VALIDATION REPORT ON COMPLIANCE WITH WCD RECOMMENDATIONS

VIETNAM CARBON ASSETS LTD

REPORT NO. VIETNAM-WCD/0009/2011

REVISION NO. 01

SONG BUNG 5 HYDROPOWER PROJECT

BUREAU VERITAS CERTIFICATION

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Report No: VIETNAM-WCD/0009/2011 rev. 01

WCD ASSESSMENT REPORT

Date of first issue:	Organizational unit:
15/07/2011	Bureau Veritas Certification Holding SAS
Client: Vietnam Carbon Assets Ltd	Client ref.: Renat Heuberger

Summary:

Bureau Veritas Certification has made the assessment the compliance with the criteria of the World Commissions Dams, as well as the host country criteria of Song Bung 5 Hydropower project of Vietnam Carbon Assets Ltd located in Ma Cooih Commune, Dong Giang District and Thanh My Town, Nam Giang District, Quang Nam Province, Vietnam.

The assessment is defined as an independent and objective review of the project design document, WCD checklist based on WCD recommendations and other relevant documents. The overall assessment was conducted using Bureau Veritas Certification internal procedures.

During the course of assessment, 0 CAR and 0 CL were raised by Bureau Veritas Certification. Subsequent requirements, which shall be taken into account in the subsequent verification, are addressed as FAR. With this assessment, 0 FAR was raised

In summary, it is Bureau Veritas Certification's opinion that the project sufficiently complies with the relevant WCD and host country criteria.

Report No.:	Subject Group:
VIETNAM-WCD/0009/2011	CDM
Project title: Song Bung 5 Hydropower Project	
Work carried out by: Nguyen Tu Hai, CDM Verifier, WCD expert	
Work approved by: Tran Viet Hoang, CDM Lead Verifier	

Date of this revision:	Rev. No.:	Number of pages:
16/07/2011	01	76

Indexing terms

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ANNEX

WCD Checklist

Annex E

COMPLIANCE REPORTS ASSESSING APPLICATION OF ARTICLE 11 b (6) OF EMISSIONS TRADING DIRECTIVE TO HYDRO ELECTRIC PROJECT ACTIVITIES EXCEEDING 20 MW.

Date: 15th July 2011

Section 1: Description of the Project

Summary Description of the Project	Please complete
Name of Project	Song Bung 5 Hydropower project
Project ID Number	http://cdm.unfccc.int/Projects/Validation/DB/TIP6F1KP94H6EW3JXK19SX9SC0NMD1/view.html
Location	Bung River in Ma Cooih commune, Dong Giang district and Thanh My town, Nam Giang district, Quang Nam province, Vietnam
Date of Completion of Report	11/07/2011
Name of watercourse	Bung river
1.1 Project area	
1. Description of the watershed: • Political and administrative boundaries • Communities located along • Principal land used pattern • Existing and planned river flow modifications • Average annual runoff (m^3)	• Bung River catchment is contiguous to the Vietnam – Lao boundary. It borders with A Vuong river catchments to the Northwest, and Thanh River to the South. • Most of local residents living in the project area are the ethnic minorities i.e. Co Tu 56.2%, Gie Trieng 21.1%, Kinh 21% and other 1.7%. • Most of land in the project site is used for the purpose of agriculture; smaller part is non-agriculture land and the rest is unused land. • The proposed project is a new hydro power plant with a new built dam and

Summary Description of the Project	Please complete
	reservoir. Hence, it is a planned river flow modifications • N/A
2. Average annual river flow (m^3/s)	118.13
3. Average annual river runoff before and after project's implementation (m^3)	Reservoir of the proposed project will be regulated on the basis of daily regime; therefore, the average annual river runoff will be kept unchanged.
4. State briefly what impacts other hydrological projects have had on the river basin within 50km (untouched, affected significantly affected by other activities)	Significantly affected by other hydropower projects which located on Bung River. There are two other hydropower projects located on Bung River i.e. Song Bung 4 hydropower plant and A Vuong hydropower plant.
5. Ecological description of the surroundings (forest, cultivated land, wasteland, cultural heritage sites etc.) conservation value	The area for the implementation of Song Bung 5 hydropower project is very small (257 ha). Along Bung River, there are only poor forests with almost shrub, and small area of poor secondary forest left after the exploitation. No natural or historical conservation sites and archaeological places exist in the commune and surrounding areas.
1.2 Project – related activity	
1. Type of water infrastructure project (e.g. conventional dam, run-of-river- with or without a dam)	Run – of – river.
2. Related infrastructure being built as part of the project (i.e. roads, transmission lines, bridges)	The project will upgrade existing roads and construct a new 110 kV transmission line together with a hydropower plant. In addition, the project will build system that stores water for daily life of local people

Summary Description of the Project	Please complete
3. Installed generation capacity	57
4. Load factor	46.1%
5. Average annual energy production (MWh)	230,340
6. What does the project play in the national / regional electricity supply (base load, peak load, load balancing services for the grid, support for intermittent renewable, etc.)?	The project will supply the electricity for load balancing services for the grid and support for intermittent of renewable energy.
7. Estimated annual emission reduction potential	131,440
8. At what stage is the project's construction at the time of this application	Under construction
9. What other direct purposes does the project serve (irrigation, flood control, water storage for drought protection, water based transport, leisure facilities, aquaculture, industrial and municipal water supply, etc.)?	By supplying a stable electricity output, this project will facilitate the industrialization process of the province and support for economic development of local villages through fostering tourism, trade and services inside the province.
1.3 Project Component - Water-flow: Structures and changes	
1. Production capacity submerged area (W/m^2)	33.9
2. Retention structure / retarding structure (if present)	NA

Summary Description of the Project	Please complete
3. Type of water diversion	Diversion channel Cross section of diversion channel is in ladder form
4. Length of diversion	30.75 m
5. Type of water inlet	Reinforced concrete on-dam inlet
6. Reservoir (if present)	The project will create a reservoir with surface area of 168 ha, and regulated on the daily basis
7. Dam height (from foundation)	41.5 m
8. Crest length	56.5 m
9. Reservoir area at average water level	168 ha
10. Total reservoir capacity (m^3)	20.27 million
11. Back water length	9,200 m
12. Submerged area in total	164 ha
13. Submerged residential area	0.18 ha

Summary Description of the Project	Please complete
14. Submerged farmland/grassland	15.12 ha
15. Number of displaced inhabitants	3
16. Production capacity / submerged area (W/m^2)	33.9

Section 2: Assessment of compliance with the WCD criteria

Please complete this form with full explanations for all items. If a criterion is not relevant to the project, please explain why

CRITERIA			
1. Gaining Public Acceptance	**Description**	**Sources***	**Validator's Assessment**
1.1 Stakeholder consultation 1. Describe how the relevant stakeholders were identified.	The project owner hired a consulting company to conduct the feasibility study report. During the implementation, the stakeholders were identified and categorized according to the relevant Vietnamese law and regulations. The groups of stakeholders included as follows: - People who are directly affected by the project due to the occupation of cultivated lands - District and commune level: people living in Ma Cooih commune and Thanh My town, and relevant local authorities - Provincial level: representative of relevant provincial authorities	*/1/, /2/*	***During validation, Bureau Veritas verifiers have already approached impartially with local stakeholders including representatives of Local people committee, and people affected by project.*** ***By interview, verifiers have confirmed that the local stakeholders have been informed for project. Affected households have been invited for negotiation of compensation***

* Such as process documentation, stakeholders and issues identification, consultation strategies, resources planning, compensation plans, timetables, information sharing, written agreements with stakeholders, records of interviews, results of surveys/polls, minutes of meetings of the Stakeholders Forum, project documentation, Environmental Impact Assessments, documents related to local spatial planning, government and local authorities permits and agreements, description of methodologies used, decommissioning plans (where appropriate), other related environmental impact and social impact studies, etc.

