interview**

*Content: Interview with **contractor** about environmental issues of Dark Prang Hydropower Project – Nam Gang District – Quang Nam Province*

Information of Interviewee:

Full name: Pham Van Nguyen

Age: 42 Genders: Male

Position: Site manager

Workplace: Dai Han Mechanical and Erection JSC

I. Information of contractor

1. Duration of construction: From July 2016 to August 2017
2. Number of workers: 20
3. Number of camps: 01

II. Mitigation measures for environmental impacts

1. Mitigation measures for impacts on air quality
 - a. During period of construction materials delivery:
 - Contractor only installed equipment but did not deliver construction equipment in the project area
 - b. During period of concrete mixing
 - Contractor did not conduct concreting
2. Mitigation measures for noise
 - Equipment installation hardly generated noise
3. Mitigation measures for impacts on surface water
 - Equipment installation did not generate wastewater.
4. Mitigation measures for impacts by erosion and landslide
 - Contractor did not carry out earthwork or other activities which could cause erosion and landslides.
5. Mitigation measures for fire and explosion risks
 - Workers were trained on work safety and fire prevention during working period.
6. Mitigation measures for domestic solid waste, construction solid waste and hazardous waste
 - a. Domestic solid wastes
 - Domestic wastes were collected and buried.
 - b. Construction solid wastes

- Construction solid wastes were not generated.
- c. Hazardous waste
 - Hazardous wastes were not generated.
- 7. Measures for ensuring traffic safety in the project area:
 - Contractor did not conduct delivery of construction equipment in the project area.
- 8. Measures for ensuring occupational safety and the health of workers:
 - Contractor provides personal protective equipment for workers
 - Construction workers were trained on occupational safety prior to participating in the project.
- 9. Difficulties in implementing these abovementioned measures:
- 10. Other outstanding issues:

Interviewer
(signature)

Tran Quang Huy

Interviewee
(signature)

Pham Van Nguyen

Appendix 4: Photos taken during the 5th environmental monitoring***Consultations with relevant stakeholders***

Consultation with the representative of Nam Giang DONRE



Consultation with the representatives of Song Thanh Nature Reserve Management Board



Interview with representative of Dai Han Mechanical and Erection JSC contractor.



Interview with representative of Construction No.564 Co., Ltd contractor



Interview with representative of Consulting Construction and Electric Power Development JSC contractor

Sampling and measurement of air and surface water



*Air sampling at Dac Ring bridge
in March 2017*



*Air sampling at Dac Ring bridge
in June 2017*



*Air sampling at the powerhouse site
in March 2017*



*Air sampling at the powerhouse site
in June 2017*



*Air sampling at the dam site
in March 2017*



*Air sampling at the dam site
in June 2017*



*Surface water sampling in the downstream
area in March 2017*



*Surface water sampling in the down-
stream area in June 2017*



*Surface water sampling in the upstream
area in March 2017*



*Surface water sampling in the upstream
area in June 2017*

Field survey in the 5th environmental monitoring



Access road to the dam site



Access road to the powerhouse site



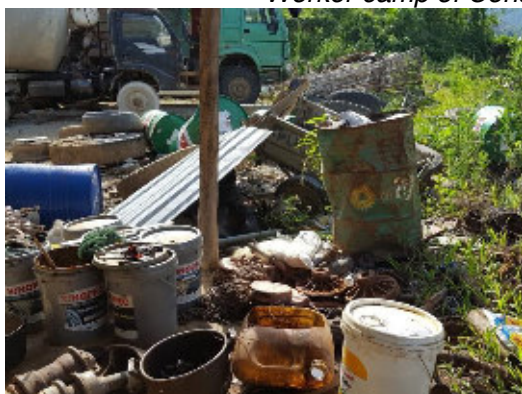
Dam construction site



Powerhouse construction site



Worker camp of Construction No.564 Co., Ltd.



Worker camp of Consulting Construction & Electric power development JSC



Worker camp of Dai Han Mechanical and Erection JSC

Appendix 5: List of consulted persons

No.	Full name	Gender	Ethnicity	Address/Position
1.	Tran Dinh Phuc	Male	Kinh	Head of Hydropower Section – Central Grid Company
2.	Tran Ngoc Quyen	Male	Kinh	Member of supervision team – Central Grid Company
3.	Nguyen Van Truong	Male	Kinh	Nam Giang Division of Natural Resources and Environment
4.	Nguyen Van Len	Male	Kinh	Vice – Director of Forest Protection Office under Song Thanh Nature Reserve Management Board
5.	Pham Huu Nghia	Male	Kinh	Supervisor - Song Thanh Nature Reserve Management Board
6.	Nguyen Ngoc Phuoc	Male	Kinh	Superintendent - Consulting Construction and Electric Power Development JSC
7.	Nguyen Van Ninh	Male	Kinh	Technical officer – Construction Company Limited 564
8.	Pham Van Nguyen	Male	Kinh	Site manager – Dai Han Mechanical and Erection JSC
9.	Hieng Gui	Male	Co Tu	Vice - Chairman of Cha Val Commune People's Committee
10.	To Den Tho	Male	Co Tu	Cadastral officer of Cha Val Commune
11.	Huynh Thi Kim Vui	Female	Kinh	Household in Ta UI village – Cha Val Commune
12.	Nguyen Van Cuong	Male	Kinh	Household in Can Don village – Cha Val Commune
13.	Bnuoc Thi Muoi	Female	Co Tu	Household in Ta UI village – Cha Val Commune
14.	Bnuoc Vuong	Male	Co Tu	Household in Ta UI village – Cha Val Commune
15.	To Den Son	Male	Co Tu	Household in Can Don village – Cha Val Commune