2. Are any of these people minority groups, especially indigenous people and if so, what special efforts were taken to identify and meet their needs?	Most people living in the project site are minority groups namely Co Tu (56.2%), Gie Trieng (21.1%), Kinh 21% and other 1.7%. The project participants have been constantly consulting the residents in the project area since the starting of the project idea and during the project's preparation and construction. In all the communications/meetings, the local authorities always presented and observed. The local residents always have unlimited right to present their concerns/requests to the project participants directly with the observation of the authorities or they could choose to reflect their opinions via the local authorities then the authorities will have the responsibilities to request the project participant to address the issues. All the meetings/major communications have the minutes to summarize the problems/issues and also the feedbacks/commitments by the project participant. So far, the inhabitants always show their strong support for the project implementation due to the potential socio-economic and environmental values that the project will bring to the region and residents.	*/2/, /3/*	***By means of checking relevant records and interviewing local people, BV verifiers can confirm that the minority people were informed about the Project and all their responses were aware by Project owner. All people strongly support the Project development***
3. How many people have to be resettled due to the project?	03	*/3/*	***By interview the representative of People Committees, no household resettled due to the Project***
4. Resettled people/annual energy	03 / 230.34 GWh	*/3/,/23/*	***OK, by checking relevant records, BV verifiers can***

	production (number/GWh).			***confirm the accuracy of provided data***
5.	How many people were otherwise affected by the project (e.g. through loss of land, reduced productivity of fishing or hunting, etc	22 households were affected.	*/39/*	***OK, via checking the provided document, information is confirmed by BV verifiers***
6.	Describe how the affected local people and other relevant stakeholders have been informed and involved in the decision-making process of building the power plant	- The project idea has been informed to the local people in a very early state of preparation of the feasibility study in order to collect feedbacks/comments on the proposed project activity. To prepare the land inventory and survey for the land occupied by the project, the project owner and the consultant who prepare the FS have visited each impacted household to inform about the project idea and conduct the survey. - Subsequently meetings and discussions between the project owner and local people and authorities were held to address concerns raised by local people - In this proposed project, the local affected people fully agreed with the plan to build the hydropower at the project site because they know that they will get benefit from that compensation plans were negotiated with and agreed by each impacted household.	*/2/, /4/*	***Via checking records, interviewing the local stakeholders, verifiers can confirm the consultation process had been properly implemented***
7.	Describe how the affected local people and relevant stakeholders have been	The impacts of the project on quality of life of the local people have been informed via different meetings with local people and local authorities. The information disseminated via	*/2/, /6/*	***OK, via interviewing on – site, the content of response has been confirmed***

informed about the impacts of the project on their quality of life	the direct meetings with each impacted household as described above, then later via the meetings organized by as well as public speaker operated by the communal authorities. At the initial stage of the project preparation, information about the project idea, project's purposes and land occupations has been informed to the local authorities via the meetings between the local authorities and project owners. The local authorities then informed the potential project and its impacts to local residents via meetings. After that a summary of the project, its impacts and development are informed to the local people either by the project owner or by local authorities via meetings and negotiations. And a summary of approved environmental impact assessment report was publically posted at the project site and the Commune's Hall as regulated by Decree No.21/2008/ND-CP dated 28 February 2008 of the Government amending and supplementing a number of articles of Decree No. 80/2006/ND-CP dated 09 August 2006 providing details and guidance for the implementation of the Environmental Law of Viet Nam 2005.		

8. How have the affected local and indigenous communities participated in the decision-making process?	The affected local and indigenous communities participated in the decision-making process. They gave their comments in the meetings before the starting date of project activity and also in the construction period of this project. If any negative reasonable comment is arisen, then the project will be postponed or even stopped the construction until the issue is addressed properly under the supervision of the local authorities.	*/2/, /4/*	***OK, by interviewing on – site, the response has been confirmed and assessed reliable***
9. How will the economic and social impacts of the project on the affected local communities, indigenous people and/or other relevant stakeholders be addressed?	According to Decree No. 80/2006/NĐ-CP dated 09 August 2006 of the Government providing details and guidance for the implementation of the Environmental Law of Vietnam 2005 and Decree No.21/2008/ND-CP dated 28 February 2008 of the Government amending and supplementing a number of articles of Decree No.80/2006/ND-CP dated 09 August 2006, an EIA should include the assessment on the social and economic impacts on the affected local communities and residents. Therefore, the assessment on the social and economic impacts has been conducted by a third party and incorporated in the EIA report. Such assessment results are informed to the local people as part of an EIA report. The stakeholders recognized the following benefits from the implementation of the project: - Improving the transportation network in the	*/2/, / 3/, /4/,/ 6/, /17/, /18/, /34/, /37/*	***OK. By interviewing local government and people, cross – checking the EIA report and relevant documents, all economic and social impacts of the project are confirmed sufficiently***

	region that will create favorable conditions for living and production activities of local people, helps the transportation of goods and people, and facilitates the communication among areas in the region. - Generating a clean and stable source of electricity and promoting rural electrification process. - Creating new jobs for local people, especially the ethnic minority people, reducing the local unemployment rate. During the construction phases of the project, local people are employed to work temporarily or permanently for the project. - Improving the living standard of local people, narrowing the cultural and economic gap among ethnic groups and areas in the region. - Contributing to the local budget through taxes. - During the implementation of the project, the contact, communication and work with skilled workers and staff will helps local people exchanging culture standard and acquiring experience and good working skills. - Providing a stable water source for agricultural production, especially the clean water source will be share with local people.		
10. How do compensation and benefit agreements correspond with the identified needs and rights of the	The negotiations on compensations are held directly between the project owner and local people living in the upstream and downstream who are potentially negatively affected due to the project. The negotiations on	*/4/, /16/, /17/, /18/, /19/, /20/, /21/*	***OK. All affected people receive the compensation in compliance with regulation and they are satisfy***

stakeholders negatively affected upstream and downstream due to the project?	compensations must be based on the compensation rates regulated by the government. The compensation rate and schedule are then approved and supervised by the local authorities. The affected people present their needs and rights during the negotiations and also direct contacts with the project owner if any issue arisen. Apart from commitment to compensate adequately for any land occupied and damage caused by the project as regulated by governmental guidelines, the project owner also commits to implement the following activities to address the benefits and concerns of the stakeholders as requested by the local residents: - Support households who have lands occupied to adapt and stabilize their livelihood. - Support local villages with infrastructure as improving the road and supplying electricity for local people.		
11. Was a Stakeholders Forum held with a broad local community participation (based on a customary and national law)? Describe the process and its outcome, and the response of project developer, local and national authorities?	Since the examination of the project until the current construction stage, several stakeholder forums have been conducted. All impacted people who are from indigenous communities and representatives for local organization having been attended the forums. Moreover, in order to consult local people on the social-economic and environment impacts of the proposed project to develop this project as a CDM activity, an extra official meeting between the project owner and the following local people who are well representatives for	*/1/,/2/*	***OK, by interviewing stakeholders, the description has been confirmed***

	local residents, local authorities was held in 2009. • Commune's People Council: The members of Commune People's Council are elected by residents in commune. So the Council opinions officially represent for opinions of the local people. • Commune's People Committee (CPC): CPC is the lowest administration level in Vietnam administrative hierarchy. Chairman of CPC is elected by the Commune People Council, so he well represents the commune's interest. • Commune's communist party committee secretary: The Commune's communist party committee is one of the key government bodies in making development strategies at the communal level. • Village's representative: head of village, secretary of young union, head of farmers' association, head of women's association. Then the internal meetings of local commune were organized subsequently to announce the proposed project activity in non-technical and local language to local residents. All organizations agreed that the project will certainly contribute to sustainable development and environment protection in Vietnam and especially this project will increase local budget and reduce poverty. Therefore, they fully support the project to		

	develop.		
1.2. Transparency 1. Was key project documentation (e.g., social and environmental impact assessments) made publicly available before a decision to start construction was made?	The project must comply with existing transparency-related regulations (such as The Grassroots Democracy Decree 79/2003/ND-CP) in order to receive licenses and approvals for the investment and construction of the project It means the project information and summary of the social and environmental impacts have to be made publicly. The project owner has to make the summary of the report on social and environmental impacts publically in the commune and to the local authorities.	*/1/, /2/, /3/, /35/*	***OK, by interviewing representative of affected villages, BV verifiers can confirm that all documentation regards to environmental impacts were made publicly in prior to the decision to start construction***
2. In what form was project documentation made available to stakeholders? Was it the original EIA etc. or was it in another form e.g., a summary of positive and negative effects of the hydrological construction.	The Song Bung 5 Hydropower project has been informed to local people via the following modes: 1. Publicly posting written documents at the commune halls and cultural centers; 2. Using the public speaker system of communes and villages as well as grassroots cultural, information and propaganda organizations; 3. Organizing meetings between impacted peoples, local authorities and project owner. 4. Sending documents to households or village chiefs.	*/2/, /4/, /6/*	***OK. Via interviewing and cross – checking relevant records, the response was assessed as reliable***
3. How many of the total number of stakeholders	Most of the stakeholders in Ma Cooih commune and Thanh My town have had	*/1/, /2/, /6/*	***OK.*** ***By means of checking***

have had access to the key documentation and have been actively involved?	access to the key documentation because it was publicly posted at the Center of Communes' offices and at the project site. Besides, via the local authorities, the project owner invited the stakeholders to attend the meetings to consult their opinions about this project.		***documents and records, BV can confirm the number of stakeholders affected***
4. Is there a negotiated agreement between the stakeholders and project owner(s)? If so, is it publicly available?	There are negotiated agreements between the stakeholders and the PO about the compensation and the commitment of PO - The compensation plans were negotiated with and agreed by each impacted household and approved by the local government. - Commitment to support local villages in constructing and improving infrastructure, i.e. improving road and constructing public utilities. The final approved compensation plan and the list of compensated households were publicly by the communal authorities via the publicly posting written documents at the commune halls and cultural centres.	*/3/, /4/*	***OK*** ***The answer was assessed as reliable by checking relevant legal decision and compensation records on – site***

Validator's Conclusions concerning Priority 1:

The EIA and other important documents are reviewed.
The stakeholder group was clearly identified in the phase of feasibility investigation of the project activity.
Necessary information of the project activity (impacts, design …) was made publicly available. Therefore the stakeholders affected by the project were involved in the decision-making process.
The process follows national laws and regulation.
All the documentation referred to the approval and stakeholder consultations were provided by the PP and were verified through on-site investigation and document review.

2. Comprehensive Options Assessment			
2.1 Needs: 1. What priority is given to hydropower in **national development or energy planning** (e.g. relevant government decisions)?	Due to the shortage of electricity in Vietnam so far, the government (including EVN and related ministries and agencies) encourages the investment activities to exploit renewable resources to produce electricity although no specific supports are given to hydropower in particular or renewable power in general to date. The project to prepare "Strategies and master plans for renewable energy in Vietnam for the period up to 2015 with the perspectives up to 2025" is being	*/10/*	***OK, via checking relevant documentation, the content of description has been confirmed and assessed reliable***

	implemented by the Ministry of Trade and Industry in order to encourage the investment in exploitation of renewable energy resources in Vietnam since 2007 but not yet finalized and publicly available.		
2. What are the needs for hydropower at regional and local level?	Vietnam has certain natural endowments to generate electricity from nonrenewable sources, e.g. fossil fuels (coal, FO, gas) and renewable sources. Hydropower is the most available power source at the region. It is needed not only to improve the living standard via supply of electricity but also to support agricultural activities in the locality, and subsequently increasing local people's income. The consideration of the need for constructing this hydropower vs. other alternation is presented in Section 2.2.	*/37/*	***By checking source, BV verifiers confirm the response is correct***

3. What are the regional/national supply needs of the electric system (renewable base load, peak load or load balancing of the grid, support of intermittent renewable)?	Load balancing of the grid, support of intermittent renewable	*/25/*	***OK, sources checked and answer was assessed reliable***
4. Describe safeguards for equitable access to water resources. How do hydropower projects contribute to efficient water resources management?	The consideration of the exploitation of hydrologic potential vs. the other benefits provided by water resources of Bung river has been done at the provincial level. The Song Bung 5 hydropower project was listed in the Provincial Master Plan for power development which is published by the Vietnamese government. It showed that the balance between meeting the demand for electricity and maintaining the access to water resource to serve other	*/2/, /3/, /28/*	***By interviewing the local stakeholders, BV verifiers can confirm that the project does not major affect the water resources***

	purposes has been taken into account. And because the reservoir of Song Bung 5 Hydropower project is daily regulated so it will not have a major impact on the water supply for the regions upstream and downstream.		
5. Does this hydropower project provide financial incentives to develop a multi-purpose project?	This project has been implemented with the main purpose of generating the clean electricity without GHGs emission and supplying to the national grid. Other multi-purposes may brought about by the project are resulted from the commissioning and successful operation of the hydropower plant. The project is developed as a CDM project that will make the project more viable that in turn will secure other purposes expected from the implementation of this project activity. Apart from CDM incentive, the project will be not benefited from any other financial supports/incentives set by the government and under the ODA source.	*/2/, /27/,/28/*	***By checking relevant documentation regarding to investment, the project is substantiated to develop only specified purpose***
2.2. Alternatives 1. Describe the examination of alternatives to the project that have been	Under the feasibility studies, different options for dams and power channel have been conducted which includes:	*/23/, /33/*	***By reviewing the Master Plan of Province and relevant documents regards to the***

considered (include details of feasibility studies and do-nothing options analysis that have been conducted).	The different options have been evaluated based on various terms, such as typology, energy efficiency and hydrologic conditions in order to provide the most efficient and safety option for the designed capacity and the location. However, all options proposed the same capacity with the main difference in the water level of the reservoir only. The designed options based on the dam location have been considered under the feasibility study. Do-nothing option means the region would have been continued being not connected to the national grid and being isolated from the neighbour regions. It therefore has very obviously negative impacts on the national and regional development policies to reduce poverty in the region. This option is not realistic.		***electricity development in Quang Nam Province, the response was assessed as reliable***
2. Have stakeholders been involved in the identification of the options? Describe process and outcome of that involvement	In general, the local people strongly support for the construction of the proposed project. The different designed options for the proposed project will have the same capacity and not have major changes on the land occupied areas that are the	*/1/, /2/*	***By checking records and interviewing local stakeholders, the consultation process had been provided accordingly***

	most concern of the local people. Therefore, the details of the designed options were not discussed with the local stakeholders. As discussed above, the do-nothing option means that the project region would have been remaining as an isolated and less developed area. For this reason, the local people have been fully supporting for the project from the beginning and during the whole stakeholders' consultation process as presented in the previous section.		
3. What are the main reasons behind the project choice and site selection (social, environmental, economic, and technical)?	The main reasons for selecting the project are: - Social: As there are few households living in the project area, the project will have minor negative impacts on the livelihoods of local people. However, the project activity will contribute to improve social quality in this poor region, i.e., accessing to the clean water, electricity, communication; improving of access roads; and creating new jobs for local people, especially the ethnic minority people, reducing the local unemployment rate. These	*/2/, /3/*	***By FSR checking, the content has been confirmed sufficiently***

	benefits will be a significant contribution to the livelihoods of the people living in this poor mountainous area. - Economic: Major land area occupied due to the project activity is of low economic value, and there does only one household have to remove to new place; therefore, the compensation cost will be reduced. The project activity will contribute to facilitate the economic development by improving the infrastructure system in the region and contribution to the local state budget through taxes. - Technical: The hydrologic condition is suitable to generate clean electricity without GHGs emission and supply to the national grid - Environmental: the project will have certain negative impacts on the regional environment as discussed below but they mainly present during the construction period that can be eliminated by implementing properly mitigation measures. Such negative impacts can be offset by the positive impacts created by the project in		

	a long term.		
4. What are the consequences of non-action for the local and global environment?	The project activity will provide a clean electricity source without GHGs emission to the national grid that is dominated by thermal power plants, therefore non-action means more negative impacts are expected to the global climate system due to more GHGs emitted into the atmosphere. The province where the project located is a poor mountainous area and vulnerable to climate change. Thus the more severe the climate change is, the more damages this region may face. Furthermore, the project will contribute to provide more water in the dry season that will help reduce the negative impacts due to the draughts on local people and environment.	*/3/*	***By checking EIA report of the Project, BV verifiers can confirm the response. Beside, verifies also made an interview with local people to confirm that all negative impacts was reduced and eliminated during the development of the Project***
5. On the project assessment level, describe project variants and types of technology considered in comparison with the selected option.	Given the water head, flow and proposed capacity, the FS consultant has proposed to install Kaplan turbine due to its simple structure, stable operation at a high efficiency.	*/23/*	***OK. Via cross – checking with FSR, the response was assessed correct***

<u>Validator's Conclusions concerning Priority 2</u>:

The development needs and objective of the project are defined in the project design documents (FSR/EIA) prepared by qualified entities. These documents are approved by the government before the start of the project. A range of variants and possible options were

identified. The selection is based on a comprehensive and participatory assessment of the full range of policy, institutional and technical options. In the assessment process social and environmental aspects have the same significance as economic and financial factors. The options assessment process continued through all stages of planning, project development and operations. The audit team considered the WCD criterion as fulfilled.

3. Addressing Existing Dams/hydroelectric projects			
1. For hydroelectric projects with dams, please describe the national requirements and routines for monitoring and reporting regarding: • emergency warning, • sediment management, • safety system, • maintenance system, • environmental impact, • social impact, • implementation of compensation agreements.	In order to operate a hydroelectric project with dams, the following national requirements and routines for monitoring and reporting regarding the - emergency warning, - sediment management, - safety system, - maintenance system, - environmental impact, - social impact, have been imposed: 1. Law on Water Resources No 08/1998/QH10 dated 20/05/1998. 2. Ordinance No: 32/2001/PL-UBTVQH10 dated 04 April 2001 on the exploitation and protection of irrigation works 3. Decision 285/2006/QD-TTg date 25-12-2006: On the contents and competence to promulgate and organize the	*/3/, /5/, /6/, /12/, /13/, /14/, /15/, /16/, /17/, /29/, /31/, /32/*	***OK, all requirements with respect to emergency warning, maintenance system, environmental impacts and compensation were identified sufficiently, transparently and verified to be reliable***

	implementation of the process of operation of hydropower reservoirs. 4. Decree No.72/2007/ND-CP ensuring dam safety to be the highest priority in construction, management, exploitation and protection of reservoirs. Dam safety management is to be done regularly, continously in the process ofreservoir construction and exploitation 5. Other standards and procedures related to hydrological construction of reservoir. According to Vietnamese Standards and law for ensuring dam safety, the following actions must be complied to reduce the negative impacts: The reservoir and the dams are subject to an operation process that is approved by the government. The project owner is mainly responsible for the safety operation of the reservoir and dams according to the process approved, in which regulates a periodic reporting scheme to the local authorities on the safety and operation of the reservoir, dam and plant is required.		

	• Emergency warning: when a problem occurs, which may cause the dam un-safety, the rescue work must be deployed with the best effort and the highest priority for safety of dams and minimizing loss. Besides, the project owner has to inform the appropriate authorities instantly when any of the situations below occur o Dam is broken down o Problem in operating valve gate in flood season o Heavy rain in the basin of reservoir when it is at its full capacity o Sabotage of dam (doubtful) • Sediment management. o At the designing period: The sediment capacity of the reservoir is defined according to the scale of a reservoir. The full sediment storage in normal conditions shall be at least 50 years o At the operating period: - Initiative in discharging sediments in sedimentation chamber as necessary by sluicing outlet. - Capable to discharge		

	sediments out of the chamber or to store in the well for regularly mechanical cleaning. • Safety system: o Protection range - With dam: Project owner identifies and installs the border line of the dam and the surrounding - With reservoir: the People Committee identifies and installs the border line of the reservoir and the surrounding o Protection measures - Patrol and watch at important location when heavy raining or flooding - Check and verify people, tourism vehicles or guests when visiting dam - Limit or forbid big vehicle moving on the dam - Conduct dam surveys and meteorology-hydrology measurement - Establish the storm and flood protection steering committee for reaction in emergency cases. - Having a well-trained operation and maintenance staff • Maintenance system o Methods for reducing the		

	probability of dam failure are proposed and will be employed throughout the life cycle of the dam. During the operation of the dam, instrumentation, regular inspections and repairs will be implemented to reduce the risk of failure. Instrumentation includes a wide range of technologies that measure changes in the dam structure and foundation, such as strain gauges. These instruments can provide information regarding how the dam is changed over time so that potential problems can be detected early and resolved in a cost-effective manner. Regular inspections of the physical structure of a dam will be implemented to identify problems before they become crises. The frequency of inspections will be correlated to the risk of dam failure. Parts of the dam and foundation that are underwater shall also be inspected. Based on the information compiled from regular inspections, necessary repairs will be made. o Surveys on dam structure after heavy rain or flood. o During the operating life of		

	a dam, hydrologic data and operating plans shall be collected and analyzed regularly. A review of the hydrologic data will be useful in verifying the validity of the information on which the design of the dam is based, and in detecting changes in river flow patterns that may affect the safe operation of the structure. Reviews of operating plans shall be done to identify opportunities to improve safety by managing water levels, as well as to adapt to changing priorities for services provided by the dam and to optimize the dam's performance. Like the dam life, rehabilitation of the structure may be necessary to avoid failure due to deterioration of the dam or to changes in environmental conditions. Rehabilitation may include measures such as dredging the reservoir to remove accumulated sediments and restore storage capacity, strengthening construction materials by adding a coat of concrete and other measures. • Environmental impact: 1. To provide a written report to the district people's committee in		

	the locality for implementation of the project about the contents of the decision approving the environmental impact assessment report and enclosing a copy of such decision on approval. 2. To publicly list at the location for implementation of the project a summary of the approved environmental impact assessment report, specifying the following items: the type and volume of waste materials; the technology and equipment for treating waste; the level of treating waste in accordance with the particular parameter of the stipulated standard for the waste material; and other environmental measures. 3. The design, construction and installation of environmental treatment facilities: (a) On the basis of the preliminary drawings of the fundamentals of the environmental treatment facilities set out in the approved environmental impact assessment report, to carry out detailed design and to construct and install such facilities correctly in accordance with the current		

	regulations on investment and construction; (b) After the detailed design of the environmental treatment facilities of the project has been approved, to send a written report to the State body which approved the environmental impact assessment report together with the plan on construction and installation enclosing the detailed design file in order for such body to monitor and inspect [construction and installation]. 4. To protect the environment during the process of execution of the project building works: (a) During the process of execution of the project building works, to take measures to protect the environment including measures to reduce negative impact on the environment caused by the project, and to continue to observe and measure the environment correctly in accordance with the requirements set out in the approved environmental impact assessment report including any other requirements set out in the decision approving such report; (b) If during the process of		

	execution of the project building works there are any amendments or changes to the contents and methods for environmental protection which have been approved or certified, to provide a written report to the body which approved or certified the report, and only to take measures after such body has granted its written approval; (c) If during the process of execution of the project building works or operational testing of the project any environmental pollution is caused, such execution or testing must be immediately stopped and a report made to the office of natural resources and environment at the district level in the place where the project is being implemented and also to the body which approved the environmental impact assessment report; (d) To co-operate with the State administrative body for protection of the environment and to facilitate the supervision and inspection by such body of the items and measures for protection of the environment by the project; and to provide		

	complete information and data at the request of such body. 5. Operational testing of environmental treatment facilities: (a) After construction and installation of the environmental treatment facilities completed and the facilities have been accepted, the facilities must be operationally tested in order to check that the technical parameters regarding the environment have been satisfied in accordance with the design; (b) To prepare an operational testing report and to notify it to the body which approves the environmental impact assessment report, the Department of Natural Resources and Environment and the Divisions of Natural Resources and Environment at the district level and the resident community in the location of implementation of the project in order that a plan on supervision and inspection can be arranged; (c) If the project owner does not have the capability to itself conduct surveys and analysis of the technical parameters regarding the environment, it		

	must sign a contract with an organization with adequate professional and technical skills to conduct such surveys and analysis; (d) On completion of operational testing, to forward a written report to the body which approves the environmental impact assessment report requesting certification of the results of operational testing of the environmental treatment facilities, in order for such body to provide its certification. • Social impact o Popularizing and mobilizing local people for their understanding and supporting to this project. o Carrying out the compensation plan seriously o Creating new jobs for local people to reduce the unemployment which also reduce the social evils. • Implementation of compensation agreements: The compensation process will be carried out under the supervisor of Compensation Council. Compensation can be made not only for the loss of land and		

	houses, but also for the loss of access to jobs and communal resources by using local human resources for appropriate jobs in the construction and operation phases.		
2. For non-dam projects, describe details of the continuous monitoring of the project (environmental and quality assurance)	NA		***NA***
3. How have relevant outstanding social and environmental issues from existing dams/hydroelectric projects in the river basin been addressed?	The EIA report and the stakeholder consultations show that there are no outstanding social and environment issues from existing dam/hydroelectric project in the river basin. However, if any outstanding social and environmental problems may occur during the construction and operation of the project, the project owner will collaborate with relevant entities (local residents and local authorities) to implement the mitigation measures as indicated in the EIA report (Chapter 4. Mitigation measures)	*/3/*	***OK. Checked and confirmed via site – visit. The response is reliable***

4. Have national regulations been enforced for existing dams and what can be concluded with regard to compliance?	The construction, operation and maintenance of the existing dam is regulated by relevant national regulations. During the construction, its quality is supervised by a third independent and accredited party in order to comply with the National Construction Codes. Before and during the operation, it is regulated by the Procedures for Operation of Reservoir which will be approved by appropriate agency. The project is allowed to operate only when the quality supervision report is positive as well as having the approval of the Reservoir Operation Procedure via the issuance of the License for Usage of the surface water by MONRE.	*/13/, /14/, 15/*	***OK, by checking document, BV verifiers confirm the response***
5. Will the implementation of safety measures and evacuation plans be independently audited?	The safety measures for the operation of the reservoir and dam is approved by MONRE via the issuance of the water use license. The implementation is supervised by the local authorities. The project owner is requested to report periodically to the relevant local authorities the status of the plant and construction items. Annually, the project owner has to submit a	*/13/, /14/, /15/, /29/*	***By site – visit checking, the content has been confirmed***

	plan for flood prevention to the local authorities for approval and coordination. The evacuation and safety measures will be incorporate in such reports and the implementation is supervised by the local authorities.		
6. Provisions for maintenance and decommissioning • What provisions have been made for maintenance and refurbishment (e.g. a maintenance and refurbishment fund)?	No such fund is set up for the entire project lifetime; however, annual maintenance and refurbishment costs have been taken into account in the financial analysis to make the investment decision as regulated by the government.		***OK, by checking document, BV verifiers confirm the response***
• What arrangements are made for decommissioning at the end of the plant lifetime, if any (e.g. decommissioning set aside fund)?	Decommissioning concept is not yet introduced and regulated by the government. Therefore, the project owner has not yet any arrangements for decommissioning at the end of the plant lifetime.		***OK***
• Describe provisions for emergency drawdown and decommissioning.	• Emergency warning: when a problem occurs, which may cause the dam un-safety, the rescue work must be deployed with the best effort and the highest priority for safety of dams and minimizing loss. • When the proposed project is commissioning, project	*/6/, /13/, /36/*	***OK, by checking document, BV verifiers confirm the response***

	owner will made the Reservoir Operation Procedure which contains the provisions for emergency drawdown in different items as follows: Operation in flood season; Operation according to electricity generation task Monitoring meteorologic and hydrologic factors Responsibilities, rights of the plant and local authorities Organization and implementation In general, the project owner will have to promptly inform the appropriate authorities if any of the situations below occur, a part from periodic reports: o Dam is broken down o Problem in operating valve gate in flood season o Heavy rain in the basin of reservoir when it is at its full capacity o Sabotage of dam (doubtful)		
• Are they sufficiently flexible to	The costs for maintenance and implementing environmental		***OK, by checking document, BV verifiers confirm the***

accommodate changing future needs and values, including ecosystem needs and ecosystem restoration (Guideline 12)?	monitoring and mitigation activities have to be covered by the project owner ex post and have to be taken in the annual financial plan. If any changes in the future needs and values, the project owner will be wholly responsible for adjustment of the plan and payment		***response***
• Does the licence for project development define the responsibility and mechanisms for financing decommissioning costs?	It is not required according to Vietnamese law.		***OK***
• Describe economic, environmental, social and political factors that may point against future decommissioning, if this has been recognised as the best solution.	With future decommissioning, the electricity supplied to the local area will be reduced, and workers in plant will be unemployed. So it may create negative economic and social issues.		***OK, by checking document, BV verifiers confirm the response***

Validator's Conclusions concerning Priority 3:

The project is a newly built hydropower station with a reservoir. The national requirements and routines for monitoring and reporting are in line with national regulations and laws. This was checked by means of interview and document review. No provisions have been made for refurbishment. This is not required by national regulations. The audit team considered the WCD criterion as fulfilled.

4. Sustaining Rivers and Livelihoods			
4.1. Water use ratio*			
Water use ratio (ratio of natural flow, agricultural water, industrial water, domestic water…) including: 1. population of the river basin area (10^6 inhabitants)	Population: N/A	*/23/*	***OK, by checking document, BV verifiers confirm the response***
2. natural mean flow (m^3/s);	Natural mean flow: 118.13 m^3/s	*/23/*	***OK. Correct via checking FSR***

* Water Use Ratio - an environmental indicator which refers to the withdrawal of water for irrigation, industry, household use… A ratio of 25% or higher is generally an indicator of water stress. Important water demanding activities affect seriously its quantity and in consequence the availability of water resources. Some of these driving forces are urbanization, industry and agricultural production. The increase in impervious surface has the effect of reducing water infiltration and aquifer recharge

3. demand (m^3/s);	NA	*/23/*	***OK. Correct via checking FSR***
4. water use ratio (%);	NA	*/23/*	***OK. Correct via checking FSR***
5. comparison of water demand with natural mean flow;	NA	*/23/*	***OK. Correct via checking FSR***
6. storage capacity (km^3);	NA	*/23/*	***OK. Correct via checking FSR***
7. annual water consumption by type of users (hm^3/year): agricultural and farming, domestic use, industrial use	NA	*/23/*	***OK. Correct via checking FSR***
4.2 Impact Assessment (Note: both positive and negative impacts should be included here) What Impact Assessments have been carried out and on which regulations were they based on? – Describe the major impacts in each of the following categories and the mitigation measures for negative impacts:	According to environmental law, the EIA report for this project was conducted to assess the potential impacts on environment and society, economy. The environmental impacts and mitigation measures are summarized as follows.	*/3/, /5/, /6/, /7/, /9/, /28/*	***OK. EIA has been made legally with local legislation***
4.2.1. Environmental Impacts	1. Environmental Impacts 1.1.1. Impact on land	*/2/, /3/*	

Describe environmental impacts of the project (including impact on water quality (temperature, oxygen, etc.), soil, air quality, GHG emissions, **biodiversity**, habitats, risk of erosion caused by inundation etc.)	The proposed project will occupy about 257.01 ha land, of which 162.01 ha is used for the construction of reservoir and 95 ha is used for other items power house, and auxiliary structures etc. The occupied land will be compensated adequately in comply with government laws and regulations. No historical culture and archaeological places exist in the project site. 1.1.2. Impacts on air and noise The preparation and construction phase might cause air pollution. Pollutants are almost generated from the operation of auxiliary plants, material vehicles and executing machines. Pollution sources include dust, noise and waste gases from executing machines. This pollution is temporary and will be terminated upon the completion of the construction. 1.1.3. Impacts on water flow		***By reviewing the EIA report, all environmental impacts are sufficiently identified*** ***Other data was checked and confirmed***

	The project will create a reservoir with surface area of about 168 ha at the average water level of 60m. The creation of reservoir will form a reservoir ecological environment, which facilitates the eco-tourism, and contributing to improve water transport. Water from the reservoir will significantly serve the agro-forestry activities, increase land use proportion. The content of dissolved oxygen as well as other chemical content as pH, turbidity, etc... will not change. 1.1.4. Impacts on ecological system • Flora The Song Bung 5 Hydropower Project does not cross-out any natural conservation areas, national forests or specialized forest. The implementation of the project will affect about 173.01 ha forest, of which 136.2 ha is natural forest, 36.81 production forest. During		

	the project implementation, there will be a large number of workers gathering in the project site, which causes forest destruction for wood, and crop cultivation. The formation of water transportation activities during the reservoir water retaining period will further bring human beings to forests around the reservoir, which is to disturb ecological system and vegetable cover in here. • Fauna The project implementation will pose negative impacts on the fauna due to loss of habitats, road construction, animal hunting for food, pharmaceutical products, trade, etc. The creation of transport paths will isolate the movement of wild animals. After commissioning, the reservoir with its large water surface will cause the local climate to		

	become milder with positive effects on the local fauna and flora, as well as surrounding communities. • Aquatic system and fish The project implementation will locally affect the aquatic system (mostly at the dam and power house constructions), which impacts will last for short time. The construction of dam will influence some kinds of migrating fish during reproductive season. 1.1.5. Impacts on local environment surrounding the construction site • Dusts and gas emissions: During the construction phase, activities such as area leveling, road making, exploitation/transportation of building materials etc. may emit to the air dusts and gases like COx, NOx, SOx. These gases have negative impacts on the health of people and animals.		

	• Noise: Noise is caused by mine explosions during the construction and by operation of vehicles. The magnitude of noise and of vibration from mine explosion will affect the exploitation and construction sites. However, these impacts are temporary and will be terminated after commissioning the construction phase. 2. Mitigation measures to reduce negative impacts Construction phase o On soil: All excavated rock and aggregate will be used in construction where possible, while the spoil will be deposited in areas with minimum landslide potential; layered and covered with soil; and planted with trees, shrubs, and grasses. o On water quality: Avoiding the direct discharge of untreated waste or oil to the river. All waste including domestic		

	and industrial waste shall be collected and transported to proper location (i.e. septic tanks) for the treatment. ~ Clearing the reservoir bed: clearing the designated areas of all trees, down timber, snags, vegetation, rubbish and objectionable material and shall include grubbing stumps and roots and disposing of all material resulting from the clearing or grubbing. ~ Regular monitoring of water quality at stations in the river or auxiliary and resettlement zone. o On air quality ~ Using water spray trucks for dust suppression will mitigate dust generation from construction traffic. ~ All means/vehicles for transport of construction materials must be covered in order to minimize dust dispersion. ~ Means used for the construction shall meet relevant standards		

	required by the host country. ~ Waste and dust after being mitigated shall meet Vietnamese Standard TCVN 5937:2005 o On noise ~ Reduce noise from machine via maintenance, turn off intermittent operation machines that are not necessary. ~ Arrange works on day tour, constrain working by night. ~ Using standardized and registered machines to reduce noise and waste gas during their operation. ~ Mine explosion shall be made in proper time ~ Using a sufficient amount of explosives as legally required o Waste collection and treatment ~ Implement regular collection and treatment of solid and liquid wastes, including the construction of a dumping area. ~ Raise awareness of the environmental protection		

	for workers and local people. o On flora and fauna ~ All work will be carried out in such a manner that damage or disruption to vegetation is minimized. After completion of construction activities, temporarily occupied areas will be re-vegetated. ~ Prohibiting forest clearance for crop, fire wood or other purposes. ~ Taking necessary measures to project forest fire such as applying strict measures for preventing fire and explosion at workers huts. ~ Conducting reforestation at the places where forests have been occupied for the project implementation. ~ Prohibiting all kind of animal hunting activities ~ The contractors shall raise awareness of environmental protection for workers. o Mitigation measures for socio-economic impacts		

	- The project owner shall make a plan to implement the measures for protecting human health, examining food safety and hygiene in accordance with regulations of Ministry of Health, Viet Nam, associating with local medical stations in preventing common diseases. - Project owner shall effectively disseminate the benefits of the implement of the project; provide sufficient information of project implementation, compensation policy, resettlement as per laws. - Give prior opportunities to the local resident to work for the plant during the construction and operation Operational phase Preventive measures and reaction towards environment problems: Install monitoring equipment to monitor absorption and distortion of water rising and water quality released from the		

	plant and propose suitable preventive measures if required.		
4.2.2. Environmental Flow Assessment 1. Describe how the environmentally safe minimum flow has been determined.	According to the Vietnamese law for those hydropower projects like Song Bung 5 Hydropower Project, the environmental flow assessment is included in the EIA. According to the specifically geographic conditions at the project site, there are a lot of small streams which are connected to the stream section behind the dam. Furthermore, the reservoir of Song Bung 5 hydropower project is proposed to be regulated on daily basis. For these reasons, the flow will be maintained in the downstream.	*/3/, /14/*	***OK*** ***The response was assessed correct via refer local legislation and relevant records***
2. Describe the measures taken to minimise the impact of reduced flow in the affected river.	• The reservoir of the project has a small surface area and is regulated on daily basis; therefore, the flow at the downstream will not be reduced but increase. . • The period for the initial filling shall strictly follow the relevant laws and regulations to maintain water in the downstream. • Allow the water flow over	*/36/, /37/*	***OK, by checking document and relevant records, BV verifiers confirm the response***

	the spillway to maintain the stream flow.		
3. Describe the measures taken to maintain ecosystems, productive fisheries and other aqua-cultures downstream and upstream	The reservoir should be self-populated by indigenous fish species that can adapt to the reservoir. Prohibiting fishing activities using mine, electric devices, or chemical, which influence young fish, and other aquatic species. Waste oil or other hazardous chemicals should not be discharged down to the river. Restricting to discharge soil and rock generated from the construction into the river. The project owner shall make a financial plan for the aqua-culture.	*/3/*	***By checking EIA, the measure has been fully recorded and confirmed***
4. Describe the activities the project developer will undertake before flooding the land (e.g. clearing of vegetation or other preparations).	Before flooding the land, the clearing activities were taken including cutting down trees and snagging stumps and roots, and collecting rubbishes and dumping collected rubbishes.	*/3/*	***OK. Project construction document checked and the activities were planned before flooding the land***
5. Describe any other compensatory measures addressing environmental impacts of the project	Implement a compensatory afforestation plan around the project site and power house and in the temporarily occupied areas under the construction phase.	*/3/*	***OK*** ***BV verifiers already took the site – visit and confirm the information in the answer***
4.2.3. Social Impact	Socio-economic impacts - Negative impacts	*/2/, /3/*	***By interviewing the local***

Assessment 1. Describe social impacts of the project (including resettlement, impacts on other land or river use e.g. fishing, agriculture, hunting and use of other types of natural resources and including benefits to individuals and communities)	The main negative impact is related to the occupation of the land. The proposed project will permanently occupy a certain area of land for the construction of project structures such as dam, power house, reservoir, etc. No historical culture and archaeological places exist in the project site. There are 16 households affected by the project implementation due to loss of production land, in which there is only one household having to remove to new place. The project hardly affects other structures of the locality. The affected people shall be commensurately compensated for in accordance with applicable laws of the host country. - Positive impacts o Economic well-being Once commissioning, this proposed project will increase the industrial share in the economic structure of Quang Nam province. This proposed project will significantly contribute to the state budget via taxes. By supplying a stable electricity output, this project will facilitate		***leaders and affected people, verifiers can confirm the description of social impacts of the project***

	the industrialization process of the province and leverage the performance of traditional trade villages as well as tourism industry and services inside the province. After commissioning, this project will supply electricity to speed up the commissioning of other large infrastructure projects in the region. o Social well-being The project improves existing roads, which will facilitate the transportation and travel. Thus, the project creates convenience for the transfer and trade in the area, thereby improves minorities' living standard and contribute to fill the gap in development between different ethnic groups in Viet Nam. By supplying a stable electricity output, this project will facilitate the industrialization process of the province and support economic development of local villages through fostering tourism, trade and services inside the province. This project will contribute directly to improve the low-quality infrastructure systems of the mountainous commune.		

	The project will construct a new transmission line together with the hydropower plant, which will reduce electricity losses and improve the quality of electricity supply in the region. The communication system and clean water treatment serving for workers of the project during the both construction and operation phases will be shared with local people. Besides, the project activity could result in the employment of the local people for the construction and operation later. Therefore, this project activity will contribute directly to alleviate poverty in the region. Mitigation measures to reduce negative impacts o On socio-economic impacts: - The project owner shall make a plan to implement the measures for protecting human health, examining food safety and hygiene in accordance with regulations of Ministry of Health, Viet Nam, associating with local medical stations in preventing common diseases. - Project owner shall effectively disseminate the		

	benefits of the implement of the project, provide sufficient information of project implementation, compensation policy, resettlement as per laws. Give prior opportunities to the local resident to work for the plant during the construction and operation.		
2. Describe any identified health impacts due to the project.	The emission of dust, smoke and wastewater in the project site may cause the respiratory and digestive problems. However, Project owner has been implementing fully mitigation measures	*/3/*	***By interviewing and site – visit, the description has been checked and confirmed***
3. Describe impacts on religious and cultural heritage	No historical culture and archaeological places exist in the project site so there is no negative impact on religious and cultural heritage.	*/3/*	***Through interviewing the minority, verifiers agreed with the description***
4. Describe the liability provisions safeguarding the implementation of the planned measures.	All the planned measures will be conducted under the supervision of the local government.	*/6/*	***By reviewing EIA report, EIA approval and interviewing the project owner as well as affected people, verifiers can confirm***
5. Is the project planned in a responsible way in order to sustain livelihoods and the environment?	The project planned in a responsible way in order to sustain livelihoods and the environment because it will be supervised by the local authorities.	*/5/, /6/, /7/, /8/, /9/, /12/, /13/*	***By reviewing the documentation of project owner with relevant legislation, the project plan has considered the sustainable environment***

4.3 Cumulative Impacts			
Describe the cumulative impacts of all hydrological structures existing in the river basin using variables such as: • flow regime, • water quantity, • productivity, • water quality species composition of different rivers in the same river basin	There are several hydropower plants located on Bung river, i.e. Song Bung 2, Song Bung 4, Song Bung 6, etc. which are all under the construction. These hydropower structures, when operating, will together contribute to either positively or negatively change the flow regime of Bung river, i.e. increasing discharged water volume in dry season, limiting flood frequency, or enlarging inundation area, which cause loss of land, crops and building for certain interval of time. In addition to the above impacts, these hydropower units will together have certain impact on water quantity of Bung river; however, this impact is slight and can be mitigated. Thanks to a reasonable regulation regime of hydropower plants, the environmental flow at the downstream will be maintained. During the water filling period of reservoirs, water quality depends on cleaning – up works. The project owner will make a solid plan for reservoir bed cleaning up in accordance with relevant	*/3/*	***OK, by checking document and relevant records, BV verifiers confirm the response***

	regulation of the government as follows: - Absolutely removing vegetation cover at the area in front of water intake, main dam. - collecting the waste, plant leaves into disposal site for burning		
Validator's Conclusions concerning Priority 4: **The positive and negative impact on the ecosystem, water, air, population health were all stated by the PP and assessed consistent with onsite visit and EIA. According to EIA ecosystem baseline studies were developed and maintenance needs were assessed. The measures implemented by the project owner to protect ecosystem function are in compliance with relevant regulations issued by authority. The auditor team considered the WCD criterion as fulfilled.**			
5. Recognising Entitlements and Sharing Benefits			
Are Mitigation, Resettlement and Development Action Plans (where applicable - including **commensurate** compensation packages) in place? Provide details: 1. Demonstrate that the construction of the plant did not lead to worsening of the living conditions of the local residents and resettled families	The Mitigation, Resettlement and Development Action Plans – including commensurate compensation which is approved by the local government are in place: 1. The project site has a scattered population. And the project owner committed to implement necessary measures to reduce the negative impacts on the local people and environment, as follows:	/3/, /37/	***By interviewing and EIA checking, the content has been substantiated***

	o Waste collection and treatment - Implement regular collection and treatment of solid and liquid wastes, including the construction of a dumping area - Conduct reforestation in the temporarily occupied areas and strengthen the slopes to avoid erosions, after accomplishing the construction of main works. - Raise awareness of the environmental protection for workers and local people. o Local pollution - Dust removal measures will be taken such as spraying water along the roads. - All means/vehicles for transport of construction materials must be covered in order to minimize dust dispersion. - All transport equipment/vehicles and machines must have operational certifications issued by the Directorate for Standards and Quality.		

	o On socio-economic impacts: ˜ Implement the compensation plan for the local impacted people according to the government law. ˜ Give prior opportunities to the local resident to work for the plant during the construction and operation.		
2. Were compensation and benefit agreements planned in consultation with affected groups?	All the compensation agreements have been negotiated between the project owner and the local people according to the compensation law. The details of the consultation are presented in previous sections.	*/4/, /18/, /19/, /20/, /21/, /22/*	***By interviewing affected people, local stakeholders are fully agreed with construction of the project***
3. What standards were the measures based on? (e. g. national standards or other)	All the measures are based on national and provincial standards.	*/4/, /5/, /6/, /18/, /19/, /20/, /21/, /22/*	***Cross – check of relevant records implemented*** ***The response was assessed correct***
4. Were the affected people satisfied with the compensation packages?	All the affected people are satisfied with the compensation packages. And in fact, some people requested the project owner to use and give them more money for changing their job, e.g. for new job training.	*/4/*	***By interviewing the Representatives of Local People Committee as well as affected stakeholder. They are fully satisfied with the compensation***
5. **Benefits** for the affected	The livelihoods of local people will	*/2/, /3/*	***OK, by checking document***

people (individuals and communities): In what way will the affected local and indigenous population's livelihoods be improved due to the project?	be improved due to the implementation of this project: o Economic well-being Once commissioning, this proposed project will increase the industrial share in the economic structure of Quang Nam province. This proposed project will significantly contribute to the state budget via taxes. By supplying a stable electricity output, this project will facilitate the industrialization process of the province and leverage the performance of traditional trade villages as well as tourism industry and services inside the province. After commissioning, this project will supply electricity to speed up the commissioning of other large infrastructure projects in the region. o Social well-being The project improves existing roads, which will facilitate the transportation and travel. Thus, the project creates convenience for the transfer and trade in the area, thereby improves minorities' living standard and contribute to		***and relevant records, BV verifiers confirm the response***

	fill the gap in development between different ethnic groups in Viet Nam. By supplying a stable electricity output, this project will facilitate the industrialization process of the province and support economic development of local villages through fostering tourism, trade and services inside the province. This project will contribute directly to improve the low-quality infrastructure systems of the mountainous commune. The project will construct a new transmission line together with the hydropower plant, which will reduce electricity losses and improve the quality of electricity supply in the region. The communication system and clean water treatment serving for workers of the project during the both construction and operation phases will be shared with local people. Besides, the project activity could result in the employment of the local people for the construction and operation later. Therefore, this project activity will contribute directly to alleviate poverty in the region.		

Validator's Conclusions concerning Priority 5:

The compensation agreements were planned in consultation with the affected stakeholder. The compensation agreements are in line with national regulations. The affected stakeholders are satisfied with the compensation packages. This was verified by means of interview and document check. The compensation is in accordance with national and local legal regulations. The auditor team considered the WCD criterion as fulfilled.

6. Ensuring Compliance			
6.1. Compliance measures: 1. What will be done to ensure that relevant laws, regulations, agreements (including resettlement and compensation agreements) and recommendations are followed?	The authorities required the project owner to report periodically about the compensation process. The compensation negotiation and payment are supervised by the Compensation Committee which includes the representatives from impacted people and local authorities. The assignment of the land used to the project owner to construct the project is only issued by the local authorities when the compensations completed without any claims from the local people that is reflected in the final report of the Compensation Committee. All impacted local residents were informed about the project activity and its impacts. Then the negotiation process with each household impacted was taken place. The Decision about	*/1/, /4/, /17/, /18/, /19/, /21/*	***Through comparison with relevant laws, regulations for the compensation, verifiers confirm that the compensation process followed legislations***

	compensation were accepted by all impacted local residents and approved by the People's Committee of Quang Nam Province on 17 September 2009.		
2. Are the compensation agreements legally binding – through treaties, administrative acts or other safeguards?	All the compensation agreements are legally binding and following the relevant laws.	*/1/, /4/, /17/, /18/, /19/, /21/*	***By checking the compensation records, verifiers found that the compensation agreements are legally binding***
3. Is the cost of the compensation package included in the financial plan?	The cost of compensation is included in the financial plan.	*/3/*	***OK*** ***The answer was assessed reliable.***
4. Does the project developer already operate other hydroelectric power stations? If so, have there been any conflicts between the project developer and stakeholders related to the development, operation and compensatory measures related to these projects? If so, describe the cause of the conflict and how it was resolved.	The main business activities of the project owner are providing consultancy services relating to construction works. The proposed project is the first project owned by this company. It does not operate any other hydropower stations prior to the proposed project; therefore, there are no conflicts between the project developer and stakeholders related to the development, operation and compensatory measures related to these projects.	*/30/*	***By checking administration documentation, verifiers confirm that the project developer have not operated other hydropower stations so far***
6.2. Monitoring and evaluation during	Annually, the project owner has to submit a report on environmental	*/6/*	***OK, by checking document and relevant records, BV***

crediting period: 1. Describe conditions in place for monitoring and evaluation of environmental and socio-economic impacts of the project. 2. What provisions have been made to ensure that all measures not yet implemented at the time of validation will be put in place as appropriate, and monitored (for example through an independent auditing panel or auditor, or through self-auditing etc.)?	protection activities and environment status to the Department of Natural Resources and Environment. So far, there is no specific rules request the project participants to report on the socio-economic impacts due to the project. However, socio-economic impacts will be reflected in the annual reports submitted to the local authorities such as tax reports. Other impacts on the local residents such as creating and training local people for permanent jobs; sharing the infrastructures (clean water, electricity transmission line) have been confirmed during the site visit of the validation. Such impacts can be checked at annual verifications. 2. All the commitments to protect the environment will be implemented by the project owner: (a) After construction and installation of the environmental treatment facilities has been completed and the facilities have been accepted, the facilities must be operationally tested in order to check that the technical		***verifiers confirm the response***

	parameters regarding the environment have been satisfied in accordance with the design; (b) To prepare an operational testing report and to notify it to the body which approved the environmental impact assessment report, the Department of National Resources and Environment and the office of natural resources and environment at the district level and the resident community in the location of implementation of the project in order that a plan on supervision and inspection can be arranged; (c) If the project owner does not have the capability to itself conduct surveys and analysis of the technical parameters regarding the environment, it must sign a contract with an organization with adequate professional and technical skills to conduct such surveys and analysis; (d) On completion of operational testing, to forward a written report to the body which approved the environmental impact assessment report requesting certification of the results of		

	operational testing of the environmental treatment facilities, in order for such body to provide its certification. And all these measures will be checked by the government: After the competent State body has approved the environmental impact assessment report, it shall have the following responsibilities: (a) To compare the files on the design and construction and installation of the environmental treatment facilities with the environmental impact assessment report which has been approved, and if any inconsistent items are discovered, then within a time-limit of seven (7) working days from the date of receipt of the file and report, to provide written notice to the project owner to make amendments and additions; (b) To accept and to deal with any opinions from or recommendations made by the project owner or other organizations and individuals involved regarding implementation of the items and measures for protection of the		

	environment throughout the process of execution of the project building works; (c) To arrange a plan to carry out supervision and inspection of implementation of the items and measures for protection of the environment; to deal with any breaches which arise in accordance with its authority or to recommend that the authorized body deal with such breaches; (d) To arrange for inspection and supervision of operational testing of the environmental treatment facilities after receiving the plan on operational testing from the project owner; (e) To consider and certify results of operational testing of the environmental treatment facilities; (f) To archive and administer the entire file and documents on post-appraisal operation as forwarded by the project owner and other organizations and individuals involved.		

Validator's Conclusions concerning Priority 6:

The Compensation Committee that comprises of affected stakeholder and representatives from local authorities supervise the compensation process. After compensation the Compensation Committee will issue a Final Report. All the compensation agreements

are legally binding and following the relevant laws. The compensation has been paid. The audit team deemed the WCD criterion was fulfilled			
7. Sharing rivers for peace, development and security.			
Does the project have trans-boundary impacts? - If so, give details of agreement(s) between affected countries, considering international recommendations for trans-boundary water projects and describe how this affects the project	Song Bung 5 hydropower project is located on Bung river in the Middle of Vietnam. The Bung river is a big branch of Vu Gia – Thu Bon system, running wholly in the Middle of Vietnam not crossing out or sharing the water resources with any other countries. Therefore the project does not have any trans-boundary impacts.	/3/	***By site – visit checking, BV verifiers confirmed that no trans – boundary impacts by the project***
<u>Validator's Conclusions concerning Priority 7</u>: **The principle is not applicable because there is no transboundary effect due to the project**			
Validator's assessment as to how the project respects the seven strategic priorities outlined in the World Commission on Dams November 2000 Report "Dams and Development – A New Framework for Decision-Making" **The requirements of the Word Commission of Dams (WCD) are comprehensive and not all of these requirements can be strictly adhered to.** **Netherless taking into account this aspect we can confirm that the Project is in compliance with the main principles of the seven strategic priorities:** **- The negative impact on the ecosystem and environment is negligible. The measures implemented by the project owner to protect the**			

ecosystem are in compliance with relevant regulations issued by the authority. And the environmental compliance of the project operation will also supervised by local government and environmental protection department.
- The compensation for affected stakeholder has been paid.

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Company/validating entity: Bureau Veritas Certification Holding SAS (BVCH)
Date of validation of the Compliance Report: 15th July 2011

Appendix A

Abbreviations

BV	Bureau Veritas
EIA	Environmental Impact Assessment
FSR	Feasibility Study Report
CDM	Clean Development Mechanism
PDD	Project Design Document
HPP	Hydro Power Plant

Persons interviewed:

Persons interviewed during the validation.

/1/	Mr. Nguyen Van Hoang	Representative of Forest Management Committee
/2/	Mr. Dang Huu Minh Tuan	Technical Manager
/3/	Mr. Ho Huu Toan	Project Manager
/4/	Mr. A Lang An	Local people
/5/	Mr. A Lang Trach	President of People Committee of Commune
/6/	Ms. Bhonuoch Chien	President of People Committee of District

References:

Documents reviewed during the validation.

No	Documents
1	The Grassroots Democracy Decree 79/2003/ND-CP, issued in 2003, aimed to increase community participation in local decision-making, especially planning and budgeting.
2	Minutes of Meeting with Thanh My town and Ma Cooih commune dated 02 March 2009 and 03 March 2009 respectively
3	EIA report of the project
4	Compensation documents
5	The Law on Environmental Protection (2005)
6	Decree 80/2006/ND-CP: On Guidance for the Implementation of the Law on Environmental Protection 2005
7	The Law on Environmental Protection (1993);
8	Decree 175/CP/1994: On Guidance for the Implementation of the Law on Environmental Protection 1993
9	Decision 143/2004/ND-CP. In regard to The Amendment of The Decree No. 175/CP relating to Implementation of the Environmental Protection Law
10	Decision no. 1855/QD-TTg dated 27/12/2007 to ratify "National Energy Development Strategy until 2020, oriented to 2050"
11	Decision 110/2007/QD-TTg Electricity Development Scheme up to 2015 with perspective up to 2025
12	Decree No. 72/2007/ND-CP ensuring dam safety to be the highest priority in construction, management, exploitation and protection of reservoirs. Dam safety management is to be done regularly, continuously in the process of reservoir construction and exploitation
13	Circular No. 33/2008/TT-BNN of February 4, 2008, guiding the implementation of a number of articles of the Government's Decree No. 72/2007/ND-CP of May 7, 2007, on management of dam safety
14	Viet Nam Construction Standard TCXDVN 285-2002
15	Ordinance No: 32/2001/PL-UBTVQH10 dated 04 April 2001 on the exploitation and protection of irrigation works

16	Decree No. 197/2004/ND-CP by the Government, dated on December 03, 2004 on compensation, support and resettlement when land is reclaimed by the Government;
17	Circular No. 116/2004/TT-BTC by Ministry of Finance, dated on November 26, 2004 on instructions for implementation of Decree No. 197/2004/ND-CP by the Government, on compensation, support and resettlement when land is reclaimed by the Government;
18	Decision No 51/2008/QD-UBND dated 19/12/2008 of People's Committee of Quang Nam province regulating the land price in Quang Nam province 2009;
19	Decision 29/2008/QD-UBND dated 26 August 2008 of Quang Nam People's committee on compensation, support and resettlement when land in Quang Nam is recovered by the Government
20	Decree No.181/2004/ND-CP by the Government, dated on October 29, 2004 on implementation of Law of land 2003.
21	Decree No.188/2004/ND-CP by the Government, dated on November 16, 2004 on method for defining price of land and price schedule for types of land.
22	Circular No.116/2004/TT-BTC by Ministry of Finance dated on November 26, 2004 on instructions for implementation of Decree No. 197/2004/ND-CP by the Government, on compensation, support and resettlement when land is reclaimed by the Government.
23	Feasibility Study Report
24	Investment License
25	http://www.monre.gov.vn/v35/default.aspx?tabid=428&CateID=25&ID=60496&Code=YYDE760496 http://www.eia.gov/countries/country-data.cfm?fips=VM#undefined
26	Temporarily allocation of land for the construction of Song Bung 5 hydropower project
27	Official letter No.44 dated 06 January 2010: verify and support for the CDM development of the investment project by the PPC to the DNA
28	Decision No.267/QD-BTNMT about approving the EIA report dated 21 February 2008
29	Decree No.08/2006/TT-BTNMT – guidance for the environmental impact assessment
30	Business registration certificate
31	Decision 285/2006/QD-TTg

32	Law on Water Resources No 08.1998.QH10 dated 2-05-1998.pdf
33	Chapter VI - Master Plan of Electricity Expansion for period of 2006-2015 with perspective to 2025 - EVN (Master Plan VI) approved by the Prime Minister in July 2007
34	Data supplied by EVN
35	Decision approving the implementation of the project
36	Reservoir operation procedure
37	EIA report of the project part II
38	Forest and land occupation
39	Survey report